CA-IR-308

Ref: HECO-WP-1601 (2007 Plant Additions).

Please provide a listing of HECO's current best estimate of plant addition projects expected to be completed and placed in service during 2007, including the following information:

a. Project number and description.

b. Actual cumulative expenditures at 12/31/05, if any.

c. Actual project expenditures during 2006, if any.

d. Projected project expenditures during 2007, if any.

e. Projected completion date for each project.

HECO Response:

a.-e. See pages 4 through 10 of Attachment 1 to the Company's response to CA-IR-307.

CA-IR-309

Ref: HECO-WP-1601 (2006 Plant Additions).

Please provide a listing of the actual plant addition projects completed and placed in service during 2006, including the following information:

a. Project number and description.

b. Actual cumulative expenditures at 12/31/05, if any.

c. Actual project expenditures during 2006, if any.

d. Any straggling expenditures during 2007, if any.

e. Actual completion date for each project.

HECO Response:

a. See pages 2 - 8.

b. See pages 2-6 for actual cumulative expenditures at 12/31/05 for projects. Cumulative expenditures at 12/31/05 are not applicable for programs. As stated in Mr. Morikami's direct testimony (T-16), programs are a collection of small projects and may be viewed as ongoing, year after year. Also, completion dates are not applicable since programs are comprised of a multitude of work orders that close throughout the entire year.

c. See pages 2-8.

d. See pages 2-8.

e. See pages 2-6 for the actual completion date for each project. For programs, see the response to item b. above.

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS - PROJECTS

			Expenditures				
Project #	Project Title	Completion Date	Project to Date Recorded 12/31/05	2006	2007	2008	Total
P0000190	Waikiki Rehab Project 1	20060601	306,906	325,297	15,980	0	648,183
P0000203	Waiau 4 Ignitor Replacement	20060814	93,866	65,173	0	0	159,039
P0000209	W4 Cycle Chem Instr.	20060814	241,540	337,627	3,935	0	583,102
P0000215	K2 Cycle Chem Instr.	20060101	493,125	18,237	0	0	511,362
P0000231	W8 BFP Rec Ctrl Valves Upg	20060401	65,193	26,149	0	0	91,342
P0000278	Makalapa Substation Prot	20060407	496,976	265,677	2,567	0	765,220
P0000299	W9 Compressor Wash	20060501	210,802	-23,665	1,539	0	188,676
P0000300	W10 Compressor Wash	20060501	79,592	88,271	853	0	168,716
P0000469	K5&6 Service Air Compressors	20060101	187,521	0	0	0	187,521
P0000490	H8&9 Emergency Generator		0	156	0	0	156
P0000508	PM-Makalapa MW Replace	20061011	127,120	40,857	1,024	0	169,001
P0000509	PM-Ewa Nui MW Replace	20061011	130,301	108,215	1,171	0	239,687
P0000530	Ka Iwi 12kV UG, Ph 1 Inc 2	20060210	174,961	12,822	129,234	0	317,017
P0000565	W10 DCS Processor Upgrade	20060505	450,430	233,650	0	0	684,080
P0000571	CIS Replacement	2006/04	0	250,083	313,281	0	563,364
P0000641	K6 AEH Limit Switch Upgrd	20060101	39,266	-28,742	0	0	10,524
P0000657	W10 Exhaust Duct Replacement	20060512	457,011	493,067	15,606	0	965,684
P0000713	Dispatch Center Building	20060207	12,057,061	1,665,089	37,009	0	13,759,159
P0000716	Telecomm Extensions	20060320	1,520,804	1,452,397	103,350	0	3,076,551
P0000717	EMS Replacement	20060327	3,852,135	2,161,231	84,503	0	6,097,869
P0000718	Dispatch Training Simulator	20061221	133,690	48,254	37,119	0	219,063
P0000794	Call Center-1st floor	20061228	1,330	1,170,116	308,964	0	1,480,410
P0000801	W4 Operator Console Upgrade	20060814	201,098	159,349	2,502	0	362,949
P0000825	C&M Renovation	20060101	722,915	4,882	0	0	727,797
P0000829	W4 Main Xfmr Replacement	20060814	749,092	275,481	1,952	0	1,026,525
P0000836	Ford Island Substation	20060315	4,261,932	1,770,448	9,704	0	6,042,084
P0000838	46kV Fdrs to FI Sub	20060208	14,718,089	2,688,913	5,665	0	17,412,667
P0000839	Comm. Links FI-Maklpa	20060313	153,630	247,359	22,514	0	423,503
P0000866	King Downspout Replcmt	20060101	84,113	-75,000	0	0	9,113
P0000901	Kahe Reclaimed Oil Transfer	20060101	276,977	41,525	0	0	318,502
P0000929	Loop Feed Protection Tsf	20060501	21,652	2,790	0	0	24,442
P0000932	Beretania North V4259 Repl	20060918	0	87,640	0	0	87,640
P0000939	Waiau CT Separation	20060513	786,404	142,888	27,795	0	957,087
P0000949	Ocean Point SS Land Purchase	20061228	0	219,593	815	0	220,408
P0000950	Ocean Point SS Tsf#1 Install	20061001	54,583	1,579,185	19,069	0	1,652,837
P0000951	Ocean Pointe 46kV Lines	20061001	60,630	1,487,063	826	0	1,548,519
P0000952	Ocean Pointe 12kV Lines	20061001	3,989	145,096	0	0	149,085
P0000957	K1 MS Replacement	20070301	27	120,559	0	0	120,586
P0000962	W71 TVL SCREEN REPL	20060701	0	133,829	1,734	0	135,563
P0000999	W3&4 Turb Roof Drain Piping	20060701	94,462	179,787	0	0	274,249
P0001004	HPP Perimeter Fence	20060101	47,758	-9	0	0	47,749
P0001006	Sign for Ward Ave	20060101	72,083	0	0	0	72,083
P0001015	Wahiawa-Waialua #2 P23X-P33	20061019	48,001	495,819	41,404	0	585,224
P0001016	Lurline/Mariposa Cable Repl	20060301	660,650	330,943	38,600	0	1,030,193
P0001041	BWS Desal SS CID	cancelled	0	-165	0	0	-165
P0001043	Oceanit/BWS Desal Substation	cancelled	0	-48	0	0	-48
P0001045	Palehua East B 46kV UG PH1	20061208	29,688	475,059	-99,726	0	405,021
P0001049	Mokapu 3 TSF Installation	20060510	29,157	890,986	10,584	0	930,727
P0001053	HMSA Keeamoku Conversion	20060906	205	33,936	0	0	34,141
P0001055	Customer Solutions Consolidn	20060101	240,264	0	0	0	240,264
P0001056	DSM Expansion	20060101	144,389	0	0	0	144,389

Totals may not add due to rounding

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS - PROJECTS

			Expenditures				
Project #	Project Title	Completion Date	Project to Date Recorded 12/31/05	2006	2007	2008	Total
P0001062	Kahe Lightning Protection	20060710	2,320	16,834	0	0	19,154
P0001065	Purchase Spare 20/33 MVA Tsf	20060401	678,525	0	0	0	678,525
P0001066	Waiawa4 Ckt Extension	20060123	143,290	6,515	0	0	149,805
P0001067	Air Heater Rotor Stop Alarm	20060501	95,172	-69,179	0	0	25,993
P0001075	Kam Hy-Kokololio Bridge Temp	20060815	30,359	151,393	2,300	0	184,052
P0001077	Manoa Sub 4 kV Upgrade	20061211	9,091	260,693	9,785	0	279,569
P0001079	W8 Aux Xfmr Replacement	20060213	183,733	15,879	2,541	0	202,153
P0001080	Ko Olina Parcel 50 46/12kV	20060419	26,053	139,758	0	0	165,811
P0001082	Waiau-Makalapa #2 NCI Repl	20060101	95,829	195	0	0	96,024
P0001126	ITS Relocation to Pauahi	20060101	633,769	0	0	0	633,769
P0001139	W9 Bentley-Nevada Upgrade	20060101	200,972	2,414	0	0	203,386
P0001140	W10 Bentley-Nevada Upgrade	20060501	114,494	106,173	0	0	220,667
P0001143	Ward AC Space Planning	20060101	212,024	0	0	0	212,024
P0001148	AED Upgrade Project	20060823	0	285,861	0	0	285,861
P0001153	Second Spare 8% 10MVA Tsf	20060601	0	403,968	0	0	403,968
P0001156	Alakawa St 11.5kV UG Reloc	20060601	70,184	84,594	1,421	0	156,199
P0001158	Waiau-Koolau #1 Line Repl	20060519	77,162	1,034,275	12,694	0	1,124,131
P0001159	Spare 15kV Switchgear	20060701	460	176,732	0	0	177,192
P0001160	K6 FD Fan Motor Replacement	20060201	138	118,577	0	0	118,715
P0001164	W8 HP/IP Blade Replacement	20060210	278,937	67,344	9,137	0	355,418
P0001165	Enterprise Reporting (BI)	20060501	9,706	0	557000	0	566,706
P0001166	Shared UNIX Infrastructure	20061201	0	1,646,201	499,573	0	2,145,774
P0001180	K2 Generator Protective Relay	20061115	0	9,622	0	0	9,622
P0001192	W10 Generator Protective Relay	20060501	0	41,679	0	0	41,679
P0001196	K4 Hydrogen Gas Dryer	20061128	0	96,092	0	0	96,092
P0001214	W4 Turbine Drains	20060814	0	123,397	0	0	123,397
P0001229	Kahe FWH 43 Press/Temp Instr	20061201	0	34,493	0	0	34,493
P0001230	Kahe FWH 44 Press/Temp Instr	20061201	0	23,875	0	0	23,875
P0001231	Kahe FWH 45 Press/Temp Instr	20061201	0	26,612	0	0	26,612
P0001262	K4 Air Heater Rotor Stop Alarm	20061128	0	22,229	0	0	22,229
P0001298	W6 Heater Drip Pump Replace	20061126	0	191,031	36,577	0	227,608
P0001301	Kalaeloa Pole Yard DG	20061220	0	1,640,060	116,722	0	1,756,782
P0001302	CEIP - Substation DG	20061108	0	1,123,719	53,111	0	1,176,830
P0001311	Spare 15kV Switchgear 2006 #2	20061228	0	192,793	16,597	0	209,390
P0001319	Mamala Phase 2-Hickam	20061115	0	214,956	7,395	0	222,351
P0001336	Camp Catlin Tsf Upgrade	20061201	0	80,200	1,551	0	81,751
P0001386	W4 Turbine Supervisory Instr	20061221	0	206,976	11,528	0	218,504
P0001387	K6 BFP Motor Replacement	20061227	0	103,134	0	0	103,134
P1361000	Ko Olina Sub Land	20060201	71,523	0	0	0	71,523
P8290000	Tripler Wahiawa mwr replace	20060501	424,241	118,067	339,805	0	882,113
P8470000	Koolau/Tripler MWR Repl	20060501	510,786	161,594	162,738	0	835,118
P8820000	W4 Exciter Upgrade	20060814	123,983	964,965	3,016	1,956	1,093,920
P9243000	450MHZZ Radio Replacement	20060201	126,446	897	0	0	127,343
P9454000	K4 Boiler Control Upgrade	20061128	2,007,550	2,553,360	93,932	0	4,654,842
P9511000	Generation Hotline Upgrd	20061209	46,041	85,247	19,290	0	150,578
P9541000	K4 Data Acq and Monitor	20061128	335,268	492,292	866	0	828,426
			51,089,474	33,103,386	3,097,152	1,956	87,291,968

Prior to 2006 Plant Additions (page 6)	5,072,084
2007 Plant Additions	-3,097,152

Totals may not add due to rounding

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS - PROJECTS

			Expenditures				
Project #	**Project Title**	**Completion Date**	**Project to Date Recorded 12/31/05**	**2006**	**2007**	**2008**	**Total**
			2008 Plant Additions				-1,956
						Sub-total Projects	89,264,944
						Programs (page 8)	41,848,765
						Total 2006 Plant Additions	$131,113,709

Totals may not add due to rounding

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS

Straggling Costs for Projects with Plant Addition Dates Prior to 2006

			Expenditures			
Project #	Project Title	Completion Date	Project to Date Recorded 12/31/05	2006	2007	Total
P0000064	Waiau Fuel Pipeline Project	20041206	36,376,184	40,880	0	36,417,064
P0000078	K5 Boiler Controls Upgrade	20040515	3,396,105	12,579	211	3,408,895
P0000143	Salt Lake Blvd Widening Ph2	20050323	1,915,516	2,957,571	804	4,873,891
P0000211	W6 Cycle Chem Instr.	20050418	670,567	12,716	0	683,283
P0000233	W7&8 Service Air Compressor	20050501	406,073	22,338	0	428,411
P0000277	New Kuahua Substation	20050929	6,195,095	421,213	0	6,616,308
P0000279	Puuloa Substation Prot	20051210	161,011	138	0	161,149
P0000280	Makalapa-Kuahua FO Line	20051114	692,248	35,937	0	728,185
P0000281	Makalapa-Puuloa FO Line	20051114	688,781	20,642	0	709,423
P0000282	Kuahua 46kv Ln Reconnect	20050923	424,842	228	0	425,070
P0000338	K6 Burner Front Roof	20050501	72,581	356	0	72,937
P0000449	Kahe Electronic Parts Store	20051101	64,572	-8,124	0	56,448
P0000452	Waiau Electric Parts Store	20051227	47,223	8,124	0	55,347
P0000454	K6 Fan Enclosure	20051216	771,592	74,156	195	845,943
P0000485	WPP FWH #35 Replacement	20041008	768,699	63	4,431	773,193
P0000491	K-H#2/Wai-Wah Str 86/25	20050901	1,042,836	18,409	0	1,061,245
P0000499	Ward A/C Imprv Phase II	20051114	4,381,591	377,765	41,611	4,800,967
P0000506	Ward A/C Equip Repl	20030114	3,294,153	-52,524	0	3,241,629
P0000562	Mokuone 46-12KV Line Ext	20050317	4,820,025	623,430	201	5,443,656
P0000563	Mokuone 46-12KV Substation 1	20041202	1,416,732	2,416	0	1,419,148
P0000609	K2 Blr Access Door Addition	20051219	145,106	63	0	145,169
P0000633	K4 Exciter/Regulator Upgrade	20040201	555,714	10,173	0	565,887
P0000646	Kahe 24FWH Replacement	20051219	575,772	7,081	812	583,665
P0000647	Kahe 23FWH Replacement	20051219	404,722	8,107	221	413,050
P0000658	W9 Exhaust Duct Replacement	20050412	1,676,529	-168,125	0	1,508,404
P0000659	Kahe 25FWH Replacement	20051219	520,862	5,669	812	527,343
P0000667	Kahe Sewer System Upgrade	20050420	727,127	164	0	727,291
P0000669	Kakaako ID10	20040909	606,386	39,883	0	646,269
P0000682	W6 Annunciator Upgrade	20050418	411,573	12,705	130	424,408
P0000690	W5 Annunciator Upgrade	20040816	224,411	390	30,960	255,761
P0000711	Remote PBXs	20051215	345,292	22,991	0	368,283
P0000715	Dispatch Boards	20051118	1,190,385	277,716	1,559	1,469,660
P0000821	K2 Battery Bank Replacement	20051201	165,119	242	0	165,361
P0000832	W3 Main Xfmr Replacement	20041008	894,223	879	0	895,102
P0000837	Makalapa 46kV Brkr Addition	20051210	540,338	39,864	1,956	582,158
P0000842	Security/Wahiawa Sub	20051001	173,100	2,726	0	175,826
P0000843	Security/Iwilei Sub	20051001	201,889	1,422	0	203,311
P0000860	K2 Annunciator Replacement	20051219	717,751	36,347	54	754,152
P0000885	Midweek Auto-Transfer Swgr	20040408	0	24,097	0	24,097
P0000911	Palehua East A 46kV Reloc	20050601	327,300	-4,536	0	322,764
P0000917	Village Park - DB Cable Rpl	20051206	1,710,030	-198,894	15,621	1,526,757
P0000933	K2 to CW Basin Pipe Trench	20041022	30,796	16,180	0	46,976
P0000958	K6 SSH Element Replacement	20050718	1,601,857	2,577	0	1,604,434
P0001017	King-Elevator	20051201	523,137	-465,877	0	57,260
P0001019	Structure 22 Wailupe #2 Repl	20050601	280,859	1,497	0	282,356
P0001024	Kahe 52 Traveling Screen	20050629	153,138	6,936	0	160,074
P0001030	H8&9 Roof Drain Piping	20051115	206,894	68	0	206,962

Totals may not add due to rounding.

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS

Straggling Costs for Projects with Plant Addition Dates Prior to 2006

			Expenditures			
Project #	Project Title	Completion Date	Project to Date Recorded 12/31/05	2006	2007	Total
P0001031	K6 Flame Scanner Det Replace	20051201	145,771	399	0	146,170
P0001032	Honouliuli Reserv 46kV Reloc	20051001	201,174	-437	0	200,737
P0001035	King/CPP PBX Replacement	20050601	512,235	2,544	0	514,779
P0001039	Purch Spare 8%, 10MVA Tsf	20041202	313,482	43	0	313,525
P0001068	Replace EW 8%, 10 MVA Tsf	20050301	536,740	-2,194	0	534,546
P0001087	Replace CEIP Multimode Fiber	20051201	445,611	80,760	13,006	539,377
P0001144	Helemano - Substation DG	20051216	998,648	324,468	5,613	1,328,729
P0001145	Ewa Nui - Substation DG	20051101	876,676	133,273	3,037	1,012,986
P0001146	Iwilei Tank Farm DG	20051109	1,159,134	138,832	8,967	1,306,933
P6640000	New Interchange Improv	19981231	95,567	30,686	0	126,253
P9036000	Kakaako ID7 Kamakee St Conv	20011012	2,109,867	27,920	0	2,137,787
P9904000	H1 WIDENING AIEA	19991213	153,135	87,132	0	240,267
			$90,064,776	$5,072,084	$130,201	$95,267,061

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Note: The cumulative expenditures does not tie to the amount closed to plant in 2006 as these projects were closed prior to 2006.

Totals may not add due to rounding.

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS - PROGRAMS

Project #	Project Title	Expenditures 2006	Actual Addition
P0000089	Pwr Quality Monitor Install	-35,757	4,607
P0000120	Corr (Inc Emg) OH Trsf Rpl	393,367	402,288
P0000121	Corr (Inc Emg) UG Trsf Rpl	339,987	336,956
P0000122	Cor (Inc Emg) Mis Cable Rpl	4,757,382	3,855,608
P0000123	Corr (Inc Emg) OH Dist Rpl	2,372,949	2,298,496
P0000124	Cor (Inc Emg) OH Subtrn Rpl	321,817	285,719
P0000445	Trayer Sub Sw Repl Prog	21,414	976
P0000474	WSC	213,554	446,154
P0000500	Misc Office Furniture	126,430	143,682
P0000501	Misc Office Equipment	19,834	19,834
P0000502	Waiau Minor Gen Addns	22,535	53,122
P0000503	Ward Ave Minor Addns	148,104	244,650
P0000504	King St Minor Addns	13,305	131,076
P0000505	Other Minor Gen Plt Addns	8,386	171,705
P0000510	Circ Water Temp Monitors	41	183,321
P0000511	BFP Automated Test	26,912	254,375
P0000590	PP Security Hardware Upgrade	69,424	230,123
P0000601	Gen Prot Relay Replacement	-8,245	359,420
P0000629	K1-6 Swgr Rm Smoke Detectors	0	35,840
P0000652	Misc Mainframe Hardware	41,802	41,802
P0000653	Collaborative Communications	1,570	1,570
P0000678	Kahe H2 Gas Dryers	27,308	185,497
P0000733	Trns Sub RTU Migration Pgm	299,920	275,231
P0000968	Process Parameter Monitoring	36,536	507,549
P0001014	Security CCTV System	18,202	18,202
P1081000	Capitalized Tools & Equip	894,456	894,456
P1243000	Purchase PCs-ITS	511,434	511,434
P1244000	Copiers/Faxes/Printers	82,713	82,713
P1250000	Vehicle Purchases	510,702	510,702
P1251000	Misc Tel Eqpt NT	5,535	5,535
P1370000	Distr R/W Purch (Blanket)	-5,773	-5,773
P1373000	46kv R/W Purch (blanket)	17,455	17,455
P1429000	Misc PowerPlant Additions	1,947,206	2,048,762
P1470000	Minor Trans Sub Addns	968,179	830,029
P1480000	Minor Dist Sub Addns	1,042,822	157,149
P1500000	Misc CM Fac-Op & Ctrl (TD)	253,922	211,168
P1505000	Other Misc Comm Fac SOD	104,926	380,329
P1510000	Misc OH Svc & Extn (CID)	1,602,355	1,170,408
P1580000	Minor OH Dist Addn (CID)	1,386,161	1,254,214
P1670000	P&I&Test Meters & Mtr Eq	1,674,779	1,674,784
P1680000	Tsf & Equip Pur (CID)	3,962,233	3,962,233
P1690000	Minor T&D Customer Programs	238,621	245,665
P1700000	Misc UG Svc & Extn (CID)	10,516,815	9,900,254
P1789000	Preventive OH Transf Repl	123,815	123,815
P1793000	Preventive UG Transf Repl	433,619	433,619
P1810000	Prev Misc Cable Failure Rpl	635,843	578,710

Totals may not add due to rounding

Hawaiian Electric Company, Inc.

2006 PLANT ADDITIONS - PROGRAMS

Project #	Project Title	Expenditures 2006	Actual Addition
P1820000	Minor UG Addns (CID)	1,292,386	1,374,719
P1870000	Power Station Misc	307,709	239,025
P1990000	Minor T&D System Programs	1,080,470	748,177
P3400000	Prev OH Dist Repl	2,059,816	1,793,110
P3401000	Prev OH Subtrans Repl	1,292,701	1,032,238
P3402000	Prev OH Trans Repl	704,552	700,838
P4150000	Monitoring Services	31,474	8,738
P9544000	FO Tank Level Gauge Upgrade	70,740	476,456
		$42,984,443	$41,848,765

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Note: Cumulative expenditures at 12/31/05 is not applicable for programs as they have existed for many years. Also completion dates are not applicable since programs are a multitude of projects that close at various times. The 2006 expenditures does not tie to the amount closed to plant in 2006 as some of the projects in the programs may have closed prior to 2006 or subsequent to 2006.

Totals may not add due to rounding

CA-IR-310

Ref: HECO-WP-1601 (2006 Plant Additions).

With regard to the projects that HECO's original filing expected to be completed and placed in service during 2006, please provide the following:

a. Please identify each project that was subsequently cancelled or delayed.

a. Referring to part a. above, please explain why each project was cancelled or delayed

HECO Response:

a. See attached list of projects that were subsequently cancelled or delayed.

b. See attached list for explanation as to why each project was cancelled or delayed.

Project #	Project Title	Reason for delay or cancellation:
ABrostro09_	H9 CW MOV Replacement	Project delayed due to engineer shortage
P0000490	H8&9 Emergency Generator	Project deferred to 2007 due to engineer shortage
P0000636	Waiau Chlorine Dioxide Systm	Project delayed due to equipment vendor delivery delays
P0000637	Kahe Chlorine Dioxide System	Project delayed due to equipment vendor delivery delays
P0000640	HNL Demineralizer Upgrade	Project delayed due to equipment vendor delivery delays
P0001218	W8 Turbine Drains	Project delayed due to contractor delays. Placed in service 2007
P0001285	Waiau Unit 6 FWH W64 Replace	Project delayed due to engineer shortage
P0001186	W4 Generator Protective Relay	Project completed in 2006 but not closed to plant until 2007
P0001176	K4 BFP Automated Test	Project completed in 2006 but not closed to plant until 2007
P0001178	W4 BFP Automated Test	Project completed in 2006 but not closed to plant until 2007
P0001249	W4 Process Parameter Monitoring	Project completed in 2006 but not closed to plant until 2007
P0000983	Waiau 5/6 Elevator Upgrade	Project delayed due to contractor delays. Placed in service 2007
P0001284	Waiau FWH 84 Replacement	Project delayed due to engineer shortage
P0001094	EAI Phase 2-Reliability	Delayed in large part due to working through an appropriate design and unavailability of resources
P0000550	Ward Guard House	This project was cancelled and superseded by P0001365 Security Trailer Relocation which was completed 1/30/07.
P0001257	Tank #11 Level Gauge Upgrade	Project delayed due to engineer shortage
P0001258	Tank #12 Level Gauge Upgrade	Project delayed due to engineer shortage
P0001260	Tank #14 Level Gauge Upgrade	Project delayed due to engineer shortage
P0000063	Conv Halawa School 138kv	Completed January 2007.
P0000805	Kahe Intake Lighting	Project delayed due to permitting and approval issues
P0001130	K32 Tvl Screen	Project delayed due to shortage of craft labor
P0001300	Waiau Feedwater Heater 85 Replace	Project delayed due to shortage of craft labor
P0001095	EAI Phase 3 -QA	Delayed due to limited availability of EAI team resources who were working on the OMS project and EAI Phase 2 project.
P0000661	W2 Maintenance Laydown Area	Project delayed due to shortage of craft labor
P0000787	K5/6 Lube water pump	Project delayed due to engineer shortage
P0000798	W6 Instr Air Compr	Project delayed due to engineer shortage
P0001157	Honouliuli Reservoir 12kV Line	BWS contractor delayed due to permitting delays, construction problems, weather
P0001307	Kahe Rolloff Area	Project delayed due to shortage of craft labor
P0001141	Waiau 3 Blowoff Tank	Project delayed due to engineer shortage
P0001142	Waiau 4 Blowoff Tank	Project delayed due to engineer shortage
P0001200	W4 Hydrogen Gas Dryer	Project delayed due to equipment vendor delivery delays
P0001281	A/C Upgrade at Data Center	Completed January 2007.
P0001161	Waiau Solar FS Upgrade	Project delayed due to contractor delays.
P0001245	K4 Process Parameter Monitoring	Project completed in 2006 but not closed to plant until 2007
P0000786	Kahe 1 BW Sump Upgrade	Project delayed due to shortage of craft labor
P0000788	Kahe 2 BW Sump Upgrade	Project delayed due to shortage of craft labor
P0000789	Kahe 3 BW Sump Upgrade	Project delayed due to shortage of craft labor

Project #	Project Title	Reason for delay or cancellation:
P0000790	Kahe 4 BW Sump Upgrade	Project delayed due to shortage of craft labor
P0000791	Kahe 5 BW Sump Upgrade	Project delayed due to shortage of craft labor
P0000792	Kahe 6 BW Sump Upgrade	Project delayed due to shortage of craft labor
P0001047	HECO Vault 15 Relocate	Construction took longer due to discovery of undocumented UG utilities during construction and to avoid construction during holidays.
P0000056	H8 Blr Elec Warm Sys	Project delayed due to shortage of craft labor
P0000062	Ce-Terminating Trust Esmnts	Project delayed due to protracted negotiations with private landowners and the length of time needed to obtain replacement easements from government agencies, most notably the federal government and the City and County of Honolulu.
P0001309	Net Energy Metering	Was misclassified as a project. This is an on-going program and has been reclassified appropriately.
P0000813	K3&4 Control Room AC	Project delayed due to engineer shortage
P0000981	K5/6 Brkr Deck AC	Project delayed due to engineer shortage
P0001299	W5 Heater Drip Pump Replace	Project delayed due to shortage of craft labor
P0000997	TWO-Way radio upgrade	Delay in obtaining DLNR communication permits.
P0001003	Ward Ave Turnstile Gate	Completed January 2007.
P0000086	Waiau WW Oil Detectors	Project delayed due to shortage of craft labor
P0000634	W7&8 Boiler Wash Sump Pump	Project delayed due to shortage of craft labor
P0000956	Waiau WWTF ChemFeed Mods	Project delayed due to longer than anticipated detailed engineering effort

CA-IR-311

Ref: HECO-WP-1601 (2006 Plant Additions).

Did HECO complete and place in service any construction projects during 2006 which were not closed to plant in service as of December 31, 2006? If so, please provide the following:

a. Project number and description.

b. Actual cumulative expenditures on each completed project as of 12/31/06.

c. The amount of any straggling expenditures made in 2007 for each project.

d. The date on which HECO stopped accruing AFUDC on each identified project.

e. The date on which HECO commenced recording depreciation expense on each identified project.

f. An explanation as to why each identified project was not closed to plant in service as of 12/31/06.

HECO Response:

Yes, it has. The Company identified five projects completed during 2006 which were not closed to plant in service as of December 31, 2006, as shown below.

a.	P0001178 W4 BFP Automated Test	P0001249 W4 Process Parameter Monitoring	P0001176 K4 BFP Automated Test	P0001245 Kahe 4 Process Parameter Monitoring	P0001186 W4 Generator Protective Relay
b.	$55,458	$207,771	$33,854	$73,462	$26,732
c.	$1,513	$7,155	$897	$8,512	6
d.	5/1/07	5/1/07	5/1/07	5/1/07	1/1/07
e.	1/1/08	1/1/08	1/1/08	1/1/08	1/1/08
f.	Closing of the project was inadvertently overlooked.	Closing of the project was inadvertently overlooked.	Closing of the project was inadvertently overlooked.	Closing of the project was inadvertently overlooked.	Closing of the project was inadvertently overlooked.

While processes are in place to review the timeliness of workorder closures, the magnitude of the number of work orders that are opened and closed throughout the year may result in advertently overlooking the closing of some workorders on a timely basis.

The five projects identified amount to approximately $397,000 or about 0.3% of the 2006 plant additions. The impact of the late closing of the projects noted above on the updated test year plant additions estimate, provided in the Company's response to CA-IR-307, is minimal. However, for rate base, because the approximately $397,000 were not included in the plant in-service balances at the end of 2006 (although they should have been), their impact is only included in the rate base for half the year, at the end of 2007. Because these costs are not included in the 2006 plant in-service balances, the calculated test year depreciation expense is also lower than it should have been. Note that on a recorded basis, the Company adjusted $19,127 of AFUDC inadvertently accrued due to the late closing and reflected such adjustment as 2007 business, resulting in a $19,127 reduction in the test year plant addition estimate (see the Company's response to CA-IR-307, supplemented on 6/8/07).

CA-IR-312

Ref: HECO-WP-1601 (2006 Plant Additions, CIAC & Customer Advances).

For each project completed during 2006 that involve related CIAC or customer advances, please provide the following:

a. Please provide each project number and description.

b. Please provide the amount of any CIAC or customer advance associated with each project, indicating whether the amounts are actual or estimated values.

c. Referring to part b. above, please provide the amount of any CIAC or customer advances actually collected and recorded as of 12/31/06.

d. Referring to part b. above, please provide the amount of any CIAC or customer advances to be collected and recorded in 2007, indicating whether the identified amount has been collected or is yet to be collected in 2007.

e. Referring to part b. above, please provide the amount of any CIAC or customer advances that are expected to be collected and recorded in 2008.

HECO Response:

a. For CIAC associated with projects, the requested information is provided on page 3, columns (a) and (b). For CIAC and customer advances associated with programs, please refer to the Company's response to CA-IR-307, Attachment 3, page 3.

b. For CIAC associated with projects, the requested information is provided on page 3, columns (c), (d) and (e), and (f). For CIAC associated with programs, the 2006 billed/recorded amount is shown in the Company's response to CA-IR-307, Attachment 3, page 3. This amount includes CIAC associated with programs that are completed in years other than 2006, e.g., projects completed in 2007. However, the Company notes that at yearend 2006, out of $103,305 that was outstanding (billed/recorded but not collected), only $844 were associated with 2006 service/work orders. In order to provide the information

requested, hundreds of service/work orders would need to be identified and reviewed manually which would be extremely burdensome.

For customer advances, the amount recorded in 2006 may be found in the Company's response to CA-IR-307, Attachment 4, page 4. However, $11,804 of the amount reflected as billed/recorded in 2006, noted as P0047124, Amy Habenstreit, was associated with an ongoing project, i.e., a project not completed in 2006. The remaining amount of $54,791 was associated with service/work orders completed in 2006.

c. The requested information for CIAC associated with projects completed in 2006 is provided on page 3, column (d). For CIAC and customer advances associated with programs, please refer to the response to item b above.

d. For CIAC associated with projects, the requested information is provided on page 3, column (e). To provide information for CIAC and customer advances associated with programs, please refer to the response to item b above.

e. For CIAC associated with projects, the requested information is provided on page 3, column (f). For CIAC associated with programs completed in 2006, there are no amounts that are expected to be collected and recorded in 2008.

For customer advances, there are no service/work orders completed in 2006 that have amounts expected to be recorded and collected in 2008.

CA-IR-312

Energy Delivery - CIAC for 2006 Completed Projects

($ thousands)

(a)	(b)	(c)	(d)	(e)				(f)	
			Thru 12/31/06	*2 0 0 7*				*2 0 0 8*	
Project#	**Project Description**	**TOTAL CIAC**	**Actuals Recorded and Collected**	**Actual Recorded**	**Actual Collected**	**Estimated To be Recorded**	**Estimated To be Collected**	**Estimated To be Recorded**	**Estimated To be Collected**
Y00040	Ford Island Substation (P0000836-P0000838) (Letter)	12,507	12,507						
P0000530	Ka Iwi Scenic Shoreline Impvmt, Ph 1, Incr 2 (UA)	122				122	122		
P0000951	Ocean Pointe 46kV Lines (Letter)	100	100						
P0001075	Kam Hwy Kokololio Bridge Temp (UA#1823)	231				231	231		
P0001319	Mamala Phase 2 - Hickam (Letter)	250	250						
P1690000	Kalaiopua Pl Impvmt, Tantalus (UA# SO-184) EP001162	25	25						
P1690000	Curb Ramps FY 2003(6B) (Letter) EP001461	17	17						
P1690000	Iroquois Dr P40 Reloc Main Site Entr (Letter) EP001498	23	23						
	TOTALS	13,275	12,922			353	353	0	0

Totals may not add due to rounding.

CA-IR-312
In-Kind CIAC for 2006 Completed Projects
($ thousands)

(a)	(b)	(c)	(d)	(e)	(f)
			Thru 12/31/06	*2007*	*2008*
Project#	**Project Description**	**TOTAL CIAC**	**Actuals Recorded and Collected**	**Estimated Recorded and Collected**	**Estimated Recorded and Collected**
P0000530	Ka Iwi 12kV UG, Ph 1 Inc 2	129		129	
P0001156	Alakawa St 11.5kV UG Reloc	54	54		
P0001075	Kam Hwy Kokololio Bridge Temp	2		2	
P0000951	Ocean Pointe 46kV Lines	730	730		
P0001045	Palehua East B 46kV UG PH1	138	138		
	TOTALS	1,053	922	131	0

Totals may not add due to rounding.

CA-IR-313

Ref: HECO-WP-1601 (2007 Plant Additions, CIAC & Customer Advances).

For each project completed or expected to be completed during 2007 that involve related CIAC or customer advances, please provide the following:

a. Please provide each project number and description.

b. Please provide the amount of any CIAC or customer advance associated with each project, indicating whether the amounts are actual or estimated values.

c. Referring to part b. above, please provide the amount of any CIAC or customer advances actually collected and recorded as of 12/31/06.

d. Referring to part b. above, please provide the amount of any CIAC or customer advances to be collected and recorded in 2007, indicating whether the identified amount has been collected or is yet to be collected in 2007.

e. Referring to part b. above, please provide the amount of any CIAC or customer advances that are expected to be collected and recorded in 2008.

HECO Response:

a. For CIAC, the requested information for projects anticipated to be completed in 2007 is provided on page 3, columns (a) and (b). For the CIAC and customer advances associated with programs, project numbers and descriptions, please refer to the Company's response to CA-IR-307, Attachment 3, page 3.

b. For CIAC, the requested information by project is provided on page 3, columns (c), (d) and (e), and (f). For test year estimates for CIAC related to programs, see Attachment 1 that provides the calculation that developed the test year estimates. The CIAC estimates for programs were calculated by applying a historical factor of CIAC to the programs' capital expenditures to the test year capital expenditure estimates for these same programs. Individual service/work orders were not used as a basis for the 2007 CIAC estimate associated with programs. The methodology also assumed that the estimated CIAC

associated with these programs would be billed and collected within the test year, i.e., the year that the capital expenditures were made.

For the customer advances estimate, the methodology employed also assumed that the entire calculated amount would be billed/recorded and collected within the test year. Individual projects or programs were also not used as the basis for the calculation but, instead, an average of the last six annual historical totals for customer advances was used (see the Company's response to CA-IR-307, Attachment 4, pages 2 and 3, which shows the methodology employed to develop the test year estimate).

c. For CIAC associated with projects, the requested information is provided on page 3, column (d). For CIAC associated with programs, in order to identify the information requested, hundreds of service/work orders would need to be reviewed which would be extremely burdensome. Since CIAC is billed and recorded both before and after service/work orders are completed, the CIAC billed/recorded up through 2006 could be associated service/work orders that are completed in years other than 2006, e.g., projects completed even in 2008. The Company notes that at the end of 2006, out of $103,305 that was outstanding (billed but not collected) for CIAC associated with programs, $102,461 were associated with service/work orders anticipated to be completed in 2007.

For customer advances associated with 2007 completed projects or programs, only $11,804 was billed and recorded in 2006. This amount was associated with an ongoing service/work order noted as P0047124, Amy Habenstreit, in the Company's response to CA-IR-307, Attachment 4, page 4.

d. For CIAC associated with projects, the requested information is provided on page 3, column (e). For CIAC and customer advances associated with individual programs, please refer to the response to item b and c above.

e. For CIAC associated with projects, the requested information is provided on page 3, column (f). For CIAC and customer advances associated with programs, please refer to the response to item b above.

CA-IR-313

Energy Delivery - CIAC for 2007 Completed Projects

($ thousands)

(a)	(b)	(c)	(d)	(e)				(f)	
			Thru 12/31/06	*2 0 0 7*				*2 0 0 8*	
Project#	**Project Description**	**TOTAL CIAC**	**Actuals Recorded/ Collected**	**Actual Recorded**	**Actual Collected**	**Estimated To be Recorded**	**Estimated To be Collected**	**Estimated To be Recorded**	**Estimated To be Collected**
P0000833	Mamala Substation (Letter)	2,471	256			2,215	2,215		
P0001037	Puuloa Rd Widening, UG (UA#1487R)	387	0					387	387
P0001072	Kakaako ID-12 (UA)	475	0			475	475		
P0001268	Capitol Place - Relocate Vault 920 (Letter)	164	33			131	131		
P0001342	Walmart Manana OH Reloc (Letter)	132	26			106	106		
P0001356	Mamala Phase 2 - Mamala (Letter)	1,044	0			1,044	1,044		
P0001357	Kapolei Pkwy Ext OH to UG (UA)	77	0					77	77
P0001398	Mamala Phase 3 - Mamala (Letter)	208	0			208			208
P1690000	Minor T&D Customer Programs	80	0			80	80		
P1690000	Waikiki BeachwalkRelocation (EP001551) Letter	74	0	74	74				
P1690000	909 Kapiolani Blvd Waimano (EP001618) Letter	191	0	191	191				
P1690000	Best Buy - #852 Aiea, HI (EP001619) Letter	48	0	48	48				
	TOTALS	5,352	315	313	313	4,259	4,051	464	672

Totals may not add due to rounding.

CA-IR-313
In-kind CIAC for 2007 Completed Projects
($ thousands)

(a)	(b)	(c)	(d)	(e)	(f)
			Thru 12/31/06	*2007*	*2008*
Project#	**Project Description**	**TOTAL CIAC**	**Actuals Recorded and Collected**	**Estimated Recorded and Collected**	**Estimated Recorded and Collected**
P0001306	Mililani Mauka Offsite Ph 16	137		137	
P0001072	Kakaako ID-12	476		476	
P0001046	Palehua East B 46kV UG PH2	100		100	
P0001268	Capitol Place-Relo V920	25		25	
P0000834	46kV Fdrs to Mamala Sub	3,000		3,000	
P0001357	Kapolei Pkwy Ext OH to UG	55		55	
P0001342	Walmart Manana OH Relocation	12		12	
P0001037	Puuloa Rd Widening - UG	93			93
	TOTALS	3,898	0	3,805	93

Totals may not add due to rounding.

CASH CONTRIBUTIONS-IN-AID-OF-CONSTRUCTION
CASH CIAC FORECAST
2007 UPDATE

PROJ #	DESCRIPTION	2005 RECD	2006 RECD (Dec-06)	2007 FCST (a/o May 2007)	2007 - Net of GET Tax: allocate %	Get alloc	Cash CIAC Net of Tax
CID BLNKTS							
P1510	Minor OH	$ 3,216	$ 184,800	$ 50,840	1.14%	(2,287.76)	48,552
P1580	Misc OH Addn	$ 101,994	$ 119,558	$ 257,118	5.77%	(11,570.19)	245,547
P1700	Minor UG	$ 3,535,082	$ 3,723,090	$ 3,843,419	86.26%	(172,952.38)	3,670,466
P1820	Misc UG Addn	$ 180,834	$ 209,373	$ 303,997	6.82%	(13,679.75)	290,317
	TTL CASH CIAC	$ 3,821,126	$ 4,236,821	$ 4,455,373			
	Less: GET	(152,846)	(402,122)	(200,490)	100.00%	(200,490.08)	4,254,883
	Cash CIAC without GET	3,668,280	3,834,699	4,254,883			

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CASH CONTRIBUTIONS-IN-AID-OF-CONSTRUCTION
CASH CIAC CALCULATION
2007 UPDATE

PROJ #	DESCRIPTION		2003 RECD	2004 RECD	2005 RECD	2006 RECD	2007 FCST
CID BLNKTS							
P1510	Minor OH		3%	3%	0%	12%	3%
			58,829 [1]	53,968 [1]	3,216 [1]	184,800	50,840
P1580	Misc OH Addns		25%	11%	7%	9%	13%
			173,366 [1]	120,631 [1]	101,994 [1]	119,558	257,118
P1700	Minor UG		39%	25%	30%	35%	30%
			5,575,521 [1]	3,068,253 [1]	3,535,082 [1]	3,723,090	3,843,419
P1820	Misc UG Addn		8%	17%	18%	16%	15%
			76,783 [1]	213,907 [1]	180,834 [1]	209,373	303,997
OTHER			5,400 [1]	4,200 [1]	- [1]	600	-
	TOTAL		5,889,899	3,460,959	3,821,126	4,237,421	4,455,373
	% to Ttl Exp		26%	17%	18%	23%	18%

[1] Per Administrative Coordinator CIAC Reconciliation Worksheet as of 12/31/200x.

CASH CONTRIBUTIONS-IN-AID-OF-CONSTRUCTION
CAPITAL EXPENDITURES FORECAST**
YEARS 2003 TO 2011

Dec-06

PROJ #	DESCRIPTION	2003 RECD [3]	2004 RECD [3]	2005 RECD [3]	2006 RECD [3]	2007 FCST [3]
CID BLNKTS						
P1510	Minor OH	1,776,185	1,668,909	1,353,474	1,602,371	1,694,651
					118%	106%
P1530	Misc OH Addns	0	0	0	0	0
P1700	Minor UG	14,202,555	12,076,900	11,943,560	10,516,832	12,811,396
					88%	122%
P1820	Misc UG Addn	1,010,567	1,288,923	984,056	1,292,392	2,026,647
					131%	157%
OTHER						
P1580	Minor OH Dist Addn	682,659	1,070,004	1,366,445	1,386,159	1,977,827
					101%	143%
P1680	TSF & Equip	4,683,831	4,227,092	5,296,461	3,962,236	5,888,480
					75%	149%
	TOTAL	22,355,797	20,331,828	20,943,996	18,759,990	24,399,001

CAPITAL BUDGET EXPENDITURES & IN-KIND CIAC (U1-1700) ANALYSIS

	1	2	3	4	5	6	ACTUAL	
YEAR	2001R	2002R	2003R	2004R	2005R	2006R	TOTAL	AVG
					Normalized			
CAPTL EXP U1-1700	$ 8,606.6	$ 9,007.4	$ 14,202.6	$ 12,076.9	$ 13,793.5	$ 10,516.8	$ 68,203.8	$ 11,367.3
In-Kind CIAC	$ 1,804.0	$ 3,236.1	$ 4,760.4	$ 3,384.4	$ 4,482.8	$ 1,535.6	$ 19,203.3	$ 3,200.6
	$ 10,410.6	$ 12,243.5	$ 18,963.0	$ 15,461.3	$ 18,276.3	$ 12,052.4	$ 87,407.2	$ 14,567.9
In-Kind CIAC	$ 1,804.0	$ 3,236.1	$ 4,760.4	$ 3,384.4	$ 4,482.8	$ 1,535.6	$ 19,203	3,200.6
% Rcpts/Exp	17%	26%	25%	22%	25%	13%	22%	22%

	FORECAST
	1
YEAR	2007
CAPTL EXPEND**	$ 12,811.4
In-Kind CIAC	$ 2,300.0
% Rcpts/Exp	18%

** Capital Expend includes In-Kind CIAC

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CA-IR-314

Ref: HECO-WP-1601, pages 4-6 (2007 Plant Additions).

The referenced Company original workpapers identify fourteen (14) construction projects expected to be completed during 2007 that exceed $1 million, including the cancelled Ward Photovoltaic project (P10001120). Please provide the following:

a. For the thirteen (13) remaining projects, please provide the most current and complete Project Initiation Authorization (PIA) or Project Identification Form (PIF) packet.

b. If the 13 projects include blanket projects, which require different authorization or documentation formats, please provide such information in lieu of the PIF/PIA documentation requested in part a. above.

c. If the responses to parts a. and b. above do not contain project feasibility studies, cost savings estimates, estimated construction and project completion dates, identification of retirements or related costs of removal, please provide the following:

    1. Does HECO routinely prepare such information associated with each of the 13 projects in addition to the information requested in parts a. and b. above?

    2. If so, please provide such information for each of the 13 projects in addition to the information requested in parts a. and b. above.

    3. If not, please explain why such information is not routinely prepared and considered in conjunction with the construction planning and project management process.

HECO Response:

The information described in the response below (pages 4 to 533) is voluminous and is available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information.

a. Attached are the Project Identification Forms (PIF) for the 13 construction projects forecasted to be completed during 2007 that exceed $1 million, per HECO-WP-1601, pages 4-6, filed in Mr. Morikami's direct testimony (T-16). Note that the "Mamala Substation" and the "46kV Fdrs to Mamala Sub" projects are covered by one PIF entitled Mamala Sub

(New Hickam AFB) Y00039, and the "KoOlina SS Tsf#1 Install" and the "KoOlina 46kV lines" projects are covered by one PIF entitled KoOlina SS Tsf#1 & Ckt Y00044. Also, the "Call Center-1st Floor" project is part of the overall New Dispatch Center project Y00030.

Project#	Project Title	PIF
P0000474	WSC Privatization	Pages 4-11
P0000856	W7 Main Transformer	Pages 12-18
P0000862	W7 Cond. Refurbishment	Pages 19-26
P0001072	Kakaako ID 12	Pages 27-33
P0001167	Waiau-Ewa Nui OPGW Repl	Pages 34-41
P0001303	Ewa Nui DG 4-5-6	Pages 42-47
P0001304	Archer Sub Chiller Change	Pages 48-55
P9539000	K3 Boiler Control Upgrade	Pages 56-61
Y00030	New Dispatch Center	Pages 62-72
Y00039	Mamala Substation	Pages 73-87
Y00044	KoOlina SS Tsf#1 & Ckt	Pages 88-94

b. The 13 projects do not include any blanket projects.

c. 1. The responses to parts a. and b. above contain the listed information with the exception of project feasibility studies. The need for such a study is dependent on the complexity, requirements, or constraints that may be associated with a project. For example, if it is anticipated that a project appears technically complex, then a study or analysis may be warranted. The study would typically address the need for the project, feasibility of implementing the project in terms of scope, timing, constructability, and permitting, and may evaluate alternatives and associated cost savings. If a project is small scale, routine, or needed for an emergency situation, a study is usually not conducted.

2. The following is a listing of documentation related to project feasibility studies or cost savings estimates:

Project#	Project Title	Documentation
P0000474	WSC Privatization	PUC Application, Docket No. 01-0135 and Exhibits A-H (Pages 95-253)
P0000856	W7 Main Transformer	Predictive maintenance testing results (Pages 254-268)
P0000862	W7 Cond. Refurbishment	Condenser Replacement Study, March 2005, Heat Exchanger Systems, Inc. (Pages 269-377)
P0001072	Kakaako ID 12	Excerpts from PUC Application, Docket No. 05-0212 (Exhibit C: Utility Cost Estimate, Improvement District 12; and Calculation of Eligible Costs – Kakaako ID 12) (Pages 378-386)
P0001167	Waiau-Ewa Nui OPGW Repl	Email correspondence dated March 14, 2006 (Pages 387-388)
P0001303	Ewa Nui DG 4-5-6	Interoffice Correspondence dated July 7, 2006 (Pages 389-404)
P0001304	Archer Sub Chiller Change	Because the equipment to be replaced in this project is standard air-conditioning equipment and the installation of the new equipment will be procured through a competitive bid process, a feasibility and cost savings study was not done.
P9539000	K3 Boiler Control Upgrade	Excerpt from PUC Application, Docket No. 02-0206, pages 4-5 (Pages 405-407)
Y00030	New Dispatch Center	PUC Application, Docket No. 03-0360 and Exhibit VI – 1996 Study by MACRO Consulting, "System Operation Dispatch Center Study", Exhibit VII – 2003 Study by KEMA Consulting, "EMS Revitalization Project Study", Exhibit VIII – 2003 Study by Robert E. Lamb, "Facility Planning Study", Exhibit XIII – Schedule (See HECO response to CA-IR-181 for references to these documents)
Y00039	Mamala Substation	PUC Application (pages 8-9, Exhibit II, Exhibit III) and Division of Consumer Advocacy Information Request Responses, Docket No. 04-0350 (Pages 408-476)
Y00044	KoOlina SS Tsf#1 & Ckt	PUC Application (pages 9-10, Exhibit IX, Exhibit X, and Division of Consumer Advocacy Information Request Responses and Supplemental Information Request Responses, Docket No. 05-0056 (Pages 477-533)

3. See response to part 1 above.

CA-IR-315

Ref: HECO-WP-1601, page 5 (2007 Plant Additions).
The referenced Company workpaper sets forth a $3.5 million project (P10001120) originally estimated for completion in 2007, which is identified as the HECO PV Ward Project (i.e., the Ward Photovoltaic project). Please provide the following:

a. Please confirm that this project has been cancelled, as a HECO owned plant addition, and is now contracted to be owned by a third party. If this cannot be confirmed, please explain.

b. Please explain the basis for cancelling the project as a HECO owned project, instead becoming a third-party project, and provide a copy of any feasibility studies prepared by or for the Company in support of this change.

c. Please identify the third party.

d. Will (Has) HECO enter(ed) into a lease agreement with the third party for the Ward Photovoltaic project?

e. If so, please provide a copy of the lease agreement.

f. If not, please explain.

g. If not supplied in response to part d. above, please indicate when the lease is expected to commence and quantify the impact thereof on the Company's 2007 forecast test year.

