Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001

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August 28, 2006

William A. Bonnet
Vice President
Government & Community Affairs

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PUBLIC UTILITIES COMMISSION

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
465 South King Street
Kekuanaoa Building, 1st Floor
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Docket No. 05-0069
Energy Efficiency Docket

On August 24, 2006, HECO/HELCO/MECO filed a revised response to CA/HECO-IR-9, which included as attachments updated Exhibits 7, 8[1], 10, 12 and 13. Attached are updated supporting workpapers for Exhibit 7.

If you have any questions on this matter, please contact Dean Matsuura at 543-4622.

Sincerely,

Attachment

cc: Division of Consumer Advocacy
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[1] Exhibit 8 was not updated but was included in the revised IR-response so that these related exhibits are together to better facilitate their review.

TABLE 1: BACKUP FOR COMPONENT/PROGRAM LEVEL SAVINGS, PARTICIPANTS AND INCENTIVES
COMMERCIAL INDUSTRIAL ENERGY EFFICIENCY (CIEE)

NUMBER OF NEW PARTICIPANTS (1)

Component	Number of Participants																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. HE Cooling	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
b. CFL Lighting	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
c. HE Lighting - T8	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
d. Delamping	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
e. HE Lighting - T5	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
f. HE Lighting - LED Exit	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
g. HE Lighting - Induction	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
h. HE HPS HID	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
i. HE Metal Halide	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
j. Occupancy Sensors	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
k. Premium Efficiency Motors	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
l. Window Tinting	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TOTAL -- NEW PARTICIPANTS	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630

NUMBER OF CUMULATIVE PARTICIPANTS

Component	Equipment Life (2)	Number of Participants																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. HE Cooling	16	125	250	375	500	625	750	875	1,000	1,125	1,250	1,375	1,500	1,625	1,750	1,875	2,000	2,000	2,000	2,000	2,000
b. CFL Lighting	6	75	150	225	300	375	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
c. HE Lighting - T8	10	150	300	450	600	750	900	1,050	1,200	1,350	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
d. Delamping	10	25	50	75	100	125	150	175	200	225	250	250	250	250	250	250	250	250	250	250	250
e. HE Lighting - T5	10	25	50	75	100	125	150	175	200	225	250	250	250	250	250	250	250	250	250	250	250
f. HE Lighting - LED Exit	25	75	150	225	300	375	450	525	600	675	750	825	900	975	1,050	1,125	1,200	1,275	1,350	1,425	1,500
g. HE Lighting - Induction	5	10	20	30	40	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
h. HE HPS HID	15	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	150	150	150	150	150
i. HE Metal Halide	7	10	20	30	40	50	60	70	70	70	70	70	70	70	70	70	70	70	70	70	70
j. Occupancy Sensors	8	50	100	150	200	250	300	350	400	400	400	400	400	400	400	400	400	400	400	400	400
k. Premium Efficiency Motors	15	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	750	750	750	750	750
l. Window Tinting	20	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
TOTAL -- CUMULATIVE PARTICIPANTS		630	1,260	1,890	2,520	3,150	3,770	4,315	4,850	5,335	5,820	6,105	6,390	6,675	6,960	7,245	7,470	7,570	7,670	7,770	7,870

CUMULATIVE ENERGY SAVINGS (GROSS CUSTOMER LEVEL kWh)

Component	Unit Impact (3)	Cumulative Energy Reductions kWh (Gross Customer Level)																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. HE Cooling	67,587	8,448,368	16,896,736	25,345,104	33,793,471	42,241,839	50,690,207	59,138,575	67,586,943	76,035,311	84,483,679	92,932,046	101,380,414	109,828,782	118,277,150	126,725,518	135,173,886	135,173,886	135,173,886	135,173,886	135,173,886
b. CFL Lighting	32,740	2,455,468	4,910,936	7,366,404	9,821,872	12,277,340	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808	14,732,808
c. HE Lighting - T8	32,735	4,910,289	9,820,577	14,730,866	19,641,155	24,551,444	29,461,732	34,372,021	39,282,310	44,192,599	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887	49,102,887
d. Delamping	91,376	2,284,390	4,568,779	6,853,169	9,137,558	11,421,948	13,706,337	15,990,727	18,275,116	20,559,506	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895	22,843,895
e. HE Lighting - T5	54,655	1,366,383	2,732,766	4,099,150	5,465,533	6,831,916	8,198,299	9,564,682	10,931,066	12,297,449	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832	13,663,832
f. HE Lighting - LED Exit	3,070	230,250	460,500	690,750	921,000	1,151,250	1,381,500	1,611,750	1,842,000	2,072,250	2,302,500	2,532,750	2,763,000	2,993,250	3,223,500	3,453,750	3,684,000	3,914,250	4,144,500	4,374,750	4,605,000
g. HE Lighting - Induction	2,877	28,773	57,546	86,318	115,091	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864	143,864
h. HE HPS HID	5,818	58,183	116,366	174,549	232,732	290,915	349,098	407,281	465,464	523,647	581,830	640,013	698,196	756,379	814,562	872,745	872,745	872,745	872,745	872,745	872,745
i. HE Metal Halide	23,669	236,690	473,380	710,070	946,760	1,183,450	1,420,140	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830	1,656,830
j. Occupancy Sensors	3,210	160,508	321,017	481,525	642,033	802,541	963,050	1,123,558	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066	1,284,066
k. Premium Efficiency Motors	6,653	332,630	665,259	997,889	1,330,518	1,663,148	1,995,777	2,328,407	2,661,036	2,993,666	3,326,295	3,658,925	3,991,554	4,324,184	4,656,813	4,989,443	4,989,443	4,989,443	4,989,443	4,989,443	4,989,443
l. Window Tinting	10,208	255,211	510,423	765,634	1,020,845	1,276,057	1,531,268	1,786,479	2,041,691	2,296,902	2,552,113	2,807,325	3,062,536	3,317,747	3,572,959	3,828,170	4,083,382	4,338,593	4,593,804	4,849,016	5,104,227
TOTAL -- GROSS CUSTOMER LEVEL		20,767,142	41,534,284	62,301,426	83,068,569	103,835,711	124,574,080	142,856,982	160,903,193	178,788,896	196,674,599	205,999,241	215,323,883	224,648,524	233,973,166	243,297,808	252,231,637	252,717,098	253,202,559	253,688,021	254,173,482
TOTAL -- GROSS SYSTEM LEVEL (4)		23,378,523	46,757,046	70,135,570	93,514,093	116,892,616	140,238,748	160,820,648	181,136,095	201,270,850	221,405,605	231,902,782	242,399,958	252,897,134	263,394,310	273,891,487	283,948,707	284,495,213	285,041,720	285,588,226	286,134,732
TOTAL -- NET SYSTEM LEVEL (5)		15,266,176	30,532,351	45,798,527	61,064,703	76,330,878	91,575,903	105,015,883	118,281,870	131,429,865	144,577,860	151,432,516	158,287,172	165,141,829	171,996,485	178,851,141	185,418,506	185,776,374	186,132,243	186,489,111	186,845,980

IMPLEMENTATION COSTS (8)