HECO Response:

a. The Ward Photovoltaic ("PV") project was initially envisioned as a HECO plant addition, to be placed in service during the 2007 test year. This project has been cancelled as a HECO plant addition. HECO now intends to have a non-utility entity develop the project, with HECO purchasing the PV energy via a power purchase agreement, subject to PUC approval.

b. PV equipment that is owned or leased by HECO for use within its regulated business constitutes public utility property, and does not qualify for the 30% federal energy tax credit ("FETC") available for renewable energy technologies. However, HECO may purchase PV electricity from independent power producers pursuant to power purchase agreements, and independent power producers may claim the FETC. Based on this reasoning, HECO chose to

pursue non-utility development of the PV system as a more cost-effective approach to acquire electricity.

c. On March 22, 2007, HECO issued a request for proposals to non-utility PV developers, seeking development of an approximate 155 kW (dc) of PV on the rooftop of the Archer Substation, located at the HECO Ward Avenue complex. Based on the bids received, on May 25, 2007, HECO informed Hoku Solar, Inc. that it had been selected as the potential project developer, subject to successful execution of a solar energy power purchase agreement and PUC approval of the agreement. Negotiations for the purchase power agreement are anticipated to occur during June, 2007.

d. HECO will not enter into a lease agreement with the PV developer. HECO will enter into a purchase power agreement for the PV electricity.

e. Not applicable.

f. See response to subpart b.

g. HECO anticipates that the PV system will be placed in operation in early 2008, outside of the 2007 test year. HECO is removing all plant additions associated with this project from the 2007 test year.

CA-IR-316 **Ref: HECO T-20, page 9, line 12 - (Customer Costs).**

At page 9, Mr. Young states that certain distribution costs of distribution lines and transformers vary, "…with the number and location of customers." Please provide the following:

a. Copies of all studies, workpapers, analyses and other information relied upon to formulate this opinion with respect to the HECO system.
b. Explain which (if any) cost of service allocation factors employed by HECO provide for recognition of the "location of customers".
c. Describe how distribution lines and transformers are configured to serve a high-rise residential condominium in contrast to a single-family subdivision and explain whether or not the Company's customer allocation factors applied to the customer component of distribution plant costs recognizes such differences.

HECO Response:

a. There were no studies, workpapers, or analyses prepared.

b. None of the cost of service allocation factors in the cost of service study provide for recognition of location of customers. Rather, the location of customers can affect the amount of costs incurred.

c. Here is a summary of the requested configuration information:

HIGH-RISE CONDOMINIUM

- Typically, two, separate, 3-phase, primary distribution circuits are tapped at the nearest service point within the right-of-way, and utilized to feed an automatic transfer switchgear located on the property of the high-rise condominium development.
- This switchgear, in turn, provides fused, 3-phase feeder(s) to serve either one or two three-phase pad mounted transformers to serve the entire high-rise condominium development, depending on the customer's design.
- These three-phase transformer(s) then provide secondary service (either 208Y/120V or 480Y/277V, 3-ph, 4-wire) directly to the condominium developer's main switchboard.
- The developer then provides the necessary secondary distribution to bring single-phase, secondary service (typically 120/208V, 1-ph, 3-wire) to each residential unit.
- Therefore, residential units within the condominium development are typically not individually metered by HECO. Instead, a master metered account is usually provided to track the overall energy consumption of the condominium as a whole, which can consist of up to 400 individual units or more.

- The transformers provided typically are connected in a radial fashion, where HECO's primary distribution system does not feed through the transformer.

SINGLE-FAMILY SUBDIVISION

- Typically, two, separate, 3-phase, primary distribution circuits are tapped at the nearest service point within the right-of-way, and utilized to feed two, separate, automatic transfer switchgears. These switchgears can either be located within the boundaries of a respective subdivision development, or outside of the subdivision, depending on the customer's design.
- These switchgears, in turn, provide fused, 1-phase feeders to serve a series of single-phase pad mounted transformers to serve the single-family subdivision development.
- These single-phase transformers are provided throughout the subdivision, and typically serve between five to fifteen homes, depending on the customer's design.
- HECO then provides the necessary secondary distribution to bring single-phase, secondary service (typically 120/240V, 1-ph, 3-wire) to each residential unit.
- Residential units are individually metered by HECO.
- The transformers provided typically are connected in a loop fashion, where the distribution system feeds through each of the transformers with a designated "open" point located midway through the loop.

As indicated in the response to part b above, none of the cost of service allocation factors in the cost of service study provide for recognition of location of customers. Also, note that units within a high-rise residential condominium are typically not individually metered. Such residential condominium projects are usually served at a single meter on a commercial rate schedule.

CA-IR-317 **Ref: HECO T-20, page 19 - (Inclining Block Rates).**

At page 19, Mr. Young states, "The merits on an inclining block rate design include mitigation of rate impact on the smallest users of the system, pricing signals that encourage conservation, and assignment of a greater share of the cost increase to the larger users." Please provide the following information:

a. Explain whether or not Mr. Young believes that any of these "merits" would also justify adopting an inclining block rate for Schedule G customers.

b. Explain whether or not Mr. Young believes that any of these "merits" would also justify flattening the declining block energy rates within Schedule J or Schedule P and/or implementing inclining block rates to such customers.

c. To what extent does Mr. Young believes that any of these "merits" would justify flattening the Schedule P demand charges and/or adopting an inclining block Schedule P demand charge.

d. Are inclining block or declining block energy rates more consistent with HECO's calculated marginal cost of service?

e. Are inclining block or declining block demand rates more consistent with HECO's calculated marginal cost of service?

HECO Response:

a. While pricing signals that encourage conservation support the adoption of inclining block rates for Schedule G customers, that merit alone does not justify an inclining block rate design. The other two referenced merits, mitigation of rate impact on the smallest users of the system and assignment of a greater share of the cost increase to the larger users, are more difficult to establish in Schedule G because customers can and do have multiple Schedule G accounts. For example, it is unclear that mitigating the bill impact of rate increases on the smallest Schedule G customers is perceived equivalently by a customer that has one small Schedule G account and a customer that has dozens of small Schedule G accounts.

b. No, none of these "merits" would also justify flattening the declining energy rates within Schedule J or Schedule P and/or implementing inclining energy rates to such customers. It is not clear that flattening the declining energy rates and/or implementing inclining energy rates in Schedules J and P will encourage conservation because the energy rates in Schedules J and P are based on the customer's billing load factor (ratio of kWh to billed kW) and not on the customer's absolute level of energy usage. Because the energy rates are based on customer billing load factor, it is unclear how to adjust those energy rates to benefit the smallest users of the system while charging relatively more to the largest users.

c. While pricing signals that encourage conservation support the adoption of inclining demand rates for Schedule P customers, that merit alone does not justify an inclining demand charge rate design. Again, because energy charges are based on customer billing load factor, it is unclear whether flattening or inclining Schedule P demand charges will mitigate the impact on the smallest Schedule P users while assigning a greater share of the cost to the largest users. The largest user of kW is not necessarily a large user of kWh, and vice versa.

d. No. The rate schedule energy rates are designed to recover, in part, the Company's total revenue requirement or total cost of service, not the Company's marginal cost of service.

e. No. The rate schedule demand rates are designed to recover, in part, the Company's total revenue requirement or total cost of service, not the Company's marginal cost of service.

CA-IR-318

Ref: HEI SEC Form 10Q, May 04, 2007, page 53, (Net Energy Metering).
According to the Quarterly Report, "Hawaii has a net energy metering law, which requires that electric utilities offer net energy metering to eligible customer generators." Recognizing the pending PUC investigative proceeding on this matter, please provide the following information:

a. Provide reference into (or copies of) the existing tariffs and rules that govern HECO's presently offered net energy metering procedures.

b. A summary of the test period projected number of customers and kWh by rate class for which net energy metering is assumed.

c. Calculations indicating how billing determinants were estimated for each net energy metering customer for the test year, as applicable.

HECO Response:

a. See Attachment A for the requested information on HECO's net energy metering.

b. The net energy metering estimates incorporated into the test year sales estimate (August 2006 sales forecast) were developed by the Energy Services' Department based on information collected through December 2005. A summary of the test year projected number of installations and kWh is shown on Attachment b of this response. Systems of less than 10 kW are assumed to be residential (Schedule R) installations, while those greater than 10 kW (with a maximum of 50 kW) were considered to impact Schedule J.

c. Other than adjustment to sales forecast for Schedule R and Schedule J incorporated into the test year sales estimate, as explained in b. above, there were no modifications to billing determinants in the applicable rate schedules to account for net energy metering customers.

Superseding REVISED Sheet No. 38
Effective June 17, 2005

REVISED SHEET NO. 38
Effective March 10, 2006

RULE NO. 18

Net Energy Metering

A. ELIGIBLE CUSTOMER-GENERATOR

Net energy metering is available to permanent customers who own (or lease from a third party) and operate (or contract to operate with a third party) a solar, wind turbine, biomass, or hydroelectric energy generating facility, or a hybrid system consisting of two or more of these facilities, with a capacity of not more than fifty kilowatts (50 kW) or greater amount as approved by Commission rule or order, that is:

1. located on the customer's premises,

2. operated in parallel with the Company's transmission and distribution facilities,

3. in conformance with the Company's interconnection requirements provided in Rule 14, Section H, and

4. intended primarily to offset part or all of the customer's own electrical requirements.

B. NET ENERGY METERING AGREEMENT AND INTERCONNECTION REQUIREMENTS

1. Eligible Customer-Generator with a generating facility with a capacity of 10 kW or Less shall complete and sign a standard Net Energy Metering Agreement Form (10 kW or Less) provided in Appendix I of this Rule, to receive net energy metering service. The Customer-Generator facility and interconnection systems must be in compliance with all applicable safety and performance standards of the National Electric Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), accredited testing laboratories such as Underwriters Laboratories (UL), and with Rule 14, Section H, Appendix I.

2. Eligible Customer-Generator with a generating facility with a capacity greater than 10 kW but not exceeding 50 kW shall complete and sign a standard Net Energy Metering and Interconnection Agreement (Greater than 10 kW But Less Than or Equal to 50 kW) provided in Appendix II of this Rule. The Customer-Generator facility and interconnection systems must be in compliance with all applicable safety and performance standards of the National Electric Code (NEC), the Institute of Electrical and Electronic Engineers (IEEE), accredited testing laboratories such as Underwriters Laboratories (UL), the Company's interconnection requirements provided in Rule 14, Section H, Appendix I, and subject to any other requirements provided in the standard Net Energy Metering and Interconnection Agreement.

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Transmittal Letter Dated March 16, 2006.

RULE NO. 18 - Continued

Net Energy Metering

C. METERING AND BILLING

1. The Company, at its expense, may install meter(s) to record the flow of electric power in each direction. The customer shall, at its expense, provide, install and maintain all conductors, service switches, fuses, meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels and similar devices required for service connection and meter installations on the customer's premises in accordance with the Company's Rule 14, Section A.2.

2. Customers with Net Energy Metering service shall be billed monthly for the billing period, in accordance with the Company's Rule 8. Every 12 months, a reconciliation of the customer's net energy consumption supplied by the Company with the net energy produced by the Eligible Customer-Generator generating facility for that 12-month period will be performed as described in Section C.5.

   For customers with existing Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Eligible Customer-Generator for the first bill of the initial 12-month period under 2005 Haw. Sess. Laws Act 104 (effective July 1, 2005) shall begin at the start date of the billing period following the effective date of this tariff. For all other customers requesting Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Eligible Customer-Generator for the first bill of the initial 12-month period shall begin on the start date of the first billing period after the installation of the required meter(s).

3. When the electricity produced by the Eligible Customer-Generator generating facility during a billing period exceeds the electricity supplied by the Company for the same period, the customer is deemed to be a net electricity producer.

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RULE NO. 18 - Continued

Net Energy Metering

In a billing period when the customer is deemed to be a net electricity producer, the customer will not be billed for the kilowatthours supplied by the Company during that billing period. For billing purposes, the customer shall instead be charged the Minimum Charge provided in the applicable rate schedule in effect during the billing period.

The excess kilowatthours produced by the Eligible Customer-Generator in each billing period, shall be carried over to the next billing period(s) within the current 12-month period, as a monetary credit and applied only to the Energy Charge, plus adjustments applicable to the Energy Charge, as well as adjustments based on kWh consumption, if any, for the customer's net kilowatthour consumption in the succeeding billing period within the current 12-month period. Adjustments applicable to the Energy Charge include the Power Factor Adjustment, the Supply Voltage Delivery Adjustment, the IRP Cost Recovery Adjustment, Temporary Rate Adjustment and other similar adjustments applicable to the Energy Charge that are in effect. Adjustments based on kWh consumption include the Energy Cost Adjustment, the Residential DSM Adjustment, the Commercial & Industrial DSM Adjustment, and other similar adjustments based on kWh consumption that are in effect. When the customer is billed the Minimum Charge in any billing period, the customer's cumulative net monetary credit shall <u>not</u> be applied to the Minimum Charge.

The customer's cumulative net monetary credit shall also not be applied to the Demand Charge, Customer Charge, adjustments applicable to the Demand and Customer Charges and other similar rate adjustments applicable to the Demand and Customer Charges that are in effect.

a. For customers served under Schedule R or Schedule TOU-R, the monetary credit for the excess kilowatthours produced by the Eligible Customer-Generator shall be calculated by multiplying the number of excess kilowatthours produced by the Eligible Customer-Generator by the Energy Charge (i.e., Non-Fuel Energy Charge plus the Base Fuel Energy Charge) provided in Schedule R, plus the adjustments applicable to the Energy Charge and the adjustments based on kWh consumption.

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RULE NO. 18 - Continued

Net Energy Metering

b. For customers served under Schedule G, the monetary credit for the excess kilowatthours produced by the Eligible Customer-Generator shall be calculated by multiplying the excess kilowatthours produced by the Eligible Customer-Generator by the Energy Charge provided in Schedule G plus the adjustments applicable to the Energy Charge and the adjustments based on kWh consumption.

c. For customers served under the rate schedules with load-factor block energy rates, such as Schedule J, including those customers served under the load management Riders T, M, and I the monetary credit for the excess kilowatthours produced by the Eligible Customer-Generator shall be calculated by multiplying the excess kilowatthours produced by the Eligible Customer-Generator by the weighted average energy rate of the applicable rate schedule effective during the billing period, plus the adjustments applicable to the Energy Charge and the adjustments based on kWh consumption.

d. For customers served under Schedule U, the monetary credit for the excess kilowatthours produced by the Eligible Customer-Generator shall be calculated by multiplying the excess kilowatthours produced by the Eligible Customer-Generator by the weighted average energy rate of Schedule PS, plus the adjustments applicable to the Energy Charge and the adjustments based on kWh consumption.

e. For customers served under the load management riders such as Rider T which provides energy rate adjustments to the Energy Charge in the applicable rate schedule, the customer's net monetary credit, if any, shall be applied to the customer's Energy Charge including the Energy Charge in the applicable rate schedule and the energy rate adjustments provided in the Rider, plus the adjustments applicable to the Energy Charge and the adjustments based on kWh consumption.

4. When the electricity supplied by the Company to the customer during a billing period exceeds the electricity produced by the Eligible Customer-Generator

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RULE NO. 18 - Continued

Net Energy Metering

generating facility for the same period, and also exceeds any unused cumulative credits for excess electricity supplied by the Eligible Customer-Generator carried over from the prior months since the last 12-month reconciliation period, the customer is deemed to be a net electricity consumer.

For billing purposes, the customer shall be charged for the excess kilowatthours supplied by the Company based on the applicable rate schedule in effect during the billing period. The payment for excess kilowatthours supplied by the Company, however, will take into consideration any unused cumulative credits to the extent provided for in Section C.3. of this Rule 18.

In a billing period in which the customer is deemed to be a net electricity consumer, the customer will also be billed for other applicable charges, base rate adjustments and non-base rate adjustments, to the extent the amount exceeds the Minimum Charge; if such amount does not exceed the Minimum Charge, the customer will be billed the Minimum Charge, plus any rate adjustment that may apply to the Minimum Charge.

5. The kilowatthours supplied by the Company and the kilowatthours produced by the Eligible Customer-Generator for each billing period shall be recorded in each billing period of the 12-month period. Coincident with the last bill of the 12-month period following the start date of the customer's billing under the net energy metering contract, and for each 12-month period thereafter, the (i) Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less any monetary credits applied during the 12-month period for net kilowatthours produced by the Eligible Customer-Generator ("Remaining Energy Charge Balance"), and (ii) the available cumulative credit balance (i.e., cumulative net monetary credit for net kilowatthours produced by the Eligible Customer-Generator for the 12-month period remaining after the subtraction of the monetary credits previously credited to the customer during the 12-month period for net kilowatthours produced by the Eligible Customer-Generator) will be compared to determine whether the customer is entitled to a refund of remaining Energy

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RULE NO. 18 - Continued

Net Energy Metering

Charges plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption. If the available cumulative credit balance equals, or exceeds the Remaining Energy Charge Balance, the Remaining Energy Charge Balance will be refunded. If the Remaining Energy Charge Balance is greater than the available cumulative credit balance at the end of the 12-month period, the amount of the refund will be capped at the available cumulative credit balance.

The Energy Charge shall include the customer's Energy Charge for each billing period within the 12-month period, plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, except for those billing periods when the customer was billed the Minimum Charge provided in the applicable rate schedule. Any monetary credits for excess kilowatthours produced by the Eligible Customer-Generator that remain unused at the end of each 12-month period shall expire and not be carried over to the next 12-month period. The customer shall not be compensated for such excess kilowatthours produced by the Eligible Customer-Generator unless the Company enters into a purchase power agreement with the Eligible Customer-Generator.

If an Eligible Customer-Generator terminates its Net Energy Metering service under Rule 18 prior to the end of any 12-month period, the Company shall reconcile the Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less monetary credits previously applied, to the cumulative credit balance at the end of the billing period when service was terminated, similar to the reconciliation that would have been performed at the end of the normal 12-month period.

6. The kilowatthours supplied by the Company and, if any, the kilowatthours produced by the Eligible Customer-Generator, including an accounting of the cumulative monetary credits for the excess kilowatthours produced by the Eligible Customer-Generator since the last 12-month period reconciliation, the credits applied in each billing period of the current 12-month period and the remaining unused credits, if any, will be included in the customer's regular billing statement.

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RULE NO. 18 - Continued

Net Energy Metering

D. MAXIMUM NET ENERGY METERING CAPACITY

Net energy metering will be made available to customers on a first come first serve basis, and until the sum of the total rated generating capacity of all net metered customer facilities equals approximately 0.5% of the Company's current system peak demand or different level as approved by Commission rule or order.

E. INTERCONNECTION PROCESS

1. Eligible Customer-Generator requests to interconnect and operate a generating facility in parallel with the Company's electric system will be processed in accordance with the procedures in the Interconnection Process Overview provided in Appendix III of this Rule.

2. The Interconnection Process Overview addresses the steps in the interconnection process, the technical review process, the need for additional study, and the resolution of disputes.

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APPENDIX I

NET ENERGY METERING AGREEMENT

10 kW or Less

Section 1. Applicant Information

Customer-Generator

Name: _____

Mailing Address: _____

City/State: _____, Zip Code: _____

Generating Facility Location (if different from above)/Tax map key _____

Daytime Phone #: _____ Evening/Cell Phone #: _____

Electric Service Account #: _____

Owner of Generating Facility (if different from Customer-Generator)

Name: _____

Mailing Address: _____

City/State: _____, Zip Code: _____

Daytime Phone #: _____ Evening/Cell Phone #: _____

Operator of Generating Facility (if different from Customer-Generator)

Name: _____

Mailing Address: _____

City/State: _____, Zip Code: _____

Daytime Phone #: _____ Evening/Cell Phone #: _____

Section 2. Generating Facility Information Power Conditioning Equipment Energy Storage

Solar: Rated generator capacity in kW _____Generator/Inverter Make/Model _____. _____kWh.

Rated photovoltaic module capacity in kW_{DC}_____

Wind: Rated generator capacity in kW _____Generator/Inverter Make/Model _____. _____kWh.

Biomass: Rated generator capacity in kW _____Generator/Inverter Make/Model _____. _____kWh.

Hydro: Rated generator capacity in kW _____Generator/Inverter Make/Model _____. _____kWh.

Hybrid: Rated generator capacity in kW _____Generator/Inverter Make/Model _____. _____kWh.

Total rated capacity in kW _____ (Shall not exceed 10 kW) Attach specification sheet if available.

Generating System Building Permit # (Certificate of Completion or Notice of Electrical Inspection?):_____

Is system self-excited with potential to island: Yes No

Please submit a single line diagram. Submitted: Yes No

HAWAIIAN ELECTRIC COMPANY, INC.

Section 3. Certification by Licensed Electrical Contractor:
Generating and interconnection systems must be compliant with all applicable safety and performance standards of the National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), and accredited testing laboratories such as the Underwriters Laboratories (UL), and where applicable, the rules of the Public Utilities Commission of the State of Hawaii ("Commission"), or other applicable governmental laws and regulations, and the Electric Company's (Company) interconnection requirements, in effect at the time of signing this agreement. The following certifies that the installed generating system meets all preceding requirement(s).

Signed (Licensed Electrical Contractor): _____ Date: _____

License Holder (printed) _____Hawaii License #C: _____

Mail Address: _____

City: _____, Hawaii, Zip Code: _____

Daytime Phone #: _____Installation date: _____

Section 4. Installation: Design, installation, operation and maintenance of the Generating Facility shall include appropriate control and protection equipment and a manual load-break disconnect device lockable in the open position and accessible by the Company, as a means of electrically isolating the Generating Facility from the Company's system, and to establish working clearance for maintenance and repair work in accordance with the Company's safety rules and practices. This load-break disconnect device shall be furnished and installed by the Customer-Generator and is to be connected between the Generating Facility and the Company's electric system. The disconnect device shall preferably be located in the immediate vicinity of the electric meter serving the Customer-Generator. With permission of the Company, the disconnect device may be located at an alternate location which is accessible to utility company personnel on a 24-hour basis. The Customer-Generator and/or Owner/Operator grants access to the Company to utilize the disconnect device, if needed. The Customer-Generator shall obtain the authorization from the owner and/or occupant of the premises where the Generating Facility is located that allows the Company access to the Generating Facility for the purposes specified in this Agreement. The disconnect device shall be clearly labeled "Customer-Generator System Disconnect".
Location of lockable disconnect device, adjacent to meter? yes

If not, please describe location:_____

Section 5. Notice: A Customer-Generator shall provide the Company with an advance 30-day written notice of any proposed material changes made to the Generating Facility, for example, a change in ownership or an increase in capacity. In no event may the rated generator capacity of the Generating Facility exceed 10 kW. If a Generating Facility changes ownership, the Company may require the new owner to complete a new Net Energy Metering Agreement.

Section 6. Permits and Licenses: The Customer-Generator shall obtain, at its expense, any and all authorizations, permits and licenses required for the construction and operation of its facility.

Section 7. Metering: The Company will supply, own, and maintain all necessary meters and associated equipment utilized for billing. The meters will be tested and read in accordance with the rules of the Commission and the Company. The Customer-Generator shall supply, at no expense to the Company, a suitable location for meters and associated equipment used for billing and in accordance with the Company's tariffs. The Customer-Generator shall, at its expense, provide, install and maintain all conductors, service switches, fuses,

meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels and similar devices required for service connection and meter installations on the Customer-Generator's premises in accordance with the Company's Rule 14, Section A.2.

Section 8. Indemnification: Each party as indemnitor shall hold harmless and indemnify the other party and the directors, officers, authorized agents, and employees of such other party against and from any and all loss and liability for injuries to persons including employees and authorized agents of either party, and damages, including property of either party, resulting from or arising out of (i) the engineering, design, construction, maintenance, or operation of, or (ii) the making of replacements, additions, or betterments to the indemnitor's facilities which are required for the interconnection and parallel operation of the Generating Facility with the Company's electric system and the generation of energy by the Generating Facility. Neither party shall be indemnified for liability or loss resulting from its sole negligence or willful misconduct. Nothing in this agreement shall create any duty to, any standard of care with reference to, or any liability to any person not a party to it.

Section 9. Continuity of Service: The Company may require that the Generating Facility be temporarily curtailed, interrupted or deliveries of energy reduced: (a) when necessary in order for the Company to construct, install, maintain, repair, replace, remove, investigate or inspect any of its equipment or any part of its system; or (b) if the Company determines that such curtailment, interruption or reduction is necessary because of a system emergency, forced outage, or compliance with good engineering practices. Whenever feasible, Company shall give Customer-Generator reasonable notice of the possibility that interruption or reduction of deliveries may be required. In any such event, the Company shall not be obligated to accept any energy from the Generating Facility except for such energy that the Company notifies the Customer-Generator that it is able to take during this period due to the aforesaid circumstances. The Company shall take all reasonable steps to minimize the number and duration of interruptions, curtailments or reductions.

Section 10. Personnel and System Safety: If at any time the Company determines that the continued operation of the Generating Facility may endanger any person or property, the Company's electric system, or have an adverse effect on the safety or power quality of other customers, the Company shall have the right to disconnect the Generating Facility from the Company's electric system. The Generating Facility shall remain disconnected until such time as the Company is satisfied that the endangering or power quality condition(s) has been corrected, and the Company shall not be obligated to accept any energy from the Generating Facility during such period. The Company shall not be liable directly or indirectly for permitting or continuing to allow an attachment of a net metering facility or for the acts or omissions of the Customer-Generator that cause loss or injury, including death, to any third party.

Section 11. Additional Information: The Company reserves the right to require additional information, where necessary, to serve the Customer-Generator under net energy metering service.

Section 12. Term: This agreement shall become effective upon execution by the Customer-Generator and the Company and shall continue in effect on a month-to-month basis. The Customer-Generator may terminate the agreement at any time. Company may terminate the agreement at any time if the Customer-Generator fails to comply with the terms of this agreement or meet the definition of Eligible Customer-Generator under the Company's Rule 18 relating to Net Energy Metering.

Section 13. Net Energy Metering and Billing:

A. General:

(1) The net energy metering and billing arrangement covered by the Net Energy Metering Agreement shall be governed by the Company's Rule 18, as may be amended, revised and/or updated from time to time. If there is a conflict between any provision in the Net Energy Metering Agreement and the Company's Rule 18, as may be amended, revised and/or updated, the provisions of the Company's Rule 18 shall control.

(2) Customer-Generator's with Net Energy Metering service, pursuant to the Company's Rule 18, shall be billed monthly for the billing period, in accordance with the Company's Rule 8. Every 12 months, a reconciliation of the Customer-Generator's net energy consumption supplied by the Company with the net energy produced by the Generating Facility for that 12-month period will be performed as described in Section C.5. of the Company's Rule 18.

(3) For Customer-Generators with existing Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for the first bill of the initial 12-month period under 2005 Haw. Sess. Laws Act 104 (effective July 1, 2005) shall begin at the start date of the billing period following the effective date of the Company's Rule 18. For all other Customer-Generators requesting Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for the first bill of the initial 12-month period shall begin on the start date of the first billing period after the installation of the required meter(s).

B. Net Electricity Producer:

(1) When the electricity produced by the Generating Facility during a billing period exceeds the electricity supplied by the Company for the same period, the Customer-Generator is deemed to be a net electricity producer.

(2) In a billing period when the Customer-Generator is deemed to be a net electricity producer, the Customer-Generator will not be billed for the kilowatthours supplied by the Company during that billing period. For billing purposes, the Customer-Generator shall instead be charged the Minimum Charge provided in the applicable rate schedule in effect during the billing period.

(3) The excess kilowatthours produced by the Customer-Generator in each billing period, shall be carried over to the next billing period(s) within the current 12-month period, as a monetary credit and applied only to the Energy Charge, plus adjustments applicable to the Energy Charge, as well as adjustments based on kWh consumption, if any, for the Customer-Generator's net kilowatthour consumption in the succeeding billing period within the current 12-month period. Adjustments applicable to the Energy Charge include the Power Factor Adjustment, the Supply Voltage Delivery Adjustment, the IRP Cost Recovery Adjustment, Temporary Rate Adjustment and other similar adjustments applicable to the Energy Charge that are in effect. Adjustments based on kWh consumption include the Energy Cost Adjustment, the Residential DSM Adjustment, the Commercial & Industrial DSM Adjustment, and other similar adjustments based on kWh consumption that are in effect. When the Customer-Generator is billed the Minimum Charge in any billing period, the Customer-Generator's cumulative net monetary credit shall <u>not</u> be applied to the Minimum Charge.

(4) The Customer-Generator's cumulative net monetary credit shall also not be applied to the Demand Charge, Customer Charge, adjustments applicable to the Demand and Customer Charges and other similar rate adjustments applicable to the Demand and Customer Charges that are in effect. See Section C.3. (a-e) of the Company's Rule 18 for the determination of monetary credit as applicable to the Customer-Generator's rate schedule.

C. Net Electricity Consumer:

(1) When the electricity supplied by the Company to the Customer-Generator during a billing period exceeds the electricity produced by the Generating Facility for the same period, and also exceeds any unused cumulative credits for excess electricity supplied by the Customer-Generator carried over from the prior months since the last 12-month reconciliation period, the Customer-Generator is deemed to be a net electricity consumer.

(2) For billing purposes, the Customer-Generator shall be charged for the excess kilowatthours supplied by the Company based on the applicable rate schedule in effect during the billing period. The payment for excess kilowatthours supplied by the Company, however, will take into consideration any unused cumulative credits to the extent provided for in Section C.3. of the Company's Rule 18.

(3) In a billing period in which the Customer-Generator is deemed to be a net electricity consumer, the Customer-Generator will also be billed for other applicable charges, base rate adjustments and non-base rate adjustments, to the extent the amount exceeds the Minimum Charge; if such amount does not exceed the Minimum Charge, the Customer-Generator will be billed the Minimum Charge, plus any rate adjustment that may apply to the Minimum Charge.

(4) The kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for each billing period shall be recorded in each billing period of the 12-month period. Coincident with the last bill of the 12-month period following the start date of the Customer-Generator's billing under the Net Energy Metering contract, and for each 12-month period thereafter, the (i) Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less any monetary credits applied during the 12-month period for net kilowatthours produced by the Customer-Generator ("Remaining Energy Charge Balance"), and (ii) the available cumulative credit balance (i.e., cumulative net monetary credit for net kilowatthours produced by the Customer-Generator for the 12-month period remaining after the subtraction of the monetary credits previously credited to the Customer-Generator during the 12-month period for net kilowatthours produced by the Customer-Generator) will be compared to determine whether the Customer-Generator is entitled to a refund of remaining Energy Charges plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption. If the available cumulative credit balance equals, or exceeds the Remaining Energy Charge Balance, the Remaining Energy Charge Balance will be refunded. If the Remaining Energy Charge Balance is greater than the available cumulative credit balance at the end of the 12-month period, the amount of the refund will be capped at the available cumulative credit balance.

(5) The Energy Charge shall include the Customer-Generator's Energy Charge for each billing period within the 12-month period, plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, except for those billing periods when the Customer-Generator was billed the Minimum Charge provided in the applicable rate schedule. Any monetary credits for excess kilowatthours produced by the Customer-Generator that remain unused at the end of each 12-month period shall expire and not be carried over to the next 12-month period. The Customer-Generator shall not be compensated for such excess

kilowatthours produced by the Customer-Generator unless the Company enters into a purchase power agreement with the Customer-Generator.

D. Other:

(1) If a Customer-Generator terminates its Net Energy Metering service under Rule 18 prior to the end of any 12-month period, the Company shall reconcile the Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less monetary credits previously applied, to the cumulative credit balance at the end of the billing period when service was terminated, similar to the reconciliation that would have been performed at the end of the normal 12-month period.

(2) The kilowatthours supplied by the Company and, if any, the kilowatthours produced by the Customer-Generator, including an accounting of the cumulative monetary credits for the excess kilowatthours produced by the Customer-Generator since the last 12-month period reconciliation, the credits applied in each billing period of the current 12-month period and the remaining unused credits, if any, will be included in the Customer-Generator's regular billing statement.

Section 14. Customer-Generator Signature: I agree to be bound by the terms of this Net Energy Metering Agreement, and I understand that all aspects of billing for electric service will conform with existing Company Rules, the Commission's general orders, and the applicable provisions of Hawaii Revised Statutes, Chapter 269, Part VI. I also certify that, to the best of my knowledge, all the information provided in this agreement, is true and correct.

Customer-Generator_____Date_____

Section 15. Company Signature:
I hereby acknowledge receipt and completeness of the Net Energy Metering Agreement.

Company _____ By_____

Title _____ Date_____

APPENDIX II

NET ENERGY METERING AND INTERCONNECTION AGREEMENT (Greater Than 10 kW But Not More Than 50 kW)

This Net Energy Metering and Interconnection Agreement ("Agreement") is made on _____, and entered into by and between _____ ("Customer-Generator") and Hawaiian Electric Company, Inc. ("Company"), sometimes also referred to herein jointly as "Parties" or individually as "Party." This Agreement provides for Customer-Generator to interconnect and operate a Generating Facility in parallel with Company's distribution system. This Agreement is applicable only to Company's customers who satisfy all requirements of the definition of an "Eligible Customer-Generator" set forth in the Company's Rule 18 relating to net energy metering, and only to the Generating Facility described and installed at the location listed below. The Generating Facility may not be relocated or connected to Company's system at any other location without Company's express written consent. A description of the Generating Facility including a summary of its significant components shown in Exhibit A, (DESCRIPTION OF CUSTOMER-GENERATOR'S GENERATING FACILITY), Exhibit B, (GENERATING FACILITY OWNED BY THE CUSTOMER-GENERATOR OR THIRD PARTY OWNER) including a single line diagram and three-line diagram (if Generating Facility's Total Rated Capacity is greater than or equal to 30kW but not more than 50 kW) showing the general arrangement of how the Generating Facility and loads are interconnected with Company, and Exhibit C, (INTERCONNECTION FACILITIES OWNED BY THE COMPANY), are attached to and made a part of this Agreement.

Section 1. Permits and Licenses: Customer-Generator shall be responsible for the design, installation, operation, and maintenance of the Generating Facility and shall obtain at its expense, and maintain any required governmental authorizations and/or permits for the construction and operation of the Generating Facility. Customer-Generator shall not commence parallel operation of the Generating Facility until Company has provided written approval. Company shall provide such written approval within thirty (30) business days from Company's receipt of a copy of the final inspection or approval of the Generating Facility, which has been issued by the governmental authority having jurisdiction to inspect and approve the installation. Company's written approval shall not be unreasonably withheld. Company shall have the right to have its representatives present at the final inspection made by the governmental authority having jurisdiction to inspect and approve the installation of the Generating Facility. Customer-Generator shall be required to notify Company in accordance with the terms of Section 14, herein, at least five (5) business days prior to such inspection. Customer-Generator shall not add generation capacity in excess of the Total Rated Capacity set forth in Section 2 of this Agreement, or otherwise modify the Generating Facility without the prior written permission of Company. In no event may the Total Rated Capacity of the Generating Facility exceed 50 kW.

Section 2. Interconnection of Facilities: Pursuant to Rule 18, Paragraph B.2. of the Company's tariff, as authorized by the Public Utilities Commission of the State of Hawaii ("Commission"), Company will study and assess the projected interaction of Customer-Generator's Generating Facility with the

Docket No. 05-0037, D&O No. 21877 Dated June 17, 2005,
Transmittal Letter Dated June 24, 2005.

Company's system including a review of the equipment and devices required to permit Customer-Generator's Generating Facility to operate in parallel with and deliver electric energy to Company's system, such as, but not limited to, transmission lines, distribution lines, transformers, switches, relays, and circuit breakers.

A. Facilities: (1) For the purposes of this Agreement, the "Generating Facility" is defined as the equipment and devices, and associated appurtenances, owned by the Customer-Generator or leased by the Customer-Generator, which produce electric energy for use by the Customer-Generator and are to be interconnected and operated in parallel with the Company's system.

(2) The Customer-Generator shall furnish, install, operate and maintain, at its cost, the interconnection facilities (such as circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes) identified in Exhibit B hereto ("Customer-Generator Interconnection Facilities").

(3) The point of interconnection is shown on the single-line diagram and three-line diagram (provided by the Customer-Generator and reviewed by the Company) which are attached to Exhibit B (provided that the three-line diagram is not required if the Generating Facility's Total Rated capacity is less than 30 kW).

(4) The Customer-Generator agrees to test the Generating Facility, to maintain operating records, and to follow such operating procedures, as may be specified by the Company to protect the Company's system from damages resulting from the parallel operation of the Generating Facility, including such testing, records and operating procedures as more fully described in Exhibit B attached hereto and made a part hereof.

(5) The Company may inspect the Generating Facility, as more fully described in Exhibit B.

B. Interconnection Facilities Owned by the Company: The Company agrees to furnish, install, operate and maintain such interconnection facilities on its side of the point of interconnection with the Generating Facility as required for parallel operation with the Generating Facility and as more fully described in Exhibit C attached hereto and made a part hereof ("Company Interconnection Facilities"). All such interconnection facilities shall be the property of the Company. Where portions of the Company Interconnection Facilities are located on the Customer-Generator's premises, the Customer-Generator shall provide, at no expense to the Company, a suitable location for and access to all such equipment. If a 120/240 Volt power source or sources are required, the Customer-Generator shall provide these at no expense to the Company.

C. Customer-Generator Payments: The Customer-Generator agrees to pay to the Company a non-refundable contribution for the Company's investment in the interconnection facilities described in Exhibit C, subject to the terms and conditions included in Exhibit C, and to pay for other interconnection costs. The interconnection costs will not include the cost of an initial technical screening of the impact of the Generating Facility on the Company's system, but will include the actual cost (or such lesser amount as the Company may specify to facilitate the processing of interconnection requests for similarly situated facilities) of additional technical study for the Generating Facility.

Section 3. Installation: Design, installation, operation and maintenance of the Generating Facility shall include appropriate control and protection equipment, including an automatic load-break device such as a circuit breaker or inverter and a manual disconnect device that has a visible break to isolate the Generating Facility from the Company's system. The manual disconnect device must be accessible by the Company and be capable of being locked by the Company in the open position, to establish working clearance for maintenance and repair work in accordance with the Company's safety rules and practices. The disconnect devices shall be furnished and installed by the Customer-Generator and are to be connected between the Generating Facility and the Company's electric system. The disconnect devices shall preferably be located in the immediate vicinity of the electric meter serving the Customer-Generator. With permission of the Company, the disconnect devices may be located at an alternate location which is accessible to the Company on a 24-hour basis. The manual disconnect device shall be clearly labeled "Customer-Generator System Disconnect".

The Customer-Generator grants access to the Company to utilize the disconnect device, if needed. The Customer-Generator shall obtain the authorization from the owner and/or occupants of the premises where the Generating Facility is located that allows the Company to access the Generating Facility for the purpose specified in this Agreement. Company may enter premises where the Generating Facility is located at all reasonable hours without notice to Customer-Generator for the following purposes: (a) To inspect Generating Facility's protective devices and read or test meter(s); and (b) to disconnect the Generating Facility and/or service to Customer-Generator, whenever in Company's sole opinion, a hazardous condition exists and such immediate action is necessary to protect persons, Company's facilities, or property of others from damage or interference caused by the Generating Facility, or the absence or failure of properly operating protective device.

Section 4. Metering: The Company will supply, own, and maintain all necessary meters and associated equipment utilized for billing. The meters will be tested and read in accordance with the rules of the Commission and the Company. The Customer-Generator shall, at its expense, provide, install and maintain all conductors, service switches, fuses, meter sockets, meter instrument transformer housing and mountings, switchboard meter test buses, meter panels and similar devices required for service connection and meter installations on the Customer-Generator's premises in accordance with the Company's Rule 14, Section A.2. Company may, at its expense, install meter(s) to record the flow of electric power in each direction.

Section 5. Indemnification:

(a) The Customer-Generator shall indemnify, defend and hold harmless the Company and its officers, directors, agents and employees, from and against all liabilities, damages, losses, fines, penalties, claims, demands, suits, costs and expenses (including reasonable attorney's fees and expenses) to or by third persons, including the Company's employees or subcontractors, for injury or death, or for injury to property, arising out of the actions or inactions of the Customer-Generator (or those of anyone under its control or on its behalf) with respect to its obligations under this Agreement, and/or arising out of the installation, operation and maintenance of the Generating Facility and/or the Customer-Generator Interconnection Facilities, except to the extent that such injury, death or damage is attributable to the

gross negligence or intentional act or omission of the Company or its officers, directors, agents or employees.

(b) The Company shall indemnify, defend and hold harmless the Customer-Generator, and its officers, directors, agents and employees, from and against all liabilities, damages, losses, fines, penalties, claims, demands, suits, costs and expenses (including reasonable attorney's fees and expenses) to or by third persons, including the Customer-Generator's employees or subcontractors, for injury or death, or for injury to property, arising out of the actions or inactions of the Company (or those of anyone under its control or on its behalf) with respect to its obligations under this Agreement, and/or arising out of the installation, operation and maintenance of the Company Interconnection Facilities, except to the extent that such injury, death or damage is attributable to the gross negligence or intentional act or omission of the Customer-Generator or its officers, directors, agents or employees.

(c) Nothing in this Agreement shall create any duty to, any standard of care with reference to, or any liability to any person not a party to it.

Section 6. Insurance: The Customer-Generator shall, at its own expense and during the term of the Agreement and any other time that the Generating Facility is interconnected with the Company's system, maintain in effect with a responsible insurance company authorized to do insurance business in Hawaii, the following insurance that will protect the Customer-Generator and the Company with respect to the Generating Facility, the Generating Facility's operations, and the Generating Facility's interconnection with the Company's system:

A commercial general liability policy, covering bodily injury and property damage combined single limit of at least the following amounts based on the Total Rated Capacity of the generator (for solar systems—Total Rated Capacity of the generator or inverter, whichever is lower, can be used with appropriate technical documentation on inverter, if not higher Total Rated Capacity will be used) as indicated in Exhibit A, Section 3, for any occurrence.

Commercial General Liability Coverage Amount	Total Rated Capacity of the Net Energy Metering Facility
$1,000,000	Greater than 30 kW and less than or equal to 50 kW
$500,000	Greater than 10 kW and less than or equal to 30 kW

The Customer-Generator has responsibility to determine if higher limits are desired and purchased. Said insurance shall name the Company, its directors, officers, agents, and employees as additional insureds, shall include contractual liability coverage for written contracts and agreements including this Agreement, shall include provisions stating that the insurance will respond to claims or suits by additional insureds against the Customer-Generator or any other insured thereunder, and shall be non-cancelable and non-alterable without thirty (30) days prior written notice to the Company. "Claims made" policies are not acceptable, unless the Customer-Generator agrees to maintain coverage in full effect at all times during the term of this Agreement and for THREE (3) years thereafter. The adequacy of the coverage afforded by the required insurance shall be subject to review by the Company from time

to time, and if it appears in such review that risk exposures require an increase in the coverages and/or limits of this insurance, the Customer-Generator shall make such increase to that extent and any increased costs shall be borne by the Customer-Generator. The insurance required hereunder shall provide that it is primary with respect to the Customer-Generator and the Company. The Customer-Generator shall provide evidence of such insurance, including insurer's acknowledgement that coverage applies with respect to this Agreement, by providing certificates of insurance to the Company within 30 days of any change. Initially, certificates of insurance must be provided to the Company prior to executing the Agreement and any parallel interconnection. The Customer-Generator's indemnity and other obligations shall not be limited by the foregoing insurance requirements. Any deductible shall be the responsibility of the Customer-Generator.
Alternatively, to the extent applicable, as a governmental entity, Customer-Generator may elect to be self-insured for the amounts set forth above in lieu of obtaining insurance coverage to those levels from an insurance company.

Section 7. Continuity of Service: The Company may require the Customer-Generator to temporarily curtail, interrupt or reduce deliveries of energy: (a) when necessary in order for the Company to construct, install, maintain, repair, replace, remove, investigate or inspect any of its equipment or any part of its system; or (b) if the Company determines that such curtailment, interruption or reduction is necessary because of a system emergency, forced outage, or compliance with good engineering practices. Whenever feasible, Company shall give Customer-Generator reasonable notice of the possibility that interruption or reduction of deliveries may be required.
In any such event, the Company shall not be obligated to accept any energy from the Generating Facility except for such energy that the Company notifies the Customer-Generator that it is able to take during this period due to the aforesaid circumstances. The Company shall take all reasonable steps to minimize the number and duration of interruptions, curtailments or reductions.

Section 8. Personnel and System Safety: If at any time the Company determines that the continued operation of the Generating Facility may endanger any person or property, the Company's electric system, or have an adverse effect on the safety or power quality of other customers, the Company shall have the right to disconnect the Generating Facility from the Company's electric system. The Generating Facility shall remain disconnected until such time as the Company is satisfied that the endangering or power quality condition(s) has been corrected, and the Company shall not be obligated to accept any energy from the Generating Facility during such period. The Company shall not be liable directly or indirectly for permitting or continuing to allow an attachment of the Generating Facility for the acts or omissions of the Customer-Generator that cause loss or injury, including death, to any third party.

Section 9. Prevention of Interference: The Customer-Generator shall not operate equipment that superimposes a voltage or current upon the Company's system that interferes with the Company's operations, service to the Company's customers, or the Company's communication facilities. Such interference shall include, but not be limited to, overcurrent, voltage imbalance, and abnormal waveforms. If such interference occurs, the Customer-Generator must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by the

Company. If the Customer-Generator does not take timely corrective action, or continues to operate the equipment causing interference without restriction or limit, the Company may, without liability, disconnect the Customer-Generator's equipment from the Company's system.

Section 10. Limitation of Liability: Neither by inspection, if any, or non-rejection, nor in any other way, does the Company give any warranty, express or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, installed or maintained by the Customer-Generator or leased by the Customer-Generator from third parties, including without limitation the Generating Facility and any structures, equipment, wires, appliances or devices appurtenant thereto.

Section 11. Additional Information: The Company reserves the right to require additional information, where necessary, to serve the Customer-Generator under net energy metering service.

Section 12. Notice: The Customer-Generator shall provide the Company with an advance 30-day written notice of any proposed change in ownership of the Generating Facility. The Customer-Generator agrees that no material changes or additions to the Generating Facility (except with respect to a change in ownership of the Generating Facility) as reflected in the single-line diagram, relay list, trip scheme and settings of the Generating Facility, Generating Facility Equipment List, and three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), shall be made without having obtained prior written consent from the Company, which consent shall not be unreasonably withheld. In no event may the Total Rated Capacity of the Generating Facility exceed 50 kW. If a Generating Facility changes ownership, the Company may require the new owner to complete a new Net Energy Metering Agreement. Any notice required under this Agreement shall be in writing and mailed at any United States Post Office with postage prepaid and addressed to the Party, or personally delivered to the Party, at the address below. Changes in such designation may be made by notice similarly given. All written notices shall be directed as follows:

Customer-Generator

_____

_____

_____

Company

_____

_____

_____

Section 13. Term: This agreement shall become effective upon execution by the Customer-Generator and the Company and shall continue in effect on a month-to-month basis, unless terminated by either party on 30 days' written notice in accordance with Section 14. The Customer-Generator may terminate the agreement at any time. Company may terminate the agreement at any time if the Customer-Generator fails to comply with any and all terms of this agreement or meet the definition of Eligible

Customer-Generator under the Company's Rule 18 relating to Net Energy Metering. This Agreement shall terminate, without notice, upon: (a) termination of the electric service provided to Customer-Generator by Company; or (b) changes to Customer-Generator's electric load which cause Customer-Generator to no longer satisfy all requirements of the definition of an Eligible Customer-Generator set forth in the Company's Rule 18 relating to Net Energy Metering.

Section 14. Governing Law: This Agreement was executed in the State of Hawaii and must in all respects be interpreted, governed, and construed under the laws of the State of Hawaii. This Agreement is subject to, and the parties' obligations hereunder include, operating in full compliance with all valid, applicable federal, state, and local laws or ordinances, and all applicable rules, regulations, orders of, and tariffs approved by, duly constituted regulatory authorities having jurisdiction.

Section 15. Amendment, Modifications, or Waiver: This Agreement may not be altered or modified by either of the Parties, except by an instrument in writing executed by each of them. None of the provisions of this Agreement shall be considered waived by a Party unless such waiver is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or the relinquishment of any such rights for the future, but the same shall continue and remain in full force and effect. This Agreement shall supersede any existing agreement under which Customer-Generator is currently operating the Generating Facility identified in Section 2, herein, and any such agreement shall be deemed terminated as of the date this Agreement becomes effective. This Agreement contains the entire agreement and understanding between the Parties, their agents, and employees as to the subject matter of this Agreement. Each party also represents that in entering into this Agreement, it has not relied on any promise, inducement, representation, warranty, agreement or other statement not set forth in this Agreement.