Component	20-Year Budget (Escalated at 2.2% per year)																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Direct Labor																				
Base	$104,220	$104,298	$113,313	$109,195	$118,734	$123,246	$127,929	$132,791	$137,837	$143,074	$148,511	$154,155	$160,013	$166,093	$172,405	$178,956	$185,756	$192,815	$200,142	$207,747
Incremental	$276,642	$283,705	$290,768	$298,057	$305,373	$316,977	$329,022	$341,525	$354,503	$367,974	$381,957	$396,472	$411,538	$427,176	$443,409	$460,258	$477,748	$495,902	$514,747	$534,307
Total Labor	$380,862	$388,003	$404,081	$407,252	$424,107	$440,223	$456,952	$474,316	$492,340	$511,049	$530,468	$550,626	$571,550	$593,269	$615,813	$639,214	$663,504	$688,717	$714,889	$742,054
Outside Services																				
Implementation	$160,053	$164,855	$169,800	$174,894	$180,141	$186,986	$194,092	$201,467	$209,123	$217,070	$225,318	$233,881	$242,768	$251,993	$261,569	$271,509	$281,826	$292,535	$303,652	$315,190
Tracking	$17,778	$32,222	$32,222	$32,222	$28,889	$29,987	$31,126	$32,309	$33,537	$34,811	$36,134	$37,507	$38,932	$40,412	$41,947	$43,542	$45,196	$46,914	$48,696	$50,547
Evaluation	$81,178	$84,262	$87,464	$90,788	$94,238	$97,819	$101,536	$105,395	$109,400	$113,557	$117,872	$122,351	$127,000	$131,826	$136,836	$142,036	$147,433	$153,035	$158,851	$164,887
Preliminary Energy Assessments	$187,500	$193,125	$198,919	$204,886	$211,033	$219,052	$227,376	$236,017	$244,985	$254,295	$263,958	$273,988	$284,400	$295,207	$306,425	$318,069	$330,156	$342,701	$355,724	$369,242
Advertising	$170,589	$175,707	$180,978	$186,408	$192,000	$199,296	$206,869	$214,730	$222,890	$231,360	$240,152	$249,277	$258,750	$268,582	$278,788	$289,382	$300,379	$311,793	$323,641	$335,940
Admin/Misc	$109,077	$113,509	$116,374	$119,911	$123,508	$128,201	$133,073	$138,130	$143,379	$148,827	$154,482	$160,353	$166,446	$172,771	$179,336	$186,151	$193,225	$200,568	$208,189	$216,100
Total Outside Services	$726,175	$763,680	$785,757	$809,109	$829,809	$861,342	$894,073	$928,047	$963,313	$999,919	$1,037,916	$1,077,357	$1,118,297	$1,160,792	$1,204,902	$1,250,688	$1,298,214	$1,347,546	$1,398,753	$1,451,906
TOTAL IMPLEMENTATION COSTS	$1,107,037	$1,151,683	$1,189,838	$1,216,361	$1,253,916	$1,301,565	$1,351,024	$1,402,363	$1,455,653	$1,510,968	$1,568,385	$1,627,983	$1,689,847	$1,754,061	$1,820,715	$1,889,902	$1,961,718	$2,036,264	$2,113,642	$2,193,960
TOTAL IMPLEM COST (Descalated starting in 2007 because of change in escalation rate)	$1,107,037	$1,109,521	$1,146,279	$1,171,831	$1,208,012	$1,253,916	$1,301,565	$1,351,024	$1,402,363	$1,455,653	$1,510,968	$1,568,385	$1,627,983	$1,689,847	$1,754,061	$1,820,715	$1,889,902	$1,961,718	$2,036,264	$2,113,642
TOTAL IMPLEM COST (Escalated @ 2.2%)	$1,107,037	$1,133,931	$1,171,498	$1,197,612	$1,234,588	$1,281,502	$1,330,199	$1,380,747	$1,433,215	$1,487,677	$1,544,209	$1,602,889	$1,663,799	$1,727,023	$1,792,650	$1,860,771	$1,931,490	$2,004,878	$2,081,062	$2,160,142

Return on Costs (15% of Implem+Incentives)

SOURCE/NOTES:

(1) Number of participants derived based on historical program experience.
(2) Equipment Lifetime derived from HECO Phase II study.
(3) Unit Impact represents the average per-participant savings as derived from BEST model runs representing specific measures addressed from the HECO Phase II assessment (see Backup Calculations table below for detailed assumptions).
(4) Customer to Generation Ratio (system loss factor) = 11.17%
(5) Gross to Net Ratio (based on program free-rider rate) = 0.653 (applied to energy savings)
0.664 (applied to peak demand savings)
(6) Based on measure-specific rebates as derived in the backup table below
(7) Customer costs derived based on assumption that measure-specific rebates represent a percentage of the total customer cost.
Percentage of customer equipment cost covered by HECO rebate = 25% Source: DSMIS database for CIEE measures (average across all data points)
(8) Source: HECO Energy Services.

Backup Calculations - Per Participant Impacts and Costs:

Measure	Represent-ative Prototype (a)	Weight of Prototype in Measure (b)	Impact/Measure (c)								Impacts per Participant		Rebate Amounts per Participant				Data for Exhibit 1107	
			Base Case	Efficiency Case	Measure Life	kW	kWh	Units	Comments/ Assump-tions	Assumed Unit Value	Weighted Measure kW	Weighted Measure kWh	Rebate Level	Unit	Rebate Amount	Weighted Measure Rebate	Number of Parts	Rebate Amount per Part
a. HE Cooling (four types)	SOFF-Existing	20%	Packaged/Split (Air-Cooled) EER=8.0 (base case from BEST prototype)	Packaged/Split (Air-Cooled) EER=10.0	15	0.06783	679.513	per ton	There are 30.96 tons of cooling in SOFF-existing	31			$80	per Ton	$2,477		25	$61,920
	REST-Existing	5%	Packaged/Split (Air-Cooled) EER=8.0 (base case from BEST prototype)	Packaged/Split (Air-Cooled) EER=11.0	15	0.12556	1032.817	per ton	There are 13.5 tons of cooling in REST-existing (comprised of 2 7-ton units).	14			$80	per Ton	$1,080		6	$6,750
	SOFF-Existing	15%	Window AC EER = 8.4 (base case from BEST prototype)	Window AC EER=12.0	12	0.70040	2142.857	per window AC	This measure assumes that there are 2 window AC installed per building.	2			$75	per Ton	$150		19	$2,813
	REST-Existing	5%	Window AC EER = 8.4 (base case from BEST prototype)	Window AC EER=12.0	12	0.70040	2142.857	per window AC	This measure assumes that there are 2 window AC installed per building.	2			$75	per Ton	$150		6	$938
	SOFF-Existing	10%	Packaged/Split (Water-Cooled) EER=10.2 (derived value using relation between air cooled base case 8.0 and efficiency case 11.0)	Packaged/Split (Water-Cooled) EER=14.0 (based on HECO qualifying levels)	15	0.09095	925.796	per ton	There are 30.96 tons of cooling in SOFF-existing. The impacts for this measure was estimated by multiplying the impacts for the equivalent air-cooled packaged AC system by a factor of 1.28 (derived from BEST runs).	31			$160	per Ton	$4,954		13	$61,920
	LRET-Existing	10%	Packaged/Split (Water-Cooled) EER=10.2 (derived value using relation between air cooled base case 8.0 and efficiency case 11.0)	Packaged/Split (Water-Cooled) EER=14.0 (based on HECO qualifying levels)	15	0.14861	1240.282	per ton	There are 89.9 tons of cooling in LRET-existing. The impacts for this measure was estimated by multiplying the impacts for the equivalent air-cooled packaged AC system by a factor of 1.28 (derived from BEST runs).	90	9.676	67,567	$160	per Ton	$14,384	7,616	13	$179,800
	SCHO-Existing	5%	Packaged/Split (Water-Cooled) EER=10.2 (derived value using relation between air cooled base case 8.0 and efficiency case 11.0)	Packaged/Split (Water-Cooled) EER=14.0 (based on HECO qualifying levels)	15	0.00000	607.670	per ton	There are 202.1 tons of cooling in SCHO-existing. The impacts for this measure was estimated by multiplying the impacts for the equivalent air-cooled packaged AC system by a factor of 1.28 (derived from BEST runs).	202			$160	per Ton	$32,336		6	$202,100
	LOFF-Existing	10%	Water-cooled centrifugal chiller kW/ton = 0.63	Water-cooled centrifugal chiller kW/ton = 0.50	20	0.03360	184.783	per ton	There are 970 tons of cooling in LOFF-existing.	970			$20	per Ton	$19,400		13	$242,500
	SHOT-Existing	10%	Water-cooled centrifugal chiller kW/ton = 0.72	Water-cooled centrifugal chiller kW/ton = 0.63	20	0.06572	402.735	per ton	There are 206 tons of cooling in SHOT-existing.	206			$20	per Ton	$4,120		13	$51,500
	LHOT-Existing	10%	Water-cooled centrifugal chiller kW/ton = 0.63	Water-cooled centrifugal chiller kW/ton = 0.50	20	0.04723	272.449	per ton	There are 567 tons of cooling in LHOT-existing.	567			$20	per Ton	$11,340		13	$141,750

Measure	Representative Prototype (a)	Weight of Prototype in Measure (b)	Impact/Measure (c): Base Case	Efficiency Case	Measure Life	kW	kWh	Units	Comments/ Assumptions	Assumed Unit Value	Impacts per Participant: Weighted Measure kW	Weighted Measure kWh	Rebate Amounts per Participant: Rebate Level	Unit	Rebate Amount	Weighted Measure Rebate	Data for Exhibit 1107: Number of Parts	Rebate Amount per Part
g. HE Lighting - Induction																		
	GROC-Existing	30%	150 W High Pressure Sodium Lamp	85 W Induction Lamp	5	0.00001	0.045	per total bldg ft2	This measure did not pass the economic screen. There are 23,500 ft2 of total floor area in GROC-existing.	23,500			$10.00	per lamp; 64 square feet covered per lamp; 5% of floorarea affected	$184		3	$551
h. HE High Pressure Sodium HID	LRET-Existing	35%	250 W Incandescent	100 W HPS Lamp	15	0.00003	0.169	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-existing.	50,000	1.187	5,818	$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$750	$631	4	$2,625
	LRET-Existing	35%	250 W Mercury Vapor Lamp	100 W HPS Lamp	15	0.00003	0.127	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-existing.	50,000			$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$750		4	$2,625
	GROC-Existing	15%	250 W Incandescent	100 W HPS Lamp	15	0.00002	0.104	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-existing.	23,500			$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$353		2	$529
	GROC-Existing	15%	250 W Mercury Vapor Lamp	100 W HPS Lamp	15	0.00002	0.078	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-existing.	23,500			$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$353		2	$529
i. HE Metal Halide (with & without pulse start)	LRET-Existing	35%	500 W Incandescent	Metal Halide Lamp (400 W)	6	0.00010	0.516	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-existing.	50,000	4.756	23,669	$75	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$3,750	$3,364	4	$13,125
	GROC-Existing	15%	500 W Incandescent	Metal Halide Lamp (400 W)	6	0.00007	0.316	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-existing.	23,500			$75	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$1,763		2	$2,644
	LRET-Existing	35%	500 W Incandescent	Ceramic Metal Halide Lamp with Pulse Start (350 W)	8	0.00014	0.688	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-existing.	50,000			$85	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floorarea affected	$4,250		4	$14,875
	GROC-Existing	15%	500 W Incandescent	Ceramic Metal Halide Lamp with Pulse Start (350 W)	8	0.00009	0.422	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-existing.	23,500			$85	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$1,998		2	$2,996
	LOFF-Existing	35%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 50 lighting-control occupancy sensors are installed per building.	50			$20	per sensor	$1,000		18	$17,500
	SOFF-Existing	25%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 10 lighting-control occupancy sensors are installed per building.	10			$20	per sensor	$200		13	$2,500
	SHOT-Existing	5%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 25 lighting-control occupancy sensors are installed per building.	25			$20	per sensor	$500		3	$1,250

IMPLEMENTATION COSTS (9)

Component	20-Year Budget (Escalated at 786.760314362436% per year)																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Direct Labor																				
Base	$114,573	$121,283	$124,066	$127,044	$130,158	$135,104	$140,238	$145,567	$151,099	$156,840	$162,800	$168,987	$175,408	$182,074	$188,992	$196,174	$203,629	$211,367	$219,399	$227,736
Incremental	$222,725	$228,408	$234,091	$239,956	$245,843	$255,185	$264,882	$274,948	$285,396	$296,241	$307,498	$319,183	$331,312	$343,901	$356,970	$370,535	$384,615	$399,230	$414,401	$430,149
Total Labor	$337,298	$349,691	$358,157	$367,000	$376,001	$390,289	$405,120	$420,515	$436,494	$453,081	$470,298	$488,169	$506,720	$525,975	$545,962	$566,709	$588,244	$610,597	$633,800	$657,884
Outside Services																				
Implementation	$72,501	$74,676	$76,916	$79,224	$81,601	$84,702	$87,921	$91,261	$94,729	$98,329	$102,066	$105,944	$109,970	$114,149	$118,487	$122,989	$127,663	$132,514	$137,549	$142,776
Tracking	$17,778	$32,222	$32,222	$32,222	$28,889	$29,987	$31,126	$32,309	$33,537	$34,811	$36,134	$37,507	$38,932	$40,412	$41,947	$43,542	$45,196	$46,914	$48,696	$50,547
Evaluation	$38,864	$40,341	$41,874	$43,465	$45,116	$46,830	$48,610	$50,457	$52,375	$54,365	$56,431	$58,575	$60,801	$63,111	$65,509	$67,999	$70,583	$73,265	$76,049	$78,939
Design Assistance	$100,000	$103,000	$106,090	$109,273	$112,551	$116,828	$121,267	$125,876	$130,659	$135,624	$140,778	$146,127	$151,680	$157,444	$163,427	$169,637	$176,083	$182,774	$189,720	$196,929
Advertising	$81,599	$84,047	$86,569	$89,166	$91,841	$95,331	$98,954	$102,714	$106,617	$110,668	$114,874	$119,239	$123,770	$128,473	$133,355	$138,423	$143,683	$149,143	$154,810	$160,693
Admin/Misc	$53,890	$55,964	$57,431	$59,171	$60,946	$63,262	$65,666	$68,161	$70,751	$73,440	$76,231	$79,127	$82,134	$85,255	$88,495	$91,858	$95,348	$98,972	$102,733	$106,636
Total Outside Services	$364,632	$390,250	$401,102	$412,521	$420,944	$436,940	$453,544	$470,778	$488,668	$507,237	$526,512	$546,520	$567,287	$588,844	$611,220	$634,447	$658,556	$683,581	$709,557	$736,520
TOTAL IMPLEMENTATION COSTS	$701,930	$739,941	$759,259	$779,521	$796,945	$827,229	$858,664	$891,293	$925,162	$960,318	$996,810	$1,034,689	$1,074,007	$1,114,819	$1,157,183	$1,201,156	$1,246,799	$1,294,178	$1,343,357	$1,394,404
TOTAL IMPLEM COST (Descalated starting in	$701,930	$712,853	$731,463	$750,984	$767,770	$796,945	$827,229	$858,664	$891,293	$925,162	$960,318	$996,810	$1,034,689	$1,074,007	$1,114,819	$1,157,183	$1,201,156	$1,246,799	$1,294,178	$1,343,357
TOTAL IMPLEM COST (Escalated @ 2.2%)	$701,930	$728,535	$747,556	$767,505	$784,661	$814,478	$845,428	$877,554	$910,901	$945,516	$981,445	$1,018,740	$1,057,452	$1,097,635	$1,139,345	$1,182,641	$1,227,581	$1,274,229	$1,322,650	$1,372,910

Return on Costs (15% of Implem+Incentives)

SOURCE/NOTES:

(1) Number of participants derived based on historical program experience.
(2) Participation levels increased by 20% relative to Interim program proposal to reflect elimination of 2-year payback requirement.
(3) Equipment Lifetime derived from HECO Phase II study. For customized measures, equipment lifetime derived from program experience.
(4) Unit impact represents the average per-participant savings as derived from BEST model runs representing specific measures addressed from the HECO Phase II assessment (see Backup Calculations table below for detailed assumptions).
Unit impact for customized measures based on HECO'S DSMIS data for CINC, based on timeframe of 10/97 through 9/05 (See spreadsheet titled DSMIS Data for Customized DOCKET11-18-05.XLS).
(5) Customer to Generation Ratio (system loss factor) = 11.17%
(6) Gross to Net Ratio (based on program free-rider rate) = 0.596 (applied to energy savings)
0.61 (applied to peak demand savings)
(7) Incentive levels for all prescriptive measures based on measure-specific rebates as derived in the backup table below
Incentive for customized calculated based on formula of $125/kW plus $0.05/kWh.
(8) Customer costs derived based on assumption that measure-specific rebates represent a percentage of the total customer cost.
Percentage of customer equipment cost covered by HECO rebate = 25% Source: DSMIS database for CIEE measures (average across all data points)
Customer costs reflect DSMIS actuals for timeperiod 5/99-10/05 (see DSMIS backup sheet DSMIS Data for Customized (DOCKET11-18-05).xls).

Measure	Represent-ative Prototype (a)	Weight of Prototype in Measure (b)	Impact/Measure (c)								Impacts per Participant		Rebate Amounts per Participant				Data for Exhibit 1107		
			Base Case	Efficiency Case	Measure Life	kW	kWh	Units	Comments/ Assump-tions	Assumed Unit Value	Weighted Measure kW	Weighted Measure kWh	Rebate Level	Unit	Rebate Amount	Weighted Measure Rebate	Number of Parts	Rebate Amount per Part	Average Equipment Rebate
b. HE Lighting - CFL (four types). See Note (a) below.											3.736	24,074				$1,085			
	SHOT-New	5%	60W Incandescent	20W CFL Dimmable Type A	5	0.00002	0.104	per total bldg ft2	There are 200,000 ft2 of total floor area in a SHOT-new.	200,000			$10	per lamp (Assume dimmable Type A Mount installation and 1 lamp covers 64 square feet and 5% of floor area affected)	$1,563		2	$2,734	
	LHOT-New	5%	60W Incandescent	20W CFL Dimmable Type A	5	0.00001	0.088	per total bldg ft2	There are 430,000 ft2 of total floor area in a LHOT-New.	430,000			$10	per lamp (Assume dimmable Type A Mount installation and 1 lamp covers 64 square feet and 5% of floor area affected)	$3,359		2	$5,879	$2,882
	REST-New	5%	60W Incandescent	20W CFL Dimmable Type A	5	0.00004	0.139	per total bldg ft2	There are 2,300 ft2 of total floor area in a REST-New.	2,300			$10	per lamp (Assume dimmable Type A Mount installation and 1 lamp covers 64 square feet and 5% of floor area affected)	$18		2	$31	
	SHOT-New	5%	25W Incandescent	5W CFL Cold Cathode	6	0.00002	0.097	per total bldg ft2	There are 200,000 ft2 of total floor area in a SHOT-new.	200,000			$10	per lamp (Assume Cold Cathode installation and 1 lamp covers 64 square feet and 2% of floorarea affected)	$625		2	$1,094	
	LHOT-New	5%	25W Incandescent	5W CFL Cold Cathode	6	0.00001	0.083	per total bldg ft2	There are 430,000 ft2 of total floor area in a LHOT-New.	430,000			$10	per lamp (Assume Cold Cathode installation and 1 lamp covers 64 square feet and 2% of floor area affected)	$1,344		2	$2,352	$1,153
	REST-New	5%	25W Incandescent	5W CFL Cold Cathode	6	0.00004	0.131	per total bldg ft2	There are 2,300 ft2 of total floor area in a REST-New.	2,300			$10	per lamp (Assume Cold Cathode installation and 1 lamp covers 64 square feet and 2% of floor area affected)	$7		2	$13	
	LOFF-New	25%	4 ft. T12 + exist. 2-lamp fixture	4 ft. T8 + new 2-lamp fixture/ballast	8	0.00000	0.172	per total bldg ft2	There are 330,000 ft2 of total floor area in LOFF-new.	330,000			$3.20	per lamp; 64 square feet covered per 2-lamp fixture; 15% of floor area affected	$4,950		13	$61,875	