Section 16. Limitations: Nothing in this Agreement shall limit the Company's ability to exercise its rights or expand or diminish its liability with respect to the provision of electrical service pursuant to the Company's Tariff as filed with the Commission, or the Commission's Standards for Electric Utility Service in the State of Hawaii, which currently are included in the Commission's General Order Number 7, as either may be amended from time to time.

Section 17. Certification by Licensed Electrical Contractor: Generating and interconnection systems must comply with all applicable safety and performance standards of the National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE), and accredited testing laboratories such as the Underwriters Laboratories (UL), and where applicable, the rules of the Commission, or other applicable governmental laws and regulations, and the Company's interconnection requirements, in effect at the time of signing this agreement. This requirement shall include, but not be limited to, the interconnection provisions of Company's Rule 14, Paragraph H. of the Company's tariff, as authorized by the Commission. Licensed Electrical Contractor, as agent for Customer-Generator, certifies in Exhibit A that the proposed Generating Facility will meet all preceding requirement(s).

Section 18. Net Energy Metering and Billing:

A. General:

(1) The net energy metering and billing arrangement covered by the Net Energy Metering Agreement shall be governed by the Company's Rule 18, as may be amended, revised and/or updated from time to time. If there is a conflict between any provision in the Net Energy Metering Agreement and the Company's Rule 18, as may be amended, revised and/or updated, the provisions of the Company's Rule 18 shall control.

(2) Customer-Generator's with Net Energy Metering service, pursuant to the Company's Rule 18, shall be billed monthly for the billing period, in accordance with the Company's Rule 8. Every 12 months, a reconciliation of the Customer-Generator's net energy consumption supplied by the Company with the net energy produced by the Generating Facility for that 12-month period will be performed as described in Section C.5. of the Company's Rule 18.

(3) For Customer-Generators with existing Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for the first bill of the initial 12-month period under 2005 Haw. Sess. Laws Act 104 (effective July 1, 2005) shall begin at the start date of the billing period following the effective date of the Company's Rule 18. For all other Customer-Generators requesting Net Energy Metering service, the measurement of kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for the first bill of the initial 12-month period shall begin on the start date of the first billing period after the installation of the required meter(s).

B. Net Electricity Producer:

(1) When the electricity produced by the Generating Facility during a billing period exceeds the electricity supplied by the Company for the same period, the Customer-Generator is deemed to be a net electricity producer.

(2) In a billing period when the Customer-Generator is deemed to be a net electricity producer, the Customer-Generator will not be billed for the kilowatthours supplied by the Company during that billing period. For billing purposes, the Customer-Generator shall instead be charged the Minimum Charge provided in the applicable rate schedule in effect during the billing period.

(3) The excess kilowatthours produced by the Customer-Generator in each billing period, shall be carried over to the next billing period(s) within the current 12-month period, as a monetary credit and applied only to the Energy Charge, plus adjustments applicable to the Energy Charge, as well as adjustments based on kWh consumption, if any, for the Customer-Generator's net kilowatthour consumption in the succeeding billing period within the current 12-month period. Adjustments applicable to the Energy Charge include the Power Factor Adjustment, the Supply Voltage Delivery Adjustment, the IRP Cost Recovery Adjustment, Temporary Rate Adjustment and other similar adjustments applicable to the Energy Charge that are in effect. Adjustments based on kWh consumption include the Energy Cost Adjustment, the Residential DSM Adjustment, the Commercial & Industrial DSM Adjustment, and other similar adjustments based on kWh consumption that are in effect. When the Customer-Generator is billed the Minimum Charge in any billing period, the Customer-Generator's cumulative net monetary credit shall not be applied to the Minimum Charge.

(4) The Customer-Generator's cumulative net monetary credit shall also not be applied to the Demand Charge, Customer Charge, adjustments applicable to the Demand and Customer Charges and other similar rate

adjustments applicable to the Demand and Customer Charges that are in effect. See Section C.3. (a-e) of the Company's Rule 18 for the determination of monetary credit as applicable to the Customer-Generator's rate schedule.

C. Net Electricity Consumer:

(1) When the electricity supplied by the Company to the Customer-Generator during a billing period exceeds the electricity produced by the Generating Facility for the same period, and also exceeds any unused cumulative credits for excess electricity supplied by the Customer-Generator carried over from the prior months since the last 12-month reconciliation period, the Customer-Generator is deemed to be a net electricity consumer.

(2) For billing purposes, the Customer-Generator shall be charged for the excess kilowatthours supplied by the Company based on the applicable rate schedule in effect during the billing period. The payment for excess kilowatthours supplied by the Company, however, will take into consideration any unused cumulative credits to the extent provided for in Section C.3. of the Company's Rule 18.

(3) In a billing period in which the Customer-Generator is deemed to be a net electricity consumer, the Customer-Generator will also be billed for other applicable charges, base rate adjustments and non-base rate adjustments, to the extent the amount exceeds the Minimum Charge; if such amount does not exceed the Minimum Charge, the Customer-Generator will be billed the Minimum Charge, plus any rate adjustment that may apply to the Minimum Charge.

(4) The kilowatthours supplied by the Company and the kilowatthours produced by the Customer-Generator for each billing period shall be recorded in each billing period of the 12-month period. Coincident with the last bill of the 12-month period following the start date of the Customer-Generator's billing under the Net Energy Metering contract, and for each 12-month period thereafter, the (i) Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less any monetary credits applied during the 12-month period for net kilowatthours produced by the Customer-Generator ("Remaining Energy Charge Balance"), and (ii) the available cumulative credit balance (i.e., cumulative net monetary credit for net kilowatthours produced by the Customer-Generator for the 12-month period remaining after the subtraction of the monetary credits previously credited to the Customer-Generator during the 12-month period for net kilowatthours produced by the Customer-Generator) will be compared to determine whether the Customer-Generator is entitled to a refund of remaining Energy Charges plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption. If the available cumulative credit balance equals, or exceeds the Remaining Energy Charge Balance, the Remaining Energy Charge Balance will be refunded. If the Remaining Energy Charge Balance is greater than the available cumulative credit balance at the end of the 12-month period, the amount of the refund will be capped at the available cumulative credit balance.

(5) The Energy Charge shall include the Customer-Generator's Energy Charge for each billing period within the 12-month period, plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, except for those billing periods when the Customer-Generator was billed the Minimum Charge provided in the applicable rate schedule. Any monetary credits for excess kilowatthours produced by the Customer-Generator that remain unused at the end of each 12-month period shall expire and not be carried over to the next 12-month period. The Customer-Generator shall not be compensated for such excess kilowatthours produced by the Customer-Generator unless the Company enters into a purchase power agreement with the Customer-Generator.

D. Other:

(1) If a Customer-Generator terminates its Net Energy Metering service under Rule 18 prior to the end of any 12-month period, the Company shall reconcile the Energy Charge plus adjustments applicable to the Energy Charge and adjustments based on kWh consumption, less monetary credits previously applied, to the cumulative credit balance at the end of the billing period when service was terminated, similar to the reconciliation that would have been performed at the end of the normal 12-month period.

(2) The kilowatthours supplied by the Company and, if any, the kilowatthours produced by the Customer-Generator, including an accounting of the cumulative monetary credits for the excess kilowatthours produced by the Customer-Generator since the last 12-month period reconciliation, the credits applied in each billing period of the current 12-month period and the remaining unused credits, if any, will be included in the Customer-Generator's regular billing statement.

SIGNATURES:

IN WITNESS WHEREOF, the Parties hereto have caused two originals of this Agreement to be executed by their duly authorized representatives. This Agreement is effective as of the latter of the two dates set forth below.

CUSTOMER-GENERATOR		**HAWAIIAN ELECTRIC COMPANY, INC.**	
By:	_____	By:	_____
Name:	_____	Name:	_____
Title:	_____	Title:	_____
Date:	_____	Date:	_____

EXHIBIT A

DESCRIPTION OF GENERATING FACILITY
(To Be Filled Out By Customer-Generator)

Section 1, Applicant Information

Customer-Generator

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): Area Code _____ Number _____ (Evening) Area Code _____ Number _____

Generating Facility Location (if different from above)/Tax Map Key: _____

Electric Service Account or Meter #: _____

Owner (if different from Customer-Generator)

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): Area Code _____ Number _____ (Evening) Area Code _____ Number _____

Operator (if different from Customer-Generator)

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone (Daytime): Area Code _____ Number _____ (Evening) Area Code _____ Number _____

Section 2, Generator Qualifications

Type of Generating Facility or Nonfossil Fuel Source

☐ Solar ☐ Wind ☐ Hydro

☐ Biomass ☐ Hybrid System (consisting of 2 or more other types of systems)

Maximum Site Load without Generation: _____ kW Maximum Generating Capability: _____ kW

Minimum Site Load without Generation: _____ kW Maximum Export: _____ kW

Section 3, Generator Technical Information

Type of Generator: ☐ Synchronous ☐ Induction ☐ DC Generator or Solar with Inverter

Generator (or solar collector) Manufacturer, Model Name & Number: _____
(A copy of Generator Nameplate and Manufacturer's Specification Sheet may be substituted)

_____ Total Capacity Rating in kW (for solar kW_{DC}): _____

Inverter Manufacturer, Model Name & Number (if used): _____
(A copy of Inverter Nameplate and Manufacturer's Specification Sheet may be substituted)

_____ Rating in kW: _____

Energy Storage Device Capacity (if used): Rating in kW: _____

Fault Current Contribution of Generator: _____ Amps

[If generator type is DC Generator or Solar with Inverter, example – photovoltaic (PV) system, go to Section 5.]

Section 4, Technical Information for Synchronous and Induction Generators

Number of Starts Per Day: _____ Maximum Starting kVA: _____
Generator Operating Power Factor: _____
Generator Grounding Method:

☐ Effectively Grounded ☐ Resonant Grounded
☐ Low-Inductance Grounded ☐ High-Resistance Grounded
☐ Low-Resistance Grounded ☐ Ungrounded

Generator Characteristic Data
(Not needed if Generator Nameplate and Manufacturer's Specification Sheet are provided)

Direct Axis Synchronous Reactance, X_d: _____ P.U. Negative Sequence Reactance: _____ P.U.
Direct Axis Transient Reactance, X'_d: _____ P.U. Zero Sequence Reactance: _____ P.U.
Direct Axis Subtransient Reactance, X''_d: _____ P.U. KVA Base: _____
Inertia Constant, H: _____ P.U.
Excitation Response Ratio: _____
Direct Axis Open-Circuit Transient Time Constant, T'do: _____ Seconds

Direct Axis Open-Circuit Subtransient Time Constant, T"do: _____ Seconds

Section 5, Interconnecting Equipment Technical Data

Will an interposing transformer be used between the generator and the point of interconnection? ☐ Yes ☐ No

Transformer Data (if applicable):

(A copy of transformer Nameplate and Manufacturer's Test Report may be substituted)

Size: _____ KVA. Transformer Primary: _____ Volts ☐ Delta ☐ Wye ☐ Wye Grounded

Transformer Secondary: _____ Volts ☐ Delta ☐ Wye ☐ Wye Grounded

Transformer Impedance: _____ % on _____ KVA Base

Transformer Fuse Data (if applicable):

(Attach copy of fuse manufacturer's Minimum Melt & Total Clearing Time-Current Curves)

At ☐ Primary Voltage ☐ Secondary Voltage

Manufacturer: _____ Type: _____ Size: _____ Speed: _____

Transformer Protection (if not fuse):

Please describe: _____

Generator Circuit Breaker (if applicable):

(A copy of circuit breaker's Nameplate and Specification Sheet may be substituted)

Manufacturer: _____ Type: _____

Continuous Load Rating: _____ **(Amps)** Interrupting Rating: _____ **(Amps)** Trip Speed: _____ **(Cycles)**

Circuit Breaker Protective Relays (if applicable):

(Enclose copy of any proposed Time-Overcurrent Coordination Curves)

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Current Transformer Data (if applicable):

(Enclose copy of Manufacturer's Excitation & Ratio Correction Curves)

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____ /5

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____ /5

Generator Disconnect Switch:

A generator disconnect device (isolation device) must be installed with features as described in the "HECO, HELCO, MECO Distributed Generating Facility Interconnection Standards, Technical Requirements" as set forth in Rule 14 (Paragraph H.1) of the Company's tariff, and which is accessible to Company.

Manufacturer: _____ Type: _____ Catalog No.: _____ Rated Volts: _____ Rated Amps: _____

Single or 3 Phase: _____ Mounting Location: _____

Section 6, General Technical Information

Enclose copy of site single-line diagram showing configuration and interconnection of all equipment, current and potential circuits and protection and control schemes.

Is Single-Line Diagram Enclosed? Yes ☐

Enclose copy of site relay list and trip scheme, which shall include all protection, synchronizing and auxiliary relays that are required to operate the Generating Facility in a safe and reliable manner.

Are Relay List and Trip Scheme Enclosed? Yes ☐

Enclose copy of site three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW) showing potential transformer and current transformer ratios, and details of the Generating Facility's configuration, including relays, meters, and test switches.

Is Three-Line Diagram Enclosed? Yes ☐

Section 7, Installation Details

Installing Electrical Contractor: _____ Firm: _____ License No.: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: Area Code: _____ Number: _____

Installation Date: _____ Interconnection Date: _____

Supply certification that the generating system has been installed and inspected in compliance with the local Building/Electrical code of the county of _____

Generating System Building Permit # (Certificate of Completion or Notice of Electrical Inspection?): _____

Signed (Inspector): _____ Date: _____

(In lieu of signature of Inspector, a copy of the final inspection certificate may be attached)

Section 8, Generator/Equipment Certification

Generating systems that utilize inverter technology must be compliant with *Institute of Electrical and Electronics Engineers IEEE Std 929* and *Underwriters Laboratories UL 1741* in effect at the time this Agreement is executed. Generating systems that use a rotating machine must be compliant with applicable National Electrical Code, Underwriters Laboratories, and Institute of Electrical and Electronics Engineers standards and rules and orders of the Public Utilities Commission of the State of Hawaii in effect at the time this Agreement is executed. **By signing below, the Applicant certifies that the installed generating equipment meets the appropriate preceding requirement(s) and can supply documentation that confirms compliance.**

Signed (Customer-Generator): _____ Date: _____

Section 9, Insurance

Insurance Carrier: _____

EXHIBIT B

GENERATING FACILITY OWNED BY THE CUSTOMER-GENERATOR OR THIRD PARTY OWNER
(To Be Filled Out by Customer-Generator)

1. Generating Facility

a. Compliance with laws and standards. The Generating Facility, Generating Facility design, and Generating Facility design drawings shall meet all applicable national, state, and local laws, rules, regulations, orders, construction and safety codes, and shall satisfy the Company's Distributed Generating Facility Interconnection Standards, Technical Requirements ("Interconnection Standards"), as set forth in Rule 14, Paragraph H.1 of the Company's tariff.

b. Avoidance of adverse system conditions. The Generating Facility shall be designed, installed, operated and maintained so as to prevent or protect against adverse conditions on the Company's system that can cause electric service degradation, equipment damage, or harm to persons, such as:

(i) Unintended islanding.

(ii) Inadvertent and unwanted re-energization of a Company dead line or bus.

(iii) Interconnection while out of synchronization.

(iv) Overcurrent.

(v) Voltage imbalance.

(vi) Ground faults.

(vii) Generated alternating current frequency outside of permitted safe limits.

(viii) Voltage outside permitted limits.

(ix) Poor power factor or reactive power outside permitted limits.

(x) Abnormal waveforms.

c. Specification of protection, synchronizing and control requirements. The Customer-Generator shall provide the design drawings, operating manuals, manufacturer's brochures/instruction manual and technical specifications, manufacturer's test reports, bill of

material, protection and synchronizing relays and settings, and protection, synchronizing, and control schemes for the Generating Facility to the Company for its review, and the Company shall have the right to specify the protection and synchronizing relays and settings, and protection, synchronizing and control schemes that affect the reliability and safety of operation and power quality of the Company's system with which the Generating Facility is interconnected ("Facility Protection Devices/Schemes"). After the implementation of the protection and synchronizing relays and settings, and protection, synchronizing and control schemes, the Company may require changes in the protection and synchronizing relays and settings, and protection, synchronizing and control schemes, when required by the Company's system operations, at the Company's expense.

d. Generating Facility protection. The Customer-Generator is solely responsible for providing adequate protection for the Generating Facility.

e. Customer-Generator Interconnection Facilities.

(i) The Customer-Generator shall furnish, install, operate and maintain interconnection facilities (such as circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes) designated by or acceptable to the Company as suitable for parallel operation of the Generating Facility with the Company's system ("Customer-Generator Interconnection Facilities"). Such facilities shall be accessible at all times to authorized Company personnel.

(ii) The Customer-Generator shall comply with the Company's Interconnection Standards. If a conflict exists between the Interconnection Standards and this Agreement, this Agreement shall control.

(iii) 1) Single-line diagram of the Generating Facility, 2) relay list, trip scheme and settings of the Generating Facility, 3) Generating Facility Equipment List, and 4) three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), which identify the circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes, shall, after having obtained prior written consent from the Company, be attached to this Exhibit B and made a part hereof at the time the Agreement is signed. The single-line diagram shall include pertinent information regarding operation, protection, synchronizing, control, monitoring and alarm requirements. The single-line diagram and three-line diagram shall expressly identify the point of interconnection of the Generating Facility to the Company's system. The relay list, trip scheme and settings shall include all protection, synchronizing and auxiliary relays that are required to operate the Generating Facility in a safe and reliable manner. The three-line diagram shall show potential transformer and current transformer ratios, and details of the Generating Facility's configuration, including relays, meters, and test switches.

f. Approval of Design Drawings. If the Generating Facility's capacity is greater than or equal to 30 kW, the single-line diagram, relay list, trip scheme and settings of the Generating Facility, and three-line diagram shall be approved by a Professional Electrical Engineer registered in the State of Hawaii prior to being submitted to the Company. Such approval shall be indicated by the engineer's professional seal on all drawings and documents.

2. Verification Testing.

a. Upon initial parallel operation of the Generating Facility, or any time interface hardware or software is changed, a verification test shall be performed. A licensed professional engineer or otherwise qualified individual shall perform verification testing in accordance with the manufacturer's published test procedure. Qualified individuals include professional engineers, factory trained and certified technicians, and licensed electricians with experience in testing protective equipment. The Company reserves the right to witness verification testing or require written certification that the testing was performed.

b. Verification testing shall be performed every four years. All verification tests prescribed by the manufacturer shall be performed. If wires must be removed to perform certain tests, each wire and each terminal shall be clearly and permanently marked. The Customer-Generator shall maintain verification test reports for inspection by the Company.

c. Inverters shall be verified once per year as follows: once per year the Customer-Generator shall operate the customer generator system disconnect switch and verify the Generating Facility automatically shuts down and does not reconnect with the Company's system until the Company's system continuous normal voltage and frequency have been maintained for a minimum of 5 minutes. The Customer-Generator shall maintain a log of these operations for inspection by the Company.

d. Any system that depends upon a battery for trip power shall be checked once per month for proper voltage. Once every four (4) years the battery shall either be replaced or have a discharge test performed. The Customer-Generator shall maintain a log of these operations for inspection by the Company.

e. Tests and battery replacements as specified in this section 2 of Exhibit B shall be at the Customer-Generator's expense.

3. Inspection of the Generating Facility.

a. The Company may, in its discretion and upon reasonable notice not to be less than 24 hours (unless otherwise agreed to by the Company and the Customer-Generator), observe

the construction of the Generating Facility (including but not limited to relay settings and trip schemes) and the equipment to be installed therein.

b. Within fourteen days after receiving a written request from the Customer-Generator to begin producing electric energy in parallel with the Company's system, the Company may inspect the Generating Facility (including but not limited to relay settings and trip schemes) and observe the performance of the verification testing. The Company may accept or reject the request to begin producing electric energy based upon the inspection or verification test results.

c. If the Company does not perform an inspection of the Generating Facility (including but not limited to relay settings and trip schemes) and observe the performance of verification testing within the fourteen-day period, the Customer-Generator may begin to produce energy after certifying to the Company that the Generating Facility has been tested in accordance with the verification testing requirements and has successfully completed such tests. After receiving the certification, the Company may conduct an inspection of the Generating Facility (including but not limited to relay settings and trip schemes) and make reasonable inquiries of the Customer-Generator, but only for purposes of determining whether the verification tests were properly performed. The Customer-Generator shall not be required to perform the verification tests a second time, unless irregularities appear in the verification test report or there are other objective indications that the tests were not properly performed in the first instance.

d. The Company may, in its discretion and upon reasonable notice not to be less than 24 hours (unless an apparent safety or emergency situation exists which requires immediate inspection to resolve a known or suspected problem), inspect the Generating Facility (including but not limited to relay settings and trip schemes) and its operations (including but not limited to the operation of control, synchronizing, and protection schemes) after the Generating Facility commences operations.

4. <u>Operating Records and Procedures</u>.

a. The Company may require periodic reviews of the maintenance records, and available operating procedures and policies of the Generating Facility.

b. The Customer-Generator must separate the Generating Facility from the Company's system whenever requested to do so by the Company's System Operator pursuant to Sections 9, 10 and 11 of the Agreement. It is understood and agreed that at times it may not be possible for the Company to accept electric energy due to temporary operating conditions on the Company's system, and these periods shall be specified by the Company's System Operator. Notice shall be given in advance when these are scheduled operating conditions.

c. Logs shall be kept by the Customer-Generator for information on unit availability including reasons for planned and forced outages; circuit breaker trip operations, relay operations, including target initiation and other unusual events. The Company shall have the right to review these logs, especially in analyzing system disturbance.

5. <u>Changes to the Generating Facility, Operating Records, and Operating Procedures</u>.

a. The Customer-Generator agrees that no material changes or additions to the Generating Facility as reflected in the single-line diagram, relay list, trip scheme and settings of the Generating Facility, Generating Facility Equipment List, and three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), shall be made without having obtained prior written consent from the Company, which consent shall not be unreasonably withheld.

b. As a result of the observations and inspections of the Generating Facility (including but not limited to relay list, trip scheme and settings) and the performance of the verification tests, if any changes in or additions to the Generating Facility, operating records, and operating procedures and policies are required by the Company, the Company shall specify such changes or additions to the Customer-Generator in writing, and the Customer-Generator shall, as soon as practicable, but in no event later than thirty (30) days after receipt of such changes or additions, respond in writing, either noting agreement and action to be taken or reasons for disagreement. If the Customer-Generator disagrees with the Company, it shall note alternatives it will take to accomplish the same intent, or provide the Company with a reasonable explanation as to why no action is required by good engineering practice.

(Additional terms and provisions to be added as necessary. Note: This parenthetical phrase should be deleted when the agreement is finalized.)

Generating Facility Equipment List

The Generating Facility shall include the following equipment:

(Specific items to be added as necessary. Note: This parenthetical phrase should be deleted when the agreement is finalized.)

(This Generating Facility Equipment List, together with the single-line diagram, relay list and trip scheme, and three-line diagram (if the Generating Facility's capacity is greater than or equal to 30 kW), should be attached behind Exhibit B. Note: This parenthetical phrase should be deleted when the agreement is finalized.)

EXHIBIT C

INTERCONNECTION FACILITIES OWNED BY THE COMPANY
(To Be Filled Out By Company)

1. Description of Company Interconnection Facilities

The Company will purchase, construct, own, operate and maintain all interconnection facilities required to interconnect the Company's system with the Generating Facility at ___ volts, up to the point of interconnection.

The Company Interconnection Facilities, for which the Customer-Generator agrees to pay, include:

[Need to specify the interconnection facilities. If no interconnection facilities, state "None".]

2. Customer-Generator Payment to Company for Company Interconnection Facilities, Review of Generating Facility, and Review of Verification Testing

The Customer-Generator shall pay to the Company the total estimated interconnection cost to be incurred by the Company (Total Estimated Interconnection Cost), which is comprised of (i) the estimated cost of the Company Interconnection Facilities, (ii) the estimated engineering costs associated with a) developing the Company Interconnection Facilities and b) reviewing and specifying those portions of the Generating Facility which allow interconnected operations as such are described in Exhibit B, and iii) reviewing the verification testing. The following summarizes the Total Estimated Interconnection Cost:

Description	Estimated Cost ($)

[Need to specify the estimated interconnection cost. If no cost, state "None".]

Total Estimated Interconnection Cost $

The Total Estimated Interconnection Cost, which, except as otherwise provided herein, is non-refundable, shall be paid by the Customer-Generator fourteen (14) days after receipt of an invoice from the Company, which shall be provided not less than thirty (30) days prior to start of procurement of the Company Interconnection Facilities.

Within thirty (30) days of receipt of an invoice, which shall be provided within fourteen (14) days of the final accounting, which shall take place within sixty (60) days of completion of construction of the Company Interconnection Facilities, the Customer-Generator shall remit to the Company the difference between the Total Estimated Interconnection Cost paid to date and the total actual

Docket No. 05-0037, D&O No. 22313 Dated March 9, 2006,
Transmittal Letter Dated March 16, 2006.

interconnection cost (Total Actual Interconnection Cost). The latter is comprised of (i) the total costs of the Company Interconnection Facilities, and (ii) the total engineering costs associated with a) developing the Company Interconnection Facilities and b) reviewing and specifying those portions of the Generating Facility which allow interconnected operations as such are described in Exhibit B, and iii) reviewing the verification testing. If in fact the Total Actual Interconnection Cost is less than the payments received by the Company as the Total Estimated Interconnection Cost, the Company shall repay the difference to the Customer-Generator within thirty (30) days of the final accounting.

If the Agreement is terminated prior to the Customer-Generator's payment for the Total Actual Interconnection Cost (or the portion of this cost which has been incurred) or prior to the Company's repayment of the overcollected amount of the Total Estimated Interconnection Cost (or the portion of this cost which has been paid), such payments shall be made by the Customer-Generator or Company, as appropriate. If payment is due to the Company, the Customer-Generator shall pay within thirty (30) days of receipt of an invoice, which shall be provided within fourteen (14) days of the final accounting, which shall take place within sixty (60) days of the date the Agreement is terminated. If payment is due to the Customer-Generator, the Company shall pay within thirty (30) days of the final accounting.

All Company Interconnection Facilities shall be the property of the Company.

3. <u>Operation, Maintenance and Testing Costs</u>

The Company will bill the Customer-Generator monthly and the Customer-Generator will, within 30 days after the billing date, reimburse the Company for any costs incurred in operating, maintaining or testing the Company Interconnection Facilities. The Company's costs will be determined on the basis of outside service costs, direct labor costs, material costs, transportation costs, applicable overheads at time incurred and applicable taxes. Applicable overheads will include such costs as vacation, payroll taxes, non-productive wages, supervision, tools expense, employee benefits, engineering administration, corporate administration, and materials handling. Applicable taxes will include the Public Service Company Tax, and Public Utility Fee.

Superseding Sheet No. 39C-1
Effective June 17, 2005

REVISED SHEET NO. 39C-1
Effective March 10, 2006

APPENDIX III

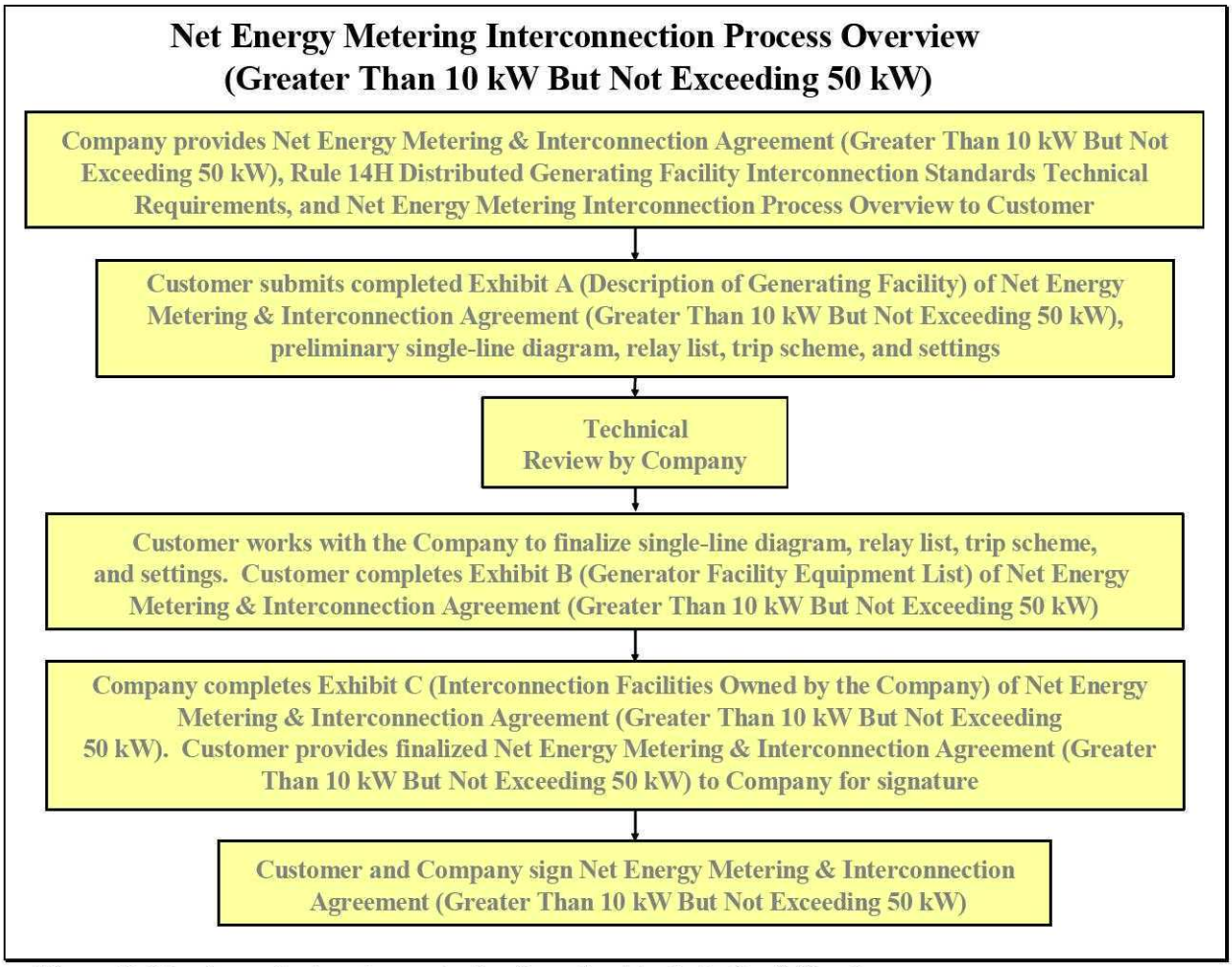
NET ENERGY METERING INTERCONNECTION PROCESS OVERVIEW

1. Steps in the Interconnection Process

a. The interconnection process will generally be initiated when a Customer approaches or contacts the Company to discuss the procedure involved to interconnect an eligible Net Energy Metering Generating Facility that meets the eligibility requirements set forth in the Company's Rule 18, Section A, and operate it in parallel with the Company's system. For eligible Generating Facilities with a capacity of 10 kW or less, the Company will provide the Customer with the Net Energy Metering Agreement 10 kW or Less (Appendix I). The Customer shall submit the completed agreement and a single-line diagram of the Generating Facility's electrical interconnection to the Company's system.

For eligible Generating Facilities with a capacity greater than 10 kW but not exceeding 50 kW, the Customer shall follow the procedure described in part b.

b. The following flowchart provides for illustrative purposes the major steps in the finalization of a Net Energy Metering Interconnection Agreement for eligible Net Energy Metering Generating Facilities with a capacity greater than 10 kW but not exceeding 50 kW:



c. The activities in each step shown in the flowchart include the following:

Step 1: The Customer is provided with the Rule 14H Distributed Generating Facility Interconnection Standards Technical Requirements (Rule 14H - Appendix I), Net

Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW) (Appendix II), and Net Energy Metering Interconnection Process Overview (Appendix III). These documents normally will be transmitted to the Customer within 5 business days of receiving a Customer request.

Step 2: The Customer submits a completed Exhibit A to the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW) (Description of Generating Facility), and a preliminary single-line diagram, relay list, trip scheme and settings, and three-line diagram (required in specified circumstances), which is the information required to be provided pursuant to Section 1.e.(iii) of Exhibit B to the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW). The Customer will also provide the Company with items required under the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW) that are used in determining the protection, synchronizing and control requirements, such as the operating manuals, manufacturer's brochures/instruction manual and technical specifications, manufacturer's test reports and bill of material, as referred to in Section 1.c. of Exhibit B to the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW).

Step 3: The Company does the technical review of the information submitted by the Customer in Step 2. The technical review process is discussed in Section 2 and 3 of this Net Energy Metering Interconnection Process Overview.

Step 4: The Customer and Company work together to finalize the single-line diagram, relay list, trip scheme and settings, and three-line diagram (required in specified

circumstances). After the finalization of the single-line diagram, relay list, trip scheme and settings, and three-line diagram (required in specified circumstances), the Customer will make any revisions necessary to Exhibit A to the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW) and resubmit the exhibit to the Company. The Generating Facility Equipment List, identifying equipment, space and/or data at the Generating Facility to be provided by the Customer for use in conjunction with the Company Interconnection Facilities (which is part of Exhibit B to the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW)), is also completed by the Customer. (If necessary, the Company will provide assistance to the Customer to complete the Generating Facility Equipment List.)

Step 5: The Company completes the identification of the Interconnection Facilities owned by the Company, which are identified in Exhibit C to the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW). The Company shall complete the identification of the Interconnection Facilities owned by the Company within 15 business days of the completion of all activities specified in Step 4 above.[1] The finalized Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW) then is completed by the Customer and provided to the Company for review and execution.

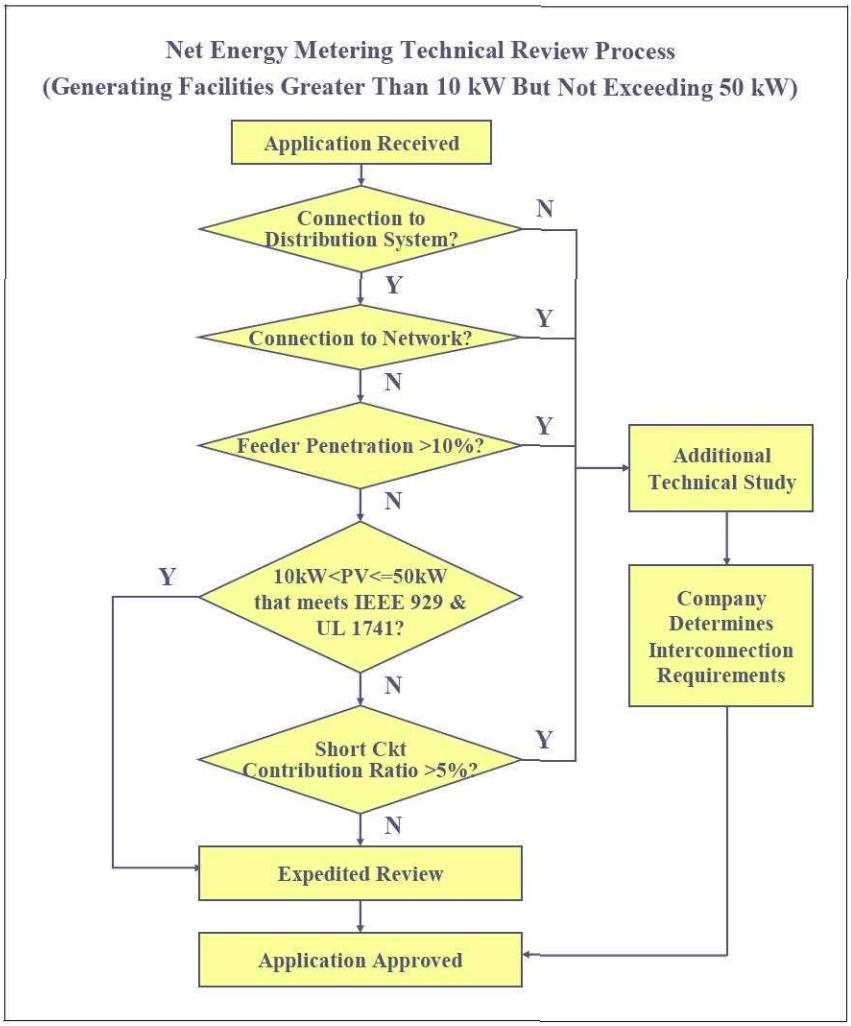
[1] The Company, for good cause, may modify the time limit. If the Company modifies the time limit, it shall notify the Customer in writing of the modification and the cause for the modification.

Step 6: The Customer and the Company sign the Net Energy Metering and Interconnection Agreement (Greater Than 10 kW But Not More Than 50 kW).

d. The Company and Customer shall mutually agree to a schedule by which the interconnection facilities will be constructed and when the Customer's Generating Facility shall be connected to the Company's electric system. The interconnection facilities are project-specific, and the time to complete the Generating Facilities will depend on the complexity of the required interconnection facilities.

2. Technical Review Process

a. The following flowchart provides for illustrative purposes the major steps in the Net Energy Metering technical review process for eligible Generating Facilities with a capacity greater than 10 kW but not exceeding 50 kW:



b. The degree of technical review required for a request for interconnection, and the extent to which additional technical study will be needed, will depend on factors such as (1) complexity of the utility system that the Generating Facility is proposed to be interconnected to that must be modeled (i.e., the distribution, subtransmission or transmission system); (2) connection to a network system; (3) feeder penetration greater than 10%; (4) type of generating facility (i.e., photovoltaic or wind); and (5) short circuit contribution ratio greater than 5%. For example, photovoltaic systems less than 50 kW interconnecting to a radial distribution feeder with an aggregate capacity of distributed generating facilities less than 10%, using inverters that meet UL 1741, or latest version (the Standard for Inverters, Converters and Controllers for Use in Independent Power Systems) and IEEE 929-2000, or latest version (the Recommended Practice for Utility Interface of Photovoltaic Systems) would qualify for an expedited review process. Self-excited synchronous generators present more interconnection issues.

c. Following submission by the Customer of all necessary information regarding the proposed Generating Facility, the Company will perform an initial technical screening of the impact of the Generating Facility on the Company's system, for which a charge will not be assessed. The Company shall respond to the Customer with the findings of the initial technical screening within 15 business days.[2] If the Company determines

[2] The Company, for good cause, may modify the time limit. If the Company modifies the time limit, it shall notify the Customer in writing of the modification and the cause for the modification.

that additional technical study of the interconnection proposal is necessary, then the Company will notify the Customer of the Company's target date to complete any required additional technical study.

3. The Need for Additional Technical Study

a. The Company's engineering department will determine if additional technical study of the interconnection proposal is necessary. The need for additional technical study of the interconnection proposal may be triggered by considerations such as: (1) complexity of the utility system that the Generating Facility is proposed to be interconnected to that must be modeled (i.e., the distribution, subtransmission or transmission system); (2) connection to a network system; (3) feeder penetration greater than 10%; (4) type of generating facility (i.e., photovoltaic or wind); and (5) short circuit contribution ratio greater than 5%.

b. Generally, the Company will perform the analyses included in the additional technical study. The analyses or parts of the analyses may be contracted to an outside consultant specializing in such analyses for complex situations or in situations where the Company's engineering department does not have available resources to conduct the analyses in a time frame mutually agreeable to both the Company and the Customer.

c. The scope and cost of the analyses will depend on the complexity of the utility system that the Generating Facility is interconnected to which must be modeled, and the degree to which the Generating Facility will affect the utility system. Examples of the analyses and/or reviews that fall within the Additional Technical Study box in the flowchart

illustrating the technical review process include: (1) Feeder Load Flow; (2) Dynamic Stability Analysis; (3) Transient Overvoltage; and (4) Short Circuit and Relay Coordination.

d. The Customer will be responsible for the cost of any additional technical study (or such lesser amount as the Company may specify to facilitate the processing of interconnection requests for similarly situated Generating Facilities) that needs to be performed in order to evaluate the impacts of the Generating Facility's interconnection to the utility system. A cost estimate and schedule for the analyses to be done as part of the additional technical study will be provided to the Customer before the overall study is started. This generally would be done when the Company responds to the Customer with the findings of the initial technical screening.

4. Resolution of Disputes

a. If there is a dispute between the Customer and the Company as to whether additional technical study is required, or as to the scope and cost of the study, then the Company generally would use the following procedures: (1) The Company's Contact Person (who generally would be from the Company's energy services department) would inform the Customer of the reasons for and scope of the study required; (2) If the Customer disagrees with the conclusion, then the Customer would meet with representatives from the Company's engineering department to discuss the matter; (3) If the Customer continues to disagree with the conclusion, then the Customer would write to the Company's Contact Person explaining the position of the Customer, and the Company's

Contact Person would respond in writing within 15 business days[3] (so that any dispute is reduced to writing); (4) If the parties continue to have a dispute, then authorized representatives from the Company and Customer (having full authority to settle the dispute) would meet in Hawaii (or by telephone conference) and attempt in good faith to resolve the dispute; and (5) If the parties continue to have a dispute, then the parties may engage in a form of alternative dispute resolution agreeable to both parties, or a party may request that the Public Utilities Commission of the State of Hawaii ("Commission") resolve the matter by filing a written request with the Commission attaching the relevant information and correspondence, and serving the request on the other party and the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs of the State of Hawaii.

b. If there is a dispute as to the need for interconnection equipment, protective devices or control systems, then the Company generally would use the following procedures: (1) The Company's Contact Person (who generally would be from the Company's energy services department) would inform the Customer of the reasons for the interconnection equipment/protective devices/control systems; (2) If the Customer disagrees with the conclusion, then the Customer would meet with representatives from the Company's engineering department to discuss the matter; (3) Additional analyses may be conducted

[3] The Company, for good cause, may modify the time limit. If the Company modifies the time limit, it shall notify the Customer in writing of the modification and the cause for the modification.

by the Company at the request of a Customer that questions the need for particular interconnection equipment/protective devices/control systems if the Customer pays for the analyses; (4) If the Customer continues to disagree with the conclusion, then the Customer would write to the Company's Contact Person explaining the position of the Customer, and the Company's Contact Person would respond in writing within 15 business days[4] (so that any dispute is reduced to writing); (5) If the parties continue to have a dispute, then authorized representatives from the Company and Customer (having full authority to settle the dispute), would meet in Hawaii (or by telephone conference) and attempt in good faith to resolve the dispute; and (6) If the parties continue to have a dispute, then the parties may engage in a form of alternative dispute resolution agreeable to both parties, or a party may request that the Commission resolve the matter by filing a written request with the Commission attaching the relevant information and correspondence, and serving the request on the other party and the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs of the State of Hawaii.

c. Customers are not required to exhaust the Company's dispute resolution procedures set forth above before proceeding under provisions applicable to informal or formal complaints under the Rules of Practice and Procedure before the Public Utilities

[4] The Company, for good cause, may modify the time limit. If the Company modifies the time limit, it shall notify the Customer in writing of the modification and the cause for the modification.

Commission, currently codified in Title 6, Chapter 61, Subchapter 5 of the Hawaii Administrative Rules. If an informal or formal complaint proceeding is initiated, the Customer would write to the Company's Contact Person and state whether the Customer desires to continue the Company's dispute resolution procedures.

Hawaiian Electric Co., Inc.
NET ENERGY METERING PROJECTIONS (2006 - 2011)
August 2006 Sales Forecast

	Installs				Annual		
	Residential ≤ 10 kW		Commercial > 10 kW ≤ 50kW		kWh Sales Reduction		
	Quant.	KW	Quant.	KW	Residential ≤ 10 kW	Commercial >10 kW ≤ 50kW	Total
2007	78	156	17	850	455,929	1,223,694	1,679,623

Note: NEM sales reduction assumes evenly ramped installations over the year.

Assumptions:

1. 5 peak exposure sun-hours per day
2. -15% for DC to AC conversion
3. 1.5 systems per week @ 2 kW
4. 1 system per month @ 50 kW plus 5 Department of Education systems @ 50 kW

CA-IR-319

Ref: HEI SEC Form 10Q, May 04, 2007, page 51, (Earthquake Outage Response).

According to the Annual Report, "Following the island-wide outage, HECO restored power to customers in a careful, methodical manner to further protect its system, and as a result power was restored to over 99% of its customers within a period of time ranging from approximately 4 ½ to 18 hours." Please provide the following information:

a. A detailed monthly breakdown of overtime costs, contractor charges and any other incremental expenses incurred by HECO to restore power and otherwise respond to the earthquake outages.

b. Describe any damage that occurred to HECO plant assets and explain how repairs are replacements were made, indicating expense and capitalized costs by NARUC account for such activities.

c. Provide a breakdown by RA of overtime hours that were incurred due to earthquake response and power restoration efforts.

d. Identify, describe and quantify any test year expenses or capital additions that were caused by the October 2006 earthquake or HECO's response to same.

HECO Response:

The following are HECO T-6's response to CA-IR-319.

a. All labor overtime and material expenses in Production O&M, related to restoring power and responding to the October 15, 2006 earthquake incident, were incurred in the month of October. Non-labor contractor expenses of $812.47 were recorded in November 2007 for

Waiau 8 field ground troubleshooting and Waiau 9 combustion turbine controls troubleshooting.

Because of HECO's Standard Labor Rate scheme, certain assumptions must be made to arrive at an approximate total of the overtime cost related to the Production O&M response:

1. Merit employees, other than supervisors of bargaining unit employees, do not receive overtime pay. The assumption is that all non-supervisory merit overtime cost is zero.
2. The incident occurred on a Sunday. All bargaining unit employees who responded and charged time to the incident received premium pay for all hours worked on October 15, 2007.
3. The regularly scheduled rotating shift operators charged their time to their regular work shift and did not charge time to the earthquake incident work order numbers. Overtime hours may have been incurred by these regular shift employees if they worked beyond their scheduled shift, However, because of the difficulty involved in isolating the overtime for these employees attributable to the October 15 response, it is assumed that there was no overtime for regular shift operators attributable to the earthquake response.
4. Bargaining unit employees and one supervisor charged 23.50 labor hours to earthquake related work on two days following the earthquake. HECO's work management system does not call for separation of those labor hours into straight time or overtime. The assumption is that none of these hours were overtime hours.
5. Merit employees in Production O&M charged an additional 195 hours in the days following the event in support of investigative activities. As any overtime related to these labor hours would constitute unpaid merit overtime hours, these labor hours were ignored.

6. Overhead costs identified for the labor hours charged to the earthquake response work orders were pro-rated based on a percentage of the total overhead costs charged to the earthquake response work orders.

Given the assumptions above, Attachment 1 to this response summarizes the earthquake-related labor overtime costs, contractor costs, and material costs incurred by Production O&M on October 15, 2006.

b. HECO is able to isolate the following items in Production O&M as damage due to the earthquake event (refer also to Attachment 1 to this response):

1. Kahe 5 Low Pressure (LP) turbine rupture diaphragms failed at unit trip. These rupture diaphragms were replaced on October 15, 2006. The material cost was $298.24. Labor charges were included in the overtime summary.
2. Waiau 8 experienced an Exciter Field Ground which required troubleshooting. A contractor was called in to assist with troubleshooting. This outside service expense totaled $400.96.
3. Waiau 9 experienced a controls system problem. A contractor was called in to assist with troubleshooting. This outside service expense totaled $411.51.

   All charges were to NARUC 512. There were no charges from Production O&M to capital.

c. Please refer to Attachment 1 to this response for the overtime labor hours by RA. Also, the following lists the merit unpaid overtime hours recorded on October 15, 2006 (not included in Attachment 1):

RA	Unpaid Merit OT
PIB	37.00
PID	7.50
PIH	13.00
PIM	17.00
PIO	32.00
PIP	30.50
PIW	12.00
TOTAL	149.00

d. No test year expenses or capital additions were caused by the October 2006 earthquake.

HAWAIIANELECTRIC COMPANY, INC.
2007 RATE CASE
10-15-06 Earthquake Incident OT & Non-Labor Expenses

	PHB		PIH		PIK		PIL		PIM	
	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST
Overtime Hours & Cost	14.00	$ 447	12.50	$ 483	181.25	$ 6,065	184.00	$ 6,629		
Contractor Costs										
Materials Costs										$ 298
Pro-rated Labor True-up		$ (87)		$ (94)		$ 769		$ 866		
Pro-rated PS Clearing (2)		$ 71		$ 77		$ 1,523		$ 1,672		
TOTAL	14.00	$ 431	12.50	$ 466	181.25	$ 8,357	184.00	$ 9,167		$ 298

	PIN		PIT		PIW		PIX		TOTAL	
	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST
Overtime Hours & Cost	21.50	$ 838	63.50	$ 2,418	145.91	$ 5,015	47.50	$ 1,743	670.16	$ 23,638
Contractor Costs (1)						$ 812				$ 812
Materials Costs										$ 298
Pro-rated Labor True-up		$ (163)		$ 161		$ (330)		$ (115)		$ 1,007
Pro-rated PS Clearing (2)		$ 133		$ 566		$ 935		$ 325		$ 5,301
TOTAL	21.50	$ 808	63.50	$ 3,145	145.91	$ 6,432	47.50	$ 1,953	670.16	$ 31,056

Note (1): Contractor expense were recorded in November 2007 to troubleshoot W8 & W9 (ref CA-IR-319, page 1 to 2). All other labor and material expenses were recorded in October 2007.

(2): Approximately 88% of Power Supply on-cost clearing cost remains in Production O&M and is not reclassed to A&G (G/L Code Adjustment)

CA-IR-319

Ref: HEI SEC Form 10Q, May 04, 2007, page 51, (Earthquake Outage Response).

According to the Annual Report, "Following the island-wide outage, HECO restored power to customers in a careful, methodical manner to further protect its system, and as a result power was restored to over 99% of its customers within a period of time ranging from approximately 4 ½ to 18 hours." Please provide the following information:

a. A detailed monthly breakdown of overtime costs, contractor charges and any other incremental expenses incurred by HECO to restore power and otherwise respond to the earthquake outages.

b. Describe any damage that occurred to HECO plant assets and explain how repairs are replacements were made, indicating expense and capitalized costs by NARUC account for such activities.

c. Provide a breakdown by RA of overtime hours that were incurred due to earthquake response and power restoration efforts.

d. Identify, describe and quantify any test year expenses or capital additions that were caused by the October 2006 earthquake or HECO's response to same.

HECO Response:

The following are HECO T-7's response to CA-IR-319.

a. As explained in more detail, below, in order to facilitate its response to this request, HECO has made certain assumptions regarding the overtime incurred by the T&D area in connection with the earthquake restoration efforts. The overtime costs are shown in Attachment 1. There were no overtime costs beyond October 15, 2006 and no contractor charges or any other incremental expense for the restoration efforts that were completed on October 16, 2006.

   1. The overtime analysis was limited to the response of the non-shift bargaining unit employees who worked outside of their normal working hours on October 15, 2006.

Because this incident occurred on a Sunday, non-shift employees responding to assist in the restoration efforts received premium pay.

2. Merit employees, other than supervisors of bargaining unit employees, do not receive overtime pay. The assumption is that all non-supervisory merit overtime cost is zero.
3. The dispatchers work on rotating shifts and overtime hours may have been incurred by these regular shift employees if they worked beyond their scheduled shift, however, because of the difficulty involved in isolating the overtime for these employees attributable to the October 15 response, it is assumed that there was no overtime for regular shift dispatchers.
4. Though the response to outages that occurred after the earthquake continued on Monday, October 16, 2006, this was the start of the work week and, unless the employees worked an extended day, no overtime expenses would be incurred. However, because of the difficulty involved in isolating overtime expenses attributable to the October 15 response, it was presumed that there was no overtime incurred for the earthquake response from October 16 and beyond.
5. No contractor costs were incurred in response to the October 15, 2006 earthquake outage.

b. On the day of the earthquake, only the Koolau – Wailupe #1 46 kV subtransmission line tripped out of service. The inspectors found a broken insulator that needed to be repaired. Although it was not specifically determined that the failed insulator was the result of the earthquake, HECO includes the expenses for this repair in response to this IR because the line tripped out of service during the earthquake event. The expenses to repair the line are shown in Attachment 2.

c. See response to a.

d. No test year capital additions or test year expense estimates were caused by the October 2006 earthquake.

HAWAIIANELECTRIC COMPANY, INC.
2007 RATE CASE
10-15-06 Earthquake Incident OT Expenses

	PDJ		PDL		PDP		PDS	
	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST
Overtime Hours & Cost	185.00	$ 8,006	60.50	$ 3,049	12.50	$ 533	36.50	$ 1,310
Contractor Costs								
Materials Costs								
Pro-rated T&D Clearing (1)		$ 5,431		$ 1,796		$ 366		$ 1,058
TOTAL	185.00	$ 13,438	60.50	$ 4,846	12.50	$ 899	36.50	$ 2,368

	PRC		PRI		PRR		PRS		TOTAL	
	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST	OT HRS	COST
Overtime Hours & Cost	122.00	$ 4,941	80.00	$ 3,317	100.5	$ 3,953	514.05	$21,844	1,111.05	$ 46,954
Contractor Costs										$ -
Materials Costs										$ -
Pro-rated T&D Clearing (1)		$ 3,572		$ 2,344		$ 2,943		$14,579		$ 32,090
TOTAL	122.00	$ 8,513	80.00	$ 5,662	100.5	$ 6,897	514.05	$36,423	1,111.05	$ 79,044

Note (1): Approximately 78.8% of T&D on-cost clearing remains in T&D O&M and is not reclassed to A&G (G/L Code Adjustment)

HAWAIIANELECTRIC COMPANY, INC.
2007 RATE CASE
10-15-06 Earthquake Incident - System Repairs Koolau-Wailupe #1 46kV Line

Labor Expense

Activity	Hours	Direct Cost	On-Cost
Inspection	30.5	$ 1,316	$ 892
Install	12.5	$ 567	$ 366
Removal	10	$ 454	$ 293
Changeover	10	$ 454	$ 293
Total	63	$ 2,792	$ 1,843

Materials Costs
(46kV insulator and associated fastners) $140

Note (1): Approximately 78.8% of T&D on-cost clearing remains in T&D O&M and is not reclassed to A&G (G/L Code Adjustment)

CA-IR-320

Ref: Response to CA-IR-35 (2007 Expense Budget).

a. Please state whether any adjustments beyond the listed compensation item exclusions, normalizations and the increased Ellipse migration expenses have been made to the 2007 to determine the budget actually being used by the Company for internal cost management monitoring purposes in 2007.

b. If any updated or revised 2007 operating budgets have been prepared for internal cost management/monitoring purposes, please provide complete, detailed copies of all such updates/revisions and explain the primary differences between such budgets and the rate case forecast (beyond differences already described in CA-IR-35.

c. Provide complete copies of the most detailed available year to-date 2007 budget/actual expense variance reports and variance explanations in the form prepared for review by the Vice President level of management (See bottom row of CA IR-21, page 3 of 15).

d. Provide complete copies of the most recently prepared year to-date 2007 budget/actual expense variance reports and variance explanations in the form prepared for review by the President and CEO of HECO (See top row of CA-IR-21, page 3 of 15).

e. Provide complete copies of the most detailed available year to-date 2007 budget/actual expense variance reports and variance explanations in the form prepared for review by the HECO or HEI Board of directors.

HECO Response:

a. Yes. See response to b. below.

b. As explained in HECO T-1 (pages 27-28) and HECO T-10 (pages 39-41), the O&M expenses for this 2007 test year rate case are based on the Company's 2007 O&M expense budget prepared earlier in 2006, with issue simplification, budget and normalization adjustments identified in the testimonies and exhibits. (The filed Pillar report workpapers relate to the O&M expense budget prepared earlier in 2006.) The HEI/Board approved budget is based on the earlier O&M expense budget, with the same budget adjustments (plus an Ellipse adjustment identified in the response to CA-IR-35.a and other changes amounting to a negative $228,000 for items such as the impact of lower standard labor rates and changes in O&M expense estimates related to capital projects), but without the issue

simplification and normalization adjustments. The final operating budget is the HEI/Board budget re-run through Pillar to reflect revised standard labor rates, with an adjustment to equate O&M expenses to the same level as those in the HEI/Board approved budget. See response to CA-IR-284.

HECO objects to providing internal management reports on the grounds that: 1) these documents are privileged and confidential and should not be provided on public policy grounds, and 2) explanations generally would be required as to how unadjusted budget numbers relate to test year numbers to be meaningful, which would be unduly burdensome to provide.

Without waiving its objections, HECO is providing, under Amended Protective Order No. 23378 issued June 4, 2007, Attachment 1 which is an explanation of the primary differences between the rate case 2007 test year O&M expense estimate and the operating budget being used by the Company for internal cost management purposes.

c. As addressed below, HECO objects to providing internally distributed reports and narrative discussions of the reasons for budget variances, on the grounds that: 1) these documents are privileged and confidential and should not be provided on public policy grounds, and 2) explanations generally would be required as to how unadjusted budget numbers relate to test year numbers to be meaningful, which would be unduly burdensome to provide.

Without waiving the foregoing objections, HECO is providing, under Amended Protective Order No. 23378 issued June 4, 2007, the following attachments which were prepared as part of the internal O&M expense management process:

i. Attachment 2 showing year-to-date May 2007 O&M expense variance explanations. It is the most recently prepared year-to-date O&M variance

explanations for review by the President and CEO and the Vice President level of management.

ii. Attachment 3 showing year-to-date May 2007 O&M expense variance explanations, the most recently prepared year-to-date O&M variance explanations for review by the President and CEO of HECO. Information on Attachment 3 that is not related to O&M expenses for HECO has been redacted.

iii. Attachment 4 showing year-to-date April 2007 O&M expense variance explanations, the most recently year-to-date O&M variance explanations for review by the HECO and HEI Board of Directors. Information on Attachment 4 that is not related to O&M expenses for HECO has been redacted.

HECO objects to providing internally generated variance reports. Explanations of budget variances are communicated through various media ranging from telephone conversations, brief and informal notes, to more standard write-ups containing explanations in "bullet point" form. The explanations are intentionally brief in nature since Company personnel understand the context behind the drivers of the variances and the Company believes that it is not cost effective to spend the time to generate elaborate variance explanations. If the Company is required to produce internally generated variance information at the time of rate cases, then the information will have to be generated in a fashion suitable for external publication, rather than in its present form used for internal management purposes. This would be unduly burdensome, as well as counter productive.

The explanations are intended solely to be a management tool, and are not required to be submitted to management in a form to be transmitted outside the Company. Were these documents subject to review in a regulatory proceeding, their candid nature and, therefore,

their value would diminish significantly in the future, and HECO's internal communications would be seriously hampered.

This information request basically requests unlimited access to internal reports or documents submitted in connection with the operating forecast and variances from the operating forecast. The information request fails to balance the Consumer Advocate's need for this information against the Company's need to manage. (HECO does not object to providing actual 2007 results, and has responded to numerous information requests related to such actual results for 2007.)

For example, the Federal Freedom of Information Act ("FFIA"), codified at 5 U.S.C. Section 552, and the Uniform Information Practices Act (modified), codified at H.R.S. Ch. 92F, contains broad disclosure requirements based on the public's interest in open government. However, even such broad disclosure acts provide exceptions from the broad disclosure requirements that are intended to permit the efficient and effective functioning of government. It is common in such acts to protect from disclosing pre-decisional agency memoranda and notes, and/or government records that, by their nature, must be confidential in order to avoid the frustration of a legitimate government function. This is similar to the "deliberative process privilege" recognized by the Pennsylvania Public Utility Commission with respect to its own internal staff reports. See Pennsylvania Public Utility Commission v. West Penn Power Company, 73 Pa PUC 122 (July 20, 1990).

HECO also objects to disclosure of the requested information under a protective order. The value of the internal management reports will be diminished for the reasons stated above if the Company is required to provide the reports to the Consumer Advocate, even if the reports are provided pursuant to a protective order.

Providing variance to budget explanations was raised as an issue by the Consumer Advocate in MECO's 1992-1993 test year rate case, Docket No. 7000. MECO (and essentially HECO and HELCO, or the Companies) and the Consumer Advocate reached agreement in Docket No. 7000 to separate from Docket No. 7000 the Budget Preparation Process/Budget Issues, including the type and amount of information to be provided to the Consumer Advocate between rate cases. MECO and the Consumer Advocate agreed to work together outside of Docket No. 7000 to resolve the budgeting and reporting issues. As a result of the discussions to resolve the issues, among other things, the Companies agreed to provide detailed recorded data files and forecast detailed data files for the link year as part of each subsequent rate case filing. (See transmittal letter dated January 29, 2007 in this proceeding indicating such information was provided to the Commission, Consumer Advocate and Department of Defense). In this case, HECO has provided (as part of its direct testimonies filed in the rate case) explanations of variances by activity, above a threshold, between the budget prepared for the test year and the full year actual information. (See for example HECO-WP-601, HECO-WP-801, and HECO-1002, pages 2-3, submitted in this proceeding). HECO also has responded to numerous specific information requests regarding its test year estimates, and its actual expenses from earlier years. Thus, HECO has provided a significant amount of information as a result of prior agreements in order for the Consumer Advocate and the Commission to determine the reasonableness of HECO's test year expenses.

d. See response to c. above.

e. See response to c. above.

Confidential Information
Deleted Pursuant To
Amended Protective Order No. 23378

CA-IR-320
DOCKET NO. 2006-0386
ATTACHMENTS 1-4

Attachments 1-4 contain confidential information and are being provided subject to

Amended Protective Order No. 23378, dated June 4, 2007.

CA-IR-321

Ref: Response to CA-IR-188 (Schedules J & H Additional Factor).

Please explain the basis for the "additional factor" of 1.5 for Schedule J and 1.25 for Schedule H, indicating how the value was derived and applied in calculating test year projected customer levels for these rate schedules. Unless the factors were judgmentally determined, provide supporting calculations used to derive such factors.

HECO Response:

The factors were judgmentally determined based on analysis of recent trends in the number of customers for Schedules J and H. The exponential smoothing models were predicting rates of change that appeared different from those experienced in recent years for Schedules J and H.

The average rate of growth in the number of Schedule J customers during 2002 – 2005 was approximately 1.5% per year (see HECO-208). In addition, June year-to-date ("YTD") 2006, when the forecast was developed, Schedule J customers had experienced 1.6% growth over the same period in 2005. Growth rates in the exponential smoothing models for 2006 appeared too low, ranging from 0.7% to 1.0% (see HECO Response to CA-IR-188). Applying a factor of 1.5 to model growth rates resulted in an annual growth rate for Schedule J customers that appeared more consistent with recent historical data.

Similarly, for Schedule H, the results of the exponential smoothing models appeared to predict rates of decline that were too low for 2006. June YTD 2006 the number of Schedule H customers had decreased by 12.4% while the model results were predicting decreases from 7.3% to 9.7% (see HECO Response to CA-IR-188). Applying a factor of 1.25 to the model growth rates resulted in 2006 rate of decrease of 11.4%, which represents a more reasonable estimate of the expected decrease in 2006.

CA-IR-322

Ref: Response to CA-IR-220, HECO-WP-404, page 18, HECO-WP-406, page 1.

Part (b) of CA-IR-220 asked the Company to provide the operating minimum capacity and normal top load capacity that were used in the direct testimony production simulation. The response to the question indicated the capacities that were used in the updated production simulation. It is unclear if this is an indication of what was used in the direct testimony production simulation.

a. If the answer to this question is that what was used in the updated production simulation was the same as the direct testimony production simulation, please explain accordingly.

b. If the response to part (a) of this information request is no, please provide the operating minimum capacity and normal top load capacity that were used in the direct testimony production simulation for the following units:

	HECO-WP-404, Page 18		HECO-WP-406, Page 1	
Generating Unit	Operating Minimum (MW)	Normal Top Load (MW)	Operating Minimum (MW)	Normal Top Load (MW)
Waiau 6	22.5	55.6	22.5	53.7
Waiau 7	32.7	88.1	32.7	83.2
Waiau 8	32.7	88.1	32.7	86.2
Waiau 9	13.9	51.9	6.0	52.9
Waiau 10	13.9	49.9	6.0	49.9
Kahe 1	27.7	88.2	32.6	82.3
Kahe 2	27.9	86.3	32.8	82.4
Kahe 3	27.8	88.2	32.7	86.3
Kahe 4	27.8	89.2	32.7	85.3
Kahe 5	50.4	134.7	49.8	134.7
Kalaeloa Additional Capacity	0.0	29.0	0.0	28.0

HECO Response:

a. The updated production simulation did not use operating minimum and normal top load ratings that were identical to the direct testimony production simulation. HECO's response to CA-IR-220, part (b) stated that the updated production simulation ratings were provided in response to CA-IR-214. To facilitate comparison of the two sets of assumptions, HECO provided the following table on page 1 of the response to CA-IR-214 (Note: "DT" = Direct Testimony):

Unit	Operating Minimum (Net MW)		Normal Top Load (Net MW)	
	Updated ProdSim	DT ProdSim	Updated ProdSim	DT ProdSim
H8	22.3	22.3	53.4	52.9
H9	22.3	22.5	54.4	54.4
W3	22.3	22.1	46.6	46.2
W4	22.3	22.3	46.6	46.4
W5	22.5	22.6	54.5	54.6
W6	22.5	22.5	53.5	53.7
W7	32.6	32.7	82.9	83.2
W8	32.8	32.7	86.1	86.2
W9	5.9	6.0	52.9	52.9
W10	5.9	6.0	49.9	49.9
K1	32.5	32.6	82.1	82.3
K2	32.7	32.8	82.1	82.4
K3	32.3	32.7	86.1	86.3
K4	32.3	32.7	85.3	85.3
K5	50.7	50.4	134.3	134.7
K6	50.0	49.8	134.4	133.9
Total	441.9	442.7	1185.1	1185.3

b. Please refer to the response for part a.

CA-IR-323

Ref: HECO-WP-412, page 7.

HECO-WP-412, page 7 indicates that the direct testimony production simulation was modeled using the Monte Carlo technique. Please provide the number of Monte Carlo iterations that were used in the production simulation.

HECO Response:

HECO used 100 Monte Carlo iterations for both the direct testimony production simulation and the updated production simulation.

CA-IR-324

Ref: Response to CA-IR-214, page 47.

Page 47 of the response to CA-IR-214 contains the updated HECO-WP-412, page 7. This workpaper indicates that the updated production simulation was modeled using the Monte Carlo technique. Please provide the number of Monte Carlo iterations that were used in the updated production simulation.

HECO Response:

HECO used 100 Monte Carlo iterations for both the direct testimony production simulation and the updated production simulation.

Ref: Response to CA-IR-214, T-5.

The response to CA-IR-214 indicates that an updated production simulation was run. Updated exhibits and workpapers for T-4 were provided.

a. Does the company plan to update the exhibits and workpapers from witness T-5, Daniel S. W. Ching?

b. If so, please provide updated exhibits and workpapers at this time.

c. If not, please explain.

HECO Response:

a. Yes. Purchased power expenses have been updated using the updated production simulation run.

b. See HECO T-5, June 2007 updated exhibits and workpapers filed with the Consumer Advocate and the Department of Defense on June 15, 2007.

c. Not applicable.

CA-IR-326 **Ref: Response to CA-IR-214, T-9.**

The response to CA-IR-214 indicates that an updated production simulation was run. Updated exhibits and workpapers for T-4 were provided.

a. Does the company plan to update the exhibits and workpapers from witness T-9, Alan K. C. Hee?
b. If so, please provide updated exhibits and workpapers at this time.
c. If not, please explain.

HECO Response:

a. Yes, the exhibits and workpapers for the ECAC in T-9 resulting from the updated production simulation were updated.

b. Refer to HECO's June 2007 Update filed on June 15, 2007.

c. Not applicable.

CA-IR-327

Ref: HECO-WP-412, pages 18 – 19, Response to CA-IR-214, pages 58 – 59.

HECO-WP-412, pages 18 – 19 contains the Thermal Performance Summary input to the Company's direct testimony production simulation. The response to CA-IR-214, pages 58 – 59 contains the Thermal Performance Summary input to the Company's updated production simulation. Both summaries indicate that the Company modeled each generating unit or power purchase using 4 capacity states.

a. Please explain the significance and purpose of modeling 4 capacity states.

b. Please explain how capacity states 2 and 3 were determined, including all calculations and supporting documentation.

HECO Response:

a. The four capacity states are used in conjunction with the A-B-C coefficients of the heat rate I/O curve to calculate the incremental heat rate for four operating segments. Attached are selected pages of training material from P Plus Corporation, reproduced with written permission. The high-level functional description on page 30 provides context, and page 31 provides a hypothetical example to illustrate the results calculated by P-MONTH. The example illustrates how each of the four capacity states will have differing incremental heat rates.

b. Capacity states 2 and 3 were approximated by dividing the MW range of each unit's operation into three similar-sized segments. This results in capacity state 2 being the minimum rating plus approximately 1/3 the operating range; and capacity state 3 being the minimum rating plus approximately 2/3 the operating range.

USERS TRAINING

on

P-MONTH

Production Simulation Program

for

Hawaiian Electric Company (HECO)

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by

P Plus Corporation
20370 Town Center Lane, Suite 208
Cupertino, California 95014
September 2000

THERMAL STATIONS

- Fossil steam, nuclear, purchases, IPP, CC, CT, diesel, solar and wind power

Input Data:

- Up to 4 operating capacity states/segments
- Incremental heat rate at each capacity state and an average heat rate for the first capacity state, or heat rate I/O curve in polynomial (up to 4th order)

Example:
A 180 MW Gas-fired Steam Unit with heat rate I/O curve defined as:

Fuel Input (MBtu/hr) = $150. + 8. X + 0.006 X^2$
Where X = operating level in MW

Minimum capacity	=	50 MW
2nd capacity state	=	100 MW
3rd capacity state	=	150 MW
Maximum capacity	=	180 MW

1st capacity segment:	0 - 50 MW
2nd capacity segment:	50-100 MW
3rd capacity segment:	100-150 MW
4th capacity segment:	150-180 MW

Incremental Heat Rate (,000 Btu/kWh) = 8.+0.012*X

Where X = operating level in MW

Av. heat rate at minimum capacity	= 11300	Btu/kWh
Inc. heat rate at minimum capacity	= 8600	Btu/kWh
Inc. heat rate at 2nd capacity state	= 9200	Btu/kWh
Inc. heat rate at 3rd capacity state	= 9800	Btu/kWh
Inc. heat rate at maximum capacity	= 10160	Btu/kWh

CA-IR-328

Ref: HECO Response to CA-IR-1, Attachment 3 (Total Expensed Non-Project and Project Labor Hours by RA).

This Attachment provides test year projected expensed O&M labor hours and dollars by RA, after distribution of total projected labor hours between capital, billable, other balance sheet, non-productive and expense activity assignments have been estimated. Please provide, for each of the following RA codes, actual comparable labor hour distribution data showing total hours distributed to capital, billable, other balance sheet, non-productive time, and expense indicators codes for each historical actual year 2003 through 2006, compared estimated labor hour distributions for the test year, explaining any significant deviations in estimated values from past historical labor distribution patterns. (RA=PIH, PIK, PIL, PIP, PIT, PIW and PIX).

HECO Response:

The actual labor hour distributions are provided in Attachment 1 to this response. The following are explanations for significant deviations from estimated values by RA code.

a. PIH-The increase in total hours from 2003 to present is due to increased staffing and associated training for Honolulu Station Operations. As discussed in HECO T-6, pages 42 and 43, this was to accommodate 24 x 7 operation of Honolulu Units 8 & 9. HECO's responses to CA-IR-72 and its attachments, as well as CA-IR-330, describe the increase in labor hours due to increased staffing. Increased charges in training for the Operations Division are also discussed in HECO's response to CA-IR-232. The 2007 labor hours for PIH shown in Attachment 1 to this response do not reflect the proposed downward adjustment calculated in CA-IR-232, Attachment 1 (revised 7/13/07).

b. PIK-The increase in total hours typical of the 2003 through 2006 time period to 2007 is primarily due to increased staffing and training as described in HECO's response to

CA-IR-232 and CA-IR-330. The 2007 labor hours for PIK shown in Attachment 1 to this response do not reflect the proposed downward adjustment calculated in CA-IR-232, Attachment 1 (revised 7/13/07).

c. PIL- The hours to be worked on capital projects in 2007 are forecast to be significantly less than those experienced in 2003 through 2006. The overwhelming majority of maintenance hours for capital projects are forecast to PIT, not PIL, PIN, or PIX. In prior years, due in part to the vacancies in PIT, a portion of the capital project work was assigned to PIL, PIN, and PIX, which resulted in the actual hours being greater than those forecast. The 2007 forecast of non-project O&M hours for PIL is greater than the hours experienced in prior years due primarily to the assumption in the budget that all maintenance positions would be filled for the entire year, and this was not the actual case for the prior years.

d. PIP- The increase in total hours typical of the 2003 through 2006 time period to 2007 is primarily due to increased staffing as described in HECO T-6, pages 53 to 55.

e. PIT- The hours to be worked on capital projects in 2007 are forecast to be less than those experienced in 2004 through 2006. Conversely, the 2007 forecast for O&M project hours is significantly greater than the hours experienced in the prior years. The total hours forecast for 2007 are also significantly greater, which reflects the assumption that PIT would be fully staffed in 2007, when it was not in prior years.

f. PIW- The increase in total hours from 2003 to present is due to increased staffing and associated training for Waiau Station Operations. This was to accommodate 24 x 7 operation of Waiau Units 3 & 4, as discussed in HECO T-6, pages 42 to 47, and to accommodate the 24 x 7 staffing of the Outside Utility Operator, as discussed in HECO's response to CA-IR-330. HECO's response to CA-IR-72 and its attachments also describe

the increase in labor hours due to increased staffing. Increased charges in training for the Operations Division are discussed in HECO's response to CA-IR-232. The labor hours for PIH shown in Attachment 1 to this response do not reflect the proposed downward adjustment calculated in CA-IR-232, Attachment 1 (revised 7/13/07).

g. PIX- The hours to be worked on capital projects in 2007 are forecast to be significantly less than those experienced in 2003 through 2006. The overwhelming majority of maintenance labor hours for capital projects are forecast to PIT, not PIL, PIN, or PIX. In prior years, due in part to the vacancies in PIT, a portion of the capital project work was assigned to PIL, PIN, and PIX, which resulted in the actual hours being greater than those forecast. The 2007 forecast of non-project O&M hours is greater than the hours experienced in prior years due primarily the assumption in the budget that all maintenance positions would be filled for the entire year, and this was not the actual case for the prior years.

7/10/2007 07RCBud vs 05Act- LbrHrs, Dept,RA,Act 10:26AM

*RA #	Acct Grp Descr	Proj_or_NonProj	FY03 Act99-03HrRA	FY04 Act04-07HrRa	FY05 Act04-07HrRa	FY06 Act04-07HrRa	FY07 RC Budget07
PIH	Capital	Project	0	46.50	0.00	0.00	0
	Charges to Clearing	NonProject	4,887.50	5,561.25	9,239.27	9,318.95	12,627
	Fuel & Purch Pwr	NonProject	2,561.75	3,114.17	2,962.75	2,919.00	3,959
	O&M	NonProject	30,536.25	34,596.92	39,343.84	44,320.50	46,945
		Project	1,658.00	2.00	4.00	0.00	0
			39,643.50	43,320.84	51,549.86	56,558.45	63,531
PIK	Billable	NonProject	0.00	74.00	0.00	0.00	0
		Project	0.00	16.00	0.00	0.00	0
	Capital	Project	38.00	0.00	100.00	32.50	0.00
	Charges to Clearing	NonProject	18,537.60	22,580.97	27,184.04	23,869.19	29,012
	Fuel & Purch Pwr	NonProject	1,820.50	2,028.50	2,119.50	2,098.00	4,950
	O&M	NonProject	105,505.00	103,559.67	100,339.83	101,610.82	109,468
		Project	359.00	1,480.25	1,509.50	1,392.00	0
			126,260.10	129,739.39	131,252.87	129,002.51	143,430.00
PIL	Billable	NonProject	0.00	0.00	2.00	13.50	0
	Capital	<Not Found>	0.00	0	0	0	0
		Project	2,852.00	4,722.75	6,842.00	3,973.00	500
	Charges to Clearing	NonProject	12,500.10	12,655.57	12,228.84	11,469.25	15,901
	Fuel & Purch Pwr	NonProject	0.00	0.00	0.00	62.50	0
	O&M	NonProject	48,073.75	42,023.75	45,915.75	47,579.75	61,533
		Project	2,323.00	4,469.50	3,468.50	2,672.50	80
			65,748.85	63,871.57	68,457.09	65,770.50	78,014
PIP	Billable	NonProject	164.75	50.50	0.00	90.50	0
		Project	0.00	0	0	0	0
	Capital	<Not Found>	0.00	0	0	0	0
		Project	271.50	10.50	385.75	361.50	358.67
	Charges to Clearing	NonProject	7,070.57	7,123.00	7,659.50	8,418.62	10,772
		Project	0	84.50	630.00	0.00	0
	Deferred Debit	NonProject	0.00	0.00	2.00	0.00	0
	Fuel & Purch Pwr	NonProject	0.00	0	0	0	0
	O&M	<Not Found>	0	0	0	0	0
		NonProject	18,339.75	16,944.75	20,207.00	23,978.25	35,333
		Project	6,966.00	7,389.25	11,163.75	8,238.25	32
			32,812.57	31,602.50	40,048.00	41,087.12	46,495.67
PIT	Billable	NonProject	757.50	56.50	55.00	0.00	0
		Project	0	10.50	0.00	29.00	0
	Capital	<Not Found>	0.00	0	0	0	0
		Project	20,556.00	32,488.33	26,927.50	30,113.50	23,865.68
	Charges to Clearing	NonProject	23,686.18	25,686.82	24,366.50	27,342.65	33,152
		Project	0.00	0	0	0	0
	Deferred Debit	NonProject	0	1.50	0.00	0.00	0

7/10/2007 07RCBud vs 05Act- LbrHrs, Dept,RA,Act 10:26AM

*RA #	Acct Grp Descr	Proj_or_NonProj	FY03 Act99-03HrRA	FY04 Act04-07HrRa	FY05 Act04-07HrRa	FY06 Act04-07HrRa	FY07 RC Budget07
PIT	Fuel & Purch Pwr	NonProject	0.00	987.25	0.00	0.00	0
	O&M	NonProject	32,918.00	28,509.59	31,702.42	42,202.17	37,072
		Project	76,823.75	71,726.99	77,390.08	72,889.50	117,046.98
			154,741.43	159,467.48	160,441.50	172,576.82	211,136.66
PIW	Capital	Project	0.00	60.50	54.58	4.92	0
	Charges to Clearing*	NonProject	19,727.66	25,173.16	31,582.75	28,129.67	30,232
	Fuel & Purch Pwr	NonProject	2,051.35	2,059.62	2,023.36	1,996.15	0
	O&M	<Not Found>	0	0	0	0	0
		NonProject	102,833.44	104,077.01	109,456.08	109,304.06	124,982
		Project	604.83	1,922.25	1,113.33	1,014.42	16
			125,217.28	133,292.54	144,230.10	140,449.22	155,230
PIX	Billable	NonProject	0.00	4.50	2.00	0.00	0
	Capital	<Not Found>	0.00	0	0	0	0
		Project	8,343.50	9,375.50	8,132.00	7,477.75	1,910
	Charges to Clearing*	NonProject	11,100.00	12,216.23	14,190.17	12,132.27	15,221
	Deferred Debit	NonProject	2.00	0	0	0	0
	Fuel & Purch Pwr	NonProject	0.00	469.50	12.00	0.00	0
	O&M	NonProject	27,957.50	35,792.50	41,965.25	46,105.83	59,945
		Project	3,449.50	2,482.00	2,264.50	2,950.50	0
	Other Balance Sheet	Project	0.00	0	0	0	0
			50,852.50	60,340.23	66,565.92	68,666.35	77,076
			595,276.23	621,634.55	662,545.34	674,110.97	774,913.33

* Includes non-productive hours

NOTE: LABOR HOURS FOR PIH, PIK, AND PIW DO NOT REFLECT THE ADJUSTMENT IN CA-IR-232.

CA-IR-329

Ref: HECO Response to CA-IR-66, page 3 (Maintenance Staffing Levels vs. 2005 Test Year).

According to the response, HECO "affirmed that the Maintenance Division staffing level proposed for 2005 test year (160 positions) is valid for the 2007 test year (161 positions). Please state which staffing level is "valid" – 160 or 161 maintenance persons and explain the basis for increasing staffing by one position. Provide complete copies of all documents associated with or supportive of your response.

HECO Response:

The Maintenance Division staffing included in the 2007 test year is 161, and is detailed by position in the response to CA-IR-67, Attachment 1.

The intention of the reference to the 2005 test year count of 160 and 2007 test year count of 161 being "valid" was to affirm that HECO's position and arguments for increased staffing in Maintenance Division in 2005 test year are still valid and apply to the 2007 test year. As described in HECO T-6, page 49, from line 23, the maintenance needs (i.e., between the 2005 test year and 2007 test year) are similar and the Maintenance Division staff level that is required to perform the work in 2007 is 161, or one more than that envisioned in 2005. Although the size of the Maintenance Division staff necessary to perform the work is almost identical, the composition and organization of the staff is different in 2007 than it was in 2005. This is discussed on HECO T-6, page 50, from line 1, "the needs are similar today, however, the approach being implemented to perform the necessary maintenance has changed from that envisioned in 2005 (i.e., night crew positions be assigned to Travel and Station Maintenance Crews)". Moreover, one significant position that exists in 2007 that did not exist in 2005 is that of Sr. Supervisor Maintenance, Overhauls, to whom the Maintenance Travel crews report.

CA-IR-66, page 3, refers to the bases for the additional positions added in the PSO&M Maintenance Division being addressed in HECO T-6, pages 47-53, and the analysis done to affirm the staffing level is discussed in the response to CA-IR-71.

CA-IR-330

Ref: HECO Response to CA-IR-1, Attachment 17 (Actual and Projected Staffing Levels by RA).

This Attachment provides test year projected Employee Count Statistics by RA. For the test year, projected power plant operations staffing levels are higher than the staffing that was proposed by the Company in its 2005 test year rate case, even though the staffing required for 24 x 7 operator staffing was proposed in labor expenses that case. Please explain and provide calculations illustrating why test year 2005 operations staffing of PIH at 26, PIK at 58 and PIW at 62, was proposed as reasonable in the last rate case, but such levels are now proposed to be increased to 27, 61 and 66 employees, respectively. Provide complete copies of all documents associated with or supportive of your response.

HECO Response:

Attachment 1 to this response identifies the changes in position staffing from the 2005 test year to the 2007 test year. The Production Operation 2005 test year staffing estimate for power plant operations was addressed in HECO's 2005 test year rate case, Docket No. 04-0113. The 2005 Production O&M test year estimate provided for increasing the staffing levels to allow 3-shift, 7 days/week coverage on Honolulu Units 8 and 9, and Waiau Units 3 and 4 to meet growing system demand while reducing excessive labor overtime to more manageable levels. See Docket No. 04-0113, HECO T-6, page 26; see also HECO T-6, pages 22-24; and HECO's response to CA-IR-48.

The 2007 test year staffing increases are in the following positions: Kahe Equipment Operator (+1), Kahe Operator Trainee (+2), Waiau Utility Operator (+2), Waiau Operator

Trainee (+2), and Honolulu Operator Trainee (+1). The total increase is +8. See HECO T-6, pages 42 to 47, and page 56, line 3 to 6, in the current docket, as well as the responses for CA-IR-66, CA-IR-72, and CA-IR-232. The reasons for the increases are described below:

1. PIK – Kahe Equipment Operator (+1): In 2005, an attempt was made to staff Kahe Power Plant with one less Equipment Operator than the full count. However, increased training requirements have made it necessary to return the Equipment Operator staffing level to full count (+1), as well as to add to the Equipment Operator count beyond full count (see the discussion on the Operator Trainee position below).

   The increased training requirements were discussed in HECO T-6 at page 46, lines 2 – 5, and page 56, lines 3-6, and in HECO's response to CA-IR-232. The high turnover rate of operator personnel, the rapid promotion up through the Line of Progression, and the reduced level of experience has led to increased training requirements. The high turnover rate has shifted the training focus to an increased amount of training for new operators to replace those who have left or transferred. Once the new operators are qualified, they will add to the pool of available operators to allow for the replacement of other operators who are scheduled on shift so those operators can attend training. Without the pool of replacement operators, Line of Progression (LOP) training will require more overtime to perform, refresher training will be reduced or require more overtime to perform, and technical training will be reduced or require more overtime to perform. Also, the increased staffing will allow experienced operators to be removed from their normal rotating shift duties to support or conduct skill development training for other newer or less experienced operators.

The increased Equipment Operator count will support the implementation of training while controlling overtime and allow the utilization of experienced operators to support and conduct training.

2. PIK – Kahe Operator Trainee (+2): The Operator Trainee positions were added (+2) to allow for training as described above in the discussion of the Kahe Equipment Operator. Individuals in the Operator Trainee positions typically promote to the Equipment Operator position upon completion of the 17-week training program. (The Equipment Operator training program includes five weeks of classroom training and eight weeks of on-the-job training, followed by a four week evaluation period during which the individual stands the watch on his or her own while over-classified in pay to the Equipment Operator pay rate.) When the promotion occurs, the Equipment Operator count will increase and the Operator Trainee count will decrease. Once the additional Equipment Operator is trained and qualified at the necessary work stations, he or she will add to the pool of available operators to allow for the replacement of other operators who are scheduled on shift so those operators can attend training. Without the pool of replacement operators, Line of Progression (LOP) training will require more overtime to perform, refresher training will be reduced or require more overtime to perform, and technical training will be reduced or require more overtime to perform. Also, the increased staffing will allow experienced operators to be removed from their normal rotating shift duties to support or perform skill development training of other new or less experienced operators.

3. PIW – Waiau Utility Operator (+2): The 2005 test year staffing level for the Utility Operator position at Waiau Power Plant reflected the following:

a. The Regular Utility Operator position (RUO) was staffed and scheduled for 24 X 7 shift scheduling (i.e., five positions).

b. The Outside Utility Operator (OUO) position staffing in the 2005 test year reflected staffing level for a 5-day, 2-shift rotating shift schedule (i.e., only three positions). The total Utility Operator count was the sum of the RUO and OUO count, or a total of eight. The Waiau OUO, however, had been working on a 24 X 7 schedule since March 13, 2000. Shift scheduling with less than the full count of operators was enabled by the trial implementation of the 42-hour work week schedule, a schedule that requires a reduced staffing count but with the penalty of an increase in overtime hours. See responses to CA-IR-73 and 232. The change to 24 X 7 shift coverage was not immediately formalized as PIW was in the process of reviewing the applicability of the 42-hour work week schedule. The need to convert this position to 24 X 7 shift coverage was brought about due to increased operational requirements in the areas of combustion turbine and steam turbine operation, fuel handing, wastewater treatment, and in areas of environmental compliance. When the Waiau 3 and 4 operators were returned to a 24 X 7 shift rotation on March 21, 2005, the OUO position was also changed to a 24 X 7 shift rotation. As stated above, this change (an increase in the total Waiau Utility Operator count from 8 to 10) was not reflected in the 2005 test year staffing. Attachment 2 to this response shows the Waiau Line of Progression chart as of February 28, 2005 on page 1 and as of March 31, 2005 on page 2. These charts reflect the RUO staffing count at five in both cases, and the formal change in staffing count from three names to five names for the OUO position.

The 2007 test year staffing count for the Utility Operators reflects the full count of five each for both the RUO and OUO, or a total of ten. The 2007 test year is also reflective of the full staffing count for a 40-hour work week schedule and does not include the extra overtime required by the 42-hour work week schedule. This was explained in HECO's response to CA-IR-232.

4. PIW – Waiau Operator Trainee (+2): The description above for the Kahe Operator Trainee position also applies to the Waiau Operator Trainee position at Waiau Power Plant. Increased training requirements have made it necessary to add to the Equipment Operator count beyond full count (+2). The increased training requirements were discussed in HECO T-6 at page 46, lines 2 – 5, and page 56, lines 3-6 and in HECO's response to CA-IR-232. The high turnover rate of operator personnel, the rapid promotion up through the Line of Progression, and the inexperience has led to increased training requirements. The increased count will support the implementation of training while controlling overtime and allow the utilization of experienced operators to support and conduct training.

5. PIH – Honolulu Operator Trainee (+1): The description above for the Waiau Operator Trainee position also applies to the added Honolulu Operator Trainee position (+1) at Honolulu Power Plant.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

Comparison of 2005 TY vs. 2007 TY Operating Division Staffing

Power Plant	Position	2005 TY	2007 TY	Change
PIK - Kahe	Sr. Supervisor	1	1	0
	Shift Supervisor	7	7	0
	Control Operator	15	15	0
	Jr. Control Operator	15	15	0
	Utility Operator	5	5	0
	Equipment Operator	14	15	1
	Operator Trainee	0	2	2
	Power Plant Clerk	1	1	0
	Kahe Subtotal	58	61	3
PIW - Waiau	Sr. Supervisor	1	1	0
	Shift Supervisor	7	7	0
	Control Operator	15	15	0
	Jr. Control Operator	15	15	0
	Utility Operator	8	10	2
	Equipment Operator	15	15	0
	Operator Trainee	0	2	2
	Power Plant Clerk	1	1	0
	Waiau Subtotal	62	66	4
PIH - Honolulu	Sr. Supervisor	1	1	0
	Shift Supervisor	5	5	0
	Control Operator	5	5	0
	Jr. Control Operator	5	5	0
	Utility Operator	5	5	0
	Equipment Operator	5	5	0
	Operator Trainee	0	1	1
	Power Plant Clerk	0	0	0
	Honolulu Subtotal	26	27	1
	Operating Division Total	146	154	8

WAIAU LINE OF PROGRESSION
February 28, 2005

Control Operator 3/4
(A) V. Kaneshiro
(A) E. Vesnefski
(A) S. Wallgren
3 | 20

Control Operator 5/6
(A) T. Santos
(A) D. Bartels
(A) G. Kam
T. Hurley*
S. Ibara
5 | 20

Control Operator 7/8
G. Chi
D. Barboza
E. Smith
G. Castillio
E. Onaga
5 | 20

Jr. Control Operator 3/4
(A) E. Isobe
(A) S. Oshiro
P. Kumano
3 | 15

Jr. Control Operator 5/6
(A) E. Eala
(A) R. Fujiwara
D. Onishi
K. Nagatani
C. Gomes®
5 | 15

Jr. Control Operator 7/8
(A) P. Roberson
(A) J. Goto
(A) I. Matsuo
(A) A. Lum
N. Dias
5 | 15

Regular Utility Operator
(A) B. Cabel
(A) G. Kasai
(A) J. Bellevou
(A) E. Wills
(A) T. Lisle
5 | 15

Outside Utility Operator
(A) D. Tejero
R. Tanaka
G. Yamane
3 | 10

Equipment Operator 3/4
(B)(Y) T. Yoshimoto
(A) G. Coloma
A. Paxton
(A)(Y) C. Gumkowski
2 | 15

Equipment Operator 5/6
(A) J. Torres
(A) E. Starling
(A) L. Keahi
(A)(X)(Y) G. Miyamoto
(A)(X) S. Shota
5 | 15

Equipment Operator 7/8
(B) J. Estrada
(B) S. Haynes
(B) D. Akana
(A) M. Kashiwamura
(Y) R. Chong
5 | 15

Operator Trainees
W. Carreira
F. Luga
R. Allenby
I. Murata
A. Carlson
N. Higashihara
K. Johnson

General Notes:
* Military Leave.
® Restricted Waiver.

Job quota in left block at lower right corner of each job. Minimum training period of each job is shown in days in the right block at lower right corner of each job.
WORK FORCE - WAIAU POWER PLANT: 55 Actual

(A) Capable of operating one classification above present one.
(B) Capable of operating two classifications above present one.

(X) Not trained on classification below.
(X2) Not trained as EO 3/4.
(Y) Not trained on existing classification.

Hawaiian Electric Company, Inc.
Power Supply Operating Division
LINE OF PROGRESSION - WAIAU

Aaron K. Fujinaka
Manager, Power Supply O&M
March 1, 2005

WAIAU LINE OF PROGRESSION
March 31, 2005

Control Operator 3/4 (5 | 20)
- (A) E. Vesnefski
- (A) S. Wallgren
- E. Isobe
- S. Oshiro
- P. Kumano

Control Operator 5/6 (5 | 20)
- (A) D. Bartels
- (A) G. Kam
- T. Hurley*
- S. Ibara
- V. Kaneshiro

Control Operator 7/8 (5 | 20)
- G. Chi
- D. Barboza
- G. Castillio
- E. Onaga
- T. Santos

Jr. Control Operator 3/4 (5 | 15)
- P. Roberson
- J. Goto
- I. Matsuo
- A. Lum
- N. Dias

Jr. Control Operator 5/6 (5 | 15)
- J. Bellevou
- E. Wills
- T. Lisle
- (Y) D. Tejero
- C. Gomes®

Jr. Control Operator 7/8 (5 | 15)
- E. Eala
- R. Fujiwara
- D. Onishi
- B. Cabel
- (Y) G. Kasai

Regular Utility Operator (5 | 15)
- (Y) R. Tanaka
- (Y) G. Yamane
- J. Estrada
- S. Haynes
- D. Akana

Outside Utility Operator (5 | 10)
- (A) M. Kashiwamura
- (Y) J. Torres
- (Y) I. Tanaka
- (Y) J. Soon
- (Y) E. Starling

Equipment Operator 3/4 (5 | 15)
- (Y) A. Carlson
- (Y) N. Higashihara
- (Y) K. Johnson

Equipment Operator 5/6 (5 | 15)
- G. Coloma
- (Y)(X) W. Carreira
- (Y)(X) F. Luga
- (Y)(X) R. Allenby
- (Y)(X) I. Murata

Equipment Operator 7/8 (5 | 15)
- L. Keahi
- (X2) G. Miyamoto
- (X2) S. Shota
- (X2) T. Yoshimoto
- (X2) C. Gumkowski

Operator Trainees

General Notes:

Job quota in left block at lower right corner of each position.
Minimum training period of each position is shown in days in the right block at lower right corner of each job.

- * Military Leave.
- ® Restricted Waiver.
- (A) Capable of operating one classification above present one.
- (B) Capable of operating two classifications above present one.
- (X) Not trained on classification below.
- (X2) Not trained as EO 3/4.
- (Y) Not trained on existing classification.

WORK FORCE - WAIAU POWER PLANT: 53 Actual

Hawaiian Electric Company, Inc.
Power Supply Operating Division
LINE OF PROGRESSION - WAIAU

Aaron K. Fujinaka
Manager, Power Supply O&M
April 11, 2005 MC

4/11/2005

CA-IR-331

Ref: HECO T-6, pages 44 and 45 (Operations Shift Staffing).

At page 44, Mr. Giovanni provides a table of proposed staffing positions at each power plant, with a discussion of how such levels relate to manpower requirements by position at each station. Please reconcile the table values to the narrative, illustrating how 40 available regular hours by position, reduced by assumed non-productive time, compares to the 168 hour work week associated with 24x7 operations. In addition, please explain with illustrative calculations how test year proposed overtime for each position at each station can be reconciled into such staffing requirements.

HECO Response:

Using the smallest shift schedule as an example (Honolulu Power Plant), the staffing requirements are described below. As reference, please refer to the Honolulu Line of Progression provided in HECO's response to CA-IR-1, Attachment 19, page 1; HECO's response to CA-IR-232, Attachment 1, Revised 07-13-07; and to Attachment 1 to this response, a copy of the Honolulu shift schedule. The staffing reconciliation and calculation of test year proposed overtime for each of the supervisory and operator groups is shown in CA-IR-232, Attachment 1, Revised 07-13-07 and is described below.

1. The total staff count of 27 (from HECO T-6, page 44) for Operations Division at Honolulu Power Plant is shown on the analysis worksheet of CA-IR-232, Attachment 1, page 5, Revised 07-13-07.
2. When multiplied by 2,088 hours per year, the total supply equals 56,376 hours. The amount is calculated for each group, the "Sr + Supv Base" and "Operator Base", 12,528 hours and 43,848 hours, respectively.
3. Holiday hours are subtracted from this amount. There are 12 full day plus two half-day holidays in 2007 per employee, or 104 hours each. This amount is multiplied by the

employee count and subtracted from the Base hours. The resultant is labeled as "Productive".

4. Referring to CA-IR-1, Attachment 19, page 1, there are four rotating shift work stations (or "blocks") and one non-rotating shift block on the Line of Progression (LOP). These are, from top to bottom:

   a. Control Operators Honolulu 8 & 9 (rotating shift; five operators)

   b. Jr. Control Operators Honolulu 8 & 9 (rotating shift; five operators)

   c. Utility Operators (rotating shift; five operators)

   d. Equipment Operators Honolulu 8 & 9 (rotating shift; five operators)

   e. Equipment Operator Trainee (non-rotating shift; one operator)

5. Four of the operators in each rotating shift block are assigned a "letter" corresponding to the "A", "B", "C", or "D" rotation of the shift schedule for that block, and are designated as "lettered" operators. This is shown in Attachment 1 to this response.

6. The fifth operator in the top-most rotating shift block (Control Operators Honolulu 8&9), and every other rotating shift block moving downwards in the LOP (Utility Operators), is designated as the "Relief" operator and is assigned a letter "R".

7. The fifth operator in the second-highest rotating shift block (Jr. Control Operators Honolulu 8&9), and every other rotating shift block moving downwards in the LOP (Equipment Operators Honolulu 8&9), is designated as the "Extra" operator. The one Equipment Operator Trainee is also designated as an "Extra" operator.

8. The operators in each rotating shift block must cover the 24 X 7 requirements of the shift rotation or provide 168 hours of shift coverage for the block. The four lettered operators can each provide 40 hours of shift schedule coverage on straight time, or 160 hours in total.

9. The 8 hour difference (168 minus 160) is covered by the Relief operator. The Relief operator covers this 8 hour requirement in his designated block and one block down in the LOP. This 8 hour shift (or watch) is called the "Relief Watch". For example, the Relief operator in the Control Operators Honolulu 8 & 9 block covers the Relief Watch for the Control Operator Honolulu 8 & 9 block and the Jr. Control Operators Honolulu 8 & 9 block; the Relief operator in the Utility Operators block covers the Relief Watch for the Utility Operators block and the Equipment Operators Honolulu 8&9 block. For the other three days or 24 hours of his or her 40-hour week, the Relief operator is an "extra" operator and is available to be utilized as a substitute for training, absence replacement, or other use. During these 24 hours, the Relief operator can be utilized as straight time shift back-fill to allow refresher training of other operators. (This is identified as an assumption in the overtime analysis performed by HECO in response to CA-IR-232, Attachment 1, page 2, Revised 07-13-07.)

10. The Extra operator is used to provide shift replacement for scheduled vacations. (This was identified as an assumption in the overtime analysis performed by HECO in response to CA-IR-232, Attachment 1, page 2, Revised 07-13-07.)

11. Both the Relief and Extra operators can provide straight time replacement for any lettered operator while they are available, either by directly filling in or by "bumping" other operators up or down the Line of Progression. Assuming approximately 1,700 to 1,800 productive hours per operator, the total of five Relief and Extra operators, assuming a full count of 21 operators, can provide straight time coverage for up to 8,500 to 9,000 hours of vacation replacement, LOP training replacement, or refresher training replacement. In 2006, vacation hours at Honolulu Power Plant totaled 4,186.7 hours (as noted on CA-IR-232,

page 5, Revised 07-13-07). The remainder of the hours (approximately 4,300 to 4,800 hours can be utilized to support LOP training, refresher training, or other training requirements, including the utilization of experienced operators to support or conduct training. In CA-IR-232, Revised 07-13-07, the full staffing assumption was that all vacation, refresher training, and LOP training was assumed to be covered by straight time replacement using the Relief and Extra operators. (Training expenses are discussed in HECO's response to CA-IR-334.)