			Impact/Measure (c)								Impacts per Participant		Rebate Amounts per Participant				Data for Exhibit 1107		
Measure	Represent-ative Prototype (a)	Weight of Prototype in Measure (b)	Base Case	Efficiency Case	Measure Life	kW	kWh	Units	Comments/ Assump-tions	Assumed Unit Value	Weighted Measure kW	Weighted Measure kWh	Rebate Level	Unit	Rebate Amount	Weighted Measure Rebate	Number of Parts	Rebate Amount per Part	Average Equipment Rebate
c. HE Lighting - T-8 and Super T-8	SOFF-New	25%	4 ft. T12 + exist. 2-lamp fixture	4 ft. T8 + new 2-lamp fixture/ballast	8	0.00002	0.130	per total bldg ft2	There are 10,000 ft2 of total floor area in SOFF-new.	10,000	0.103	27,721	$3.20	per lamp; 64 square feet covered per 2-lamp fixture; 15% of floor area affected	$150	$2,925	13	$1,875	$22,500
	SCHO-New	10%	4 ft. T12 + exist. 2-lamp fixture	4 ft. T8 + new 2-lamp fixture/ballast	8	0.00000	0.140	per total bldg ft2	There are 50,000 ft2 of total floor area in SCHO-new.	50,000			$3.20	per lamp; 64 square feet covered per 2-lamp fixture; 15% of floor area affected	$750		5	$3,750	
	LOFF-New	20%	4 ft. T12 + exist. 2-lamp fixture	4 ft. Super T8 + new 2-lamp fixture/ballast	12	0.00000	0.181	per total bldg ft2	There are 330,000 ft2 of total floor area in LOFF-new.	330,000			$4.80	per lamp; 64 square feet covered per 2-lamp fixture; 15% of floor area affected	$7,425		10	$74,250	
	SOFF-New	15%	4 ft. T12 + exist. 2-lamp fixture	4 ft. Super T8 + new 2-lamp fixture/ballast	12	0.00002	0.137	per total bldg ft2	There are 10,000 ft2 of total floor area in SOFF-new.	10,000			$4.80	per lamp; 64 square feet covered per 2-lamp fixture; 15% of floor area affected	$225		8	$1,688	$26,250
	SCHO-New	5%	4 ft. T12 + exist. 2-lamp fixture	4 ft. Super T8 + new 2-lamp fixture/ballast	12	0.00000	0.147	per total bldg ft2	There are 50,000 ft2 of total floor area in SCHO-new.	50,000			$4.80	per lamp; 64 square feet covered per 2-lamp fixture; 15% of floor area affected	$1,125		3	$2,813	
d. HE Lighting - T5	LOFF-New	30%	4 ft. T12 + exist. 1-lamp fixture	4 ft. T5 + new 1-lamp fixture	10	0.00011	0.361	per total bldg ft2	There are 330,000 ft2 of total floor area in LOFF-existing.	330,000	12.838	47,064	$3.20	per lamp; 64 square feet covered per lamp; 10% of floor area affected	$1,650	$578	8	$12,375	$4,625
	SOFF-New	30%	4 ft. T12 + exist. 1-lamp fixture	4 ft. T5 + new 1-lamp fixture	10	0.00009	0.512	per total bldg ft2	There are 10,000 ft2 of total floor area in SOFF-new.	10,000			$3.20	per lamp; 64 square feet covered per lamp; 10% of floor area affected	$50		8	$375	
	LRET-New	30%	4 ft. T12 + exist. 1-lamp fixture	4 ft. T5 + new 1-lamp fixture	10	0.00005	0.246	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000			$3.20	per lamp; 64 square feet covered per lamp; 6% of floor area affected	$150		8	$1,125	
	LRET-New	10%	Metal Halide Lamp (250 W)	4 ft. T5 + new 4-lamp high-bay fixture	10	0.00024	1.230	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000			$5.00	per lamp; 64 square feet covered per lamp; 6% of floor area affected	$234		3	$586	$586
e. HE Lighting - Induction	LRET-New	70%	150 W High Pressure Sodium Lamp	85 W Induction Lamp	5	0.00002	0.114	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000	0.876	4,502	$10.00	per lamp; 64 square feet covered per lamp; 5% of floor area affected	$391	$329	7	$2,734	$1,643
	GROC-New	30%	150 W High Pressure Sodium Lamp	85 W Induction Lamp	5	0.00001	0.072	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-new.	23,500			$10.00	per lamp; 64 square feet covered per lamp; 5% of floor area affected	$184		3	$551	
	LRET-New	35%	250 W Incandescent	100 W HPS Lamp	15	0.00003	0.132	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000			$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$750		4	$2,625	

Measure	Represent-ative Prototype (a)	Weight of Prototype in Measure (b)	Impact/Measure (c)								Impacts per Participant		Rebate Amounts per Participant				Data for Exhibit 1107		Average Equipment Rebate
			Base Case	Efficiency Case	Measure Life	kW	kWh	Units	Comments/ Assump-tions	Assumed Unit Value	Weighted Measure kW	Weighted Measure kWh	Rebate Level	Unit	Rebate Amount	Weighted Measure Rebate	Number of Parts	Rebate Amount per Part	
f. HE High Pressure Sodium HID	LRET-New	35%	250 W Mercury Vapor Lamp	100 W HPS Lamp	15	0.00002	0.099	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000	0.885	4,545	$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$750	$631	4	$2,625	$1,577
	GROC-New	15%	250 W Incandescent	100 W HPS Lamp	15	0.00002	0.083	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-new.	23,500			$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$353		2	$529	
	GROC-New	15%	250 W Mercury Vapor Lamp	100 W HPS Lamp	15	0.00001	0.062	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-new.	23,500			$75	per lamp; 250 square feet covered per lamp; 5% of floor area affected	$353		2	$529	
g. HE Metal Halide (with & without pulse start)	LRET-New	35%	500 W Incandescent	Metal Halide Lamp (400 W)	6	0.00008	0.402	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000	3.691	18,486	$45	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$2,250	$1,997	4	$7,875	$4,731
	GROC-New	15%	500 W Incandescent	Metal Halide Lamp (400 W)	6	0.00005	0.253	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-new.	23,500			$45	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$1,058		2	$1,586	
	LRET-New	35%	500 W Incandescent	Ceramic Metal Halide Lamp with Pulse Start (350 W)	8	0.00011	0.536	per total bldg ft2	There are 50,000 ft2 of total floor area in LRET-new.	50,000			$50	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$2,500		4	$8,750	$5,256
	GROC-New	15%	500 W Incandescent	Ceramic Metal Halide Lamp with Pulse Start (350 W)	8	0.00006	0.337	per total bldg ft2	There are 23,500 ft2 of total floor area in GROC-new.	23,500			$50	per lamp; assume equal mix of regular and pulse start; 250 square feet covered per lamp; 25% of floor area affected	$1,175		2	$1,763	
	LOFF-New	35%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 50 lighting-control occupancy sensors are installed per building.	50			$20	per sensor	$1,000		9	$8,750	
	SOFF-New	25%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 10 lighting-control occupancy sensors are installed per building.	10			$20	per sensor	$200		6	$1,250	

			Impact/Measure (c)								Impacts per Participant		Rebate Amounts per Participant				Data for Exhibit 1107		
Measure	Represent-ative Prototype (a)	Weight of Prototype in Measure (b)	Base Case	Efficiency Case	Measure Life	kW	kWh	Units	Comments/ Assump-tions	Assumed Unit Value	Weighted Measure kW	Weighted Measure kWh	Rebate Level	Unit	Rebate Amount	Weighted Measure Rebate	Number of Parts	Rebate Amount per Part	Average Equipment Rebate
h. Occupancy Sensors	SHOT-New	5%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 25 lighting-control occupancy sensors are installed per building.	25	0.691	3,210	$20	per sensor	$500	$553	1	$625	$2,304
	LHOT-New	5%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 100 lighting-control occupancy sensors are installed per building.	100			$20	per sensor	$2,000		1	$2,500	
	REST-New	20%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 2 lighting-control occupancy sensors are installed per building.	2			$20	per sensor	$40		5	$200	
	LRET-New	10%	No Occupancy Sensors	Install Wall-Switch Occupancy Sensors	8	0.02500	116.100	per sensor	This measure assumes that 10 lighting-control occupancy sensors are installed per building.	10			$20	per sensor	$200		3	$500	
i. Premium Efficiency Motors (Impacts based on KEMA evaluation results for HECO)	LOFF-New	40%	Standard Fan Motors	Premium-Efficiency Fan Motors	15	0.00700	40.100	per HP	There are 330 HP of supply fans in LOFF-New.	330	1.161	6,653	$10	per horsepower	$3,300	$1,659	14	$46,200	$19,355
	SHOT-New	30%	Standard Fan Motors	Premium-Efficiency Fan Motors	15	0.00700	40.100	per HP	There are 25 HP of supply fans in SHOT-New.	25			$10	per horsepower	$250		11	$2,625	
	LHOT-New	30%	Standard Fan Motors	Premium-Efficiency Fan Motors	15	0.00700	40.100	per HP	There are 88 HP of supply fans in LHOT-New.	88			$10	per horsepower	$880		11	$9,240	
j. Window Tinting	SOFF-New	60%	No window film	Install window tint film [see note (f) below]	20	0.00074	7.652	ft2 of window area	There are 1223.52 ft2 of window area per SOFF-new building.	1,224	0.540	8,878	$0.35	per square foot of window area	$428	$568	0	$0	$0
	SCHO-New	40%	No window film	Install window tint film [see note (f) below]	20	0.00000	3.672	ft2 of window area	There are 2219.92 ft2 of window area in SCHO-new building.	2,220			$0.35	per square foot of window area	$777		0	$0	

BACKUP TABLE NOTES:

(a) LOFF=large office; SOFF=small office; REST=restaurant; LRET=large retail; SCHO=school; SHOT=small hotel; LHOT= large hotel/resort; GROC=grocery store; Existing=existing vintage, New=new construction vintage

(b) Weights developed by HECO consultant GEP using engineering estimates.

(c) Data extracted from Building Energy Simulation Tool (BEST) model runs developed by HECO consultant GEP during Phase II of this project. Values reflect building characteristics from Oahu.

(d) Cost data extracted from measure characterization and economic screening developed by HECO consultant Global Energy Partners during Phase I of this project.

(e) The Department of Energy and the Energy Star program estimate the life of CFLs to be in the range of 6,000 to 12,000 hours. For this analysis, it is assumed that pin-mounted CFLs have a life of 10,000 hours, while Type A mounted CFLs have a life of 8,000 hours. Assuming that each CFL lamp is used on average of 4 hours per day (the Energy Star savings calculator also assumes this value), pin-mounted CFLs have a life of about 7 years and Type A CFLs have a life of about 5 years. Data for manufacturers indicate that cold-cathode CFLs last about 25% longer than Type A mounted CFLs. As such, cold cathode CFLs are estimated to have a life of about 6 years.

(f) The window tinting measure involves applying reflective film to existing window glass. For existing buildings, the base case window is comprised of single-pane glass with a solar heat gain coefficient (SHGC) of 0.81, while the base case window in new constructions is comprised of double-pane glass with a SHGC value of 0.76. This impacts for the window tinting measure were obtained from BEST model runs by lowering the SHGC value of the base case window by 50%.

TABLE 4: BACKUP FOR COMPONENT/PROGRAM LEVEL SAVINGS, PARTICIPANTS AND INCENTIVES
ENERGY SOLUTIONS FOR THE HOME (ESH)

NUMBER OF NEW PARTICIPANTS (1)

Component	Number of Participants																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	60000	26667	10000	10000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b. HE Room A/C	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
c. HE Split System A/C	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625
d. Energy Star Ceiling Fans	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
e. Energy Star Appliances	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
f. Equipment Servicing	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
TOTAL -- NEW PARTICIPANTS	73,375	40,042	23,375	23,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375	13,375

NUMBER OF CUMULATIVE PARTICIPANTS

Component	Equipment Life (2)	Number of Participants																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	5	60,000	86,667	96,667	106,667	106,667	46,667	20,000	10,000	0	0	0	0	0	0	0	0	0	0	0	0
b. HE Room A/C	12	4,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000
c. HE Split System A/C	12	625	1,250	1,875	2,500	3,125	3,750	4,375	5,000	5,625	6,250	6,875	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
d. Energy Star Ceiling Fans	10	2,500	5,000	7,500	10,000	12,500	15,000	17,500	20,000	22,500	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
e. Energy Star Appliances	12	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	45,000	50,000	55,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
f. Equipment Servicing	2	1,250	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
TOTAL -- CUMULATIVE PARTICIPANTS		73,375	113,417	135,542	157,667	169,792	121,917	107,375	109,500	111,625	123,750	133,375	143,000	143,000	143,000	143,000	143,000	143,000	143,000	143,000	143,000

CUMULATIVE ENERGY SAVINGS (GROSS CUSTOMER LEVEL kWh)

Component	Unit Impact (3)	Cumulative Energy Reductions kWh (Gross Customer Level)																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	196	11,765,263	16,994,269	18,955,147	20,916,024	20,916,024	9,150,760	3,921,754	1,960,877	0	0	0	0	0	0	0	0	0	0	0	0
b. HE Room A/C	373	1,491,360	2,982,720	4,474,080	5,965,440	7,456,800	8,948,160	10,439,521	11,930,881	13,422,241	14,913,601	16,404,961	17,896,321	17,896,321	17,896,321	17,896,321	17,896,321	17,896,321	17,896,321	17,896,321	17,896,321
c. HE Split System A/C	545	340,411	680,822	1,021,234	1,361,645	1,702,056	2,042,467	2,382,878	2,723,290	3,063,701	3,404,112	3,744,523	4,084,935	4,084,935	4,084,935	4,084,935	4,084,935	4,084,935	4,084,935	4,084,935	4,084,935
d. Energy Star Ceiling Fans	395	986,250	1,972,500	2,958,750	3,945,000	4,931,250	5,917,500	6,903,750	7,890,000	8,876,250	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500	9,862,500
e. Energy Star Appliances	313	1,565,133	3,130,267	4,695,400	6,260,533	7,825,667	9,390,800	10,955,933	12,521,067	14,086,200	15,651,333	17,216,467	18,781,600	18,781,600	18,781,600	18,781,600	18,781,600	18,781,600	18,781,600	18,781,600	18,781,600
f. Equipment Servicing	620	775,101	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202	1,550,202
TOTAL -- GROSS CUSTOMER LEVEL		16,923,519	27,310,780	33,654,812	39,998,844	44,381,998	36,999,890	36,154,038	38,576,316	40,998,593	45,381,748	48,778,652	52,175,557	52,175,557	52,175,557	52,175,557	52,175,557	52,175,557	52,175,557	52,175,557	52,175,557
TOTAL -- GROSS SYSTEM LEVEL (4)		19,051,580	30,744,996	37,886,763	45,028,531	49,962,849	41,652,471	40,700,257	43,427,126	46,153,994	51,088,312	54,912,363	58,736,415	58,736,415	58,736,415	58,736,415	58,736,415	58,736,415	58,736,415	58,736,415	58,736,415
TOTAL -- NET SYSTEM LEVEL (5)		16,193,843	26,133,247	32,203,749	38,274,251	42,468,421	35,404,600	34,595,219	36,913,057	39,230,895	43,425,065	46,675,509	49,925,952	49,925,952	49,925,952	49,925,952	49,925,952	49,925,952	49,925,952	49,925,952	49,925,952

CUMULATIVE PEAK DEMAND SAVINGS (GROSS CUSTOMER LEVEL kW)

Component	Unit Impact (3)	Cumulative Peak Demand Reductions kW (Gross Customer Level)																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	0.04	2,196	3,171	3,537	3,903	3,903	1,708	732	366	0	0	0	0	0	0	0	0	0	0	0	0
b. HE Room A/C	0.19	761	1,521	2,282	3,043	3,803	4,564	5,325	6,085	6,846	7,607	8,367	9,128	9,128	9,128	9,128	9,128	9,128	9,128	9,128	9,128
c. HE Split System A/C	0.31	197	393	590	787	984	1,180	1,377	1,574	1,771	1,967	2,164	2,361	2,361	2,361	2,361	2,361	2,361	2,361	2,361	2,361
d. Energy Star Ceiling Fans	0.01	13	25	38	50	63	75	88	100	113	125	125	125	125	125	125	125	125	125	125	125
e. Energy Star Appliances	0.12	579	1,158	1,737	2,316	2,894	3,473	4,052	4,631	5,210	5,789	6,368	6,947	6,947	6,947	6,947	6,947	6,947	6,947	6,947	6,947
f. Equipment Servicing	0.39	491	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983	983
TOTAL -- GROSS CUSTOMER LEVEL		4,236	7,252	9,166	11,081	12,630	11,983	12,556	13,739	14,922	16,470	18,007	19,543	19,543	19,543	19,543	19,543	19,543	19,543	19,543	19,543
TOTAL -- GROSS SYSTEM LEVEL (4)		4,768	8,164	10,319	12,475	14,218	13,490	14,135	15,466	16,798	18,542	20,271	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
TOTAL -- NET SYSTEM LEVEL (5)		4,053	6,939	8,771	10,603	12,085	11,466	12,015	13,146	14,278	15,760	17,230	18,700	18,700	18,700	18,700	18,700	18,700	18,700	18,700	18,700