12. Holiday OT is calculated on the basis of an assumed 80% of the shift work personnel working holiday overtime, as described in CA-IR-73, on page 3.
13. Illness absence hours, or "Sick Hours", are calculated using the "2006 Sick/"Prod" %" from 2006. This percentage (2.4% for Honolulu Power Plant, as shown on CA-IR-232, Attachment 1, page 5, Revised 07-13-07) is multiplied by the "Productive" hours calculated in item 3, above. 100% of the Sick Hours is assumed to require overtime replacement.
14. Other inputs to overtime are identified on CA-IR-232, Attachment 1, page 5, Revised 07-13-07, and include the following:
    a. 200 hours of Shift Supervisor Overhaul OT, 20 hours per week for the 10 weeks of Honolulu 8 overhaul.
    b. 240 hours of Shift Supervisor OJT OT, 4 hours for 5 of the rotating shift Shift Supervisors each month.
    c. 95 hours of Technical Training OT, 50% of the Technical Training + California Air Resources Board (CARB) training + Department of Transportation Fuel Oil Pipeline training. The total training hours were proportioned between the Sr + Supv group and the Operator group.

d. 133 hours of First Day Off (FDO) training, proportioned between the Sr + Supv group and Operator group. (FDO training was described in CA-IR-73, on page 3.)

e. 126 hours of Operator Incidental OT, based on 2 hours per month for 25% of the operators for 12 months.

f. 126 hours for Operator OJT for unit startup and other operational activities, based on 2 hours per month for 25% of the operators for 12 months.

g. 332 hours of Technical Training OT, 50% of the Technical Training + California Air Resources Board (CARB) training + Department of Transportation Fuel Oil Pipeline training. The total training hours were proportioned between the Sr + Supv group and the Operator group.

h. 466 hours of FDO Training, proportioned between the Sr + Supv group and Operator group. (FDO training was described in CA-IR-73, on page 3.)

A similar analysis was performed for PIK and PIW and shown on CA-IR-232, Attachment 1, pages 3 and 4, Revised 07-13-07, respectively.

Date Posted: Period Covered - From: **06/18/07** To: **06/24/07**

Wk 6		M	T	W	TH	F	S	S	REVISION 1
		18	19	20	21	22	23	24	

Shift Supervisors Week No. 5 S/S NOTES:

THOMAS	A	1	2	2	~	~	~	1
HIGASHIDE	B	2	~	~	1	1	1	2
DECOSTA	C	~	1	1	2	2	2	~
	D							
	R	1	1	1	1	1	~	~

Control Operators Week No. 6 CO NOTES:

YOUNG	A	~	1	1	1	1	1	~	
NOGUCHI	B	2	2	2	2	2	~	~	
LIU	C	3	3	3	~	~	2	2	
TOMA	D	1	~	~	3	3	3	3	
YAMASHIRO O/C	R	1	1	1	1JCO	~	~	1CO	< R- THUR JCO, SUN CO < R-OC 3611 93A < R-OT THUR CD

Jr. Control Operators Week No. 5 JCO NOTES:

YAMATO	A	~	~	2	2	2	2	2	
DIVINA	B	3	3	3	3	3	~	~	
TANAKA O/C	C	1	1	1	~	~	3	3	< C-OC WEEK 4 OF 4 3612 83A
TOYAMA	D	2	2OT	~	~	1	1	1	< D-OT TUE CD

Utility Operators Week No. 5 UO NOTES:

SUGAI O/C	A	~	~	2	2	2	2	2	< A-OC WEEK 1 OF 4 3613 69A
LIQUIE O/C	B	3	3	3	3	3	~	~	< B-OC WEEK 1 OF 4 3613 69A
CHONG	C	1	1	1		~	3	3	
TORRES	D	2	2OT	~	~	1	1	1	< D-OT TUE CD
YAMANE	R	1	1*	1*	1UO	~	~	1EO	< R-THUR UO, SUN EO < R-TUE WED IW1 <R-OT THUR CD

Equipment Operators Week No. 6 EO NOTES:

KASHIWAMURA	A	~	1	1	1	1	1	~	< A- OC WEEK 4 OF 4 3614 57A
LEPENDU	B	2	2	2	2	2	~	~	
SHOTA O/C	C	3	3	3	~	~	2	2	< C-OC WEEK 4 OF 4 3614 57A
CARREIRA O/C	D	1	~	~	3	3	3	3	< D-OC WEEK 4 OF 4 3614 57A

SCHEDULE INFORMATION

REMINDER: STARTING TIME FOR RELIEF PERSONNEL IS 0530 HRS.
ALL OPERATORS CHECK 2nd PAGE FOR WORK ASSIGNMENTS

Date Posted: **01/00/00** Period Covered From: **06/18/07** To: **06/24/07**

	M	T	W	TH	F	S	S
SHIFT SUPERVISOR	18	19	20	21	22	23	24
MORIKAWA	1	1	1	1	1	~	~

LEGEND
1 DAY (0530 - 1330)
2 AFT (1330 - 2130)
3 NIGHT (2130 - 0530)
S SICK
~ DAY OFF
R RELIEF
V VACATION
H HOLIDAY
DT 2 TIMES PAY
OT 1-1/2 TIMES PAY
XS EXTRA STRAIGHT/ SC SHORT CHANGE
OC OVER CLASSIFIED/ OR OPEN RELIEF
CD CONSECUTIVE DAY
RT REFRESHER TRAINING
X EXTRA - REPORT TO SHIFT SUPERVISOR
IWI IWILEI (PUMP OIL)
FDO FIRST DAY OFF TRAINING (0730 - 1530)

REPORT TO SHIFT SUPERVISOR

YAMASHIRO	1	1	1	JCO	~	~	CO
YAMANE	1	IWI	IWI	UO	~	~	EO
COMEAU	1	IWI	IWI	1	1	~	~
	18	19	20	21	22	23	24

RELIEF OPERATORS WILL BE USED FOR TRAINING
APPLICABLE TRAINING IS CANCELLED IF PUMPING LSFO

TRAINING PROFICIENCY			M	T	W	TH	F	S	S
NAME	CLASS	WEEK/ DAY	18	19	20	21	22	23	24
COMEAU	UO	MON-FRI	1	IWI	IWI	1	1	~	~

					M	T	W	TH	F	S	S
VACATIONS	LTR	WEEK	2007	TAKE	18	19	20	21	22	23	24
AKUI	A	1		5	~	V	V	V	V	V	~

CA-IR-332

Ref: HECO T-6, pages 51 (Test Year "Program" Expenses).

At page 51, Mr. Giovanni states, "Moreover, the 2007 test year expense includes $1,909,000 for other program costs to be performed in 2007, such as Smart Signal ($299,000 after normalization), Kahe fuel tank clean inspection ($450,000), and Kahe sludge pond cleaning ($1,160,000)." Please provide an itemized listing of comparable projects and costs that were actually performed in each historical year 2003 through 2006 and explain how test year spending at the proposed level can be considered reasonable given such historical expenses and the amounts of structural maintenance that was deferred in prior years, as listed on page 52.

HECO Response:

Examples of costs for structural and infrastructure maintenance projects (which are comparable to the Kahe fuel tank clean inspection and Kahe sludge pond cleaning projects)[1] that were actually performed in each historical year 2003 through 2006 were as follows:

a. Year 2003

1. $497K - Waiau Fuel Oil Tank 1 repairs
2. $133K - Iwilei Pipeline Repairs
3. $142.6K - Waiau WWTF Batch Tank repair
4. $161.7K - H9 BFP volute repair/replace

[1] The enhanced equipment condition monitoring (ECM) project (for which SmartSignal was one of several providers of commercially available products and services) is not a structural maintenance project, and the costs for the project were normalized. (See HECO T-6, page 59 and response to CA-IR-81.) Costs were incurred in 2003 ($15.9K), 2004 ($100.9K), 2005 ($105.0K) and 2006 ($88.8K) for OSI PI (plant information) Software. The estimated cost for OSI PI Software in the 2007 budget is $50.4K. Costs also were incurred in 2006 ($113.6K) for the SmartSignal Evaluation.

5. $200.0K - K21 BFP volute repair/replace

6. $289.0K - K32 BFP volute repair/replace

7. $182.1K - K31 BFP volute repair/replace

b. Year 2004

1. $146.8K - Kahe Stilling Basin Spalling Repairs

2. $532.5K - Kahe 6 Corrosion Control (structural steel)

3. $222.5K - K5& 6 Intake structural repairs

4. $680.1K - W7 Corrosion Control

5. $109.1K - Honolulu asbestos abatement

6. $165.9K - Waiau 52 BFP volute repair/replace

7. $156.4K - Waiau shop building repair

c. Year 2005

1. $272.8K - Iwilei Pipeline Repairs

2. $275.8K - Kahe Basin Intake Dredging

3. $382.7K - Kahe #12 Fuel Oil Tank Inspect & Repair

4. $211.9K - K6 Corrosion Control carryover

5. $211.6K - W7 Corrosion Control carryover

6. $37.2K - Geometry Pigging

7. $102.2K - Ultrasound Flaw Detection Pigging

8. $170.2K - Kahe 22 BFP volute repair/replace

9. $171.8K - Kahe 31 BFP volute repair/replace

10. $160.5K - W8 BFP volute repair/replace

d. Year 2006

1. $146.7K - Honolulu 81/82 CWP Repairs

2. $242.7K - Fuel Additive Evaluation

3. $126.0K - W3/4 Crane Control

4. $132.7K - Honolulu 91/92 CWP Repairs

The projects listed above do not represent the total actual expenses in each year for structural and infrastructure maintenance projects. The 2007 test year expenses for these costs are a reasonable component of the total Production O&M expense for the test year. Structural and infrastructure maintenance projects can be discretionary with respect to timing. Some planned projects may be deferred and some projects may be deferred in successive years. If the Production O&M budget did not include some level of discretionary work, all unbudgeted, emergent work that must be performed would otherwise result in overruns relative to the budget. However, a project that has been deferred on multiple occasions will likely be reclassified as non-discretionary at some point in time. Being able to offset this type of work with the deferral of discretionary work helps to manage resources and expenses. For a more detailed discussion of non-discretionary and discretionary work, please refer to HECO's response to CA-IR-240.

CA-IR-333

Ref: HECO Response to CA-IR-77, Attachments 1 and 2 (Backlog Reports).

a. Please provide a complete copy of the DARS 1877 Excel Report that is referenced for each reporting period in electronic and hard copy format and a legend explaining all acronyms within such report.

b. Provide a complete copy of the most current available DARS 1877 Excel Report and explain any progress made since December 2006 (Attachment 2) in reducing backlog.

HECO Response:

a. The DARS 1877 Excel Report for the reporting periods in CA-IR-77 cannot be provided as the reports were not retained. As described in HECO's response to CA-IR-77, HECO does not produce and retain daily DARS 1877 Excel reports, and it is not possible to reproduce a DARS 1877 Excel report for any prior day. Once a work order is closed, it is no longer part of the data on which reports are based because the software tracks only open work orders.

b. A Work Order Backlog Report for the period July 2-8, 2007 is included with this response as Attachment 1, along with its associated DARS 1877 Excel Report as Attachment 2 to this response. Attachment 2 is voluminous and is available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. In total, since the December 2006 Backlog Report (CA-IR-77, Attachment 2), the work order backlog has increased from 2,913 to 3,385, an increase of 16%. At the individual power plants, Kahe Power Plant backlog increased by 22%, Waiau Power Plant increased by a similar 22%, and Honolulu Power Plant backlog decreased by 23%. Although the backlog has not decreased in the past six months, i.e., since December 2006, HECO still anticipates an improvement in the level of open work orders over the next several years as noted in its response to CA-IR-77. See also HECO T-6, page 53.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 TEST YEAR

Backlog Report (7/2/07 - 7/8/07)

Backlog = Uncompleted work orders, scheduled and unscheduled, work groups PPKAM, PPKAMMT, PPWAM, PPWAMMT, PPHOM, PPHOMMT

All information in this report is from DARS 1877 Excel Report, except as noted.

	Kahe	Waiau	Hono	Total
Total	**1165**	**1932**	**288**	**3385**
E	2	10	0	
H	111	335	18	
M	856	1148	162	
L	111	245	52	
none	85	194	56	
Median Age (Days)	177	287	267	
Oldest (Days)	3026	3080	3043	
Raised	89	44	16	149
E	0	0	0	
H	9	6	0	
M	51	13	0	
L	1	3	0	
none	28	22	16	
Completed in *Pasta*	70	39	2	111

* No completion data from HPP.

PMs Completed in Pasta			
	Kahe	Waiau	Hono
Boiler	11	5	*
Elec	9	0	*
Mach	3	2	*
Tech	4	2	*

Total Work Orders by Station Crew				
	Travel	Kahe	Waiau	Hono
Boiler	78	360	698	55
Insul	11	13	76	0
Elec	2	60	116	16
Mach	28	89	181	17
Tech	2	417	414	95
No Crew	0	124	433	100

At WPP, Lead Crews were not being entered into the work order prior to 5/22/06.
6-12-06: started entering Lead Crews in WPP work orders.

Attachment 2 is voluminous and available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. An electronic version of the requested information is being provided on a compact disc.

CA-IR-334

Ref: HECO Response to CA-IR-79, Attachments 1 and 2 (Training Expenses).

a. Please provide a breakdown of Attachment 1 amounts between labor and non-labor cost elements.

b. Provide monthly 2007, to date, actual training costs for comparison to Attachments 1 and 2.

c. Explain whether and to what extent HECO's difficulties in recruiting and retaining engineering, craft and supervisory personnel to fill vacant positions have changed the requirements for training in 2007.

HECO Response:

a. Please refer to Attachment 1 to this response for the breakdown by labor and non-labor. Expense element 400 costs are labor overhead expenses and should be combined with the labor expenses when expenses are summarized in total.

b. Please refer to Attachment 2 to this response for monthly 2007 to date training costs separated by labor and non-labor. The 2007 monthly actual totals for labor and non-labor through May 31, 2007, are shown in Attachment 3 to this response.

c. HECO does not expect difficulties in recruiting and retaining staff to reduce overall training requirements in 2007. Rather, as mentioned in HECO's response to CA-IR-330, page 2, the high turnover rate in the Operations Division of the Power Supply O&M Department has required increased amounts of training for new operators to replace those who have left or transferred. In addition, due to the nature of HECO's 24/7 operation, lacking an adequate pool of replacement operators can result in more overtime for Line of Progression, refresher, and Technical Skills training. Training expenses for the Operating Division are currently significantly higher than budgeted. Conversely, the training expense for Maintenance Division personnel is less than that forecast through May 31, 2007 due, in part, to staff

vacancies. However, the total training expense for the Operations and Maintenance Divisions is tracking consistently with the forecast and is expected be at or near the 2007 test year estimate of $3,456,400 at the end of 2007.

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIA	Admin-P...	789	Attend Training		400	$1,774	$478	$731	$494	$3,576	$2,013	0	0
								$1,774	$478	$731	$494	$3,576	$2,013	0	0
						Labor	150	$4,208	$1,299	$1,076	$1,073	$5,508	$2,742	$5,538	$5,909
							155	-$461	-$188	-$119	-$150	-$929	-$461	0	0
							421	0	0	0	0	0	0	$435	$447
								$3,747	$1,111	$957	$923	$4,579	$2,281	$5,972	$6,356
						Non-Labor	301	$9	$0	0	0	0	0	0	0
							405	0	0	0	0	0	0	$975	$1,009
							406	0	0	0	0	0	0	$380	$409
							422	0	0	0	0	0	0	$1,255	$1,213
							423	0	0	0	0	0	0	$453	$485
								$9	$0	0	0	0	0	$3,063	$3,116
								$5,530	$1,589	$1,688	$1,417	$8,155	$4,294	$9,035	$9,471
				797	Attend Safety Train...		400	$162	$66	0	0	$23	$32	0	0
								$162	$66	0	0	$23	$32	0	0
						Labor	150	$325	$160	0	0	$24	$62	0	0
							155	-$17	-$12	0	0	-$2	-$17	0	0
							421	0	0	0	0	0	0	0	0
								$308	$148	0	0	$21	$45	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								$469	$214	0	0	$44	$76	0	0
								$5,999	$1,803	$1,688	$1,417	$8,199	$4,370	$9,035	$9,471
		PIB	Admin-P...	785	Plan Emp Trng & Dev		400	$294	$75	$845	$2,509	$395	$59	0	0
								$294	$75	$845	$2,509	$395	$59	0	0
						Labor	150	$697	$259	$1,406	$4,752	$559	$70	$0	$0
							155	-$23	-$39	$31	$427	-$12	-$1	0	0
							421	0	0	0	0	0	0	$0	$0
								$674	$220	$1,436	$5,180	$547	$69	$0	$0
						Non-Labor	201	$424	$66	0	0	$0	$266	0	0
							205	0	0	$0	$85	0	0	0	0

Note: Comparison includes on-cost

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIB	Admin-P...	785	Plan Emp Trng & Dev	Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
							501	$521	$260	$0	$5,240	$229	$2,076	0	0
								$945	$326	$0	$5,325	$229	$2,342	$0	$0
								$1,913	$621	$2,282	$13,013	$1,171	$2,470	$0	$0
				787	Dev Empl Training		400	0	0	0	0	$13,023	$17,347	0	0
								0	0	0	0	$13,023	$17,347	0	0
						Labor	150	0	0	0	0	$15,207	$20,233	$61,272	$62,974
							155	0	0	0	0	-$608	-$206	0	0
							421	0	0	0	0	0	0	$7,251	$7,455
								0	0	0	0	$14,598	$20,028	$68,523	$70,429
						Non-Labor	205	0	0	0	0	$0	$332	0	0
							405	0	0	0	0	0	0	$16,271	$16,833
							406	0	0	0	0	0	0	$6,348	$6,825
							422	0	0	0	0	0	0	$20,935	$20,237
							423	0	0	0	0	0	0	$5,012	$5,170
								0	0	0	0	$0	$332	$48,566	$49,065
								0	0	0	0	$27,621	$37,706	$117,089	$119,494
				788	Conduct Empl Train...		400	0	0	0	0	$1,952	$4,394	0	0
								0	0	0	0	$1,952	$4,394	0	0
						Labor	150	0	0	0	0	$2,339	$4,893	$0	$0
							155	0	0	0	0	$3	$921	0	0
							421	0	0	0	0	0	0	$0	$0
								0	0	0	0	$2,343	$5,814	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
							501	0	0	0	0	$0	$13	0	0
								0	0	0	0	$0	$13	$0	$0
								0	0	0	0	$4,295	$10,221	$0	$0
				789	Attend Training		400	$4,140	$4,101	$6,258	$7,063	$10,693	$12,444	0	0
								$4,140	$4,101	$6,258	$7,063	$10,693	$12,444	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIB	Admin-P...	789	Attend Training	Labor	150	$11,069	$9,670	$7,946	$11,401	$18,788	$14,012	$20,884	$21,493
							155	-$478	-$801	-$1,018	-$914	$1,257	-$303	0	0
							421	0	0	0	0	0	0	$2,369	$2,422
								$10,590	$8,869	$6,928	$10,487	$20,045	$13,710	$23,252	$23,915
						Non-Labor	201	$831	$13,596	$4,385	$6,425	$3,622	$5,614	0	0
							205	$1,367	$731	$2,697	$3,289	$1,889	$1,328	$2,400	$2,400
							405	0	0	0	0	0	0	$5,315	$5,469
							406	0	0	0	0	0	0	$2,074	$2,218
							422	0	0	0	0	0	0	$6,839	$6,575
							423	0	0	0	0	0	0	$1,708	$1,765
							501	$76,928	$82,753	$107,254	$118,836	$214,937	$129,500	$254,300	$254,200
							520	$23,881	$2,430	$0	$15,654	$693	$189	$49,500	$42,900
							521	$2,220	$0	$0	$735	$44	$0	0	0
							522	$622	$123	0	0	$0	$211	0	0
								$105,850	$99,632	$114,336	$144,939	$221,185	$136,843	$322,136	$315,526
								$120,581	$112,602	$127,523	$162,488	$251,924	$162,997	$345,389	$339,441
				797	Attend Safety Train...		400	$239	$153	$362	$756	$413	$228	0	0
								$239	$153	$362	$756	$413	$228	0	0
						Labor	150	$743	$392	$498	$1,168	$576	$271	$4,886	$5,077
							155	$6	-$4	-$18	-$4	$8	$49	0	0
							421	0	0	0	0	0	0	$554	$569
								$749	$388	$480	$1,164	$584	$320	$5,440	$5,647
						Non-Labor	201	$11	$0	0	0	$14	$0	0	0
							205	$488	$0	0	0	0	0	0	0
							301	0	0	0	0	$87	$0	0	0
							405	0	0	0	0	0	0	$1,243	$1,286
							406	0	0	0	0	0	0	$485	$521
							422	0	0	0	0	0	0	$1,599	$1,546
							423	0	0	0	0	0	0	$400	$417
							501	0	0	0	0	$7,135	$0	0	0
								$499	$0	0	0	$7,237	$0	$3,726	$3,770
								$1,487	$541	$842	$1,921	$8,234	$549	$9,166	$9,416
								$123,981	$113,764	$130,646	$177,422	$293,245	$213,943	$471,644	$468,351
		PIC	Power P...	789	Attend Training		400	$446	$530	$1,003	$2,308	$2,530	$847	0	0
								$446	$530	$1,003	$2,308	$2,530	$847	0	0
						Labor	150	$1,079	$1,163	$1,181	$3,470	$2,898	$712	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIC	Power P...	789	Attend Training	Labor	155	$219	$171	$162	$334	$184	$56	0	0
							421	0	0	0	0	0	0	0	0
								$1,299	$1,333	$1,343	$3,804	$3,082	$768	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
							501	$281	$0	$0	$400	0	0	$200	$200
								$281	$0	$0	$400	0	0	$200	$200
								$2,026	$1,863	$2,346	$6,512	$5,612	$1,615	$200	$200
				797	Attend Safety Train...		400	$251	$205	$177	$603	$423	$29	0	0
								$251	$205	$177	$603	$423	$29	0	0
						Labor	150	$555	$341	$200	$853	$465	$22	0	0
							155	$92	$33	$42	$127	$40	$2	0	0
							421	0	0	0	0	0	0	0	0
								$647	$374	$242	$979	$505	$24	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								$898	$579	$420	$1,582	$927	$53	0	0
								$2,924	$2,442	$2,765	$8,094	$6,539	$1,668	$200	$200
		PID	PS Train...	785	Plan Emp Trng & Dev		400	0	0	0	0	$0	$5,638	0	0
								0	0	0	0	$0	$5,638	0	0
						Labor	150	0	0	0	0	$0	$6,811	0	0
							155	0	0	0	0	$0	$377	0	0
								0	0	0	0	$0	$7,189	0	0
						Non-Labor	423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	$0	$12,826	0	0
				787	Dev Empl Training		400	0	0	0	0	$0	$34,609	0	0
								0	0	0	0	$0	$34,609	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PID	PS Train...	787	Dev Empl Training	Labor	150	0	0	0	0	$0	$37,937	0	0
							155	0	0	0	0	$0	$1,196	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	$0	$39,133	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	$0	$73,742	0	0
				788	Conduct Empl Train...		400	0	0	0	0	$0	$3,583	0	0
								0	0	0	0	$0	$3,583	0	0
						Labor	150	0	0	0	0	$0	$3,995	0	0
							155	0	0	0	0	$0	-$228	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	$0	$3,767	0	0
						Non-Labor	301	0	0	0	0	0	0	0	0
							405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	$0	$7,351	0	0
				789	Attend Training		400	0	0	0	0	$0	$2,050	0	0
								0	0	0	0	$0	$2,050	0	0
						Labor	150	0	0	0	0	$0	$2,441	0	0
							155	0	0	0	0	$0	-$383	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	$0	$2,058	0	0
						Non-Labor	201	0	0	0	0	0	0	0	0
							205	0	0	0	0	0	0	0	0
							405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
							501	0	0	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PID	PS Train...	789	Attend Training	Non-Labor	520	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	$0	$4,108	0	0
				797	Attend Safety Train...	Labor	150	0	0	0	0	0	0	0	0
							155	0	0	0	0	0	0	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
							501	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	$0	$98,027	0	0
		PIF	Fuel Res...	789	Attend Training		400	$1,211	$331	$1,863	$1,451	$229	$1,227	0	0
								$1,211	$331	$1,863	$1,451	$229	$1,227	0	0
						Labor	150	$2,936	$758	$2,354	$2,402	$264	$1,408	0	0
							155	-$174	-$55	$81	$16	$2	-$40	0	0
							421	0	0	0	0	0	0	0	0
								$2,762	$703	$2,435	$2,418	$265	$1,368	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								$3,974	$1,034	$4,298	$3,869	$494	$2,595	0	0
				797	Attend Safety Train...		400	$5	$0	$0	$268	0	0	0	0
								$5	$0	$0	$268	0	0	0	0
						Labor	150	$10	$0	$0	$387	0	0	0	0
							155	$0	$0	$0	$34	0	0	0	0
								$10	$0	$0	$420	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02SRA	FY02 Act01-02SRA	FY03 Act03-04SRA	FY04 Act03-04SRA	FY05 Act05-06S RA	FY06 Act05-06S RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIF	Fuel Res...	797				$15	$0	$0	$689	0	0	0	0
								$3,989	$1,034	$4,298	$4,558	$494	$2,595	0	0
		PIH	Honolulu...	785	Plan Emp Trng & Dev		400	$28	$21	$0	$1,196	0	0	0	0
								$28	$21	$0	$1,196	0	0	0	0
						Labor	150	$77	$68	$0	$2,148	0	0	0	0
							155	$7	$8	$0	-$111	0	0	0	0
								$84	$76	$0	$2,037	0	0	0	0
								$112	$97	$0	$3,233	0	0	0	0
				789	Attend Training		400	$4,751	$6,862	$21,272	$18,930	$85,498	$97,478	0	0
								$4,751	$6,862	$21,272	$18,930	$85,498	$97,478	0	0
						Labor	150	$11,729	$16,785	$26,172	$29,889	$113,130	$104,973	$131,402	$135,895
							155	$1,112	$617	$1,993	$1,014	-$6,141	-$6,210	0	0
							421	0	0	0	0	0	0	$15,421	$15,856
								$12,841	$17,402	$28,165	$30,903	$106,990	$98,763	$146,824	$151,751
						Non-Labor	405	0	0	0	0	0	0	$34,607	$35,802
							406	0	0	0	0	0	0	$13,503	$14,516
							422	0	0	0	0	0	0	$44,526	$43,042
							423	0	0	0	0	0	0	$10,749	$11,157
								0	0	0	0	0	0	$103,385	$104,517
								$17,593	$24,264	$49,437	$49,833	$192,488	$196,241	$250,208	$256,268
				797	Attend Safety Train...		400	$1,716	$2,016	$3,606	$2,277	$4,286	$3,356	0	0
								$1,716	$2,016	$3,606	$2,277	$4,286	$3,356	0	0
						Labor	150	$4,434	$4,688	$4,418	$2,920	$5,475	$3,611	$11,039	$11,416
							155	$274	$160	$484	$391	$89	-$35	0	0
							421	0	0	0	0	0	0	$1,295	$1,332
								$4,708	$4,848	$4,901	$3,311	$5,564	$3,575	$12,334	$12,748
						Non-Labor	405	0	0	0	0	0	0	$2,906	$3,007
							406	0	0	0	0	0	0	$1,134	$1,219
							422	0	0	0	0	0	0	$3,739	$3,615
							423	0	0	0	0	0	0	$903	$937
								0	0	0	0	0	0	$8,682	$8,777
								$6,424	$6,864	$8,507	$5,587	$9,850	$6,931	$21,016	$21,525

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06S RA	FY06 Act05-06S RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIH						$24,129	$31,225	$57,944	$58,654	$202,338	$203,172	$271,224	$277,793
		PIK	Kahe Stn...	785	Plan Emp Trng & Dev		400	$342	$171	$92	$1,044	$1,040	$730	0	0
								$342	$171	$92	$1,044	$1,040	$730	0	0
						Labor	150	$860	$542	$125	$1,586	$1,310	$927	0	0
							155	$180	$21	$13	$230	$112	-$193	0	0
								$1,040	$562	$138	$1,816	$1,422	$734	0	0
						Non-Labor	201	0	0	$381	$1,020	$0	$62	0	0
								0	0	$381	$1,020	$0	$62	0	0
								$1,382	$733	$611	$3,880	$2,462	$1,525	0	0
				789	Attend Training		400	$90,937	$105,781	$75,855	$139,957	$309,317	$266,198	0	0
								$90,937	$105,781	$75,855	$139,957	$309,317	$266,198	0	0
						Labor	150	$240,633	$260,014	$97,710	$217,128	$406,014	$285,937	$296,899	$307,314
							155	-$52,369	-$16,434	-$1,410	-$46,491	-$100,005	-$50,799	0	0
							421	0	0	0	0	0	0	$35,609	$36,612
								$188,264	$243,580	$96,300	$170,637	$306,008	$235,138	$332,509	$343,926
						Non-Labor	405	0	0	0	0	0	0	$79,912	$82,671
							406	0	0	0	0	0	0	$31,179	$33,520
							422	0	0	0	0	0	0	$102,816	$99,389
							423	0	0	0	0	0	0	$24,286	$25,230
								0	0	0	0	0	0	$238,193	$240,809
								$279,201	$349,361	$172,155	$310,594	$615,325	$501,336	$570,702	$584,735
				797	Attend Safety Train...		400	$5,180	$9,800	$14,375	$9,076	$14,808	$14,588	0	0
								$5,180	$9,800	$14,375	$9,076	$14,808	$14,588	0	0
						Labor	150	$13,845	$23,985	$17,685	$12,902	$19,239	$15,703	$25,996	$26,908
							155	-$918	-$342	$151	-$574	-$1,857	-$916	0	0
							421	0	0	0	0	0	0	$3,118	$3,206
								$12,927	$23,643	$17,836	$12,328	$17,382	$14,787	$29,115	$30,114
						Non-Labor	405	0	0	0	0	0	0	$6,998	$7,239
							406	0	0	0	0	0	0	$2,730	$2,935
							422	0	0	0	0	0	0	$9,004	$8,703
							423	0	0	0	0	0	0	$2,127	$2,209
								0	0	0	0	0	0	$20,858	$21,087
								$18,108	$33,443	$32,211	$21,404	$32,189	$29,375	$49,973	$51,202

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIK						$298,690	$383,537	$204,976	$335,878	$649,976	$532,236	$620,675	$635,937
		PIL	Kahe Stn...	785	Plan Emp Trng & Dev		400	$1,381	$1,489	$2,698	$2,519	$2,941	$3,489	0	0
								$1,381	$1,489	$2,698	$2,519	$2,941	$3,489	0	0
						Labor	150	$4,023	$3,673	$3,834	$4,491	$4,122	$4,346	0	0
							155	-$160	$190	$133	-$70	$216	$53	0	0
							421	0	0	0	0	0	0	0	0
								$3,862	$3,863	$3,967	$4,421	$4,338	$4,399	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								$5,243	$5,352	$6,666	$6,940	$7,279	$7,888	0	0
				789	Attend Training		400	$15,309	$15,626	$22,280	$26,655	$24,051	$32,798	0	0
								$15,309	$15,626	$22,280	$26,655	$24,051	$32,798	0	0
						Labor	150	$38,297	$37,677	$29,528	$45,014	$32,686	$36,237	$104,951	$106,134
							155	$2,276	$1,707	$345	$1,388	$799	$3,064	0	0
							421	0	0	0	0	0	0	$11,451	$11,493
								$40,573	$39,384	$29,872	$46,402	$33,485	$39,301	$116,401	$117,628
						Non-Labor	405	0	0	0	0	0	0	$25,697	$25,951
							406	0	0	0	0	0	0	$10,026	$10,522
							422	0	0	0	0	0	0	$33,062	$31,199
							423	0	0	0	0	0	0	$8,585	$8,714
								0	0	0	0	0	0	$77,371	$76,387
								$55,882	$55,010	$52,152	$73,057	$57,535	$72,099	$193,772	$194,014
				797	Attend Safety Train...		400	$8,588	$7,048	$16,268	$10,572	$17,551	$15,944	0	0
								$8,588	$7,048	$16,268	$10,572	$17,551	$15,944	0	0
						Labor	150	$22,238	$16,994	$20,971	$17,121	$24,122	$18,252	$13,128	$13,599
							155	$245	$272	$632	$573	$928	$866	0	0
							421	0	0	0	0	0	0	$1,431	$1,472
								$22,483	$17,266	$21,602	$17,694	$25,051	$19,118	$14,560	$15,071
						Non-Labor	405	0	0	0	0	0	0	$3,212	$3,323
							406	0	0	0	0	0	0	$1,253	$1,347
							422	0	0	0	0	0	0	$4,133	$3,995
							423	0	0	0	0	0	0	$1,074	$1,116

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIL	Kahe Stn...	797	Attend Safety Train...	Non-Labor		0	0	0	0	0	0	$9,672	$9,782
								$31,072	$24,315	$37,871	$28,266	$42,601	$35,062	$24,232	$24,852
								$92,196	$84,677	$96,689	$108,263	$107,416	$115,048	$218,004	$218,867
		PIM	Maintena...	785	Plan Emp Trng & Dev		400	$396	$853	$1,806	$770	$334	$411	0	0
								$396	$853	$1,806	$770	$334	$411	0	0
						Labor	150	$1,505	$2,405	$3,044	$1,620	$593	$603	$2,293	$2,356
							155	-$454	-$636	-$492	-$569	-$176	-$127	0	0
							421	0	0	0	0	0	0	$209	$215
								$1,051	$1,769	$2,552	$1,051	$417	$476	$2,501	$2,571
						Non-Labor	405	0	0	0	0	0	0	$468	$485
							406	0	0	0	0	0	0	$183	$196
							422	0	0	0	0	0	0	$603	$583
							423	0	0	0	0	0	0	$188	$193
								0	0	0	0	0	0	$1,441	$1,457
								$1,448	$2,622	$4,358	$1,820	$751	$887	$3,943	$4,028
				789	Attend Training		400	$867	$1,143	$2,736	$1,663	$2,346	$1,791	0	0
								$867	$1,143	$2,736	$1,663	$2,346	$1,791	0	0
						Labor	150	$3,122	$3,680	$4,538	$3,739	$3,993	$2,510	$4,504	$4,643
							155	-$984	-$1,036	-$1,159	-$1,195	-$1,156	-$396	0	0
							421	0	0	0	0	0	0	$554	$569
								$2,138	$2,644	$3,379	$2,544	$2,837	$2,113	$5,058	$5,212
						Non-Labor	405	0	0	0	0	0	0	$1,243	$1,286
							406	0	0	0	0	0	0	$485	$521
							422	0	0	0	0	0	0	$1,599	$1,546
							423	0	0	0	0	0	0	$368	$381
							501	0	0	$0	-$1,455	0	0	0	0
							520	0	0	$0	-$35	0	0	0	0
								0	0	$0	-$1,490	0	0	$3,695	$3,734
								$3,005	$3,786	$6,115	$2,717	$5,182	$3,904	$8,753	$8,946
				797	Attend Safety Train...		400	$202	$291	$277	$311	$285	$668	0	0
								$202	$291	$277	$311	$285	$668	0	0
						Labor	150	$696	$771	$478	$566	$454	$908	$1,102	$1,138
							155	-$224	-$197	-$160	-$160	-$128	-$196	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02SRA	FY02 Act01-02SRA	FY03 Act03-04SRA	FY04 Act03-04SRA	FY05 Act05-06S RA	FY06 Act05-06S RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIM	Maintena...	797	Attend Safety Train...	Labor	421	0	0	0	0	0	0	$153	$158
								$472	$574	$319	$406	$326	$711	$1,256	$1,296
						Non-Labor	405	0	0	0	0	0	0	$344	$356
							406	0	0	0	0	0	0	$134	$144
							422	0	0	0	0	0	0	$443	$428
							423	0	0	0	0	0	0	$90	$93
								0	0	0	0	0	0	$1,011	$1,022
								$674	$865	$596	$717	$611	$1,379	$2,267	$2,318
								$5,126	$7,273	$11,068	$5,254	$6,544	$6,170	$14,963	$15,292
		PIN	Honolulu...	785	Plan Emp Trng & Dev		400	$0	$19	$268	$0	0	0	0	0
								$0	$19	$268	$0	0	0	0	0
						Labor	150	$0	$64	$320	$0	0	0	0	0
							155	$0	-$11	$7	$0	0	0	0	0
								$0	$54	$327	$0	0	0	0	0
								$0	$73	$595	$0	0	0	0	0
				787	Dev Empl Training	Labor	150	0	0	0	0	0	0	0	0
							155	0	0	0	0	0	0	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
				789	Attend Training		400	$3,357	$6,375	$6,835	$11,311	$20,751	$20,600	0	0
								$3,357	$6,375	$6,835	$11,311	$20,751	$20,600	0	0
						Labor	150	$8,943	$15,514	$8,565	$19,270	$27,024	$23,143	$30,983	$29,935
							155	-$81	-$146	-$86	-$59	-$477	-$443	0	0
							421	0	0	0	0	0	0	$3,608	$3,460
								$8,862	$15,368	$8,479	$19,211	$26,547	$22,700	$34,591	$33,396
						Non-Labor	405	0	0	0	0	0	0	$8,097	$7,813
							406	0	0	0	0	0	0	$3,159	$3,168

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02SRA	FY02 Act01-02SRA	FY03 Act03-04SRA	FY04 Act03-04SRA	FY05 Act05-06S RA	FY06 Act05-06S RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIN	Honolulu...	789	Attend Training	Non-Labor	422	0	0	0	0	0	0	$10,418	$9,393
							423	0	0	0	0	0	0	$2,534	$2,458
								0	0	0	0	0	0	$24,209	$22,832
								$12,219	$21,743	$15,314	$30,522	$47,298	$43,300	$58,800	$56,227
				797	Attend Safety Train...		400	$2,665	$2,538	$5,882	$4,166	$4,313	$7,132	0	0
								$2,665	$2,538	$5,882	$4,166	$4,313	$7,132	0	0
						Labor	150	$7,110	$6,172	$7,446	$6,569	$5,683	$8,226	$3,967	$4,109
							155	-$143	$139	$211	$40	-$114	-$216	0	0
							421	0	0	0	0	0	0	$460	$473
								$6,967	$6,311	$7,657	$6,609	$5,569	$8,010	$4,427	$4,582
						Non-Labor	405	0	0	0	0	0	0	$1,032	$1,068
							406	0	0	0	0	0	0	$403	$433
							422	0	0	0	0	0	0	$1,328	$1,284
							423	0	0	0	0	0	0	$325	$337
								0	0	0	0	0	0	$3,088	$3,123
								$9,632	$8,850	$13,538	$10,775	$9,882	$15,142	$7,516	$7,704
								$21,851	$30,665	$29,447	$41,297	$57,180	$58,442	$66,316	$63,932
		PIO	Operatio...	785	Plan Emp Trng & Dev		400	$683	$3,453	$1,538	$1,712	$5,898	$709	0	0
								$683	$3,453	$1,538	$1,712	$5,898	$709	0	0
						Labor	150	$2,162	$8,366	$2,574	$4,061	$10,267	$1,112	$8,235	$8,512
							155	$191	$1,031	$566	-$576	-$1,972	-$274	0	0
							421	0	0	0	0	0	0	$750	$775
								$2,353	$9,397	$3,140	$3,485	$8,295	$838	$8,985	$9,287
						Non-Labor	405	0	0	0	0	0	0	$1,683	$1,751
							406	0	0	0	0	0	0	$656	$710
							422	0	0	0	0	0	0	$2,165	$2,105
							423	0	0	0	0	0	0	$674	$699
								0	0	0	0	0	0	$5,177	$5,264
								$3,036	$12,850	$4,678	$5,197	$14,193	$1,547	$14,162	$14,551
				789	Attend Training		400	$761	$874	$705	$1,192	$11,095	$2,794	0	0
								$761	$874	$705	$1,192	$11,095	$2,794	0	0
						Labor	150	$2,337	$2,426	$1,087	$2,560	$14,779	$3,483	$11,517	$14,380
							155	$100	$382	$149	-$413	-$2,120	-$806	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIO	Operatio...	789	Attend Training	Labor	421	0	0	0	0	0	0	$1,346	$1,717
								$2,437	$2,809	$1,236	$2,147	$12,659	$2,676	$12,863	$16,097
						Non-Labor	405	0	0	0	0	0	0	$3,021	$3,877
							406	0	0	0	0	0	0	$1,179	$1,572
							422	0	0	0	0	0	0	$3,887	$4,661
							423	0	0	0	0	0	0	$942	$1,181
								0	0	0	0	0	0	$9,029	$11,290
								$3,198	$3,683	$1,941	$3,340	$23,754	$5,470	$21,892	$27,387
				797	Attend Safety Train...		400	0	0	0	0	$1,489	$458	0	0
								0	0	0	0	$1,489	$458	0	0
						Labor	150	0	0	0	0	$2,009	$546	$1,352	$1,389
							155	0	0	0	0	-$183	-$139	0	0
							421	0	0	0	0	0	0	$153	$158
								0	0	0	0	$1,826	$406	$1,505	$1,547
						Non-Labor	405	0	0	0	0	0	0	$344	$356
							406	0	0	0	0	0	0	$134	$144
							422	0	0	0	0	0	0	$443	$428
							423	0	0	0	0	0	0	$111	$114
								0	0	0	0	0	0	$1,032	$1,043
								0	0	0	0	$3,315	$864	$2,537	$2,590
								$6,234	$16,533	$6,619	$8,537	$41,261	$7,882	$38,591	$44,528
		PIP	Plan & E...	785	Plan Emp Trng & Dev		400	$2,700	$1,511	$2,168	$2,862	$1,855	$4,463	0	0
								$2,700	$1,511	$2,168	$2,862	$1,855	$4,463	0	0
						Labor	150	$7,055	$3,351	$3,019	$4,161	$2,509	$5,207	$0	$0
							155	$258	-$137	$192	$356	$238	$76	0	0
							421	0	0	0	0	0	0	$0	$0
								$7,313	$3,214	$3,212	$4,517	$2,747	$5,282	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
								$10,013	$4,725	$5,379	$7,379	$4,602	$9,746	$0	$0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIP	Plan & E...	787	Dev Empl Training	Labor	150	0	0	0	0	0	0	0	0
							155	0	0	0	0	0	0	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	$0	$73	0	0
								0	0	0	0	$0	$73	0	0
						Labor	150	0	0	0	0	$0	$73	0	0
							155	0	0	0	0	$0	$1	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	$0	$73	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	0	0	$0	$146	0	0
				789	Attend Training		400	$20,246	$13,121	$27,375	$28,852	$50,175	$41,507	0	0
								$20,246	$13,121	$27,375	$28,852	$50,175	$41,507	0	0
						Labor	150	$52,165	$31,367	$33,276	$43,273	$60,533	$43,466	$60,015	$72,738
							155	-$386	$99	$1,934	$2,909	$2,502	-$1,100	0	0
							421	0	0	0	0	0	0	$7,502	$9,097
								$51,778	$31,465	$35,210	$46,183	$63,035	$42,366	$67,517	$81,836
						Non-Labor	*405*	*0*	*0*	*0*	*0*	*0*	*0*	*$16,835*	*$20,542*
							406	0	0	0	0	0	0	$6,569	$8,329
							422	0	0	0	0	0	0	$21,660	$24,696
							423	0	0	0	0	0	0	$4,909	$5,972
							520	$685	$0	0	0	0	0	0	0
							521	$86	$0	0	0	0	0	0	0
								$771	$0	0	0	0	0	$49,973	$59,538

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIP	Plan & E...	789				$72,794	$44,586	$62,585	$75,035	$113,210	$83,873	$117,490	$141,373
				797	Attend Safety Train...		400	$1,760	$1,261	$3,776	$4,136	$4,851	$5,863	0	0
								$1,760	$1,261	$3,776	$4,136	$4,851	$5,863	0	0
						Labor	150	$4,506	$2,972	$4,451	$5,992	$5,884	$6,036	$8,588	$8,828
							155	$60	$42	$76	$343	-$322	-$64	0	0
							421	0	0	0	0	0	0	$1,074	$1,104
								$4,566	$3,015	$4,528	$6,335	$5,562	$5,972	$9,662	$9,931
						Non-Labor	405	0	0	0	0	0	0	$2,409	$2,492
							406	0	0	0	0	0	0	$940	$1,011
							422	0	0	0	0	0	0	$3,100	$2,996
							423	0	0	0	0	0	0	$703	$725
								0	0	0	0	0	0	$7,151	$7,224
								$6,326	$4,276	$8,304	$10,472	$10,413	$11,835	$16,813	$17,155
								$89,133	$53,587	$76,268	$92,885	$128,225	$105,599	$134,303	$158,529
		PIR	PS Tech ...	789	Attend Training		400	$287	$523	0	0	0	0	0	0
								$287	$523	0	0	0	0	0	0
						Labor	150	$797	$1,180	0	0	0	0	0	0
							155	$2	-$61	0	0	0	0	0	0
								$799	$1,119	0	0	0	0	0	0
						Non-Labor	201	$520	$0	0	0	0	0	0	0
							501	$115	$0	0	0	0	0	0	0
								$635	$0	0	0	0	0	0	0
								$1,721	$1,642	0	0	0	0	0	0
								$1,721	$1,642	0	0	0	0	0	0
		PIS	Material/...	789	Attend Training		400	$50	$0	0	0	0	0	0	0
								$50	$0	0	0	0	0	0	0
						Labor	150	$231	$0	0	0	0	0	0	0
							155	-$7	$0	0	0	0	0	0	0
								$224	$0	0	0	0	0	0	0
						Non-Labor	521	-$328	$0	0	0	0	0	0	0
								-$328	$0	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIS	Material/...	789				-$54	$0	0	0	0	0	0	0
								-$54	$0	0	0	0	0	0	0
		PIT	Traveling...	785	Plan Emp Trng & Dev		400	$2,271	$4,606	$8,316	$6,403	$11,485	$13,518	0	0
								$2,271	$4,606	$8,316	$6,403	$11,485	$13,518	0	0
						Labor	150	$6,978	$11,947	$11,834	$9,225	$15,786	$15,855	$12,650	$15,547
							155	-$669	-$281	$695	$2,467	$963	$1,069	0	0
							421	0	0	0	0	0	0	$1,278	$1,577
								$6,309	$11,667	$12,529	$11,692	$16,749	$16,924	$13,928	$17,124
						Non-Labor	405	0	0	0	0	0	0	$2,868	$3,560
							406	0	0	0	0	0	0	$1,119	$1,444
							422	0	0	0	0	0	0	$3,690	$4,280
							423	0	0	0	0	0	0	$1,035	$1,276
								0	0	0	0	0	0	$8,712	$10,561
								$8,580	$16,273	$20,845	$18,095	$28,234	$30,442	$22,640	$27,685
				789	Attend Training		400	$25,705	$26,893	$48,082	$42,277	$57,280	$119,742	0	0
								$25,705	$26,893	$48,082	$42,277	$57,280	$119,742	0	0
						Labor	150	$67,238	$66,887	$60,259	$69,204	$76,666	$139,812	$164,996	$162,845
							155	-$1,466	-$1,326	$5,560	$6,442	$4,741	$1,751	0	0
							421	0	0	0	0	0	0	$17,841	$17,467
								$65,772	$65,561	$65,819	$75,646	$81,407	$141,562	$182,837	$180,312
						Non-Labor	405	0	0	0	0	0	0	$40,037	$39,441
							406	0	0	0	0	0	0	$15,621	$15,992
							422	0	0	0	0	0	0	$51,512	$47,417
							423	0	0	0	0	0	0	$13,497	$13,370
							501	0	0	0	0	-$160	$0	0	0
								0	0	0	0	-$160	$0	$120,668	$116,220
								$91,476	$92,454	$113,901	$117,923	$138,528	$261,305	$303,504	$296,533
				797	Attend Safety Train...		400	$19,935	$18,207	$32,063	$20,948	$30,140	$39,593	0	0
								$19,935	$18,207	$32,063	$20,948	$30,140	$39,593	0	0
						Labor	150	$54,316	$45,763	$40,202	$32,505	$40,359	$46,774	$35,893	$37,695
							155	-$2,290	-$2,817	$1,163	$2,673	$406	-$903	0	0
							421	0	0	0	0	0	0	$3,885	$4,047
								$52,026	$42,946	$41,365	$35,178	$40,765	$45,871	$39,778	$41,742
						Non-Labor	405	0	0	0	0	0	0	$8,719	$9,138