INCENTIVE CALCULATIONS:

Component	Total Incentive (7)	Total Incentive Budget																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package (6)	$7.50	$450,000	$200,000	$75,000	$75,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
b. HE Room A/C	$75	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000
c. HE Split System A/C	$110	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750	$68,750
d. Energy Star Ceiling Fans	$40	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
e. Energy Star Appliances	$50	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000	$250,000
f. Equipment Servicing	$50	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500	$62,500
TOTAL INCENTIVES		$1,231,250	$981,250	$856,250	$856,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250	$781,250
TOTAL INCENTIVES (Escalated @ 2.2%)		$1,231,250	$1,002,838	$894,339	$914,015	$852,302	$871,053	$890,216	$909,801	$929,816	$950,272	$971,178	$992,544	$1,014,380	$1,036,697	$1,059,504	$1,082,813	$1,106,635	$1,130,981	$1,155,862	$1,181,291

PARTICIPANT COST CALCULATIONS:

Component	Customer Equipment Cost (8)	Total Participant Cost																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package (6)	$17.25	$1,035,000	$460,000	$172,500	$172,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
b. HE Room A/C	$236	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000	$944,000
c. HE Split System A/C	$428	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500	$267,500
d. Energy Star Ceiling Fans	$158	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000
e. Energy Star Appliances	$173	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133	$865,133
f. Equipment Servicing	$190	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500	$237,500
TOTAL PARTICIPANT COST		$3,744,133	$3,169,133	$2,881,633	$2,881,633	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133	$2,709,133
TOTAL PART COST (Escalated @ 2.2%)		$3,744,133	$3,238,854	$3,009,820	$3,076,036	$2,955,520	$3,020,542	$3,086,994	$3,154,908	$3,224,316	$3,295,251	$3,367,746	$3,441,836	$3,517,557	$3,594,943	$3,674,032	$3,754,861	$3,837,468	$3,921,892	$4,008,173	$4,096,353
TOTAL PART COST (Net of Free-Riders)		$3,182,513	$2,753,026	$2,558,347	$2,614,631	$2,512,192	$2,567,461	$2,623,945	$2,681,671	$2,740,668	$2,800,963	$2,862,584	$2,925,561	$2,989,923	$3,055,702	$3,122,927	$3,191,631	$3,261,847	$3,333,608	$3,406,947	$3,481,900
		33%																			

IMPLEMENTATION COSTS (9)

Component	20-Year Budget (Escalated at 2.2% per year)																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Direct Labor																				
Base	$51,691	$53,108	$47,546	$48,654	$48,225	$50,057	$51,960	$53,934	$55,984	$58,111	$60,319	$62,611	$64,991	$67,460	$70,024	$72,685	$75,447	$78,314	$81,290	$84,379
Incremental	$15,393	$27,398	$24,559	$25,168	$24,936	$25,884	$26,867	$27,888	$28,948	$30,048	$31,190	$32,375	$33,605	$34,882	$36,208	$37,584	$39,012	$40,494	$42,033	$43,631
Total Labor	$67,084	$80,505	$72,105	$73,823	$73,161	$75,941	$78,827	$81,822	$84,932	$88,159	$91,509	$94,987	$98,596	$102,343	$106,232	$110,268	$114,459	$118,808	$123,323	$128,009
Outside Services																				
Implementation	$120,000	$124,560	$129,293	$134,206	$139,306	$144,600	$150,094	$155,798	$161,718	$167,864	$174,242	$180,864	$187,736	$194,870	$202,276	$209,962	$217,941	$226,222	$234,819	$243,742
Tracking	$11,111	$22,222	$23,066	$23,943	$24,853	$25,797	$26,778	$27,795	$28,851	$29,948	$31,086	$32,267	$33,493	$34,766	$36,087	$37,458	$38,882	$40,359	$41,893	$43,485
Evaluation	$15,000	$154,586	$160,461	$166,558	$172,887	$179,457	$186,276	$193,355	$200,702	$208,329	$216,245	$224,463	$232,992	$241,846	$251,036	$260,575	$270,477	$280,755	$291,424	$302,498
Advertising	$500,000	$400,000	$350,000	$363,300	$377,105	$401,265	$416,513	$432,340	$448,769	$465,823	$483,524	$501,898	$520,970	$540,767	$561,316	$582,646	$604,786	$627,768	$651,623	$676,385
Admin/Misc	$25,000	$25,950	$26,936	$27,960	$29,022	$30,125	$31,270	$32,458	$33,691	$34,971	$36,300	$37,680	$39,112	$40,598	$42,141	$43,742	$45,404	$47,130	$48,920	$50,779
Total Outside Services	$671,111	$727,318	$689,756	$715,967	$743,173	$781,243	$810,931	$841,746	$873,732	$906,934	$941,398	$977,171	$1,014,303	$1,052,847	$1,092,855	$1,134,384	$1,177,490	$1,222,235	$1,268,680	$1,316,889
TOTAL IMPLEMENTATION COSTS	$738,195	$807,823	$761,861	$789,790	$816,335	$857,185	$889,758	$923,569	$958,664	$995,093	$1,032,907	$1,072,157	$1,112,899	$1,155,190	$1,199,087	$1,244,652	$1,291,949	$1,341,043	$1,392,002	$1,444,899
TOTAL IMPLEM COST (Descalated starting in 2007 because of change in escalation rate)	$738,195	$778,250	$733,970	$760,877	$786,449	$825,804	$857,185	$889,758	$923,569	$958,664	$995,093	$1,032,907	$1,072,157	$1,112,899	$1,155,190	$1,199,087	$1,244,652	$1,291,949	$1,341,043	$1,392,002
TOTAL IMPLEM COST (Escalated @ 2.2%)	$738,195	$795,371	$750,118	$777,616	$803,751	$843,972	$876,043	$909,332	$943,887	$979,755	$1,016,985	$1,055,631	$1,095,745	$1,137,383	$1,180,604	$1,225,467	$1,272,034	$1,320,372	$1,370,546	$1,422,627

Return on Costs (15% of Implem+Incentives)

SOURCE/NOTES:

(1) Number of participants derived based on preliminary HECO market experience. CFL program attracts new participants for four years (2006-2009). Three-year ramp up in participants for all non-CLF measures to accommodate the new program in the marketplace.
(2) Equipment Lifetime derived from HECO Phase II study.
(3) Unit impact represents the average per-participant savings as derived from BEST model runs representing specific measures addressed from the HECO Phase II assessment (see Backup Calculations table below for detailed assumptions).
(4) Customer to Generation Ratio (system loss factor) = 11.17%
(5) Gross to Net Ratio (based on program free-rider rate) = 0.85 (applied to energy savings)
0.85 (applied to peak demand savings)
(6) CFL rebate level set at $2.50 per bulb, representing 43% of the customer's cost of $5.75 per bulb.
(7) Rebate levels for other measures based on the concept that HECO covers roughly 25% of the the total customer cost.
(8) All participant costs (other than CFL) based on HECO Phase I and Phase II studies.
(9) Source: HECO Energy Services.

IMPLEMENTATION COSTS (10)

Component	20-Year Budget (Escalated at 2.2% per year)																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Direct Labor																				
Base	$71,770	$74,192	$76,049	$77,678	$79,591	$82,615	$85,755	$89,014	$92,396	$95,907	$99,552	$103,335	$107,261	$111,337	$115,568	$119,960	$124,518	$129,250	$134,161	$139,259
Incremental	$55,004	$56,342	$57,733	$59,165	$60,606	$62,909	$65,300	$67,781	$70,357	$73,030	$75,805	$78,686	$81,676	$84,780	$88,001	$91,345	$94,816	$98,420	$102,159	$106,042
Total Labor	$126,774	$130,534	$133,782	$136,843	$140,197	$145,524	$151,054	$156,794	$162,753	$168,937	$175,357	$182,020	$188,937	$196,117	$203,569	$211,305	$219,335	$227,669	$236,321	$245,301
Outside Services																				
Implementation	$379,903	$368,204	$382,196	$396,719	$411,794	$427,442	$443,685	$460,545	$478,046	$496,212	$515,068	$534,640	$554,957	$576,045	$597,935	$620,656	$644,241	$668,722	$694,134	$720,511
Tracking	$11,111	$22,222	$23,066	$23,943	$24,853	$25,797	$26,778	$27,795	$28,851	$29,948	$31,086	$32,267	$33,493	$34,766	$36,087	$37,458	$38,882	$40,359	$41,893	$43,485
Evaluation	$21,820	$22,649	$23,510	$24,403	$25,331	$26,294	$27,293	$28,330	$29,406	$30,524	$31,684	$32,888	$34,137	$35,435	$36,781	$38,179	$39,630	$41,136	$42,699	$44,321
Advertising	$115,500	$117,989	$122,472	$127,127	$131,957	$136,971	$142,176	$147,579	$153,187	$159,008	$165,050	$171,322	$177,833	$184,590	$191,605	$198,886	$206,443	$214,288	$222,431	$230,883
Admin/Misc	$65,099	$67,229	$69,687	$72,308	$75,024	$77,875	$80,834	$83,906	$87,094	$90,404	$93,839	$97,405	$101,106	$104,949	$108,937	$113,076	$117,373	$121,833	$126,463	$131,268
Total Outside Services	$593,433	$598,293	$620,931	$644,500	$668,959	$694,380	$720,766	$748,155	$776,585	$806,095	$836,727	$868,523	$901,527	$935,785	$971,344	$1,008,255	$1,046,569	$1,086,339	$1,127,620	$1,170,469
TOTAL IMPLEMENTATION COSTS	$720,207	$728,827	$754,713	$781,343	$809,156	$839,904	$871,821	$904,950	$939,338	$975,033	$1,012,084	$1,050,543	$1,090,464	$1,131,901	$1,174,914	$1,219,560	$1,265,904	$1,314,008	$1,363,940	$1,415,770
TOTAL IMPLEM COST (Descalated starting in 2007 because of change in	$720,207	$702,146	$727,084	$752,739	$779,534	$809,156	$839,904	$871,821	$904,950	$939,338	$975,033	$1,012,084	$1,050,543	$1,090,464	$1,131,901	$1,174,914	$1,219,560	$1,265,904	$1,314,008	$1,363,940
TOTAL IMPLEM COST (Escalated @ 2.2%)	$720,207	$717,593	$743,080	$769,299	$796,684	$826,958	$858,382	$891,001	$924,859	$960,003	$996,483	$1,034,350	$1,073,655	$1,114,454	$1,156,803	$1,200,762	$1,246,391	$1,293,754	$1,342,916	$1,393,947

Return on Costs (15% of Implem+Incentives)

SOURCE/NOTES:

(1) Number of participants derived based on historical program experience. Number of participants for Built Green based on benchmark experience. Assumes 1-year lag from time of design to occupancy.
(2) Equipment Lifetime derived from HECO Phase II study. Lifetimes for BuiltGreen measures based on program experience.
(3) Unit impact for all water heat measures based on HECO A&S report (5/31/05), Attachment B update of DSMIS unit savings values based on the 2001-2003 Impact Evaluation Study (Xenergy) May 2005, Table 1-1.
Unit impact for BuiltGreen packages based on backup analysis (see table below)
(4) Customer to Generation Ratio (system loss factor) = 11.17%
(5) Gross to Net Ratio (based on program free-rider rate) = 0.841 (applied to energy savings)
0.885 (applied to peak demand savings)
(6) Incentive levels for Solar Water Heat and HE Water Heat based on HECO Energy Services (current program experience)
Incentive level for Tank and Timer based on $330 for new water heater plus controller. In addition, $60 bill credit per year applied to all cumulative participants.
Incentive level for CFLs are $5/bulb (higher than ESH program due to added costs associated with due to packaging and other materials costs).
Incentive levels for BuiltGreen measures based on the following assumptions

Bronze Package:	25% of customer equipment cost
Silver Package:	25% of customer equipment cost
Gold Package:	25% of customer equipment cost
Gold-Plus Package:	50% of customer equipment cost

(7) The incentive amount of $60 per year for Tank and Timer is applied to the aggregate number of cumulative participants each year; thus the incentive costs are reflective of these amounts.
(8) Equipment Cost Calculations for solar water heat:

	2006-2007	008 & beyond	
Average Equipment Cost	5,000	5,000	Source: HECO Energy Services
HECO rebate	1,000	1,000	
Net after HECO Rebate	4,000	4,000	
Federal Tax Credit	1,200	-	30% of net cost after rebates and before state tax credits; phases out starting in 2008
Net after HECO Rebate plus Fed credit	2,800	4,000	
State Tax Credit	1,400	1,400	35% of installed cost less rebate with a cap of $2250
Net Cost to Customer	1,400	2,600	
Net Cost plus HECO rebate	2,400	3,600	Note: This cost is used for the TRC test

Source for Equipment cost of other water heat measures: HECO Energy Services.
Source for BuiltGreen measure costs based on backup analysis (see table below).
(9) The cost of the CFL package is assumed $5/bulb (cost is different than that for ESH and RLI because of packaging, etc.). Incentive paid is 100% ($5/bulb).
(10) Source: HECO Energy Services.

BUILT GREEN IMPACT SCENARIOS
PROTOTYPE: Single Family New, Honolulu TMY Weather File

BuiltGreen Package	Assumption	Incremental Cost	BEST Model Impacts	
			kWh	kW
BRONZE PACKAGE				
1. HE Central AC	SEER: base case=13; efficiency case=10	$454	Composite Impact	
2. Energy Star Ceiling Fans	Assume 4 total fans. Modeled in BEST by increasing the cooling setpoint by 2 deg. F relative to the base case, and then subtract out 50 kWh per fan due to motor electricity consumption.	$628		
3. CFLs	3 total CFLs yields a total impact of 196 kWh and 0.037 kW	$15.00		
TOTAL		**$1,097**	**1,616**	**0.967**
SILVER PACKAGE				
1. HE Central AC	SEER: base case=13; efficiency case=10	$454	Composite Impact	
2. Energy Star Ceiling Fans	Assume 4 total fans. Modeled in BEST by increasing the cooling setpoint by 2 deg. F relative to the base case, and then subtract out 50 kWh per fan due to motor electricity consumption.	$628		
3, CFLs	3 total CFLs yields a total impact of 196 kWh and 0.037 kW	$15.00		
4. Energy Star Clothes Washer	Savings from Phase 1 study: 652.43 kWh and 0.2584 kW	$250		
5. Energy Star Refrigerator	Savings from Phase 1 study: 103.35 kWh and 0.0416 kW	$60		
6. Wall Insulation	Base=R11; Efficiency=R15 @ $0.01/sf wall area	$200		
7. Ceiling Insulation	Base=R19; Efficiency=R25 @ $0.30/sf roof area	$540		
8. Skylights	Impact of this measure and its interaction with the HVAC system are estimated to have the same net effect as eliminating one 60W lamp that is used for 2,000 hrs per yr.	$200		
TOTAL		**$2,347**	**2,535**	**1.337**

GOLD PACKAGE					
1. HE Central AC (SEER 13 vs.10)	SEER: base case=13; efficiency case=10		$454	Composite Impact	
2. Energy Star Ceiling Fans (4 total)	Assume 4 total fans. Modeled in BEST by increasing the cooling setpoint by 2 deg. F relative to the base case, and then subtract out 50 kWh per fan due to motor electricity consumption.		$628		
3. CFLs (3 total)	3 total CFLs yields a total impact of 196 kWh and 0.037 kW		$15.00		
4. Energy Star Clothes Washer	Savings from Phase 1 study: 652.43 kWh and 0.2584 kW		$250		
5. Energy Star Refrigerator	Savings from Phase 1 study: 103.35 kWh and 0.0416 kW		$60		
6. Wall Insulation	Base=R11; Efficiency=R15 @ $0.01/sf wall area		$200		
7. Ceiling Insulation	Base=R19; Efficiency=R25 @ $0.30/sf roof area		$540		
8. Skylights	Impact of this measure and its interaction with the HVAC system are estimated to have the same net effect as eliminating one 60W lamp that is used for 2,000 hrs per yr.		$200		
9. Energy Star Windows	Double Pane, Low-E (SHGC=0.29) @ $3.18/sf window area x 250 sf window area		$795		
TOTAL			$3,142	3,797	1.587

GOLD-PLUS PACKAGE					
1. Natural Ventilation	Extra cost assumed as part of base construction		$0	Composite Impact	
2. Energy Star Ceiling Fans (4 total)	Assume 4 total fans. Since this home does not have a coolign system, the net effect of this measure would be to lower the total savings by 50 kWh per fan due to motor electricity consumption.		$628		
3. CFLs (3 total)	3 total CFLs yields a total impact of 196 kWh and 0.037 kW		$15.00		
4. Energy Star Clothes Washer	Savings from Phase 1 study: 652.43 kWh and 0.2584 kW		$250		
5. Energy Star Refrigerator	Savings from Phase 1 study: 103.35 kWh and 0.0416 kW		$60		
6. Wall Insulation	Base=R11; Efficiency=R15 @ $0.01/sf wall area		$200		
7. Ceiling Insulation	Base=R19; Efficiency=R25 @ $0.30/sf roof area		$540		
8. Skylights (SHGC<0.5)	Impacts of this measure are estimated to have the same net effect as eliminating one 60W lamp that is used for 2,000 hrs per yr.		$200		
9. Energy Star Windows	Double Pane, Low-E (SHGC=0.29) @ $3.18/sf window area x 250 sf window area		$795		
TOTAL			$2,688	6,261	3.037

ABLE 7: BACKUP FOR COMPONENT/PROGRAM LEVEL SAVINGS, PARTICIPANTS AND INCENTIVES
ESIDENTIAL LOW INCOME (RLI)