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIT	Traveling...	797	Attend Safety Train...	Non-Labor	406	0	0	0	0	0	0	$3,402	$3,705
							422	0	0	0	0	0	0	$11,218	$10,986
							423	0	0	0	0	0	0	$2,936	$3,095
								0	0	0	0	0	0	$26,274	$26,925
								$71,961	$61,153	$73,427	$56,127	$70,905	$85,464	$66,052	$68,667
								$172,018	$169,880	$208,173	$192,144	$237,667	$377,211	$392,197	$392,884
		PIW	Waiau St...	785	Plan Emp Trng & Dev		400	$2,853	$933	$330	$848	$383	$673	0	0
								$2,853	$933	$330	$848	$383	$673	0	0
						Labor	150	$7,526	$2,291	$475	$1,470	$542	$830	0	0
							155	-$6	-$22	$25	-$78	-$10	$6	0	0
								$7,521	$2,268	$499	$1,392	$532	$837	0	0
						Non-Labor	201	0	0	0	0	$942	$0	0	0
							205	$51	$0	0	0	0	0	0	0
							501	0	0	0	0	$749	$0	0	0
								$51	$0	0	0	$1,691	$0	0	0
								$10,425	$3,202	$829	$2,240	$2,606	$1,509	0	0
				787	Dev Empl Training		400	0	0	0	0	$9,147	$16,548	0	0
								0	0	0	0	$9,147	$16,548	0	0
						Labor	150	0	0	0	0	$11,565	$20,797	0	0
							155	0	0	0	0	$697	$44	0	0
								0	0	0	0	$12,262	$20,841	0	0
								0	0	0	0	$21,409	$37,389	0	0
				788	Conduct Empl Train...		400	0	0	0	0	$4,146	$8,579	0	0
								0	0	0	0	$4,146	$8,579	0	0
						Labor	150	0	0	0	0	$5,240	$10,717	0	0
							155	0	0	0	0	$316	-$34	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	$5,556	$10,683	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02SRA	FY02 Act01-02SRA	FY03 Act03-04SRA	FY04 Act03-04SRA	FY05 Act05-06S RA	FY06 Act05-06S RA	FY07 RC Budget07	FY08 RC Budget07
								0	0	0	0	$9,702	$19,261	0	0
				789	Attend Training		400	$94,874	$91,525	$158,166	$194,299	$426,170	$409,253	0	0
								$94,874	$91,525	$158,166	$194,299	$426,170	$409,253	0	0
						Labor	150	$249,808	$221,081	$202,982	$314,306	$545,335	$437,081	$304,649	$315,366
							155	-$32,730	-$21,053	-$5,665	-$71,096	-$105,089	-$54,524	0	0
							421	0	0	0	0	0	0	$36,593	$37,624
								$217,078	$200,027	$197,316	$243,210	$440,246	$382,557	$341,242	$352,990
						Non-Labor	405	0	0	0	0	0	0	$82,120	$84,955
							406	0	0	0	0	0	0	$32,041	$34,446
							422	0	0	0	0	0	0	$105,657	$102,135
							423	0	0	0	0	0	0	$24,920	$25,892
								0	0	0	0	0	0	$244,738	$247,428
								$311,951	$291,552	$355,482	$437,508	$866,416	$791,810	$585,981	$600,417
				797	Attend Safety Train...		400	$5,996	$8,150	$10,479	$10,159	$15,387	$18,178	0	0
								$5,996	$8,150	$10,479	$10,159	$15,387	$18,178	0	0
						Labor	150	$15,076	$19,283	$12,888	$15,139	$20,247	$19,327	$27,670	$28,643
							155	$256	-$490	$462	-$248	-$2,130	-$993	0	0
							421	0	0	0	0	0	0	$3,323	$3,416
								$15,332	$18,793	$13,350	$14,891	$18,117	$18,334	$30,993	$32,059
						Non-Labor	405	0	0	0	0	0	0	$7,457	$7,714
							406	0	0	0	0	0	0	$2,909	$3,128
							422	0	0	0	0	0	0	$9,594	$9,274
							423	0	0	0	0	0	0	$2,263	$2,352
								0	0	0	0	0	0	$22,224	$22,468
								$21,328	$26,943	$23,829	$25,050	$33,504	$36,512	$53,217	$54,527
								$343,704	$321,697	$380,141	$464,798	$933,637	$886,482	$639,197	$654,945
		PIX	Waiau St...	785	Plan Emp Trng & Dev		400	$0	$94	$0	$730	$121	$8,200	0	0
								$0	$94	$0	$730	$121	$8,200	0	0
						Labor	150	$0	$209	$0	$1,281	$158	$9,700	0	0
							155	$0	$3	$0	$192	-$24	$515	0	0
								$0	$212	$0	$1,473	$134	$10,215	0	0
								$0	$306	$0	$2,203	$254	$18,415	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
184	CLRNG ACCTS	PIX	Waiau St...	789	Attend Training		400	$18,884	$19,947	$26,654	$26,006	$68,252	$39,519	0	0
								$18,884	$19,947	$26,654	$26,006	$68,252	$39,519	0	0
						Labor	150	$49,473	$47,782	$33,717	$44,730	$91,425	$44,239	$103,229	$101,325
							155	-$1,318	$1,970	$2,551	$1,185	$3,065	$1,451	0	0
							421	0	0	0	0	0	0	$10,982	$10,696
								$48,155	$49,752	$36,268	$45,915	$94,490	$45,690	$114,212	$112,021
						Non-Labor	405	0	0	0	0	0	0	$24,646	$24,151
							406	0	0	0	0	0	0	$9,616	$9,792
							422	0	0	0	0	0	0	$31,709	$29,035
							423	0	0	0	0	0	0	$8,444	$8,319
								0	0	0	0	0	0	$74,415	$71,298
								$67,040	$69,699	$62,922	$71,921	$162,742	$85,209	$188,627	$183,319
				797	Attend Safety Train...		400	$6,674	$6,847	$17,787	$10,728	$16,480	$19,353	0	0
								$6,674	$6,847	$17,787	$10,728	$16,480	$19,353	0	0
						Labor	150	$17,823	$16,617	$21,650	$16,911	$22,045	$22,411	$12,980	$13,448
							155	-$610	$190	$1,762	$832	$905	$758	0	0
							421	0	0	0	0	0	0	$1,380	$1,419
								$17,213	$16,808	$23,412	$17,743	$22,950	$23,170	$14,360	$14,867
						Non-Labor	405	0	0	0	0	0	0	$3,097	$3,204
							406	0	0	0	0	0	0	$1,209	$1,299
							422	0	0	0	0	0	0	$3,985	$3,852
							423	0	0	0	0	0	0	$1,062	$1,104
								0	0	0	0	0	0	$9,353	$9,460
								$23,888	$23,654	$41,199	$28,471	$39,430	$42,522	$23,713	$24,327
								$90,927	$93,659	$104,121	$102,595	$202,426	$146,146	$212,340	$207,646
								$1,282,568	$1,313,418	$1,314,844	$1,601,796	$2,875,147	$2,758,990	$3,088,688	$3,148,375
1861	CHGS BILL ASS...	PIB	Admin-P...	789	Attend Training	Non-Labor	205	0	0	$0	$298	0	0	0	0
							521	0	0	$0	$290	0	0	0	0
								0	0	$0	$588	0	0	0	0
								0	0	$0	$588	0	0	0	0
								0	0	$0	$588	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
1861	CHGS BILL ASS...	PIK	Kahe Stn...	789	Attend Training		400	0	0	$0	$1,979	0	0	0	0
								0	0	$0	$1,979	0	0	0	0
						Labor	150	0	0	$0	$2,375	0	0	0	0
							155	0	0	$0	$503	0	0	0	0
								0	0	$0	$2,879	0	0	0	0
								0	0	$0	$4,858	0	0	0	0
								0	0	$0	$4,858	0	0	0	0
		PIL	Kahe Stn...	788	Conduct Empl Train...		400	0	0	0	0	$50	$419	0	0
								0	0	0	0	$50	$419	0	0
						Labor	150	0	0	0	0	$70	$481	0	0
							155	0	0	0	0	$7	$28	0	0
							421	0	0	0	0	0	0	0	0
								0	0	0	0	$77	$509	0	0
						Non-Labor	201	0	0	0	0	$0	$7	0	0
							405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
							522	0	0	0	0	$0	$154	0	0
								0	0	0	0	$0	$161	0	0
								0	0	0	0	$127	$1,089	0	0
								0	0	0	0	$127	$1,089	0	0
		PIT	Traveling...	788	Conduct Empl Train...		400	0	0	0	0	$352	$0	0	0
								0	0	0	0	$352	$0	0	0
						Labor	150	0	0	0	0	$443	$0	0	0
							155	0	0	0	0	-$18	$0	0	0
								0	0	0	0	$425	$0	0	0
								0	0	0	0	$776	$0	0	0
				789	Attend Training		400	0	0	$0	$1,437	0	0	0	0
								0	0	$0	$1,437	0	0	0	0
						Labor	150	0	0	$0	$1,791	0	0	0	0
							155	0	0	$0	-$461	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
1861	CHGS BILL ASS...	PIT	Traveling...	789	Attend Training	Labor		0	0	$0	$1,330	0	0	0	0
								0	0	$0	$2,767	0	0	0	0
								0	0	$0	$2,767	$776	$0	0	0
								0	*0*	*$0*	*$8,213*	*$903*	*$1,089*	*0*	*0*
506	MISC STM PWR...	PIA	Admin-P...	788	Conduct Empl Train...	Labor	150	0	0	0	0	0	0	$0	$0
							421	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
				789	Attend Training		400	0	0	$0	$1,096	$3,537	$147	0	0
								0	0	$0	$1,096	$3,537	$147	0	0
						Labor	150	0	0	$0	$2,328	$6,211	$110	$5,538	$5,909
							155	0	0	$0	-$144	$108	-$3	0	0
							421	0	0	0	0	0	0	$435	$447
								0	0	$0	$2,184	$6,318	$107	$5,972	$6,356
						Non-Labor	405	0	0	0	0	0	0	$975	$1,009
							406	0	0	0	0	0	0	$380	$409
							422	0	0	0	0	0	0	$1,255	$1,213
							423	0	0	0	0	0	0	$453	$485
							520	0	0	0	0	$1,064	$0	$1,100	$1,100
								0	0	0	0	$1,064	$0	$4,163	$4,216
								0	0	$0	$3,280	$10,920	$254	$10,135	$10,571
								0	0	$0	$3,280	$10,920	$254	$10,135	$10,571
		PIB	Admin-P...	787	Dev Empl Training		400	$4,802	$8,637	$14,512	$12,724	$17,513	$0	0	0
								$4,802	$8,637	$14,512	$12,724	$17,513	$0	0	0
						Labor	150	$12,012	$20,427	$18,293	$20,229	$22,109	$0	$51,120	$52,577
							155	-$1,023	-$1,337	-$407	-$2,061	$2,734	$0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
506	MISC STM PWR...	PIB	Admin-P...	787	Dev Empl Training	Labor	421	0	0	0	0	0	0	$6,049	$6,224
								$10,990	$19,090	$17,886	$18,168	$24,844	$0	$57,169	$58,801
						Non-Labor	205	0	0	$0	$79	0	0	0	0
							405	0	0	0	0	0	0	$13,575	$14,054
							406	0	0	0	0	0	0	$5,297	$5,698
							422	0	0	0	0	0	0	$17,466	$16,896
							423	0	0	0	0	0	0	$4,182	$4,317
							501	0	0	$145	$0	0	0	0	0
								0	0	$145	$79	0	0	$40,519	$40,964
								$15,791	$27,726	$32,542	$30,971	$42,357	$0	$97,689	$99,765
				788	Conduct Empl Train...		400	$1,491	$1,143	$1,496	$4,542	$3,322	$0	0	0
								$1,491	$1,143	$1,496	$4,542	$3,322	$0	0	0
						Labor	150	$3,951	$3,074	$2,038	$7,219	$4,053	$0	$11,268	$11,655
							155	-$457	-$296	-$163	-$1,023	$291	$0	0	0
							421	0	0	0	0	0	0	$1,333	$1,380
								$3,493	$2,778	$1,875	$6,196	$4,344	$0	$12,601	$13,035
						Non-Labor	405	0	0	0	0	0	0	$2,992	$3,115
							406	0	0	0	0	0	0	$1,167	$1,263
							422	0	0	0	0	0	0	$3,850	$3,745
							423	0	0	0	0	0	0	$922	$957
								0	0	0	0	0	0	$8,931	$9,081
								$4,985	$3,921	$3,371	$10,738	$7,665	$0	$21,533	$22,115
								$20,776	$31,648	$35,913	$41,709	$50,022	$0	$119,221	$121,881
		PIK	Kahe Stn...	787	Dev Empl Training		400	$46	$0	$0	$8,227	0	0	0	0
								$46	$0	$0	$8,227	0	0	0	0
						Labor	150	$123	$0	$0	$13,794	0	0	0	0
							155	$24	$0	$0	$2,023	0	0	0	0
								$147	$0	$0	$15,817	0	0	0	0
								$193	$0	$0	$24,044	0	0	0	0
				788	Conduct Empl Train...		400	$0	$890	$362	$2,086	0	0	0	0
								$0	*$890*	*$362*	*$2,086*	*0*	*0*	*0*	*0*
						Labor	150	$0	$2,539	$475	$3,502	0	0	$0	$0
							155	$0	$97	$43	$506	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
506	MISC STM PWR...	PIK	Kahe Stn...	788	Conduct Empl Train...	Labor	421	0	0	0	0	0	0	$0	$0
								$0	$2,636	$518	$4,009	0	0	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
								$0	$3,526	$880	$6,094	0	0	$0	$0
								$193	$3,526	$880	$30,139	0	0	$0	$0
		PIL	Kahe Stn...	796	Prov & Mg Fire Prot...		400	0	0	$91	$0	$162	$0	0	0
								0	0	$91	$0	$162	$0	0	0
						Labor	150	0	0	$130	$0	$210	$0	0	0
							155	0	0	-$9	$0	-$22	$0	0	0
								0	0	$122	$0	$187	$0	0	0
								0	0	$212	$0	$349	$0	0	0
								0	0	$212	$0	$349	$0	0	0
		PIO	Operatio...	788	Conduct Empl Train...		400	$0	$110	$84	$0	0	0	0	0
								$0	$110	$84	$0	0	0	0	0
						Labor	150	$0	$293	$130	$0	0	0	0	0
							155	$0	$46	$15	$0	0	0	0	0
								$0	$339	$145	$0	0	0	0	0
								$0	$449	$229	$0	0	0	0	0
								$0	$449	$229	$0	0	0	0	0
		PIP	Plan & E...	787	Dev Empl Training		400	$765	$27	$0	$260	$1,643	$0	0	0
								$765	$27	$0	$260	$1,643	$0	0	0
						Labor	150	$1,962	$58	$0	$347	$2,453	$0	0	0
							155	$106	$3	$0	$37	$82	$0	0	0
							421	0	0	0	0	0	0	0	0
								$2,069	$61	$0	$385	$2,535	$0	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
506	MISC STM PWR...	PIP	Plan & E...	787	Dev Empl Training	Non-Labor	406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								$2,833	$88	$0	$644	$4,178	$0	0	0
				788	Conduct Empl Train...		400	$643	$415	$3,881	$379	$551	$522	0	0
								$643	$415	$3,881	$379	$551	$522	0	0
						Labor	150	$1,655	$1,006	$5,032	$546	$714	$621	$0	$0
							155	*$63*	*$93*	*$176*	*$75*	*$47*	*$15*	*0*	*0*
							421	0	0	0	0	0	0	$0	$0
								$1,718	$1,098	$5,208	$621	$761	$636	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
								$2,361	$1,514	$9,089	$1,000	$1,311	$1,158	$0	$0
								$5,194	$1,602	$9,089	$1,644	$5,490	$1,158	$0	$0
		PIW	Waiau St...	787	Dev Empl Training		400	0	0	$0	$6,177	$23,046	$0	0	0
								0	*0*	*$0*	*$6,177*	*$23,046*	*$0*	*0*	*0*
						Labor	150	0	0	$0	$10,375	$32,345	$0	0	0
							155	0	0	$0	$1,219	$1,369	$0	0	0
							421	0	0	0	0	0	0	0	0
								0	0	$0	$11,594	$33,714	$0	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								0	0	$0	$17,770	$56,759	$0	0	0
				788	Conduct Empl Train...		400	0	0	$1,567	$2,233	$8,065	$0	0	0
								0	0	$1,567	$2,233	$8,065	$0	0	0
						Labor	150	0	0	$1,275	$3,767	$11,188	$0	$0	$0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
506	MISC STM PWR...	PIW	Waiau St...	788	Conduct Empl Train...	Labor	155	0	0	$248	$443	$570	$0	0	0
							421	0	0	0	0	0	0	$0	$0
								0	0	$1,523	$4,209	$11,758	$0	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
								0	0	$3,089	$6,442	$19,823	$0	$0	$0
								0	0	$3,089	$24,212	$76,582	$0	$0	$0
		PIX	Waiau St...	788	Conduct Empl Train...		400	0	0	$370	$0	0	0	0	0
								0	0	$370	$0	0	0	0	0
						Labor	150	0	0	$568	$0	0	0	$0	$0
							155	0	0	$26	$0	0	0	0	0
							421	0	0	0	0	0	0	$0	$0
								0	0	$594	$0	0	0	$0	$0
						Non-Labor	405	0	0	0	0	0	0	$0	$0
							406	0	0	0	0	0	0	$0	$0
							422	0	0	0	0	0	0	$0	$0
							423	0	0	0	0	0	0	$0	$0
								0	0	0	0	0	0	$0	$0
								0	0	$964	$0	0	0	$0	$0
				789	Attend Training		400	0	0	$0	$2,380	0	0	0	0
								0	0	$0	$2,380	0	0	0	0
						Labor	150	0	0	$0	$3,716	0	0	0	0
							155	0	0	$0	-$5	0	0	0	0
								0	0	$0	$3,711	0	0	0	0
								0	0	$0	$6,090	0	0	0	0
				796	Prov & Mg Fire Prot...		400	0	0	0	0	$50	$64	0	0
								0	0	0	0	$50	$64	0	0
						Labor	150	0	0	0	0	$70	$72	0	0
							155	0	0	0	0	$11	$18	0	0
								0	0	0	0	$81	$90	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02SRA	FY02 Act01-02SRA	FY03 Act03-04SRA	FY04 Act03-04SRA	FY05 Act05-06S RA	FY06 Act05-06S RA	FY07 RC Budget07	FY08 RC Budget07
								0	0	0	0	$131	$154	0	0
								0	0	$964	$6,090	$131	$154	$0	$0
								$26,163	$37,224	$50,377	$107,074	$143,494	$1,566	$129,357	$132,452
514	MAINT MISC ST...	PIB	Admin-P...	787	Dev Empl Training		400	$6,796	$7,824	$14,134	$12,141	$16,288	$0	0	0
								$6,796	$7,824	$14,134	$12,141	$16,288	$0	0	0
						Labor	150	$16,704	$18,383	$17,795	$19,382	$20,610	$0	$51,120	$52,577
							155	-$1,112	-$1,182	-$410	-$2,135	$2,760	$0	0	0
							421	0	0	0	0	0	0	$6,049	$6,224
								$15,592	$17,201	$17,385	$17,247	$23,371	$0	$57,169	$58,801
						Non-Labor	201	$0	$15	0	0	0	0	0	0
							205	$0	$653	0	0	0	0	0	0
							405	0	0	0	0	0	0	$13,575	$14,054
							406	0	0	0	0	0	0	$5,297	$5,698
							422	0	0	0	0	0	0	$17,466	$16,896
							423	0	0	0	0	0	0	$4,182	$4,317
								$0	$668	0	0	0	0	$40,519	$40,964
								$22,388	$25,692	$31,519	$29,388	$39,659	$0	$97,689	$99,765
				788	Conduct Empl Train...		400	$266	$42	$93	$359	$95	$0	0	0
								$266	$42	$93	$359	$95	$0	0	0
						Labor	150	$610	$92	$124	$647	$115	$0	$10,152	$10,508
							155	-$4	-$12	-$11	-$18	-$2	$0	0	0
							421	0	0	0	0	0	0	$1,201	$1,244
								$606	$80	$113	$629	$114	$0	$11,353	$11,752
						Non-Labor	405	0	0	0	0	0	0	$2,696	$2,809
							406	0	0	0	0	0	0	$1,052	$1,139
							422	0	0	0	0	0	0	$3,469	$3,377
							423	0	0	0	0	0	0	$830	$863
								0	0	0	0	0	0	$8,047	$8,187
								$872	$122	$206	$987	$208	$0	$19,400	$19,939
								$23,260	$25,815	$31,725	$30,375	$39,867	$0	$117,089	$119,704
		PIK	Kahe Stn...	787	Dev Empl Training		400	$0	$196	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
514	MAINT MISC ST...	PIK	Kahe Stn...	787	Dev Empl Training			$0	$196	0	0	0	0	0	0
						Labor	150	$0	$362	0	0	0	0	0	0
							155	$0	$28	0	0	0	0	0	0
								$0	$390	0	0	0	0	0	0
								$0	$587	0	0	0	0	0	0
				788	Conduct Empl Train...		400	$0	$60	0	0	0	0	0	0
								$0	$60	0	0	0	0	0	0
						Labor	150	$0	$135	0	0	0	0	0	0
							155	$0	$22	0	0	0	0	0	0
								$0	$158	0	0	0	0	0	0
								$0	$218	0	0	0	0	0	0
								$0	$804	0	0	0	0	0	0
		PIL	Kahe Stn...	787	Dev Empl Training		400	$0	$2,901	0	0	0	0	0	0
								$0	$2,901	0	0	0	0	0	0
						Labor	150	$0	$7,160	0	0	0	0	0	0
							155	$0	$401	0	0	0	0	0	0
								$0	$7,561	0	0	0	0	0	0
								$0	$10,462	0	0	0	0	0	0
				796	Prov & Mg Fire Prot...		400	$184	$0	$1	$0	0	0	0	0
								$184	$0	$1	$0	0	0	0	0
						Labor	150	$487	$0	0	0	0	0	0	0
							155	-$30	$0	$10	$0	0	0	0	0
								$457	$0	$10	$0	0	0	0	0
								$641	$0	$11	$0	0	0	0	0
								$641	$10,462	$11	$0	0	0	0	0
		PIP	Plan & E...	787	Dev Empl Training		400	$0	$349	$0	$86	$1,385	$261	0	0
								$0	$349	$0	$86	$1,385	$261	0	0
						Labor	150	$0	$827	$0	$141	$2,161	$282	0	0
							155	$0	-$146	$0	$13	$0	$10	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
514	MAINT MISC ST...	PIP	Plan & E...	787	Dev Empl Training	Labor		$0	$680	$0	$154	$2,161	$293	0	0
								$0	$1,030	$0	$240	$3,546	$554	0	0
				788	Conduct Empl Train...		400	$321	$1,338	$1,284	$62	$640	$1,823	0	0
								$321	$1,338	$1,284	$62	$640	$1,823	0	0
						Labor	150	$842	$3,462	$1,551	$99	$904	$2,066	0	0
							155	$5	-$90	$166	$11	$56	$56	0	0
								$846	$3,372	$1,717	$111	$959	$2,122	0	0
								$1,167	$4,710	$3,001	$173	$1,599	$3,945	0	0
								$1,167	$5,740	$3,001	$413	$5,145	$4,499	0	0
		PIR	PS Tech ...	787	Dev Empl Training	Non-Labor	205	$0	$55	0	0	0	0	0	0
								$0	$55	0	0	0	0	0	0
								$0	$55	0	0	0	0	0	0
								$0	$55	0	0	0	0	0	0
		PIT	Traveling...	787	Dev Empl Training		400	$0	$285	0	0	0	0	0	0
								$0	$285	0	0	0	0	0	0
						Labor	150	$0	$734	0	0	0	0	0	0
							155	$0	-$76	0	0	0	0	0	0
								$0	$658	0	0	0	0	0	0
								$0	$944	0	0	0	0	0	0
								$0	$944	0	0	0	0	0	0
		PIW	Waiau St...	788	Conduct Empl Train...		400	$0	$67	0	0	0	0	0	0
								$0	$67	0	0	0	0	0	0
						Labor	150	$0	$99	0	0	0	0	0	0
							155	$0	$2	0	0	0	0	0	0
								$0	$101	0	0	0	0	0	0
								$0	$168	0	0	0	0	0	0
								$0	$168	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
514	MAINT MISC ST...	PIX	Waiau St...	787	Dev Empl Training		400	$0	$3,557	0	0	0	0	0	0
								$0	$3,557	0	0	0	0	0	0
						Labor	150	$0	$8,758	0	0	0	0	0	0
							155	$0	$889	0	0	0	0	0	0
								$0	$9,648	0	0	0	0	0	0
								$0	$13,205	0	0	0	0	0	0
								$0	$13,205	0	0	0	0	0	0
								$25,068	$57,192	$34,736	$30,788	$45,012	$4,499	$117,089	$119,704
557	OTH PWR SUP...	PIC	Power P...	789	Attend Training		400	$231	$0	0	0	0	0	0	0
								$231	$0	0	0	0	0	0	0
						Labor	150	$465	$0	0	0	0	0	0	0
							155	$81	$0	0	0	0	0	0	0
								$545	$0	0	0	0	0	0	0
								$776	$0	0	0	0	0	0	0
								$776	$0	0	0	0	0	0	0
								$776	$0	0	0	0	0	0	0
925	INJURIES & DA...	PIA	Admin-P...	795	Mg Safety Pgm & T...	Non-Labor	201	$550	$532	$99	$280	$241	$244	0	0
							205	$123	$78	0	0	0	0	0	0
							900	-$84	-$10	0	0	-$17	-$13	0	0
								$589	$600	$99	$280	$224	$230	0	0
								$589	$600	$99	$280	$224	$230	0	0
								$589	$600	$99	$280	$224	$230	0	0
		PIB	Admin-P...	795	Mg Safety Pgm & T...		400	0	0	$0	$65	0	0	0	0
								0	0	$0	$65	0	0	0	0
						Labor	150	0	0	$0	$98	0	0	0	0
							155	0	0	$0	-$15	0	0	0	0
								0	0	$0	$84	0	0	0	0
						Non-Labor	201	$35,774	$30,493	$24,434	$29,915	$38,692	$50,448	$38,400	$38,400

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
925	INJURIES & DA...	PIB	Admin-P...	795	Mg Safety Pgm & T...	Non-Labor	205	$3,079	$884	0	0	0	0	0	0
							401	0	0	0	0	0	0	$4,243	$4,097
							900	-$1,112	-$1,336	-$603	-$516	-$1,307	-$1,267	0	0
								$37,741	$30,041	$23,832	$29,400	$37,384	$49,181	$42,643	$42,497
								$37,741	$30,041	$23,832	$29,549	$37,384	$49,181	$42,643	$42,497
								$37,741	$30,041	$23,832	$29,549	$37,384	$49,181	$42,643	$42,497
		PIH	Honolulu...	795	Mg Safety Pgm & T...		400	$115	$132	$0	$201	0	0	0	0
								$115	$132	$0	$201	0	0	0	0
						Labor	150	$273	$266	$0	$290	0	0	0	0
							155	$20	$4	$0	$24	0	0	0	0
								$292	$269	$0	$313	0	0	0	0
						Non-Labor	201	$664	$764	$1,324	$2,040	$870	$2,583	$1,200	$1,200
							205	$795	$23	$11	$0	0	0	0	0
							401	0	0	0	0	0	0	$133	$128
								$1,459	$787	$1,336	$2,040	$870	$2,583	$1,333	$1,328
								$1,866	$1,189	$1,336	$2,554	$870	$2,583	$1,333	$1,328
								$1,866	$1,189	$1,336	$2,554	$870	$2,583	$1,333	$1,328
		PIK	Kahe Stn...	795	Mg Safety Pgm & T...		400	$253	$288	$1,167	$153	$498	$59	0	0
								$253	$288	$1,167	$153	$498	$59	0	0
						Labor	150	$669	$682	$1,545	$194	$543	$42	0	0
							155	$9	-$2	$55	-$1	$9	$0	0	0
								$678	$680	$1,600	$193	$552	$42	0	0
						Non-Labor	201	$3,726	$5,460	$1,818	$3,452	$10,010	$6,051	$10,800	$10,800
							205	$0	$50	0	0	$0	$250	0	0
							401	0	0	0	0	0	0	$1,193	$1,152
								$3,726	$5,510	$1,818	$3,452	$10,010	$6,301	$11,993	$11,952
								$4,656	$6,478	$4,586	$3,798	$11,061	$6,402	$11,993	$11,952
								$4,656	$6,478	$4,586	$3,798	$11,061	$6,402	$11,993	$11,952
		PIL	Kahe Stn...	795	Mg Safety Pgm & T...		400	$328	$539	$2,521	$1,520	$1,374	$1,420	0	0
								$328	$539	$2,521	$1,520	$1,374	$1,420	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
925	INJURIES & DA...	PIL	Kahe Stn...	795	Mg Safety Pgm & T...	Labor	150	$807	$1,315	$3,243	$2,464	$1,782	$1,603	0	0
							155	$35	-$17	$112	$58	$38	$147	0	0
							421	0	0	0	0	0	0	0	0
								$842	$1,298	$3,355	$2,523	$1,820	$1,750	0	0
						Non-Labor	201	$6,073	$5,358	$7,522	$12,290	$8,517	$4,981	$10,800	$12,000
							205	$1,542	$725	$42	$0	$194	$96	0	0
							401	0	0	0	0	0	0	$1,193	$1,280
							405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								$7,615	$6,083	$7,563	$12,290	$8,711	$5,077	$11,993	$13,280
								$8,785	$7,920	$13,439	$16,333	$11,905	$8,247	$11,993	$13,280
								$8,785	$7,920	$13,439	$16,333	$11,905	$8,247	$11,993	$13,280
		PIN	Honolulu...	795	Mg Safety Pgm & T...		400	$753	$905	$1,678	$954	$615	$1,333	0	0
								$753	$905	$1,678	$954	$615	$1,333	0	0
						Labor	150	$2,000	$2,078	$2,127	$1,478	$831	$1,515	0	0
							155	-$11	$119	$128	$18	-$3	$34	0	0
								$1,990	$2,197	$2,255	$1,496	$828	$1,549	0	0
						Non-Labor	201	$306	$1,167	$65	$3,118	$415	$3,830	0	0
							205	$142	$505	$0	$30	$1,337	$0	0	0
							423	0	0	0	0	0	0	0	0
								$448	$1,672	$65	$3,148	$1,752	$3,830	0	0
								$3,191	$4,774	$3,998	$5,599	$3,195	$6,711	0	0
								$3,191	$4,774	$3,998	$5,599	$3,195	$6,711	0	0
		PIO	Operatio...	795	Mg Safety Pgm & T...		400	0	0	$0	$78	$85	$122	0	0
								0	0	$0	$78	$85	$122	0	0
						Labor	150	0	0	$0	$183	$99	$141	0	0
							155	0	0	$0	$0	-$12	-$29	0	0
								0	0	$0	$182	$87	$112	0	0
						Non-Labor	201	0	0	0	0	0	0	0	0
							401	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
925	INJURIES & DA...	PIO	Operatio...	795				0	0	$0	$260	$172	$233	0	0
								0	0	$0	$260	$172	$233	0	0
		PIP	Plan & E...	795	Mg Safety Pgm & T...		400	$849	$760	$481	$412	$188	$1,514	0	0
								$849	$760	$481	$412	$188	$1,514	0	0
						Labor	150	$2,282	$1,885	$599	$579	$217	$1,582	0	0
							155	-$117	-$2	-$51	-$71	$2	$33	0	0
							421	0	0	0	0	0	0	0	0
								$2,165	$1,883	$548	$509	$219	$1,615	0	0
						Non-Labor	405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								0	0	0	0	0	0	0	0
								$3,014	$2,643	$1,030	$921	$407	$3,130	0	0
								$3,014	$2,643	$1,030	$921	$407	$3,130	0	0
		PIT	Traveling...	795	Mg Safety Pgm & T...		400	$2,216	$3,197	$5,976	$2,470	$1,852	$2,850	0	0
								$2,216	$3,197	$5,976	$2,470	$1,852	$2,850	0	0
						Labor	150	$6,011	$8,210	$7,940	$3,689	$2,488	$3,239	0	0
							155	-$93	-$483	$332	$205	$152	$45	0	0
							421	0	0	0	0	0	0	0	0
								$5,919	$7,727	$8,272	$3,894	$2,640	$3,284	0	0
						Non-Labor	201	$7,939	$2,722	$7,509	$4,685	$3,407	$3,568	0	0
							205	$844	$240	$282	$101	$152	$206	0	0
							405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
								$8,783	$2,963	$7,791	$4,786	$3,560	$3,774	0	0
								$16,918	$13,887	$22,038	$11,150	$8,051	$9,908	0	0
								$16,918	$13,887	$22,038	$11,150	$8,051	$9,908	0	0
		PIW	Waiau St...	795	Mg Safety Pgm & T...		400	$39	$0	$0	$22	$0	$69	0	0
								$39	$0	$0	$22	$0	$69	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	FY01 Act01-02$RA	FY02 Act01-02$RA	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 RC Budget07	FY08 RC Budget07
925	INJURIES & DA...	PIW	Waiau St...	795	Mg Safety Pgm & T...	Labor	150	$106	$0	$0	$32	$0	$75	0	0
							155	-$1	$0	$0	$2	$0	-$1	0	0
								$105	$0	$0	$34	$0	$74	0	0
						Non-Labor	201	$4,605	$4,267	$2,471	$5,862	$18,081	$10,145	$18,000	$18,000
							205	$49	$0	0	0	$0	$250	0	0
							401	0	0	0	0	0	0	$1,989	$1,921
								$4,654	$4,267	$2,471	$5,862	$18,081	$10,395	$19,989	$19,921
								$4,798	$4,267	$2,471	$5,919	$18,081	$10,538	$19,989	$19,921
								$4,798	$4,267	$2,471	$5,919	$18,081	$10,538	$19,989	$19,921
		PIX	Waiau St...	795	Mg Safety Pgm & T...		400	$355	$520	$791	$749	$74	$154	0	0
								$355	$520	$791	$749	$74	$154	0	0
						Labor	150	$912	$1,401	$975	$1,146	$105	$181	0	0
							155	$50	$321	$119	$212	-$5	-$21	0	0
							421	0	0	0	0	0	0	0	0
								$962	$1,721	$1,094	$1,358	$100	$160	0	0
						Non-Labor	201	$9,399	$4,058	$14,636	$41,763	$18,576	$60,147	$30,000	$30,000
							205	$3,801	$2,785	$3,845	$3,176	$466	$1,881	0	0
							401	0	0	0	0	0	0	$3,315	$3,201
							405	0	0	0	0	0	0	0	0
							406	0	0	0	0	0	0	0	0
							422	0	0	0	0	0	0	0	0
							423	0	0	0	0	0	0	0	0
							501	0	0	0	0	0	0	0	0
								$13,200	$6,843	$18,481	$44,939	$19,041	$62,028	$33,315	$33,201
								$14,517	$9,085	$20,366	$47,046	$19,215	$62,343	$33,315	$33,201
								$14,517	$9,085	$20,366	$47,046	$19,215	$62,343	$33,315	$33,201
								$96,075	$80,883	$93,194	$123,408	$110,565	$159,506	$121,267	$122,180
								$1,430,651	$1,488,717	$1,493,151	$1,871,280	$3,175,121	$2,925,650	$3,456,400	$3,522,710

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIA	Admin-P...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$41	$0	$0	$0	$41
							155	$0	-$14	$0	$0	$0	-$14
							421	$0	$4	$0	$0	$0	$4
								$0	$32	$0	$0	$0	$32
						Non-Labor	301	0	0	0	0	0	0
							405	$0	$10	$0	$0	$0	$10
							406	$0	$4	$0	$0	$0	$4
							422	$0	$12	$0	$0	$0	$12
							423	$0	$2	$0	$0	$0	$2
								$0	$28	$0	$0	$0	$28
								$0	$60	$0	$0	$0	$60
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$77	$0	$0	$0	$0	$77
							155	-$9	$0	$0	$0	$0	-$9
							421	$9	$0	$0	$0	$0	$9
								$77	$0	$0	$0	$0	$77
						Non-Labor	405	$19	$0	$0	$0	$0	$19
							406	$7	$0	$0	$0	$0	$7
							422	$25	$0	$0	$0	$0	$25
							423	$6	$0	$0	$0	$0	$6
								$57	$0	$0	$0	$0	$57
								$134	$0	$0	$0	$0	$134
								$134	$60	$0	$0	$0	$194
		PIB	Admin-P...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0

Note: Comparison includes on-cost

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIB	Admin-P...	785	Plan Emp Trng & Dev	Labor	155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	0	0	0	0	0	0
							205	0	0	0	0	0	0
							405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
							501	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	205	0	0	0	0	0	0
							405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$428	$0	$0	$428
							155	$0	$0	-$45	$0	$0	-$45
							421	$0	$0	$52	$0	$0	$52
								$0	$0	$435	$0	$0	$435

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIB	Admin-P...	788	Conduct Empl Train...	Non-Labor	405	$0	$0	$119	$0	$0	$119
							406	$0	$0	$45	$0	$0	$45
							422	$0	$0	$148	$0	$0	$148
							423	$0	$0	$31	$0	$0	$31
							501	0	0	0	0	0	0
								$0	$0	$344	$0	$0	$344
								$0	$0	$779	$0	$0	$779
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$285	$742	$0	$571	$1,598
							155	$0	$54	-$15	$0	-$74	-$34
							421	$0	$35	$73	$0	$69	$177
								$0	$374	$801	$0	$566	$1,741
						Non-Labor	201	0	0	0	0	0	0
							205	$620	$0	$0	$0	$0	$620
							405	$0	$80	$169	$0	$184	$433
							406	$0	$30	$63	$0	$53	$146
							422	$0	$99	$210	$0	$192	$501
							423	$0	$28	$59	$0	$36	$124
							501	$31,902	$0	$3,294	$1,360	$0	$36,556
							520	0	0	0	0	0	0
							521	0	0	0	0	0	0
							522	0	0	0	0	0	0
								$32,522	$236	$3,795	$1,360	$466	$38,379
								$32,522	$610	$4,596	$1,360	$1,032	$40,121
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$193	$53	$94	$41	$617	$999
							155	-$3	-$9	-$12	-$3	-$124	-$150
							421	$23	$6	$11	$4	$73	$118
								$214	$51	$93	$42	$566	$967

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIB	Admin-P...	797	Attend Safety Training	Non-Labor	201	0	0	0	0	0	0
							205	0	0	0	0	0	0
							301	0	0	0	0	0	0
							405	$53	$15	$25	$10	$196	$298
							406	$21	$6	$9	$3	$56	$95
							422	$68	$19	$31	$12	$204	$334
							423	$16	$4	$7	$3	$36	$65
							501	0	0	0	0	0	0
								$157	$43	$72	$28	$492	$791
								$371	$94	$165	$70	$1,058	$1,759
								$32,893	$705	$5,541	$1,430	$2,090	$42,659
		PIC	Power P...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$58	$0	$0	$58
							155	$0	$0	$6	$0	$0	$6
							421	$0	$0	$9	$0	$0	$9
								$0	$0	$73	$0	$0	$73
						Non-Labor	405	$0	$0	$20	$0	$0	$20
							406	$0	$0	$7	$0	$0	$7
							422	$0	$0	$24	$0	$0	$24
							423	$0	$0	$5	$0	$0	$5
							501	0	0	0	0	0	0
								$0	$0	$56	$0	$0	$56
								$0	$0	$129	$0	$0	$129
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$82	$0	$0	$0	$0	$82
							155	$8	$0	$0	$0	$0	$8
							421	$9	$0	$0	$0	$0	$9
								$98	$0	$0	$0	$0	$98

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIC	Power P...	797	Attend Safety Training	Non-Labor	405	$19	$0	$0	$0	$0	$19
							406	$7	$0	$0	$0	$0	$7
							422	$25	$0	$0	$0	$0	$25
							423	$7	$0	$0	$0	$0	$7
								$59	$0	$0	$0	$0	$59
								$157	$0	$0	$0	$0	$157
								$157	$0	$129	$0	$0	$285
		PID	PS Train...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	$7	$0	$0	$0	$0	$7
								$7	$0	$0	$0	$0	$7
						Non-Labor	423	$1	$0	$0	$0	$0	$1
								$1	$0	$0	$0	$0	$1
								$7	$0	$0	$0	$0	$7
				787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$8,245	$8,245	$5,458	$9,555	$11,337	$42,840
							155	$316	$373	$307	$154	-$128	$1,022
							421	$910	$903	$613	$1,056	$1,246	$4,728
								$9,470	$9,520	$6,379	$10,766	$12,455	$48,590
						Non-Labor	405	$2,039	$2,080	$1,402	$2,387	$3,318	$11,225
							406	$798	$782	$511	$812	$958	$3,860
							422	$2,641	$2,585	$1,739	$2,937	$3,465	$13,367
							423	$700	$705	$453	$711	$820	$3,389
								$6,179	$6,151	$4,104	$6,846	$8,561	$31,841
								$15,649	$15,672	$10,482	$17,612	$21,016	$80,431
				788	Conduct Empl Train...		400	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PID	PS Train...	788	Conduct Empl Train...			0	0	0	0	0	0
						Labor	150	$0	$1,890	$481	$0	$1,783	$4,154
							155	$0	-$56	$0	$0	-$229	-$285
							421	$0	$229	$58	$0	$216	$503
								$0	$2,063	$540	$0	$1,770	$4,372
						Non-Labor	301	$0	$0	$55	$0	$0	$55
							405	$0	$527	$134	$0	$575	$1,237
							406	$0	$198	$50	$0	$166	$415
							422	$0	$656	$167	$0	$601	$1,423
							423	$0	$150	$39	$0	$114	$303
								$0	$1,531	$446	$0	$1,455	$3,433
								$0	$3,594	$986	$0	$3,225	$7,805
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$409	$214	$0	$0	$623
							155	$0	$28	$4	$0	$0	$32
							421	$0	$43	$26	$0	$0	$69
								$0	$481	$244	$0	$0	$724
						Non-Labor	201	$0	$0	$0	$2,249	$16	$2,265
							205	$0	$0	$2,263	$50	$601	$2,914
							405	$0	$100	$60	$0	$0	$159
							406	$0	$37	$22	$0	$0	$60
							422	$0	$124	$74	$0	$0	$198
							423	$0	$36	$18	$0	$0	$54
							501	$8,625	$0	$400	$12,910	$2,400	$24,335
							520	$0	$0	$0	$0	$1,835	$1,835
								$8,625	$296	$2,837	$15,209	$4,852	$31,820
								$8,625	$777	$3,081	$15,209	$4,852	$32,545
				797	Attend Safety Training	Labor	150	$36	$0	$0	$0	$0	$36
							155	-$1	$0	$0	$0	$0	-$1
							421	$4	$0	$0	$0	$0	$4

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PID	PS Train...	797	Attend Safety Training	Labor		$39	$0	$0	$0	$0	$39
						Non-Labor	405	$10	$0	$0	$0	$0	$10
							406	$4	$0	$0	$0	$0	$4
							422	$12	$0	$0	$0	$0	$12
							423	$3	$0	$0	$0	$0	$3
							501	$0	$0	$0	$302	$0	$302
								$28	$0	$0	$302	$0	$330
								$67	$0	$0	$302	$0	$369
								$24,348	$20,043	$14,549	$33,123	$29,094	$121,157
		PIF	Fuel Res...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$143	$143	$0	$143	$285	$713
							155	-$5	-$5	$0	-$5	$7	-$8
							421	$17	$17	$0	$17	$35	$86
								$155	$155	$0	$155	$326	$792
						Non-Labor	405	$38	$40	$0	$39	$92	$209
							406	$15	$15	$0	$13	$27	$70
							422	$49	$49	$0	$48	$96	$243
							423	$11	$11	$0	$10	$21	$54
								$114	$116	$0	$110	$236	$576
								$269	$271	$0	$265	$563	$1,367
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	*CLRNG ACCTS*	*PIF*						*$269*	*$271*	*$0*	*$265*	*$563*	*$1,367*
		PIH	Honolulu ...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$6,194	$12,629	$10,711	$7,664	$27,783	$64,980
							155	-$232	-$1,740	-$837	-$918	-$5,281	-$9,008
							421	$652	$1,452	$1,218	$855	$3,307	$7,484
								$6,613	$12,340	$11,092	$7,601	$25,809	$63,456
						Non-Labor	405	$1,461	$3,343	$2,804	$1,953	$8,803	$18,365
							406	$572	$1,257	$1,051	$657	$2,541	$6,079
							422	$1,893	$4,156	$3,485	$2,378	$9,194	$21,106
							423	$488	$891	$807	$494	$1,647	$4,326
								$4,414	$9,647	$8,148	$5,482	$22,186	$49,876
								$11,027	$21,987	$19,240	$13,083	$47,995	$113,332
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$0	$0	$348	$348
							155	-$6	$0	$0	$0	$17	$11
							421	$0	$0	$0	$0	$43	$43
								-$6	$0	$0	$0	$409	$403
						Non-Labor	405	$0	$0	$0	$0	$115	$115
							406	$0	$0	$0	$0	$33	$33
							422	$0	$0	$0	$0	$120	$120
							423	-$1	$0	$0	$0	$27	$26

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIH	Honolulu ...	797	Attend Safety Training	Non-Labor		-$1	$0	$0	$0	$295	$295
								-$7	$0	$0	$0	$704	$697
								$11,020	$21,987	$19,240	$13,083	$48,699	$114,029
		PIK	Kahe Stn...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$40,145	$40,879	$47,917	$47,485	$35,456	$211,881
							155	-$3,050	-$8,414	-$10,261	-$8,929	-$2,786	-$33,441
							421	$4,636	$4,832	$5,661	$5,644	$4,130	$24,903
								$41,731	$37,297	$43,316	$44,200	$36,800	$203,344
						Non-Labor	405	$10,393	$11,129	$13,017	$12,785	$10,994	$58,317
							406	$4,070	$4,183	$4,861	$4,338	$3,174	$20,625
							422	$13,462	$13,836	$16,175	$15,691	$11,482	$70,646
							423	$3,034	$2,655	$3,084	$2,823	$2,392	$13,988
								$30,959	$31,803	$37,136	$35,636	$28,041	$163,576
								$72,690	$69,100	$80,453	$79,836	$64,841	$366,920
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$1,672	$1,533	$1,010	$2,976	$7,191
							155	$0	-$735	-$89	-$4	-$146	-$974

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIK	Kahe Stn...	797	Attend Safety Training	Labor	421	$0	$207	$190	$125	$343	$866
								$0	$1,144	$1,634	$1,131	$3,174	$7,083
						Non-Labor	405	$0	$478	$438	$282	$914	$2,112
							406	$0	$180	$165	$96	$264	$704
							422	$0	$594	$544	$348	$955	$2,441
							423	$0	$77	$119	$74	$207	$476
								$0	$1,328	$1,266	$800	$2,340	$5,733
								$0	$2,472	$2,899	$1,931	$5,514	$12,816
								$72,690	$71,572	$83,352	$81,766	$70,355	$379,736
		PIL	Kahe Stn...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$453	$474	$412	$412	$412	$2,162
							155	-$3	-$1	-$1	-$1	$8	$2
							421	$47	$50	$43	$43	$43	$226
								$497	$522	$454	$454	$463	$2,390
						Non-Labor	405	$105	$115	$99	$98	$115	$532
							406	$41	$43	$36	$33	$33	$187
							422	$136	$142	$123	$120	$120	$642
							423	$37	$39	$33	$30	$31	$169
								$319	$339	$291	$282	$299	$1,530
								$816	$860	$745	$735	$762	$3,919
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$781	$2,485	$0	$4,582	$7,848
							155	$0	-$86	-$118	$16	$451	$263
							421	$0	$86	$276	$0	$510	$873
								$0	$782	$2,643	$16	$5,543	$8,984
						Non-Labor	405	$0	$199	$637	$0	$1,357	$2,193
							406	$0	$75	$239	$0	$392	$706

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIL	Kahe Stn...	789	Attend Training	Non-Labor	422	$0	$247	$792	$0	$1,417	$2,456
							423	$0	$57	$193	$1	$368	$620
								$0	$578	$1,861	$1	$3,534	$5,975
								$0	$1,360	$4,504	$17	$9,077	$14,959
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$1,674	$4,690	$1,991	$1,035	$3,823	$13,213
							155	$188	$130	$110	$146	$183	$756
							421	$183	$521	$220	$114	$423	$1,462
								$2,046	$5,340	$2,321	$1,295	$4,429	$15,431
						Non-Labor	405	$411	$1,199	$507	$258	$1,127	$3,502
							406	$161	$451	$191	$88	$325	$1,216
							422	$532	$1,491	$631	$318	$1,177	$4,149
							423	$152	$394	$172	$86	$293	$1,098
								$1,256	$3,534	$1,501	$750	$2,922	$9,964
								$3,302	$8,874	$3,822	$2,045	$7,351	$25,395
								$4,118	$11,095	$9,071	$2,798	$17,191	$44,273
		PIM	Maintena...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$695	$371	$0	$0	$0	$1,066
							155	-$124	$7	-$90	$0	$0	-$208
							421	$64	$35	$0	$0	$0	$98
								$635	$412	-$90	$0	$0	$957
						Non-Labor	405	$143	$80	$0	$0	$0	$223
							406	$56	$30	$0	$0	$0	$86
							422	$186	$99	$0	$0	$0	$285
							423	$47	$31	-$7	$0	$0	$70
								$432	$239	-$7	$0	$0	$664

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIM	Maintena...	785				$1,067	$652	-$98	$0	$0	$1,620
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$232	$0	$0	$232
							155	$0	$0	-$56	$0	$0	-$56
							421	$0	$0	$22	$0	$0	$22
								$0	$0	$198	$0	$0	$198
						Non-Labor	405	$0	$0	$50	$0	$0	$50
							406	$0	$0	$19	$0	$0	$19
							422	$0	$0	$62	$0	$0	$62
							423	$0	$0	$14	$0	$0	$14
							501	0	0	0	0	0	0
							520	0	0	0	0	0	0
								$0	$0	$145	$0	$0	$145
								$0	$0	$343	$0	$0	$343
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$46	$162	$46	$46	$301
							155	$0	-$17	-$29	-$11	-$20	-$76
							421	$0	$4	$15	$4	$4	$28
								$0	$34	$149	$40	$31	$253
						Non-Labor	405	$0	$10	$35	$10	$12	$66
							406	$0	$4	$13	$3	$3	$23
							422	$0	$12	$43	$12	$12	$80
							423	$0	$2	$11	$3	$2	$18
								$0	$28	$102	$28	$29	$187
								$0	$62	$251	$68	$59	$440
								$1,067	$714	$496	$68	$59	$2,403
		PIN	Honolulu ...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIN	Honolulu ...	785	Plan Emp Trng & Dev			0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				787	Dev Empl Training	Labor	150	$0	$0	$247	$412	$947	$1,606
							155	$0	$0	-$12	-$19	-$31	-$62
							421	$0	$0	$26	$43	$99	$168
								$0	$0	$261	$436	$1,016	$1,712
						Non-Labor	405	$0	$0	$58	$97	$265	$420
							406	$0	$0	$20	$33	$76	$129
							422	$0	$0	$72	$120	$276	$468
							423	$0	$0	$17	$29	$67	$113
								$0	$0	$168	$279	$684	$1,131
								$0	$0	$429	$715	$1,700	$2,843
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$1,371	$577	$866	$4,872	$7,687
							155	$0	-$13	$22	$15	-$27	-$4
							421	$0	$164	$69	$104	$583	$920
								$0	$1,522	$669	$985	$5,428	$8,604
						Non-Labor	405	$0	$378	$159	$233	$1,553	$2,323
							406	$0	$142	$60	$80	$448	$730
							422	$0	$470	$198	$288	$1,621	$2,578
							423	$0	$111	$49	$64	$355	$579
								$0	$1,101	$466	$666	$3,977	$6,210
								$0	$2,624	$1,135	$1,650	$9,405	$14,813
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIN	Honolulu ...	797	Attend Safety Training	Labor	150	$299	$670	$415	$343	$361	$2,088
							155	$48	$10	$30	-$2	$4	$90
							421	$34	$78	$50	$41	$43	$246
								$381	$758	$494	$382	$409	$2,424
						Non-Labor	405	$76	$179	$114	$92	$115	$577
							406	$30	$67	$43	$32	$33	$205
							422	$99	$223	$142	$114	$120	$698
							423	$28	$56	$36	$25	$27	$172
								$234	$525	$336	$263	$295	$1,652
								$614	$1,283	$830	$645	$704	$4,076
								$614	$3,906	$2,394	$3,010	$11,808	$21,733
		PIO	Operatio...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$185	$857	$0	$185	$695	$1,924
							155	-$47	-$291	$20	-$22	-$155	-$496
							421	$17	$80	$0	$17	$65	$179
								$155	$646	$20	$180	$605	$1,606

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIO	Operatio...	789	Attend Training	Non-Labor	405	$38	$184	$0	$39	$173	$434
							406	$15	$69	$0	$13	$50	$147
							422	$49	$229	$0	$48	$180	$507
							423	$11	$46	$2	$12	$40	$111
								$114	$528	$2	$112	$442	$1,198
								$269	$1,175	$22	$292	$1,047	$2,805
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$0	$0	$139	$139
							155	$0	$0	$0	$0	-$6	-$6
							421	$0	$0	$0	$0	$13	$13
								$0	$0	$0	$0	$146	$146
						Non-Labor	405	$0	$0	$0	$0	$35	$35
							406	$0	$0	$0	$0	$10	$10
							422	$0	$0	$0	$0	$36	$36
							423	$0	$0	$0	$0	$10	$10
								$0	$0	$0	$0	$90	$90
								$0	$0	$0	$0	$236	$236
								$269	$1,175	$22	$292	$1,282	$3,040
		PIP	Plan & E...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$769	$205	$389	$327	$636	$2,326
							155	-$26	-$18	-$24	-$7	-$52	-$127
							421	$81	$22	$41	$35	$84	$262
								$824	$208	$405	$355	$669	$2,461
						Non-Labor	405	$181	$50	$95	$78	$224	$628
							406	$71	$19	$36	$27	$65	$217
							422	$235	$62	$118	$96	$234	$745
							423	$61	$15	$30	$24	$43	$172

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIP	Plan & E...	785	Plan Emp Trng & Dev	Non-Labor		$548	$146	$277	$224	$566	$1,761
								$1,372	$353	$683	$579	$1,235	$4,222
				787	Dev Empl Training	Labor	150	$0	$0	$0	$163	$0	$163
							155	$0	$0	$0	$26	$0	$26
							421	$0	$0	$0	$22	$0	$22
								$0	$0	$0	$210	$0	$210
						Non-Labor	405	$0	$0	$0	$49	$0	$49
							406	$0	$0	$0	$17	$0	$17
							422	$0	$0	$0	$60	$0	$60
							423	$0	$0	$0	$14	$0	$14
								$0	$0	$0	$139	$0	$139
								$0	$0	$0	$349	$0	$349
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$571	$0	$857	$180	$396	$2,004
							155	$61	-$29	-$14	$15	$14	$48
							421	$73	$0	$111	$22	$50	$256
								$706	-$29	$954	$217	$459	$2,308
						Non-Labor	405	$165	$0	$255	$49	$132	$601
							406	$65	$0	$95	$17	$38	$214
							422	$213	$0	$317	$60	$138	$729
							423	$52	-$2	$68	$14	$30	$162
								$494	-$2	$735	$140	$339	$1,706
								$1,200	-$31	$1,690	$356	$798	$4,013
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$1,660	$4,924	$3,281	$2,756	$3,152	$15,774
							155	$11	-$113	-$171	$38	-$43	-$280
							421	$209	$618	$417	$352	$490	$2,086

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIP	Plan & E...	789	Attend Training	Labor		$1,879	$5,429	$3,527	$3,146	$3,599	$17,580
						Non-Labor	405	$468	$1,423	$958	$792	$955	$4,595
							406	$183	$535	$356	$271	$377	$1,722
							422	$606	$1,769	$1,190	$979	$997	$5,540
							423	$137	$394	$251	$204	$228	$1,214
							520	0	0	0	0	0	0
							521	0	0	0	0	0	0
								$1,394	$4,120	$2,754	$2,246	$2,556	$13,071
								$3,274	$9,549	$6,281	$5,392	$6,155	$30,650
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$396	$196	$441	$295	$646	$1,974
							155	-$14	-$13	-$15	-$17	$64	$5
							421	$51	$26	$56	$39	$132	$304
								$433	$208	$482	$317	$841	$2,282
						Non-Labor	405	$115	$60	$129	$87	$144	$535
							406	$45	$22	$49	$30	$101	$247
							422	$148	$74	$161	$108	$150	$642
							423	$31	$15	$35	$20	$52	$153
								$339	$171	$374	$246	$447	$1,577
								$773	$380	$856	$563	$1,289	$3,860
								$6,619	$10,251	$9,510	$7,240	$9,476	$43,095
		PIR	PS Tech ...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	0	0	0	0	0	0
							501	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIR	PS Tech ...	789	Attend Training	Non-Labor		0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIS	Material/...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	521	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIT	Traveling...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$42	$520	$0	$0	$0	$562
							155	-$4	$2	$1	$0	$0	-$1
							421	$4	$56	$0	$0	$0	$60
								$42	$578	$1	$0	$0	$621
						Non-Labor	405	$10	$129	$0	$0	$0	$139
							406	$4	$49	$0	$0	$0	$52
							422	$12	$161	$0	$0	$0	$173
							423	$3	$43	$0	$0	$0	$46
								$29	$381	$0	$0	$0	$410
								$71	$960	$1.	$0	$0	$1,031
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIT	Traveling...	789	Attend Training	Labor	150	$846	$2,914	$5,292	$2,903	$3,210	$15,166
							155	$160	$29	$105	$61	-$127	$227
							421	$89	$311	$583	$313	$346	$1,643
								$1,095	$3,254	$5,980	$3,277	$3,429	$17,035
						Non-Labor	405	$201	$716	$1,343	$705	$920	$3,885
							406	$79	$269	$505	$241	$266	$1,359
							422	$260	$891	$1,670	$871	$961	$4,652
							423	$82	$241	$441	$217	$226	$1,207
							501	0	0	0	0	0	0
								$621	$2,117	$3,959	$2,033	$2,372	$11,103
								$1,716	$5,371	$9,939	$5,311	$5,801	$28,138
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$757	$2,723	$5,170	$1,725	$5,661	$16,037
							155	$82	$104	$51	-$50	-$199	-$13
							421	$81	$302	$570	$190	$626	$1,770
								$921	$3,129	$5,791	$1,865	$6,088	$17,794
						Non-Labor	405	$181	$697	$1,314	$435	$1,668	$4,294
							406	$71	$262	$494	$146	$481	$1,454
							422	$235	$866	$1,633	$529	$1,742	$5,004
							423	$69	$231	$428	$123	$400	$1,250
								$556	$2,056	$3,868	$1,232	$4,290	$12,002
								$1,477	$5,185	$9,659	$3,097	$10,379	$29,796
								$3,264	$11,515	$19,599	$8,407	$16,180	$58,965
		PIW	Waiau St...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIW	Waiau St...	785	Plan Emp Trng & Dev	Non-Labor	201	0	0	0	0	0	0
							205	0	0	0	0	0	0
							501	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$41	$0	$0	$41
							155	$0	$0	-$5	$0	$0	-$5
							421	$0	$0	$4	$0	$0	$4
								$0	$0	$40	$0	$0	$40
						Non-Labor	405	$0	$0	$10	$0	$0	$10
							406	$0	$0	$4	$0	$0	$4
							422	$0	$0	$12	$0	$0	$12
							423	$0	$0	$3	$0	$0	$3
								$0	$0	$29	$0	$0	$29
								$0	$0	$70	$0	$0	$70
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$50,241	$46,479	$57,987	$57,377	$67,457	$279,541
							155	-$5,894	-$8,903	-$14,267	-$13,335	-$11,026	-$53,424
							421	$6,109	$5,627	$7,043	$6,992	$8,141	$33,913
								$50,456	$43,203	$50,764	$51,034	$64,573	$260,030

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIW	Waiau St...	789	Attend Training	Non-Labor	405	$13,695	$12,961	$16,208	$15,822	$21,673	$80,358
							406	$5,363	$4,872	$6,071	$5,373	$6,257	$27,936
							422	$17,740	$16,113	$20,145	$19,438	$22,634	$96,070
							423	$3,627	$3,073	$3,609	$3,224	$4,131	$17,665
								$40,426	$37,019	$46,032	$43,858	$54,695	$222,029
								$90,882	$80,222	$96,796	$94,892	$119,267	$482,059
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$23	$2,827	$1,836	$2,063	$3,911	$10,659
							155	$1	-$1,204	-$65	-$65	-$1,165	-$2,499
							421	$4	$350	$225	$251	$482	$1,311
								$27	$1,973	$1,995	$2,249	$3,227	$9,471
						Non-Labor	405	$10	$806	$517	$564	$1,282	$3,179
							406	$4	$303	$194	$193	$370	$1,064
							422	$12	$1,002	$643	$697	$1,339	$3,693
							423	$2	$133	$145	$146	$201	$627
								$28	$2,244	$1,500	$1,599	$3,193	$8,563
								$55	$4,217	$3,495	$3,848	$6,420	$18,034
								$90,937	$84,439	$100,361	$98,740	$125,687	$500,163
		PIX	Waiau St...	785	Plan Emp Trng & Dev		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$1,769	$3,359	$1,304	$14,788	$21,220

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
184	CLRNG ACCTS	PIX	Waiau St...	789	Attend Training	Labor	155	$5	-$59	-$287	-$73	-$930	-$1,344
							421	$0	$190	$363	$140	$1,598	$2,292
								$5	$1,900	$3,436	$1,371	$15,456	$22,167
						Non-Labor	405	$0	$438	$836	$316	$4,255	$5,845
							406	$0	$165	$314	$108	$1,228	$1,815
							422	$0	$544	$1,039	$390	$4,444	$6,417
							423	$0	$140	$251	$90	$1,015	$1,496
								$0	$1,287	$2,441	$904	$10,942	$15,573
								$5	$3,186	$5,876	$2,275	$26,398	$37,740
				797	Attend Safety Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$979	$1,758	$3,740	$1,019	$1,200	$8,695
							155	-$61	-$92	-$156	-$73	-$2	-$384
							421	$104	$190	$404	$110	$130	$938
								$1,022	$1,856	$3,987	$1,056	$1,327	$9,249
						Non-Labor	405	$234	$438	$930	$248	$345	$2,195
							406	$92	$165	$350	$85	$100	$790
							422	$303	$544	$1,157	$306	$360	$2,671
							423	$75	$136	$294	$69	$88	$662
								$704	$1,283	$2,730	$708	$893	$6,318
								$1,726	$3,140	$6,717	$1,764	$2,220	$15,567
								$1,731	$6,326	$12,593	$4,039	$28,617	$53,307
								$250,129	$244,057	$276,856	$254,262	$361,102	$1,386,406
1861	CHGS BILL ASS...	PIB	Admin-P...	789	Attend Training	Non-Labor	205	0	0	0	0	0	0
							521	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
1861	CHGS BILL ASS...	PIB						0	0	0	0	0	0
		PIK	Kahe Stn...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIL	Kahe Stn...	788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$0	$233	$0	$0	$233
							155	$0	$0	$24	$14	$0	$38
							421	$0	$0	$26	$0	$0	$26
								$0	$0	$283	$14	$0	$297
						Non-Labor	201	0	0	0	0	0	0
							405	$0	$0	$59	$0	$0	$59
							406	$0	$0	$22	$0	$0	$22
							422	$0	$0	$74	$0	$0	$74
							423	$0	$0	$20	$1	$0	$21
							522	0	0	0	0	0	0
								$0	$0	$174	$1	$0	$176
								$0	$0	$457	$15	$0	$472
								$0	$0	$457	$15	$0	$472
		PIT	Traveling...	788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
1861	CHGS BILL ASS...	PIT	Traveling...	788	Conduct Empl Train...	Labor		0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								$0	$0	$457	$15	$0	$472
506	MISC STM PWR...	PIA	Admin-P...	788	Conduct Empl Train...	Labor	150	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$0	$315	$0	$0	$0	$315
							155	$0	$67	$0	$0	$0	$67
							421	$0	$60	$0	$0	$0	$60
								$0	$442	$0	$0	$0	$442
						Non-Labor	405	$0	$139	$0	$0	$0	$139

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
506	MISC STM PWR...	PIA	Admin-P...	789	Attend Training	Non-Labor	406	$0	$52	$0	$0	$0	$52
							422	$0	$173	$0	$0	$0	$173
							423	$0	$31	$0	$0	$0	$31
							520	0	0	0	0	0	0
								$0	$396	$0	$0	$0	$396
								$0	$838	$0	$0	$0	$838
								$0	$838	$0	$0	$0	$838
		PIB	Admin-P...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	205	0	0	0	0	0	0
							405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
							501	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
506	MISC STM PWR...	PIB	Admin-P...	788	Conduct Empl Train...	Non-Labor	423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIK	Kahe Stn...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIL	Kahe Stn...	796	Prov & Mg Fire Prot...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
506	MISC STM PWR...	PIL	Kahe Stn...	796	Prov & Mg Fire Prot...	Labor	155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIO	Operatio...	788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIP	Plan & E...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
506	MISC STM PWR...	PIP	Plan & E...	788	Conduct Empl Train...	Labor	155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIW	Waiau St...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
506	MISC STM PWR...	PIW	Waiau St...	788	Conduct Empl Train...	Non-Labor	406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIX	Waiau St...	788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				796	Prov & Mg Fire Prot...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
506	MISC STM PWR...	PIX	Waiau St...	796	Prov & Mg Fire Prot...	Labor		0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								$0	$838	$0	$0	$0	$838
514	MAINT MISC ST...	PIB	Admin-P...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	0	0	0	0	0	0
							205	0	0	0	0	0	0
							405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
							421	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	405	0	0	0	0	0	0
							406	0	0	0	0	0	0
							422	0	0	0	0	0	0
							423	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
514	MAINT MISC ST...	PIB	Admin-P...	788	Conduct Empl Train...	Non-Labor		0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIK	Kahe Stn...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIL	Kahe Stn...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				796	Prov & Mg Fire Prot...		400	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
514	MAINT MISC ST...	PIL	Kahe Stn...	796	Prov & Mg Fire Prot...	Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIP	Plan & E...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
				788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIR	PS Tech ...	787	Dev Empl Training	Non-Labor	205	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIT	Traveling...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
514	MAINT MISC ST...	PIT	Traveling...	787	Dev Empl Training	Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIW	Waiau St...	788	Conduct Empl Train...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
		PIX	Waiau St...	787	Dev Empl Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
557	OTH PWR SUPP...	PIC	Power P...	789	Attend Training		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
557	OTH PWR SUPP...	PIC	Power P...	789	Attend Training	Labor		0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
								0	0	0	0	0	0
925	INJURIES & DA...	PIA	Admin-P...	795	Mg Safety Pgm & T...	Non-Labor	201	$0	$115	$0	$0	$0	$115
							205	0	0	0	0	0	0
							900	$0	$0	-$13	$0	$0	-$13
								$0	$115	-$13	$0	$0	$103
								$0	$115	-$13	$0	$0	$103
								$0	$115	-$13	$0	$0	$103
		PIB	Admin-P...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	$0	$5,813	$1,018	$5,749	$4,959	$17,540
							205	0	0	0	0	0	0
							401	0	0	0	0	0	0
							900	$0	-$169	-$9	-$62	-$196	-$436
								$0	$5,644	$1,009	$5,687	$4,763	$17,103
								$0	$5,644	$1,009	$5,687	$4,763	$17,103
								$0	$5,644	$1,009	$5,687	$4,763	$17,103
		PIH	Honolulu ...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
925	INJURIES & DA...	PIH	Honolulu ...	795	Mg Safety Pgm & T...	Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	$436	$159	$136	$0	$0	$731
							205	0	0	0	0	0	0
							401	0	0	0	0	0	0
								$436	$159	$136	$0	$0	$731
								$436	$159	$136	$0	$0	$731
								$436	$159	$136	$0	$0	$731
		PIK	Kahe Stn...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	$427	$1,402	$1,805	$476	$293	$4,404
							205	0	0	0	0	0	0
							401	0	0	0	0	0	0
								$427	$1,402	$1,805	$476	$293	$4,404
								$427	$1,402	$1,805	$476	$293	$4,404
								$427	$1,402	$1,805	$476	$293	$4,404
		PIL	Kahe Stn...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$78	$155	$0	$0	$0	$233
							155	-$2	-$20	$0	$0	$0	-$22
							421	$9	$17	$0	$0	$0	$26
								$84	$153	$0	$0	$0	$236
						Non-Labor	201	$2,140	$1,840	$335	$322	$1,440	$6,076
							205	$0	$120	$0	$0	$0	$120

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
925	INJURIES & DA...	PIL	Kahe Stn...	795	Mg Safety Pgm & T...	Non-Labor	401	0	0	0	0	0	0
							405	$19	$40	$0	$0	$0	$59
							406	$7	$15	$0	$0	$0	$22
							422	$25	$49	$0	$0	$0	$74
							423	$6	$11	$0	$0	$0	$17
								$2,198	$2,076	$335	$322	$1,440	$6,369
								$2,281	$2,228	$335	$322	$1,440	$6,606
								$2,281	$2,228	$335	$322	$1,440	$6,606
		PIN	Honolulu ...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	$4	$0	$0	$0	$0	$4
								$4	$0	$0	$0	$0	$4
						Non-Labor	201	$21	$0	$61	$12	$25	$119
							205	0	0	0	0	0	0
							423	$0	$0	$0	$0	$0	$0
								$21	$0	$61	$12	$25	$119
								$25	$0	$61	$12	$25	$123
								$25	$0	$61	$12	$25	$123
		PIO	Operatio...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	0	0	0	0	0	0
							401	0	0	0	0	0	0
								0	0	0	0	0	0

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
925	INJURIES & DA...	PIO	Operatio...	795				0	0	0	0	0	0
								0	0	0	0	0	0
		PIP	Plan & E...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$277	$359	$473	$0	$110	$1,219
							155	$49	$31	$82	$0	-$7	$156
							421	$36	$48	$63	$0	$17	$164
								$363	$438	$618	$0	$120	$1,539
						Non-Labor	405	$81	$109	$144	$0	$35	$369
							406	$32	$41	$54	$0	$13	$140
							422	$105	$136	$179	$0	$36	$457
							423	$27	$32	$45	$0	$8	$111
								$245	$319	$423	$0	$91	$1,078
								$608	$756	$1,041	$0	$211	$2,617
								$608	$756	$1,041	$0	$211	$2,617
		PIT	Traveling...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$938	$850	$63	$234	$121	$2,206
							155	$124	$64	-$3	$45	-$2	$228
							421	$100	$93	$6	$26	$13	$238
								$1,161	$1,006	$66	$305	$132	$2,672
						Non-Labor	201	$703	$145	$0	$154	$0	$1,002
							205	$0	$0	$51	$0	$20	$71
							405	$224	$214	$15	$58	$35	$546
							406	$88	$80	$6	$20	$10	$204
							422	$291	$266	$19	$72	$36	$683
							423	$87	$75	$5	$20	$9	$196
								$1,393	$780	$95	$324	$109	$2,702

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
925	INJURIES & DA...	PIT	Traveling...	795				$2,554	$1,787	$162	$630	$241	$5,374
								$2,554	$1,787	$162	$630	$241	$5,374
		PIW	Waiau St...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	0	0	0	0	0	0
							155	0	0	0	0	0	0
								0	0	0	0	0	0
						Non-Labor	201	$683	$1,127	$2,335	$616	$804	$5,565
							205	0	0	0	0	0	0
							401	0	0	0	0	0	0
								$683	$1,127	$2,335	$616	$804	$5,565
								$683	$1,127	$2,335	$616	$804	$5,565
								$683	$1,127	$2,335	$616	$804	$5,565
		PIX	Waiau St...	795	Mg Safety Pgm & T...		400	0	0	0	0	0	0
								0	0	0	0	0	0
						Labor	150	$160	$160	$0	$80	$0	$399
							155	-$15	-$21	$0	$5	$0	-$31
							421	$17	$17	$0	$9	$0	$43
								$162	$156	$0	$93	$0	$411
						Non-Labor	201	$2,112	$1,375	$3,124	$1,000	$4,075	$11,685
							205	0	0	0	0	0	0
							401	0	0	0	0	0	0
							405	$38	$40	$0	$19	$0	$97
							406	$15	$15	$0	$7	$0	$37
							422	$49	$49	$0	$24	$0	$123
							423	$12	$11	$0	$6	$0	$29
							501	$0	$0	$0	$71	$0	$71
								$2,227	$1,490	$3,124	$1,127	$4,075	$12,043

NARUC	NARUC Descr	*RA #	Resp Area	*Act #	Activity	Lbr/NLbr	*EE #	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
925	INJURIES & DA...	PIX	Waiau St...	795				$2,388	$1,646	$3,124	$1,221	$4,075	$12,454
								$2,388	$1,646	$3,124	$1,221	$4,075	$12,454
								$9,403	$14,865	$9,994	$8,963	$11,853	$55,078
								$259,532	$259,760	$287,307	$263,240	$372,955	$1,442,795

Lbr/NLbr	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA	FY07 Act07$RA
	0	0	0	0	0	0
Labor	$121,296	$137,379	$150,054	$133,191	$199,866	$741,786
Non-Labor	$138,236	$122,382	$137,253	$130,049	$173,090	$701,009
	$259,532	$259,760	$287,307	$263,240	$372,955	$1,442,795

CA-IR-335

Ref: HECO-611 and HECO-612 (2007 Planned Maintenance Schedule).

Please provide the following information:

a. The most current available updated Planned Maintenance Schedule for 2007, in color graph and table format like these exhibits.

b. Explain the reasons for major changes in the most recent Planned Outage Schedule, relative to outages and overhauls included in the test year forecast.

c. State and explain whether the revised and currently effective Planned Outage Schedule is believed to be more or less "normal" than the Planned Outage Schedule included in the test year forecast and explain the reasons for such belief.

d. Provide revised Non-labor cost amounts for each overhaul included in CA-IR-2, Attachment 13I, pages 1-68, indicating how test year proposed non-labor expenses would vary in total and by overhaul if the updated Planned Outage Schedule were recognized for rate case purposes.

HECO Response:

a. The most recent 2007 Planned Maintenance Schedule, dated June 15, 2007, is provided as Attachment 1 to this response.

b. Please refer to Attachment 2 to this response for a summary of the reasons for major changes from the version of the Planned Maintenance Schedule utilized for the test year forecast, dated February 14, 2006, to that of the most recent version of the Planned Maintenance Schedule, dated June 15, 2007.

c. As stated in HECO's response to CA-IR-64, the fact that the Planned Maintenance Schedule may be updated several times during the course of a year does not make the initial or any subsequent Planned Maintenance Schedule "abnormal" so long as the three identified criteria are met, namely: 1) the schedule includes major Planned Outages (PO) of selected HECO and IPP generating units consistent with long-term major inspection schedules; 2) the schedule includes significant Maintenance Outages (MO) for those units not scheduled for POs; and 3) the work required to implement this Planned Maintenance Schedule is consistent with the overall "level of the maintenance effort" experienced in recent years. (Please refer to HECO's response to CA-IR-64 for further details.) The June 15, 2007 revision of the Planned Maintenance Schedule meets the above criteria and is considered to be "normal".

d. Please refer to Attachment 3 to this response. The total amounts for each overhaul were provided previously in HECO's response to CA-IR-240, Attachment 4. Attachment 3 to this response separates the costs for each overhaul project into labor and non-labor amounts. In Attachment 3, the original scheduled year of the overhaul is indicated in parentheses.

Hawaiian Electric Company, Inc.
2007 Test Year
2007 Planned Maintenance Schedule
06/15/07 rev.

An HEI Company

POWER SUPPLY OPERATION & MAINTENANCE
2007 PLANNED MAINTENANCE SCHEDULE

Peaks as of: 5/23/2007
Revision date: 6/15/2007

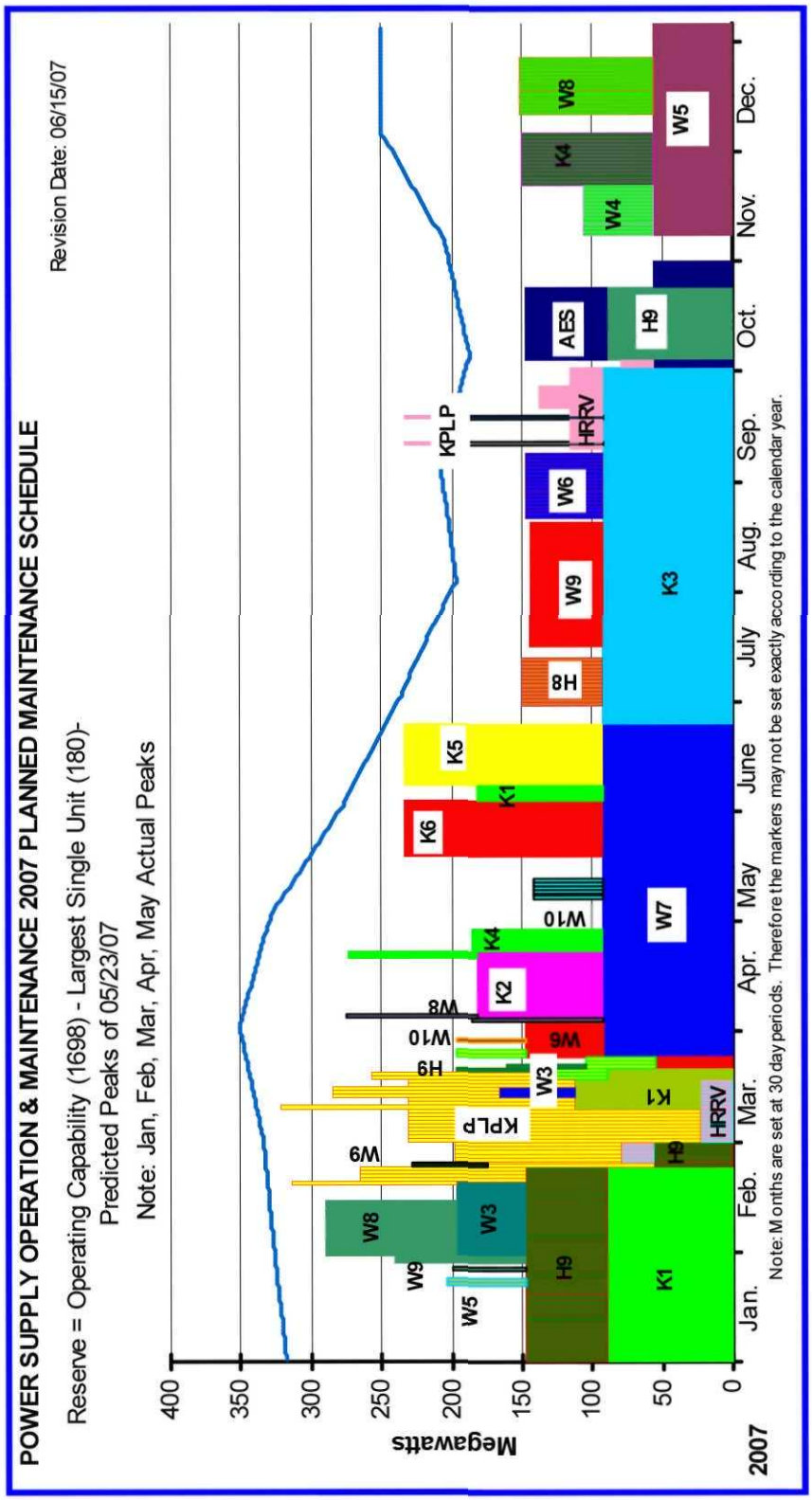
Comments:
Approved 11-21-06
Revised 1-3-07
Revised 1-12-07
Revised 2-26-07
Approved 3-1-07
Revised 4-13-07
Revised 4-18-07
Approved 4-18-07
Revised 5-23-07
Revised 6-15-07
Approved 6-15-07

UNIT	DATE				Duration	REMARKS
	Brk Op	Start	Bkr Cl	Firm	(Wks.Days)	Remarks
H9	10/20/2006	10/20/2006	3/1/2007	3/1/2007	19.0	(a)(con't. '06)-gen rewind, SSH, VR/Exc Rpl, BCC, Blr Exp Jts
K1	11/24/2006	11/25/2006	2/22/2007		13.0	(a)PO-con't frm '06(annctr,MS p'png rpl,op console,excitation, RH, HP/LP)
W5	1/22/2007	1/22/2007	1/23/2007	1/23/2007	0.2	(a)MO-UPS repairs
W9	1/26/2007	1/26/2007	1/26/2007	1/26/2007	0.1	(a)MO-Battery replacement
W8	1/28/2007	1/29/2007	2/11/2007	2/13/2007	2.1	(a)MO-APH Wash (fire hose), Aux Xfmer-flex links&press switch, Blr wash
W3	1/30/2007		2/18/2007		2.6	(a)MO-Turbine vibration, cond w/bx coating, blr insp
KPLP-	2/18/2007		3/1/2007		1.5	(a)118 MW Loss (CT2)
KPLP	3/2/2007		3/11/2007		1.3	(a)208 MW Loss
KPLP-	3/12/2007		3/20/2007		1.2	(a)118 MW Loss (CT2)
W9	2/23/2007		2/23/2007		0.1	(a)MO-Rheostat Replcmtt/VR Testing
HRRV-	2/24/2007		3/18/2007		3.2	(a)23 MW Loss (original rtrn 3/14)
K1	3/11/2007	3/12/2007	3/20/2007	3/21/2007	1.3	(a)MO-Rem Trb TV/IV stmers (frm reheater, MS Pip'g Rplc),cond sleeving
W9	3/14/2007	3/14/2007	3/16/2007	3/16/2007	0.3	(a)CI, replaced ten combustion can liners
W3	3/19/2007	3/19/2007	3/25/2007	3/26/2007	1.0	(a)MO-Trb Glands, #1 Bearing Vib, Vac Prblm, H2 Gen Lk, UPS Svc
H9	3/21/2007	3/21/2007	3/22/2007	3/22/2007	0.2	(a)MO-Rem throttle vlv strainers (frm SSH replacmt)
W6	3/22/2007	3/23/2007	4/2/2007	4/3/2007	1.5	(a)MO-Trb GV Seat #1& 2 (added spacer) repairs
W7	3/25/2007	3/26/2007	6/21/2007	6/23/2007	12.5	PO(Cnd tubes repl,Aux Tsf Repl,HP/IP/LP,CW Inlet Tun Coatg,Disc Tun Rprs)
W10	3/29/2007	3/29/2007	3/29/2007	3/29/2007	0.1	(a)MO-Battery Replacement
W8	4/4/2007	4/4/2007	4/5/2007	4/5/2007	0.2	(a) Trb gov valve #5 steam leak repairs
K2	4/5/2007	4/6/2007	4/21/2007	4/22/2007	2.3	(a)MO-Pri/Se FO Strr Rpl,APH Wsh,RH Stop Vlv,#2 trb glnd,Tmg Gr LO Pmp Rpl
K4	4/21/2007	4/21/2007	4/27/2007	4/28/2007	1.0	MO-K42 Seal Oil Pmp Mtr, K41 Seal Oil Pmp
W10	5/7/2007	5/7/2007	5/12/2007	5/12/2007	0.6	(a)MO-en comb cans liners repl, CI,
K6	5/19/2007	5/21/2007	6/1/2007	6/2/2007	2.0	(a)MO-Blr/APH Wash, Mn Xfmer press switch, EH Reserv Lvl Swtch
K1	6/3/2007	6/4/2007	6/5/2007	6/6/2007	0.3	(a)MO-Blr door repairs (mez level), CRH steam leak (flange)
K5	6/7/2007	6/8/2007	6/22/2007	6/23/2007	2.2	MO-Trb#1 brg vib,APH seals,EH Res Lvl Swc,Mn Xfmr press swc
K3	6/24/2007	6/25/2007	9/14/2007	9/28/2007	11.6	PO(Blr Ctrls, Exc/Reg, Annun, HP/LP/Gen, 2 wks tsting, blr permit 1/26/08)
H8	6/29/2007	6/30/2007	7/10/2007	7/11/2007	1.5	MO-APH Wash, Plug APH tubes & Inspect, Gen alignment (?)
W9	7/15/2007	7/16/2007	8/13/2007	8/17/2007	4.2	MO(Ovation Upgrade, "C" Bus (substation)), 1 wk tuning
W6	8/19/2007	8/20/2007	9/4/2007	9/5/2007	2.3	MO-Blr Insp (exp 4/7/08), Tun Cln(?), APH Wash, FDF Vanes, OCB Wiring
HRRV-	9/7/2007		9/17/2007		1.4	23 MW Loss
HRRV	9/18/2007		9/23/2007		0.6	46 MW Loss
HRRV-	9/24/2007		9/30/2007		1.0	23 MW Loss
KPLP-	9/8/2007		9/8/2007		0.1	118 MW Loss (CT1 "A" Inspection)
KPLP-	9/15/2007		9/15/2007		0.1	118 MW Loss (CT2 "A" Inspection)
H9	9/29/2007	10/1/2007	10/26/2007	10/27/2007	4.0	PO(Minor), MBO standards, #3 gland rprs, H93 BFP Mtr, Fan/BFP cables
AES-	10/1/2007		10/20/2007		2.6	90 MW Loss
W5	11/4/2007	11/5/2007	1/18/2008	1/19/2008	10.6	PO(CCI, Exc/VR, HP/LP, BCC, APH Rtr Rpl,OCB Wirng)
W4	11/4/2007	11/5/2007	11/16/2007	11/17/2007	1.6	MO-APH Wash/Inspc, Trb drain piping rpl (mat'l), OCB 4459 rpl (substn)
K4	11/18/2007	11/18/2007	11/30/2007	12/1/2007	1.6	MO-TZID pos'r repl, gen vib, FDLS mtr, Mn Xfmf-Bshng lk, Aux Xf-Gaskt Rpl
W8	12/7/2007	12/8/2007	12/21/2007	12/22/2007	2.1	MO-AH Wash, OCB Wiring

Dan Giovanni
Power Supply O&M Manager

Date

Hawaiian Electric Company, Inc.
2007 Test Year
2007 Planned Maintenance Schedule
06/15/07 rev.



HAWAIIAN ELECTRIC COMPANY, INC.

2007 RATE CASE

2007 Planned Maintenance Schedule (2/14/2006 Rev Sched compared to 6/15/2007 Rev Sched)

		Ovhl/Out DATES						
		ORIGINAL (2/14/2006 Rev Sched)			6/15/2007 Rev Sched			
UNIT	Sched Status	Breaker Open	Breaker Close	Wks.Days	Breaker Open	Breaker Close	Wks.Days	Comments
H9	Delayed Extended	10/14/2006	1/12/2006	13.0	10/20/2006	3/1/2007	19.0	Outage, con't. from 2006. Delayed due to K4 extended troubleshooting following its overhaul. Extended due to unforeseen delays with shipping of new exciter to be installed.
K1	Delayed	10/27/2006	2/2/2006	14.1	11/24/2006	2/22/2007	13.0	Overhaul, con't. from 2006. Delayed due to K4 extended troubleshooting following its overhaul. Overall length is 14wks and 3 days (see additional K1 outage, brkr open 3/11/2007, for removal of Turbine Throttle Valve strainers in support of the overhaul).
W8	Delayed	1/14/2007	1/26/2007	1.6	1/28/2007	2/11/2007	2.1	Originally sched for Tunnel Cleaning. Delayed due to system constraints (spinning reserve). Extended to support AH Wash, Boiler Wash, Aux Transformer flex link & pressure switch repairs.
W5	*Added*	*NA*	*NA*	*NA*	*1/22/2007*	*1/23/2007*	*0.2*	*For Uninterruptible Power Supply (UPS) repairs.*
W9	*Added*	*NA*	*NA*	*NA*	*1/26/2007*	*1/26/2007*	*0.1*	*To replace aging Batteries.*
W3	*Added*	*NA*	*NA*	*NA*	*1/30/2007*	*2/18/2007*	*2.6*	*To investigate/repair Turbine vibration, inspect/repair condenser wall coating, and conduct boiler inspection.*
W9	*Added*	*NA*	*NA*	*NA*	*2/23/2007*	*2/23/2007*	*0.1*	*To replace faulty rheostat and test voltage regulator.*
KPLP-	Delayed	1/28/2007	2/3/2007	1.0	2/18/2007	3/1/2007	1.5	104.5 MW Loss. Delayed due to W8 as noted.
KPLP	Delayed	2/4/2007	2/10/2007	1.0	3/2/2007	3/11/2007	1.3	209 MW Loss. Delayed due to W8 as noted.
KPLP-	Delayed	2/11/2007	3/3/2007	3.0	3/12/2007	3/20/2007	1.2	104.5 MW Loss. Delayed due to W8 as noted.
K1	*Added*	*NA*	*NA*	*NA*	*3/11/2007*	*3/20/2007*	*1.3*	*To remove Turbine Throttle Valve strainers installed in support of the 11/24/2006 Overhaul.*
W9	*Added*	*NA*	*NA*	*NA*	*3/14/2007*	*3/16/2007*	*0.3*	*To replace ten combustion can liners.*
W3	*Added*	*NA*	*NA*	*NA*	*3/19/2007*	*3/25/2007*	*1.0*	*To inspect/repair Turbine glands, #1 bearing vibration, Vacuum problems, Hydrogen gas leaks, and service UPS.*
H9	*Added*	*NA*	*NA*	*NA*	*3/21/2007*	*3/22/2007*	*0.2*	*To remove Turbine Throttle Valve strainers installed in support of the 10/20/2006 Overhaul.*
W6	*Added*	*NA*	*NA*	*NA*	*3/22/2007*	*4/2/2007*	*1.5*	*To inspect/repair Turbine governor valve #1 & 2 seats.*
W7	Delayed	2/9/2007	4/20/2007	10.1	3/25/2007	6/21/2007	12.5	Overhaul (Condenser refurbish, Exciter/Voltage Regulator, Annunciator, Transformer, HP/LP). Delayed while waiting return of K1 from Overhaul and removal of Turbine Throttle valve strainer. Extended due to 79 additional boiler Waterwall tubes replaced; discovered during failed post overhaul boiler hydro prior to chemical cleaning.
W10	*Added*	*NA*	*NA*	*NA*	*3/29/2007*	*3/29/2007*	*0.1*	*To replace aging Batteries.*

HAWAIIAN ELECTRIC COMPANY, INC.

2007 RATE CASE

2007 Planned Maintenance Schedule (2/14/2006 Rev Sched compared to 6/15/2007 Rev Sched)

		Ovhl/Out DATES						
		ORIGINAL (2/14/2006 Rev Sched)			6/15/2007 Rev Sched			
UNIT	Sched Status	Breaker Open	Breaker Close	Wks.Days	Breaker Open	Breaker Close	Wks.Days	Comments
W8	*Added*	*NA*	*NA*	*NA*	*4/4/2007*	*4/5/2007*	*0.1*	*To repair steam leak on Turbine governor valve #5.*
K5	Cancelled	3/4/2007	3/9/2007	0.6				Cancelled. Originally sched for Boiler Inspection (expire 4/7/07). This inspection was done in 8/25/2006.
K2	Delayed	3/11/2007	3/30/2007	2.6	4/5/2007	4/21/2007	2.3	Delayed as a result of W8 emergent outage on 4/4/2007. Maintenance Outage to replace primary/secondary Fuel Oil Strainers, wash Air Heater Baskets, repair Reheat stop valve, repair #2 turbine gland leak, and replace turning gear LO pump.
K4	*Added*	*NA*	*NA*	*NA*	*4/21/2007*	*4/27/2007*	*1.0*	*To repair #41 Seal Oil pump and motor.*
W10	*Added*	*NA*	*NA*	*NA*	*5/7/2007*	*5/12/2007*	*0.6*	*To replace combustion liners.*
HRRV-	Delayed	3/31/2007	4/9/2007	1.3	9/7/2007	9/17/2007	1.4	23 MW Loss. Delayed due to added outages.
HRRV	Delayed	4/10/2007	4/13/2007	0.4	9/18/2007	9/23/2007	0.6	46 MW Loss. Delayed due to added outages.
HRRV-	Delayed	4/14/2007	4/24/2007	1.4	9/24/2007	9/30/2007	1.0	23 MW Loss. Delayed due to added outages.
W3	Cancelled	4/1/2007	4/7/2007	1.0				Cancelled. Originally sched for Boiler Inspection (expire 9/7/07). Inspection accomplished during 1/30/2007 outage scheduled earlier this year.
K6	Delayed	4/28/2007	5/11/2007	2.0	5/19/2007	6/1/2007	2.0	Originally sched for Boiler Wash. Delayed due to W10 added outage. Added Air Preheater (APH) wash, replace main transformer pressure switch and Electro-Hydraulic reservoir level switch,
K1	*Added*	*NA*	*NA*	*NA*	*6/3/2007*	*6/5/2007*	*0.3*	*To repair hot boiler door mezzanine level and Cold Reheat steam leak.*
K5	*Added*	*NA*	*NA*	*NA*	*6/7/2007*	*6/22/2007*	*2.2*	*To inspect repair #1 Bearing vibration, APH wash, replace APH seals, replace EH reservoir Level switch, replace main transformer pressure switch.*
W9	Deferred to 2009	5/13/2007	6/15/2007	4.6	10/5/2009	12/7/2009	9.1	Originally scheduled for Combustion Inspection. A Major Inspection was done in 2005, decision made to defer this Combustor Inspection to 2009. Extended overhaul to address installation of capital project air inlet filtration.
AES-	Delayed	5/13/2007	5/26/2007	2.0	10/1/2007	10/20/2007	2.6	90 MW Loss. Delayed due to added outages.
W5	Cancelled	5/27/2007	5/31/2007	0.5				Cancelled. Originally sched for Blr Inspection. Will add to the W5 OH sched this year on 11/30/2007.

HAWAIIAN ELECTRIC COMPANY, INC.

2007 RATE CASE

2007 Planned Maintenance Schedule (2/14/2006 Rev Sched compared to 6/15/2007 Rev Sched)

		Ovhl/Out DATES						
		ORIGINAL (2/14/2006 Rev Sched)			6/15/2007 Rev Sched			
UNIT	Sched Status	Breaker Open	Breaker Close	Wks.Days	Breaker Open	Breaker Close	Wks.Days	Comments
K3	Delayed, Shortened	6/16/2007	9/14/2007	13.0	6/24/2007	9/14/2007	11.6	Overhaul (Boiler Controls, Sootblower Ctrls, Exciter/Voltage Regulator, HP/LP/Gen, Chemical Cleaning). Start date delayed due to W7 return from service. Needed to keep completion date the same as original schedule in support of AES planned critical outage starting 10/1/2007.
H8	*Added*	*NA*	*NA*	*NA*	*6/29/2007*	*7/10/2007*	*1.5*	*Wash APH tubes and inspect to determine quantity tubes to purchase for 2008 Overhaul.*
W9	*Added*	*NA*	*NA*	*NA*	*7/15/2007*	*8/13/2007*	*4.2*	*To upgrade Ovation, "C" bus repairs (substation), 1 week tuning.*
W6	*Added*	*NA*	*NA*	*NA*	*8/19/2007*	*9/4/2007*	*2.3*	*For Boiler inspection (expire 4/7/2008), tunnel cleaning, APH wash, Forced Draft Fan vane repairs. Circuit Breaker wiring.*
KPLP-	Moved Up	9/22/2007	9/22/2007	0.1	9/8/2007	9/8/2007	0.1	104.5MW Loss, CT1 "A" Inspection. Moved up in support of scheduled 'added outages'.
H9	*Added*	*NA*	*NA*	*NA*	*9/29/2007*	*10/26/2007*	*4.0*	*Minor outage to do maintenance basis standards, #3/4 gland inspection/repairs, #93 Boiler Feed Pump motor.*
W5	Delayed	9/29/2007	11/30/2007	9.0	11/4/2007	1/18/2008	10.6	Overhaul (Cycle Chemistry Intruments, Exciter/Voltage Regulator, HP/LP, Chemical Cleaning). Delayed due to delayed K3 overhaul 6/24 to 9/14/2007.
KPLP-	Moved Up	9/29/2007	9/29/2007	0.1	9/15/2007	9/15/2007	0.1	104.5 MW Loss, CT2 "A" Inspection. Moved up in support of scheduled 'added outages'.
HRRV-		11/3/2007	11/15/2007	1.6	2/24/2007	3/18/2007	3.2	23 MW Loss. Moved up in support of scheduled 'added outages'.
H8	Deferred to 2008	11/30/2007	2/8/2007	10.1	1/25/2008	4/4/2008	10.1	Overhaul (Annunciator, Voltage Regulator, Sootblower Controls, Turbine Supervisory Instrumentation, Main Transformer, HP/LP). Deferred to 1/25/2008.
W4	*Added*	*NA*	*NA*	*NA*	*11/4/2007*	*11/16/2007*	*1.6*	*APH wash and inspection, Turbine drain piping replace, Circuit Breaker 4459 replace (Substation)*
K4	*Added*	*NA*	*NA*	*NA*	*11/18/2007*	*11/30/2007*	*1.6*	*Replace TZID positioner, investigate/repair generator vibration, inspect/repair main transformer bushing leak, Replace gasket auxiliary transformer, Forced Draft Low Speed motor.*
W8	Delayed, Extended	12/2/2007	12/14/2007	1.6	12/7/2007	12/21/2007	2.1	Originally sched for Tunnel Cleaning. Extended to support Air Heater Wash and Circuit Breaker Wiring repairs.

Hawaiian Electric Company, Inc.
2007 Rate Case
Overhaul Project Cost; Labor and Non-labor (1)
(In thousands)

Project Number	Project Name	2007 TY	2007 Projected (2)	2007 Chng
P0000654	Waiau 6 Overhaul (2004) (3)			
	Labor	$0	($5)	($5)
	Non-Labor	$0	($130)	($130)
		$0	($135)	($135)
P0000844	Kahe 6 Overhaul (2005) (3)			
	Labor	$0	($3)	($3)
	Non-Labor	$0	($30)	($30)
		$0	($33)	($33)
P0000845	Kahe 4 Overhaul (2006) (4)			
	Labor	$0	$49	$49
	Non-Labor	$0	$96	$96
		$0	$145	$145
P0000846	Kahe 1 Overhaul (2005) (5)			
	Labor	$845	$1,357	$512
	Non-Labor	$884	$2,858	$1,974
		$1,729	$4,215	$2,486
P0000847	Waiau 4 Overhaul (2006) (4)			
	Labor	$0	$74	$74
	Non-Labor	$0	$47	$47
		$0	$121	$121
P0001105	Kahe 3 Overhaul (2006) (6)			
	Labor	$1,988	$1,962	($26)
	Non-Labor	$1,735	$3,501	$1,766
		$3,723	$5,463	$1,740
P0001106	Waiau 7 Overhaul (2007)			
	Labor	$2,253	$1,836	($417)
	Non-Labor	$1,879	$3,219	$1,340
		$4,132	$5,055	$923
P0001277	Waiau 9 Overhaul (2007)			
	Labor	$887	$693	($194)
	Non-Labor	$182	$210	$28
		$1,069	$903	($166)

Hawaiian Electric Company, Inc.
2007 Rate Case
Overhaul Project Cost; Labor and Non-labor (1)
(In thousands)

Project Number	Project Name	2007 TY	2007 Projected (2)	2007 Chng
P0001278	Hono 8 Overhaul (2007)			
	Labor	$796	$0	($796)
	Non-Labor	$411	$200	($211)
		$1,207	$200	($1,007)
P0001279	Waiau 5 Overhaul (2007)			
	Labor	$1,651	$1,396	($255)
	Non-Labor	$1,829	$1,863	$34
		$3,480	$3,259	($221)
P0001280	Hono 9 Outage (2006) (7)			
	Labor	$0	$218	$218
	Non-Labor	$381	$1,100	$719
		$381	$1,318	$937
P000XXXX	Hono 9 Outage (2007) (8)			
	Labor	$0	$781	$781
	Non-Labor	$0	$315	$315
		$0	$1,096	$1,096
TOTAL	Total Labor & Non-Lab	$15,721	$21,607	$5,886
	Non-Overhaul Projects	$9,742		
	Non-Projects	$59,846		
	Non-Labor G/L Codes	($15,876)		
	Total Production O&M	$69,433	Agrees with Operating Budget per HECO-602	

(1) Data originally provided in response to CA-IR-240, Attachment 4, in totals only.
(2) 2007 Projected is an update of 2007 overhaul expenses for Production O&M Department and not for Production Block of Accounts.
(3) Waiau 6 and Kahe 6 overhauls were completed in 2005; credits were applied in 2007.
(4) Kahe 4 and Waiau 4 overhauls were completed in 2006, some charges were paid to 2007.
(5) Kahe 1 Overhaul (2005) was originally scheduled in 2005, but was started in 2006 and completed in 2007.
(6) Kahe 3 overhaul (2006) was originally scheduled in 2006 and was rescheduled to 2007.
(7) Honolulu 8 Outage (2006) started in 2006 and completed in 2007.
(8) Honolulu 9 Outage (2007) not currently approved, however work is planned for 10/01/07 to 10/26/07.