UMBER OF NEW PARTICIPANTS (1)

omponent	Number of Participants																			
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
b. Water Heat Package	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
OTAL – NEW PARTICIPANTS	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000

UMBER OF CUMULATIVE PARTICIPANTS

Component	Equipment Life (2)	Number of Participants																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	5	4,000	8,000	12,000	16,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
b. Water Heat Package	15	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000	22,000	24,000	26,000	28,000	30,000	30,000	30,000	30,000	30,000	30,000
OTAL – CUMULATIVE PARTICIPANTS		6,000	12,000	18,000	24,000	30,000	32,000	34,000	36,000	38,000	40,000	42,000	44,000	46,000	48,000	50,000	50,000	50,000	50,000	50,000	50,000

UMULATIVE ENERGY SAVINGS (GROSS CUSTOMER LEVEL kWh)

Component	Unit Impact (3)	Cumulative Energy Reductions kWh (Gross Customer Level)																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	196	784,351	1,568,702	2,353,053	3,137,404	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754	3,921,754
b. Water Heat Package	777	1,554,800	3,109,601	4,664,401	6,219,201	7,774,002	9,328,802	10,883,603	12,438,403	13,993,203	15,548,004	17,102,804	18,657,604	20,212,405	21,767,205	23,322,006	23,322,006	23,322,006	23,322,006	23,322,006	23,322,006
OTAL – GROSS CUSTOMER LEVEL		2,339,151	4,678,303	7,017,454	9,356,605	11,695,756	13,250,557	14,805,357	16,360,157	17,914,958	19,469,758	21,024,559	22,579,359	24,134,159	25,688,960	27,243,760	27,243,760	27,243,760	27,243,760	27,243,760	27,243,760
OTAL – GROSS SYSTEM LEVEL (4)		2,633,290	5,266,579	7,899,869	10,533,159	13,166,449	14,916,759	16,667,069	18,417,379	20,167,689	21,917,999	23,668,309	25,418,619	27,168,929	28,919,239	30,669,549	30,669,549	30,669,549	30,669,549	30,669,549	30,669,549
OTAL – NET SYSTEM LEVEL (5)		2,633,290	5,266,579	7,899,869	10,533,159	13,166,449	14,916,759	16,667,069	18,417,379	20,167,689	21,917,999	23,668,309	25,418,619	27,168,929	28,919,239	30,669,549	30,669,549	30,669,549	30,669,549	30,669,549	30,669,549

UMULATIVE PEAK DEMAND SAVINGS (GROSS CUSTOMER LEVEL kW)

Component	Unit Impact (3)	Cumulative Peak Demand Reductions kW (Gross Customer Level)																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	0.037	146	293	439	586	732	732	732	732	732	732	732	732	732	732	732	732	732	732	732	732
b. Water Heat Package	0.189	379	757	1,136	1,514	1,893	2,271	2,650	3,028	3,407	3,785	4,164	4,542	4,921	5,299	5,678	5,678	5,678	5,678	5,678	5,678
OTAL – GROSS CUSTOMER LEVEL		525	1,050	1,575	2,100	2,624	3,003	3,381	3,760	4,138	4,517	4,895	5,274	5,652	6,031	6,409	6,409	6,409	6,409	6,409	6,409
OTAL – GROSS SYSTEM LEVEL (4)		591	1,182	1,773	2,364	2,954	3,381	3,807	4,233	4,659	5,085	5,511	5,937	6,363	6,789	7,215	7,215	7,215	7,215	7,215	7,215
OTAL – NET SYSTEM LEVEL (5)		591	1,182	1,773	2,364	2,954	3,381	3,807	4,233	4,659	5,085	5,511	5,937	6,363	6,789	7,215	7,215	7,215	7,215	7,215	7,215

ICENTIVE CALCULATIONS:

Component	Total Incentive ($)	#REF!																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	$17.25	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000	$69,000
b. Water Heat Package	$260	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000	$520,000
OTAL INCENTIVES		$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000	$589,000
OTAL INCENTIVES (Escalated @ 2.2%)		$589,000	$601,958	$615,201	$628,735	$642,568	$656,704	$671,152	$685,917	$701,007	$716,429	$732,191	$748,299	$764,762	$781,586	$798,781	$816,354	$834,314	$852,669	$871,428	$890,599

ARTICIPANT COST CALCULATIONS:

Component	Customer Equipment Cost (7)	Total Participant Costs																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. CFL Package	$0.00	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
b. Water Heat Package	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTAL PARTICIPANT COST		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTAL PART COST (Escalated @ 2.2%)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
OTAL PART COST (Net of Free-Riders)		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

#DIV/0!

TABLE 9: BACKUP FOR COMPONENT/PROGRAM LEVEL SAVINGS, PARTICIPANTS AND INCENTIVES
COMMERCIAL INDUSTRIAL DIRECT LOAD CONTROL PROGRAM (CIDLC)

NUMBER OF NEW PARTICIPANTS (1)

Component	Number of Participants																				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. DLC (P Rate w/ UFR)	0	6	10	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
a1 DLC Customer #1 (P Rate w/ UFR)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
a2 DLC Customer #2 (P Rate w/ UFR)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b. DLC (P Rate w/o UFR)	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
c. DLC (J Rate w/ UFR)	0	2	12	24	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
d. DLC (J Rate w/o UFR)	0	1	3	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
e. VLC (P Rate)	0	10	10	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
f. VLC (J Rate)	0	5	27	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
g. Small DLC (w/ UFR)	0	80	600	600	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL -- NEW PARTICIPANTS	2	105	664	678	623	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NUMBER OF CUMULATIVE PARTICIPANTS (2)

Component	Number of Participants																				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. DLC (P Rate w/ UFR)	0	6	16	18	24	27	30	33	36	39	41	41	41	41	41	41	41	41	41	41	41
a1 DLC Customer #1 (P Rate w/ UFR)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
a2 DLC Customer #2 (P Rate w/ UFR)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
b. DLC (P Rate w/o UFR)	0	1	3	5	7	8	9	10	11	12	13	13	13	13	13	13	13	13	13	13	13
c. DLC (J Rate w/ UFR)	0	2	14	38	54	57	70	80	87	93	97	100	102	104	106	107	108	109	110	110	110
d. DLC (J Rate w/o UFR)	0	1	4	10	14	15	18	20	22	23	24	25	26	26	26	26	26	26	26	26	26
e. VLC (P Rate)	0	10	20	28	23	19	15	11	7	3	0	0	0	0	0	0	0	0	0	0	0
f. VLC (J Rate)	0	5	32	68	68	64	48	36	27	20	15	11	8	6	4	3	2	1	0	0	0
g. Small DLC (w/ UFR)	0	80	680	1,280	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880	1,880
TOTAL -- CUMULATIVE PARTICIPANTS	2	107	771	1,449	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072	2,072

CUMULATIVE PEAK DEMAND SAVINGS (GROSS CUSTOMER LEVEL kW)

Component	Unit Impact (3)	Cumulative Demand Reduction (kW) (Gross Customer Level)																			
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
a. DLC (P Rate w/ UFR)	350	2,100	5,600	6,300	8,400	9,450	10,500	11,550	12,600	13,650	14,350	14,350	14,350	14,350	14,350	14,350	14,350	14,350	14,350	14,350	14,350
a1 DLC Customer #1 (P Rate w/ UFR)	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
a2 DLC Customer #2 (P Rate w/ UFR)	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205	205
b. DLC (P Rate w/o UFR)	350	350	1,050	1,750	2,450	2,800	3,150	3,500	3,850	4,200	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550	4,550
c. DLC (J Rate w/ UFR)	75	150	1,050	2,850	4,050	4,275	5,250	6,000	6,525	6,975	7,275	7,500	7,650	7,800	7,950	8,025	8,100	8,175	8,250	8,250	8,250
d. DLC (J Rate w/o UFR)	75	75	300	750	1,050	1,125	1,350	1,500	1,650	1,725	1,800	1,875	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950	1,950
e. VLC (P Rate)	350	3,500	7,000	9,800	8,050	6,650	5,250	3,850	2,450	1,050	0	0	0	0	0	0	0	0	0	0	0
f. VLC (J Rate)	75	375	2,400	5,100	5,100	4,800	3,600	2,700	2,025	1,500	1,125	825	600	450	300	225	150	75	0	0	0
g. Small DLC (w/ UFR)	5	400	3,400	6,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400	9,400
TOTAL -- GROSS CUSTOMER LEVEL (7)		2,650	10,050	15,550	21,850	23,125	25,150	26,950	28,525	30,025	31,025	31,250	31,400	31,550	31,700	31,775	31,850	31,925	32,000	32,000	32,000
TOTAL -- GROSS SYSTEM LEVEL (4)		2,983	11,314	17,505	24,598	26,033	28,313	30,339	32,112	33,801	34,926	35,180	35,348	35,517	35,686	35,771	35,855	35,939	36,024	36,024	36,024