CA-IR-336

Ref: HECO-626 and HECO-630 (Non-Labor Production Operations and Maintenance Expense).

Please provide the following information:

a. Updated HECO -626 non-labor operations expenses, adding a column with 2006 actual information and a column with five months to-date May 31, 2007 actual information.

b. Updated HECO -626 non-labor operations expenses, adding a column with 2006 actual information and a column with five months to-date May 31, 2007 actual information.

c. State and explain individual known reasons for historical spending fluctuations and variances between 2006 and to-date 2007 actual amounts relative to projected test year expense levels.

HECO Response:

a. Please refer to Attachment 1 to this response for an update of HECO-626. HECO-626 has been updated for 2006 actual and 2007 Test Year as revised to incorporate the June 2007 Update adjustments and a $126,000 reduction to environmental expense as proposed in CA-IR-344, filed on July 12, 2007. Note that line 6 in Attachment 1 has been broken down to show the budget adjustments and the normalization adjustments separately. Total Production Operations Non-labor expense is revised to $15,564,000.

b. The information request is the same as item a. HECO assumes that this request refers to HECO-630 Production Maintenance Non-Labor expenses. Please refer to Attachment 2 to this response. The 2007 test year Production Maintenance Non-labor expense has been revised for the $1,557,000 increase in overhaul expense as proposed in CA-IR-448 and a $202,000 decrease in Smart Signal expense as proposed in DOD-IR-121. The total proposed budget adjustment is an increase in Maintenance Non-Labor expense of $1,355,000. The revised total for Maintenance Non-labor is $25,246,000. (With the

SmartSignal adjustment, there are no normalization adjustments for Maintenance Non-Labor expense.)

c. It is not clear what the Consumer Advocate means by "projected" test year expense levels. The test year expense levels include certain normalization adjustments which, by definition, represent differences between forecast expenses for 2007, and the 2007 test year expense estimates. Referring to Attachment 3 to this response, before normalization adjustments [netting ($97,000), i.e., (-221,000 + 124,000), for emission fees, IRP costs, environmental 316(b) costs and competitive bidding consultants], the adjusted test year estimate for Production Operations Non-Labor expense is $15,787,000 (15,483,000 – 392,000 + 696,000) after the June updates filed June 29, 2007. In response to CA-IR-344, HECO also has indicated that a further adjustment of $(126,000) is appropriate for environmental outside services costs, resulting in an estimate of $15,651,000 before the normalization adjustments. Including the normalization adjustments [netting ($97,000) as described above], the adjusted test year estimate for Production Operations expense is $15,564,000.

After the normalization adjustment for Smart Signal of $(598,000), the normalized, adjusted test year estimate for Production Maintenance expense was $23,891,000. Two adjustments have since been made to this estimate:

1. In its response to CA-IR-488, HECO showed that the test year estimate for Production Maintenance Non-Labor is no longer adequate in light of expected expenses in 2007 (and in subsequent years). As HECO addresses in the response to CA-IR-488, materials and outside services costs for HP/LP steam turbine overhauls are significantly understated, and HECO proposes an adjustment of $1,557,000 to the test year estimate to correct for the "oversight" associated with exclusion of steam turbine overhaul

expenses.

2. As noted in the response to CA-IR-81, (a) the pilot project evaluation of the SmartSignal product was completed in late February 2007, (b) HECO decided to not pursue further implementation of the SmartSignal enhanced equipment condition monitoring (ECM) product at this time due to commercial issues, (c) HECO is continuing the evaluation of other commercially available enhanced ECM products that was underway in parallel with the SmartSignal evaluation pilot project, and (d) HECO anticipates the completion of this evaluation and the implementation of an enhanced ECM system by fourth quarter 2007. In the response to DOD-IR-121, HECO noted that a portion of the funds originally earmarked for the fleetwide deployment of the SmartSignal technology is being used to fund a pilot project for an alternative ECM product and service being offered by Black & Veatch (B&V). The B&V pilot program is expected to begin on or about August 1, 2007, and be completed in January 2008. The estimated cost for the B&V's products and services for the pilot program is $78,000, and approximately $70,000 of the cost will be incurred in 2007. The accompanying costs to implement a secure information technology (IT) interface are estimated to be $15,000. Thus, the total costs now anticipated to be expended in 2007 for ECM products and services are as follows:

Smart Signal (Jan & Feb 2007 pilot program)	$12,000
B&V (Aug through Dec 2007 pilot program)	70,000
IT interface for B&V pilot program	15,000
TOTAL	$97,000

HECO is removing the $299,000 normalized estimate for SmartSignal from the test year estimate, and adding back $97,000, for a net adjustment of $(202,000).

As a result, the adjusted test year estimate for Production Maintenance expense is $25,246,000.

For Operations Non-Labor expenses, the expenditures in the first five months of 2007 for Materials, Transportation, and On-Cost are fairly uniform each month and on track to approximate the 2007 test year estimate at the end of the year. The expenditure rate for Outside Services/Other has not been uniform and the average monthly expense rate through May 2007, taken in isolation, suggests a year-end total that would be less than the 2007 test year expense estimate. The lower spending rate to date is attributable to the following areas:

1. Environmental: As discussed in HECO's response to CA-IR-344, except for costs associated with compliance with EPA Rule 316(b), environmental outside service costs to the Environmental Department are expected to be less than the June 2007 update to the test year estimate. Accordingly, a negative adjustment of $126,000 to the June 2007 Update of the test year estimate is proposed for the Environmental Department outside services expense. This negative adjustment is more than offset, however, by increased 316(b) expenses as described in the adjustment proposed in the June 2007 Update.[1]

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[1] As described in the T-6 June 2007 Update filed June 29, 2007, an adjustment to <u>increase</u> the 2007 Test Year expense for Production Operations Non-labor by the 3-year normalized amount of $1,006,000 will be made for Clean Water Act Section 316(b) compliance expenses. The total expense directly related to 2007 is $1,049,000, including $311,000 for 2007 PEWON account costs (for January 1, 2007 to April 30, 2007) to be cleared in 2007, and $738,000 (estimated for May 1 to December 31, 2007.) Expenses for 2007, 2008, and 2009 were averaged to determine the 3-year normalized amount of $1,006,000 for Environmental 316(b) expenses, as shown in Attachment 6 to the update. Much of the cost is for outside services, as identified in the attachments to the update.

2. Power Supply Services: As discussed in HECO's response to CA-IR-413, the Purchase Power Division of the Power Supply Services Department forecast $200,000 outside legal services related to the administration of existing contracts and the evaluation and negotiation of new contracts. The Purchase Power Division of the Power Supply Services Department also included $175,000 for outside services related to retain a consultant to assist with the implementation of Generation Bidding. This activity has since been transferred to the System Planning Department and the outside costs for the related services have been revised in the June 2007 Update. See response to CA-IR-413 for the expected timing of such expenses.
3. Safety and Security: Please refer to CA-IR-486 for explanation of the lower expenditure rate for the first half of 2007 and HECO's expectation that the 2007 test year expense will be expended by the end of the year. During the past month, invoices for substantial amounts have been received and expenses are now more clearly on track.
4. Technology: Please refer to CA-IR-407 for explanation of the lower expenditure rate for the first half of 2007 and HECO's expectation that the 2007 test year expense will be expended by the end of the year.

For Maintenance Non-Labor expenses, outside services/other, transportation, and on-cost expenses incurred for Maintenance Non-labor in 2005 and 2006 are consistent with the spending trends of 2007 year-to-date, when projected for a full year. Recorded Materials

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As described in the response to CA-IR-423, prior to May 2007, 316(b) expenses were charged to a PEWON account. Beginning May 2007, these accumulated charges (i.e., charges for prior years plus $311,000 for 2007, through April 30; refer to June 2007 Updated, Attachment 6 for details) are being cleared to Production. The accumulated charges will be cleared in equal monthly increments between May 2007 and December 2007. Also, beginning May 2007, all 316(b) expenses incurred after April 30, 2007, will

charges for 2007 appear to be following the expenditure levels experiences in 2005 and 2006. However, the 2007 test year estimate for materials is $7,738,000, about 20% less than that incurred in 2006. Thus, if 2007 materials expenditures continue at the current rate the year end total will exceed the 2007 test year estimate by a significant amount.

The revision for Maintenance Non-labor in Attachment 2 includes the proposed adjustment of $1,557,000 as described in CA-IR-488. CA-IR-488 also states that additional funds originally earmarked for discretionary work will still need to be reallocated to cover the expected level of overruns in Maintenance.

For both Operations and Maintenance Non-Labor expenses, while some outside services expenses may be incurred on a roughly pro rata basis each month, most materials and outside services expenses are incurred when the related projects (e.g., overhauls) or work are performed, the invoices are received and validated, and payment is made. As shown in Attachment 1 to the response to CA-IR-335, for example, much of the overhaul work for HECO-owned units is scheduled for the May – December timeframe (in order to allow for the major KPLP overhaul in the February – March timeframe). The status and timing of significant projects and work contributing to substantial non-labor expense are described in various responses to information requests (in addition to those identified above), including:

- CA-IR-234, work not done in 2005 and 2006, and expect to do in 2007,
- CA-IR-235, discretionary work,
- CA-IR-237, DG expenses,

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be treated as an O&M expense and charged to the Environmental Department. Both the clearing and O&M expenses were unforecast.

- CA-IR-238, Environmental Management System,
- CA-IR-239, outside legal for Power Purchase administration and negotiation,
- CA-IR-240, Kahe maintenance and HECO overhauls,
- CA-IR-241, Waiau maintenance,
- CA-IR-242, Honolulu maintenance,
- CA-IR-243, overhauls outside services and materials,
- CA-IR-245, technology expenses,
- CA-IR-246, Environmental outside services,
- CA-IR-342, Kahe non-labor expense,
- CA-IR-343, Waiau non-labor expense,
- CA-IR-347, outside service expense,
- CA-IR-405, planned outage nonlabor expense,
- CA-IR-419, outside service supplemental labor,
- CA-IR-420, overhaul overruns,
- CA-IR-423, 316(b) expenses, and
- CA-IR-486, security expenses.

Hawaiian Electric Company, Inc.
2007 RATE CASE
OTHER PRODUCTION OPERATIONS NON-LABOR EXPENSE - HECO-626 (UPDATE)
ACTUAL VS. TEST YEAR
($ Thousands)

	EXPENSE	2005 ACT	2006 ACT	2007 TY EST	2007 TY REVISED (1)	JAN07 ACT	FEB07 ACT	MAR07 ACT	APR07 ACT	MAY07 ACT	YTD07 ACT
1	Material	$ 2,163	$ 2,421	$ 2,062	$2,062	$ 172	$ 180	$ 161	$ 150	$ 149	$ 812
2	Transportation	$ 101	$ 142	$ 135	$135	$ 14	$ 14	$ 19	$ 12	$ 17	$ 76
3	On-Cost (2)	$ 2,491	$ 2,664	$ 2,322	$2,322	$ 155	$ 158	$ 166	$ 164	$ 238	$ 881
4	Outside Srvcs/Other	$ 5,399	$ 7,536	$ 10,964	$10,964	$ 414	$ 646	$ 1,096	$ 348	$ 691	$ 3,195
5	SUBTOTAL	$ 10,154	$ 12,763	$ 15,483	$15,483	$ 755	$ 998	$ 1,442	$ 674	$ 1,095	$ 4,964
6a	Adjustments			($392)	$178						
6b	Normalization			($221)	($97)						
6	Adj & Normalization	$0	$0	($613)	$81	$0	$0	$0	$0	$0	$0
7	TOTAL	$ 10,154	$ 12,763	$ 14,870	$15,564	$ 755	$ 998	$ 1,442	$ 674	$ 1,095	$ 4,964

NOTES:
(1) 2007 TY Revised total includes: $696k budget and $124k normalization adjustments proposed in HECO T-6's June 2007 Update and a <$126k> budget adjustment to environmental services proposed in CA-IR-344.
(2) Line 3 - Labor Related On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.

Hawaiian Electric Company, Inc.
2007 RATE CASE
OTHER PRODUCTION MAINTENANCE NON-LABOR EXPENSE - HECO-630 (UPDATE)
ACTUAL VS. TEST YEAR
($ Thousands)

	EXPENSE	2005 ACT	2006 ACT	2007 TY EST	2007 TY REVISED (1)	JAN07 ACT	FEB07 ACT	MAR07 ACT	APR07 ACT	MAY07 ACT	YTD07 ACT
1	Material	$ 9,254	$ 10,110	$ 7,738	$7,738	$ 914	$ 626	$ 944	$ 1,032	$ 1,282	$ 4,798
2	Outside Srvcs/Other	$ 12,442	$ 13,621	$ 13,822	$13,822	$ 329	$ 926	$ 2,807	$ 93	$ 1,684	$ 5,839
3	Transportation	$ 311	$ 342	$ 360	$360	$ 28	$ 29	$ 36	$ 25	$ 29	$ 147
4	On-Cost (2)	$ 2,144	$ 2,358	$ 2,569	$2,569	$ 174	$ 170	$ 158	$ 162	$ 227	$ 891
5	SUBTOTAL	$ 24,151	$ 26,431	$ 24,489	$24,489	$ 1,445	$ 1,751	$ 3,945	$ 1,312	$ 3,222	$ 11,675
6a	Adjustments				$1,355						
6b	Normalization			($598)	($598)						
6	Adj & Normalization	$0	$0	($598)	$757	$0	$0	$0	$0	$0	$0
7	TOTAL	$ 24,151	$ 26,431	$ 23,891	$25,246	$ 1,445	$ 1,751	$ 3,945	$ 1,312	$ 3,222	$ 11,675

NOTES:
(1) 2007 TY Revised total includes a $1,557,000 budget adjustment for overhaul expense as proposed in CA-IR-488 and a ($202,000) budget adjustment for Smart Signal as described in DOD-IR-121. There were no budget or normalization adjustments to Maintenance Non-labor expense in HECO's June 2007 Update. HECO T-6's June 2007 Update.
(2) Line 4 - Labor Related On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE ($1000S)

D. Giovanni	BUDGET	BUD ADJ	NORM	DIRECT	Emis Fee ADJUST	DG-DSG ADJUST	Hookina ADJUST	Env 316(b) ADJUST	Gen Bid ADJUST	Admin Pos ADJUST	Fuel Infra ADJUST	EngRetProg ADJUST	DG-O/S ADJUST	Oper OT ADJUST	TOTAL ADJUST	JUNE UPDATE	REVISED Oper OT ADD ADJ	REVISED Env Srvcs ADJUST	REVISED Turb OH ADJUST	REVISED SmartSig ADJUST	REVISED TOTAL ADJUST	REVISED 2007 UPDATE
PRODUCTION O & M EXPENSE																						
PRODUCTION OPER																						
LABOR	14,242			14,242	0	0	0	0	66	38	0	15	0	(325)	(206)	14,036	(77)	0	0	0	(77)	13,959
NON-LABOR	15,483	(392)	(221)	14,870	(147)	(55)	(42)	1,006	243	0	0	0	(185)	0	820	15,690	0	(126)	0	0	(126)	15,564
TOTAL	29,725	(392)	(221)	29,112	(147)	(55)	(42)	1,006	309	38	0	15	(185)	(325)	614	29,726	(77)	(126)	0	0	(203)	29,523
PRODUCTION MAINT																						
LABOR	15,219			15,219	0	0	0	0	0	0	39	50	0	0	89	15,308	0	0	0	0	0	15,308
NON-LABOR	24,489		(598)	23,891	0	0	0	0	0	0	0	0	0	0	0	23,891	0	0	1,557	(202)	1,355	25,246
TOTAL	39,708	0	(598)	39,110	0	0	0	0	0	0	39	50	0	0	89	39,199	0	0	1,557	(202)	1,355	40,554
PRODUCTION - TOTAL																						
LABOR	29,461	0	0	29,461	0	0	0	0	66	38	39	65	0	(325)	(117)	29,344	(77)	0	0	0	(77)	29,267
NON-LABOR	39,972	(392)	(819)	38,761	(147)	(55)	(42)	1,006	243	0	0	0	(185)	0	820	39,581	0	(126)	1,557	(202)	1,229	40,810
TOTAL	69,433	(392)	(819)	68,222	(147)	(55)	(42)	1,006	309	38	39	65	(185)	(325)	703	68,925	(77)	(126)	1,557	(202)	1,152	70,077

D. Giovanni	BUDGET	BUD ADJ	NORM	DIRECT	JUNE 2007 UPDATE BUDGET ADJUSTMENTS											JUNE 2007 NORMALIZATIONS				JUNE UPDATE	REVISED 2007 BUDGET ADJUSTMENT					
					Emis Fee Budget	DG-DSG ADJUST	Hookina ADJUST	Env 316(b) ADJUST	Gen Bid ADJUST	Admin Pos ADJUST	Fuel Infra ADJUST	EngRetProg ADJUST	DG-O/S ADJUST	Oper OT ADJUST	TOTAL	Emis Fee Budget	Env 316(b) ADJUST	Gen Bid ADJUST	TOTAL		Oper OT ADD ADJ	Env Srvcs ADJUST	Turb OH ADJUST	SmartSig ADJUST	REVISED TOTAL ADJUST	REVISED 2007 UPDATE
PRODUCTION O & M EXPENSE																									
PRODUCTION OPER																									
LABOR	14,242			14,242	0	0	0	0	66	38	0	15	0	(325)	(206)	0	0	0	0	14,036	(77)	0	0	0	(77)	13,959
NON-LABOR	15,483	(392)	(221)	14,870	(192)	(55)	(42)	1,050	120	0	0	0	(185)	0	696	45	(44)	123	124	15,690	0	(126)	0	0	(126)	15,564
TOTAL	29,725	(392)	(221)	29,112	(192)	(55)	(42)	1,050	186	38	0	15	(185)	(325)	490	45	(44)	123	124	29,726	(77)	(126)	0	0	(203)	29,523
PRODUCTION MAINT																									
LABOR	15,219			15,219	0	0	0	0	0	0	39	50	0	0	89	0	0	0	0	15,308	0	0	0	0	0	15,308
NON-LABOR	24,489		(598)	23,891	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23,891	0	0	1,557	(202)	1,355	25,246
TOTAL	39,708	0	(598)	39,110	0	0	0	0	0	0	39	50	0	0	89	0	0	0	0	39,199	0	0	1,557	(202)	1,355	40,554
PRODUCTION - TOTAL																									
LABOR	29,461	0	0	29,461	0	0	0	0	66	38	39	65	0	(325)	(117)	0	0	0	0	29,344	(77)	0	0	0	(77)	29,267
NON-LABOR	39,972	(392)	(819)	38,761	(192)	(55)	(42)	1,050	120	0	0	0	(185)	0	696	45	(44)	123	124	39,581	0	(126)	1,557	(202)	1,229	40,810
TOTAL	69,433	(392)	(819)	68,222	(192)	(55)	(42)	1,050	186	38	39	65	(185)	(325)	579	45	(44)	123	124	68,925	(77)	(126)	1,557	(202)	1,152	70,077

CA-IR-336
DOCKET NO. 2006-0386
ATTACHMENT 3
PAGE 1 OF 1

CA-IR-337

Ref: HECO-627 (DG and Dispatchable Standby Expense).

Please provide the following information:

a. Explain and reconcile the test year values in this Exhibit into the DG expense workpapers within CA-IR-2, Attachment 13E.

b. Provide additional columns of data reflecting actual 2006 and five months to-date 5/31/2007 actual amounts.

c. State and explain individual known reasons for historical spending fluctuations and variances between 2006 and May 31, to-date 2007 actual amounts relative to projected test year expense levels.

HECO Response:

a. Please refer to CA-IR-237, Attachment 2, pages 1 -3.

b. Please refer to Attachment 1 of this response for information on DG actual 2006 cost and five months for January through May 2007.

c. When comparing actual expenses through May 31, 2007 to projected test year expense levels, the significant spending fluctuations are noted in Other (Rental) expenses and Outside Service/Other expenses.

The increase in Other (Rental) expenses is due to new distributed generating units being added to the system. See CA-IR-237, Attachment 1, for distributed generation rental cost by month. CA-IR-237, Attachment 1, also identifies the start date of lease rent payments.

The actual expense in the Outside Service/Other cost category is significantly below 2007 test year expense projections. An amount of $245,000 was projected for refueling

contract services as shown in CA-IR-237, Attachment 2, page 1. The actual 2007 expenses for refueling contract services, as of the end of May 2007, total $26,000. The annualized amount for refueling contract services in 2007 is now expected to be $60,000. The difference of $185,000 will be reported as an adjustment in the June 2007 Update.

Due to the cancellation of the Kaiser Dispatchable Standby Generator (DSG) project, HECO will also remove the $55,000 of DSG non-labor expenses reflected for expense elements 201 and 501 on CA-IR-3, Attachment 1, page 2. This adjustment will also be reported in HECO's June 2007 Update.

Hawaiian Electric Company, Inc.
2007 TEST YEAR
HECO-629 (UPDATED)
OTHER PRODUCTION OPERATION NON-LABOR EXPENSE
DISTRIBUTED GENERATION & DISPATCHABLE STANDBY GENERATOR EXPENSE
($ Thousands)

EXPENSE	2005 ACTUAL	2006 ACTUAL	2007 TY EST	JAN07 ACTUAL	FEB07 ACTUAL	MAR07 ACTUAL	APR07 ACTUAL	MAY07 ACTUAL	YTD07 ACTUAL
1 Labor	$ 62	114	$ 106	$ 5	$ 6	$ 6	$ 7	$ 6	$ 30
2 Material	$ 1	$ 8	$ 22	$ 1	$ -	$ 7	$ 14	$ 2	$ 24
3 Outside Srvcs/Other	$ 52	$ 124	$ 442	$ 1	$ 12	$ 31	$ (2)	$ 16	$ 58
4 Other (Rental)	$ 188	$ 1,494	$ 2,971	$ -	$ 214	$ 398	$ 199	$ 119	$ 930
5 On-Cost	$ 38	$ 91	$ 76	$ 5	$ 6	$ 6	$ 7	$ 6	$ 30
6 Transportation	$ -	$ -	$ 3	$ -	$ -	$ -	$ -	$ -	$ -
7 Adj & Normalizations	$ -	$ -	$ (155)	$ -	$ -	$ -	$ -	$ -	$ -
8 TOTAL	$ 341	$ 1,831	$ 3,465	$ 12	$ 238	$ 448	$ 225	$ 149	$ 1,072

Line 5 - Labor Related On-Cost include Energy Delivery On-Cost and Power Supply On-Cost.

CA-IR-338

Ref: Responses to CA-IR-70, Attachment 1, page 5 and CA-IR-2, T-6, Attachment 13 (Maintenance of Structures).

According to the response, much larger expenses than have been historically spent are proposed in the test year for PIL Activity 263, PIL Activity 265, PIN Activity 265 and PIX Activity 265. Please provide the following information:

a. Explain and itemize the specific work proposed to be done within each RA/Activity, indicating any line items within CA-IR-2, Attachments 13D, 13F or 13K that correspond with such itemization.

b. State whether any effort was made to normalize Maintenance of Common Structures estimated for the test year, and provide complete copies of all analyses, workpapers, projections and other documents associated with any such normalization that was considered.

c. Explain whether any of the work described in your response to part (a) of this information request was performed historically and provide the prior dates/intervals associated with such work.

d. Identify each of the "2007 Priority List" station maintenance items within CA-IR-2, Attachments 13D, 13F and 13K that were determined to be relatively lower priority that were not included in test year O&M projections.

HECO Response:

a. Please refer to Attachment 1 to this response for the specific work that was in the 2007 budget for PIL, Activity 263; Attachment 2 for PIL, Activity 265; Attachment 3 for PIN, Activity 265; and Attachment 4 for PIX, Activity 265.

b. There were no normalization adjustments for the Maintenance of Common Structures for the test year. In most cases, these identified work items are discretionary as to timing. As described in HECO's response to CA-IR-240, discretionary work is identified and included in the budget with the full intention of performing the work, but the scheduling of discretionary work is subject to consideration against all other work requirements, resources,

and priorities as the year unfolds. Discretionary work items, if deferred, may eventually be elevated in priority and be reclassified as "non-discretionary." Non-discretionary work that materializes during the course of the year and is unbudgeted can lead to deferral of discretionary work even if it was budgeted. Moreover, unbudgeted non-discretionary work that was not scheduled (e.g., corrective maintenance to repair broken equipment that is causing a forced outage) could be more expensive to perform than if similar work had been planned in advance. If the Production O&M budget did not include some level of discretionary work, all unbudgeted work that had to be performed would result in overruns relative to the budget. Accordingly, being able to offset unbudgeted work with the deferral of discretionary work helps manage resources and expenses. See also response to CA-IR-488.

c. Please refer to Attachments 1, 2, 3, and 4 to this response.

d. As described in CA-IR-240, -241, and -242, all items on the Kahe, Waiau, and Honolulu Priority Lists were included in the 20007 O&M expense budget.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

Ref: CA-IR-70, Attachment 1, page 5
NARUC: 511
RA #: PIL
Act #: 263
Activity: Maintain Common Structures/Preventive
Budget07: $1,501,198

Loc	Proj/WO#	Description	EE#	Amount	Total	Reference	Historically Performed	Interval/Dates
KST	HP000347	Elevator maintenance	501	25,200		CA-IR-2, Attachment 13D, page 7	Yes	All years - Recurring
KST	HP000348	Air Cond maint	501	36,000	61,200	CA-IR-2, Attachment 13D, page 7	Yes	All years - Recurring
KWW	P0000456	Kahe Sludge Bed Removal	505	1,159,998	1,159,998	CA-IR-2, Attachment 13D, page 1	Yes	~1986, 12/99-01/00
KWW	P0000458	Kahe Pond 1A Clean & Lining	505	280,000	280,000	CA-IR-2, Attachment 13D, page 1	Yes	2005
					1,501,198			

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

Ref: CA-IR-70, Attachment 1, page 5
NARUC: 511
RA #: PIL
Act #: 265
Activity: Maintain Common Structures/Corrective
Budget07: $1,373,800

Loc	Proj/WO#	Description	EE#	Amount	Total	Reference	Historically Performed	Interval/Dates
KST		Kahe Locker Room Lockers/ Replace/Realign		25,000		CA-IR-2, Attachment 13D, page 3	No	
KST		Kahe Admin Office/Refurbish, Paint, Ceiling Panels		50,000		CA-IR-2, Attachment 13D, page 3	No	
KST		Kahe Culvert Drain Maintenance		10,000		CA-IR-2, Attachment 13D, page 3	Yes	2005
KST		Kahe Roll-up Door Maintenance		19,800		CA-IR-2, Attachment 13D, page 3	No	
KST		Kahe Gate Maintenance		15,000		CA-IR-2, Attachment 13D, page 3	No	
KST		Kahe Discharge Shoebox Repairs		50,000		CA-IR-2, Attachment 13D, page 3	Yes	2003
KST		Kahe Turbine Deck Drains		50,000		CA-IR-2, Attachment 13D, page 3	Yes	2002, 2003, 2004, 2005
KST		Farrington Hwy Culvert Clean up		50,000		CA-IR-2, Attachment 13D, page 3	No	
KST		Kahe Fence Repairs		30,000		CA-IR-2, Attachment 13D, page 3	Yes	2002, 2003, 2005, 2006
KST		Kahe Fire Break Cleaning		20,000		CA-IR-2, Attachment 13D, page 3	Yes	2004, 2005, 2006
KST		Kahe Roadway Repairs		100,000		CA-IR-2, Attachment 13D, page 3	Yes	2001, 2004, 2005, 2006
KST		air cond repairs		15,000		CA-IR-2, Attachment 13D, page 8	Yes	All Years
KST		elevator repairs		15,000		CA-IR-2, Attachment 13D, page 8	Yes	All Years
KST		General Trend		60,000	509,800	CA-IR-2, Attachment 13D, page 8	Yes	All Years
KST	P0001271	K1-6 Corrosion Control	501	250,000		CA-IR-2, Attachment 13D, page 3	Yes	2001, 2004, 2005
KST	P0001271	Kahe 5&6 ACW Lines/ Inspect Repair/Replace	501	250,000		CA-IR-2, Attachment 13D, page 3	Yes	2004
KST	P0001271	Kahe Turbine Deck Coating Repairs	501	300,000	800,000	CA-IR-2, Attachment 13D, page 3	Yes	2001, 2005
KWW		Kahe Septic Tank Pumping	501	4,000		CA-IR-2, Attachment 13D, page 3	No	
KWW		Kahe Waste Water Structural Maint	501	60,000	64,000	CA-IR-2, Attachment 13D, page 3	Yes	2001, 2003
					1,373,800			

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

Ref: CA-IR-70, Attachment 1, page 5
NARUC: 511
RA #: PIN
Act #: 265
Activity: Maintain Common Structures/Corrective
Budget07: $284,200

Loc	Proj/WO#	Description	EE#	Amount	Total	Reference	Historically Performed	Interval/Dates
HST		Gen Plant - trend	501	60,000		CA-IR-2, Attachment 13F, page 5	Yes	All Years
HST	HP000360	air cond repairs	501	13,200		CA-IR-2, Attachment 13F, page 5	Yes	All Years
HST	HP000750	elevator repairs	501	1,000	74,200	CA-IR-2, Attachment 13F, page 6	Yes	All Years
HST	P0001271	Hon Building Repairs	501	160,000	160,000	CA-IR-2, Attachment 13F, page 4	Yes	2002, 2003, 2006
HWW		Hon Waste Water Pit Repairs	501	50,000	50,000	CA-IR-2, Attachment 13F, page 4	No	
					284,200			

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

Ref: CA-IR-70, Attachment 1, page 5
NARUC: 511
RA #: PIX
Act #: 265
Activity: Maintain Common Structures/Corrective
Budget07: $709,800

Loc	Proj/WO#	Description	EE#	Amount	Total	Reference	Historically Performed	Interval/Dates
WST		Waiau Bathroom/Shower/ Locker room Refurbishment	501	20,000		CA-IR-2, Attachment 13K, page 3	Yes	2003, 2004, 2006
WST		Waiau Roll-up Door Maintenance	501	19,800		CA-IR-2, Attachment 13K, page 3	No	
WST		Waiau Gate Maintenance	501	15,000		CA-IR-2, Attachment 13K, page 3	No	
WST		Waiau Fence Repairs	501	80,000		CA-IR-2, Attachment 13K, page 3	Yes	2004, 2006
WST		Waiau Roadway Repairs	501	100,000	234,800	CA-IR-2, Attachment 13K, page 3	Yes	2001, 2002, 2003, 2004
WST	P0001271	Waiau Paint - Corrosion Control	501	200,000		CA-IR-2, Attachment 13K, page 3	Yes	2001, 2004, 2005
WST	P0001271	Waiau Shop Bldg Repairs	501	150,000	350,000	CA-IR-2, Attachment 13K, page 3	Yes	2004
WWW		Waiau Waste Water Treatment Facility Repairs - General	501	75,000		CA-IR-2, Attachment 13K, page 3	Yes	2002
WWW		Waiau Sludge Bed Drying Cell Renewal	501	50,000	125,000	CA-IR-2, Attachment 13K, page 3	Yes	2001, 2002, 2003, 2004, 2005, 2006
					709,800			

CA-IR-339

Ref: Responses to CA-IR-70, Attachment 1, page 10 and CA-IR-2, T-6, Attachment 15 (Security Expenses).

According to the response, much larger expenses than have been historically spent are proposed in the test year for contract security services. Please provide the following information:

a. Explain how the billing rates and other information within CA-IR-2, Attachment 15 were translated into test year estimated expense amounts for each station.

b. Provide a monthly statement of actual contract security costs at each station for 2006 and each available month of 2007, to-date.

c. Explain and quantify any further adjustment that may be necessary to update the estimated expenses for security services for the test year, based upon your response to parts (a) and (b) of this information request.

HECO Response:

a. CA-IR-2, Attachment 15 is a copy of the security services agreement in effect as of July 1, 2006 and was not used to calculate the 2007 security cost. When the 2007 budget was prepared, the prior agreement that was in effect at the time was used as a basis to estimate 2007 security costs. In calculating the 2007 security cost for each station, HECO estimated the number of man hours needed and applied the hourly rate of $19.11. Because the contractor had over 20 officer pay rates, HECO applied a rate that was representative of the contractor billings. Please see Attachment 1 to this response for the billing example and the calculation of the $19.11 hourly rate. See Attachment 2 to this response for the 2007 calculated security cost by station.

b. Please see Attachment 3 to this response for the monthly security cost by station for 2006 and 2007 through May 2007.

c. No adjustment is necessary to update the security service cost for 2007, based on projections that the cost as estimated will be spent. On an average in 2007, the security cost for all the stations was $52,181 per month ($260,906 / 5 months). As shown in the current 2007 security agreement in CA-IR-2, HECO T-6, Attachment 15, page 17, the hourly billing rate effective July 1, 2007 is $19.92, up 81 cents or an increase of 4.2% from the $19.11 rate used for the test year. Adding $52,181 for the month of June, plus six months at $52,181 X 1.042 equals $260,906 + $52,181 + ($52,181 X 1.042) X 6 or $639,323. The difference between the calculated annualized cost and the 2007 test year amount is $90,957 ($730,280 - $639,323). While HECO's security contractor has been experiencing a staffing shortfall, HECO fully expects that its security contractor will meet its contract obligations and that the funds for security expenses, as estimated, will be spent in 2007.

JUL-11-06 TUE 12:55 PM GUARDSMARK FAX NO. 9015226013 P. 11

GUARDSMARK

HAWAIIAN ELECTRIC
ATTN ACCOUNTS PAYABLE, KS3-AD
PO BOX 2750
HONOLULU HI 96840-0001

Service Period	06/25/06-07/01/06
Client No.	9 53 5357
Invoice No.	9627041
Date	7/1/2006

P93123/008

Terms: Due and Payable Upon Receipt
PURCHASE ORDER #

Service Location:
COMMAND CENTER

Please reference invoice number with payment

(A) $18.35 * 1.04166 = $19.11

Hours	Rate Code	Description		Rate		Total
		ACCOUNT 5357 -- COMMAND CENTER				
40.00	4R	SECURITY		18.35 (A)		734.00
			SUBTOTAL			734.00
			SALESTAX			29.36
			TOTAL FOR ACCT #5357			763.36
		ACCOUNT 5385 -- COMMAND CENTER				
32.00	0R	SECURITY		19.70		630.40
			SUBTOTAL			630.40
			SALESTAX			25.22
			TOTAL FOR ACCT #5385			655.62
		ACCOUNT 5396 -- COMMAND CENTER				
40.00	1H	SECURITY		27.33		1,093.20
			SUBTOTAL			1,093.20
			SALESTAX			43.73
			TOTAL FOR ACCT #5385			1,136.93
		W.O # FA000618				
		Req # 113786/008				
112		Hours approved per Ti Lucas				
		email 7/7/06 JHN				
		Purchase order sent to Guardsmark				
		via email 7/25/06 JHN				

Total

Remit To:

GUARDSMARK, LLC
FILE 6498
LOS ANGELES, CA 90074-6498

Pay This Amount $ 2,555.91

PAGE 1 OF 1

If you have a question about this invoice call 1 800 238 5878 Ext 7878.
Federal Identification Number 62-1013970

Guardsmark services, without written agreement, are subject to the terms and conditions appearing on the front and back of this invoice.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE
Production O&M - Budgeted Security Cost 2007

Required Personnel	Calc Hrs	
Honolulu Station		
1- 40 hrs per week for 52 weeks	2,080	
1- 24 hrs per day for 364 days	8,736	
	10,816	
Rate per Hour	$19.11	
	$206,694	
Kahe Station		
2- 40 hrs per week for 52 weeks	4,160	
1- 24 hrs per day for 364 days	8,736	
	12,896	
Rate per Hour	$19.11	
	$246,443	
Add: Camera Repairs	$6,600	
	$253,043	
Waiau Station		
2- 40 hrs per week for 52 weeks	4,160	
1- 24 hrs per day for 364 days	8,736	
	12,896	
Rate per Hour	$19.11	
	$246,443	
Add: Alarm Monitoring	$15,300	
Add: Camera Repairs	$8,800	
	$270,543	
TOTAL SECURITY COST	$730,280	Agrees with CA-IR-2, HECO T-6 Att 15, page 3

*RA #	*Loc #	Cost Category	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07	Jan 06 Act05-06$ RA	Feb 06 Act05-06$ RA	Mar 06 Act05-06$ RA	Apr 06 Act05-06$ RA	May 06 Act05-06$ RA
PHS	HST	O/S SVCS	$172,577	$164,396	$75,329	$206,694	$25,372	$9,278	$20,918	$24,634	$9,254
	KST	O/S SVCS	$173,319	$161,200	$75,849	$253,043	$23,260	$7,189	$23,456	$15,461	$9,818
	WST	O/S SVCS	$213,420	$200,246	$109,728	$270,543	$4,737	$36,250	$40,923	$11,641	$9,836
			$559,316	$525,841	$260,906	$730,280	$53,370	$52,717	$85,297	$51,737	$28,908
			$559,316	$525,841	$260,906	$730,280	$53,370	$52,717	$85,297	$51,737	$28,908

Jun 06 Act05-06$ RA	Jul 06 Act05-06$ RA	Aug 06 Act05-06$ RA	Sep 06 Act05-06$ RA	Oct 06 Act05-06$ RA	Nov 06 Act05-06$ RA	Dec 06 Act05-06$ RA	Jan 07 Act07$RA	Feb 07 Act07$RA	Mar 07 Act07$RA	Apr 07 Act07$RA	May 07 Act07$RA
$12,599	-$94	$5,674	$29,451	$0	$1,514	$25,795	$0	$0	$63,237	-$1,066	$13,158
$6,578	$13,341	$9,323	$26,252	$0	$725	$25,795	$0	$0	$63,868	-$11,581	$23,562
$6,574	$12,425	$18,023	$26,841	$1,298	$0	$31,698	$5,054	$329	$99,208	-$7,962	$13,099
$25,751	$25,673	$33,019	$82,545	$1,298	$2,238	$83,289	$5,054	$329	$226,313	-$20,609	$49,818
$25,751	$25,673	$33,019	$82,545	$1,298	$2,238	$83,289	$5,054	$329	$226,313	-$20,609	$49,818

Note: Variations in monthly amounts are due to the timing of receipt of invoices and invoice processing.

CA-IR-340

Ref: Response to CA-IR-248, Attachment 1, page 2 (Vehicle Expenses).

The Attachment provides 2007 Vehicle "Allocated Charges" of $7,958,242 and "Forecasted 2007 hours" of 1,340,507. Please provide the following additional information:

a. A detailed further breakdown of the non-labor "allocated charges" by expense element, such as fuel, maintenance, insurance, etc.

b. Assumptions, workpapers and calculations supportive of the estimated "allocated charges" amount for the test year.

c. Comparable actual vehicle charges for prior years 2004, 2005, 2006 and year-to-date 2007, broken down into expense categories used in Attachment 1, page 2 (labor, on-costs, depreciation, etc.) and in your response to part (a) of this information request for non-labor charges.

d. A listing of the number of vehicles in each category, heavy/medium/light trucks, sedans condor 1501, caterpillar, etc.; for each year 2004 through 2006 and the test year.

e. Provide supporting calculations for the "Forecasted 2007 hours" in each category, indicating assumptions and methods used to develop such values.

f. Provide a comparable breakdown of actual hours of use for each category of vehicles for each prior year 2004 through 2006 and year-to-date 2007.

g. What were the trued-up actual hourly vehicle charge rates recorded by HECO in 2004, 2005 and 2006 by category?

h. Have the 2007 hourly vehicle charge rates been changed for accounting purposes from the values shown in Attachment 1, page 2?

i. If your response to part (h) of this information request is affirmative, please provide all hourly charge rates that have actually been employed to date in 2007.

HECO Response:

a. See Attachment 1 of this response for the breakdown of the allocated charges by expense element (information also provided in response to CA-IR-248, Attachment 1, Page 2 of 3).

A further breakdown of the labor charges are provided on page 2 and non-labor charges are provided on page 3 of this response.

b. See Attachment 1 of this response.

c. See Attachment 2 of this response for actual vehicle charges detailed by expense element for 2004 through 2006 and year to date 2007.

d. See Attachment 3 of this response for a listing of vehicle counts by vehicle type for 2004 through 2006 and year to date 2007.

e. See Attachment 4 page 1 of this response for the extract of vehicle hours forecasted to expense element 301 - Transportation. Vehicles assigned to departments are forecasted at 8 hours per day (Monday through Friday, excluding holidays). Departments also forecast pool vehicle usage throughout the years. The development of forecasted vehicle hours is further explained in the Vehicle Costing IOC dated October 16, 2000 (see Attachment 4, pages 2 and 3 of this response).

f. For assigned vehicles, actual vehicle usage is allocated based on 8 hours per day (Monday through Friday, excluding holidays). Actual vehicle hours are maintained for pool vehicles. See Attachment 5 for the recorded vehicle hours.

g. Actual vehicle charges incurred monthly are distributed monthly. Costs are distributed monthly based on the available vehicle hours (generally, 8-hours per day Monday through Friday, excluding holidays). Thus, there is no true-up required to the budget vehicle rates, as actual charges are allocated.

h. See explanation above in g.

i. See explanation above in g.

Allocated Charges (in the thousands)
As shown in CA-IR-248, Attachment 1, Page 2 of 3

Labor	1,879	(1)
Nonlabor	2,384	(2)
On-costs	1,857	(3)
Depreciation	1,838	(4)
Total to be allocated	7,958	

(1) See page 2 of this attachment for forecasted labor detail.

(2) See page 3 of this attachment for forecasted nonlabor detail.

(3) On-costs:

Type	(a) $/hrs		(b) On-cost Rate		(c) = (a) x (b) Amount
Payroll Taxes	1,879	(i)	8.18%	(iv)	154
Employee Benefits	63	(i)	$ 12.30	(iv)	775
Stores	1,735	(ii)	11.05%	(iv)	192
Energy Delivery	6	(iii)	$38.87	(iv)	233
Corporate Admin	63	(i)	$ 3.73	(iv)	235
Nonproductive Wages	63	(i)	$ 4.26	(iv)	268
					1,857

(i) On-costs applied through forecasted labor. See page 2 of this attachment.

(ii) Stores on-costs applied through forecasted material charges. See page 3 of this attachment.

(iii) Energy Delivery on-costs applied through forecasted Energy Delivery labor hours. See page 2 of this attachment.

(iv) On-cost Rates used in HECO Rate Case Test Year 2007.

(4) Depreciation estimate of 1,837.6 provided by Property Accounting in 2005 of forecasted 2006 vehicle depreciation. The revised HECO-1308 exhibit in June 2007 reports vehicle depreciation of 1,790.

Vehicle Clearing Labor Charges
Test Year 2007

Exp Class	_RA	_Act	_Loc	_Ind	_Proj	_EE	FY07 amount	hours	
Labor	PVA	701	PHE	NC	NPVZZZZZ	150	$ 15,051.15	405	
Labor	PVA	777	PHE	NC	NPVZZZZZ	150	$ 1,114.56	48	
Labor	PVA	788	PHE	NC	NPVZZZZZ	150	$ 3,574.11	109	
Labor	PVA	789	PHE	NC	NPVZZZZZ	150	$ 4,639.71	145	
Labor	PVA	797	PHE	NC	NPVZZZZZ	150	$ 1,852.56	60	
Labor	PVA	841	PHE	NC	NPVZZZZZ	150	$ 2,819.94	86	
Labor	PVA	842	PHE	NC	NPVZZZZZ	150	$ 16,524.42	649	
Labor	PVA	843	PHE	NC	NPVZZZZZ	150	$ 13,863.09	562	
Labor	PVA	844	PHE	NC	NPVZZZZZ	150	$ 2,787.15	85	
Labor	PVA	930	PHE	NC	NPVZZZZZ	150	$ 5,148.03	157	
Labor	PVA	940	PHE	NC	NPVZZZZZ	150	$ 57,528.33	1,517	
Labor	PVA	941	PHE	NC	NPVZZZZZ	150	$ 6,689.16	204	
Labor	PVA	942	PHE	NC	NPVZZZZZ	150	$ 13,247.16	404	
Labor	PVF	789	PHE	NC	NPVZZZZZ	150	$ 7,902.96	276	
Labor	PVF	797	PHE	NC	NPVZZZZZ	150	$ 8,402.04	288	
Labor	PVF	940	PHE	NC	NPVZZZZZ	150	$ 82,510.60	2,140	
Labor	PVF	941	PHE	NC	NPVZZZZZ	150	$ 4,158.72	144	
Labor	PVF	942	PHE	NC	NPVZZZZZ	150	$ 1,345,522.99	47,155	
Labor	PVF	943	PHE	NC	NPVZZZZZ	150	$ 66,753.96	2,352	
Labor	PVL	942	PHE	NC	NPVZZZZZ	150	$ 219,385.68	6,189	**(A)**
							$ 1,879,476.32	**62,975**	

Source: Test Year Rate Case Pillar files of vehicle clearing accounts 184110 and 184111.

Labor hours applicable to Energy Delivery Oncost **(A)** 6,189

Vehicle Clearing Non-Labor Charges
Test Year 2007

Exp Class	_RA	_Act	_Loc	_Ind	_Proj	_EE	Exp Element	Line item	FY07		
Non-Labor	PVL	942	PHE	NC	NPVZZZZZ	205	Matl-Purchasing Card	Material Cost - Paint & Materials	$ 36,469.50		
Non-Labor	PVF	941	PHE	NC	NPVZZZZZ	220	Automotive-Misc	941.Automotive Misc & Vehicles for Sale	$ 6,000.00	(A)	
Non-Labor	PVF	943	WRD	NC	NPVZZZZZ	221	Automotive-Gas & Oil	943.Fuel	$ 1,108,800.00	(A)	(1)
Non-Labor	PVF	942	WRD	NC	NPVZZZZZ	222	Automotive-Stk Matls	942.Parts	$ 556,200.00	(A)	(2)
Non-Labor	PVF	942	PHE	NC	NPVZZZZZ	223	Automotive-Gen Supp	942.Fleet Office Supplies	$ 64,272.00	(A)	
Non-Labor	PEZ	940	PHE	NC	NPVZZZZZ	451	IS Exp-Production	New PEZ Allocation 940	$ 58,884.00		
Non-Labor	PVA	850	PHE	NC	NPVZZZZZ	501	Outside Svcs-General	850.VA.Mincom Reports - Consultant Fees	$ 4,000.00		
Non-Labor	PVA	850	PHE	NC	NPVZZZZZ	501	Outside Svcs-General	850.VA.Subscription Fleet	$ 1,800.00		
Non-Labor	PVA	940	PHE	NC	NPVZZZZZ	501	Outside Svcs-General	940.Fleet Software Licensing & Maint. Fees	$ 11,065.00		
Non-Labor	PVA	940	PHE	NC	NPVZZZZZ	501	Outside Svcs-General	940.VA. cell phone	$ 1,000.00		
Non-Labor	PVF	942	PHE	NC	NPVZZZZZ	501	Outside Svcs-General	942.Outside services	$ 403,200.00		(3)
Non-Labor	PVL	942	PHE	NC	NPVZZZZZ	501	Outside Svcs-General	Contract Services -	$ 18,000.00		
Non-Labor	PKI	950	PHE	NC	NPKZZZZZ	502	Outside Svcs-Legal	Liability-AutoLegal	$ 5,496.00		
Non-Labor	PKI	950	PHE	NC	NPKZZZZZ	509	Outside Svcs-Spec Use	Liability-AutoClaims	$ 83,724.00		
Non-Labor	PVA	940	PHE	NC	NPVZZZZZ	520	Mainland Travel	940.MainlandTravel-Fleet	$ 5,700.00		
Non-Labor	PVF	942	PHE	NC	NPVZZZZZ	520	Mainland Travel	942.Mainland Trip	$ 4,000.00		
Non-Labor	PVA	940	PHE	NC	NPVZZZZZ	521	Meals & Entertainment	940.VA.MainlandTravelFleet-Meals	$ 1,200.00		
Non-Labor	PVF	942	PHE	NC	NPVZZZZZ	521	Meals & Entertainment	942.Meals	$ 120.00		
Non-Labor	PKI	950	PHE	NC	NPKZZZZZ	900	Fin Stmt Items	Liability-Auto Reserves	$ 11,508.00		
Non-Labor	PKI	950	PHE	NC	NPKZZZZZ	900	Fin Stmt Items	Libility-State Auto Assessments	$ 2,510.00		
									$ 2,383,948.50		

Source: Test Year Rate Case Pillar files of vehicle clearing accounts 184110 and 184111.

Transactions applicable to Stores Oncost **Σ(A)** $ 1,735,272.00

	Actual 2005	Actual 2006	Forecast 2006	%	FY07 Forecast	Assumptions
(1)	596,674	1,112,133	1,056,000	5	1,108,800.00	5% increase over 2006 forecast for rising costs of gas and oil
(2)	513,386	675,811	540,000	3	556,200.00	3% increase over 2006 forecast for rising costs and increased demand for parts
(3)	385,019	421,179	384,000	5	403,200.00	5% increase over 2006 forecast for rising costs and additional demand for outside services

Recorded Charges to Vehicle Clearing Accounts
by Expense Element

DSTRCT_C	HECO

Sum of AMOUNT		CCYY_IND			
ACCOUNT	EXP_ELE_DESC	2004	2005	2006	2007
150	Labor Cost	1,439,401.22	1,504,395.95	1,654,327.33	603,048.71
155	Labor True-up	113,712.29	122,204.06	156,511.84	49,043.23
201	Matl-Issues/Purchases	20,434.27	30,108.20	25,336.41	7,609.72
205	Matl-Purchasing Card	32,070.09	30,817.16	29,619.48	11,282.07
220	Automotive-Misc	11,516.31	14,738.91	2,941.50	
221	Automotive-Gas & Oil	769,369.65	904,447.79	1,112,305.23	339,197.32
222	Automotive-Stk Matls	491,013.94	513,385.91	675,923.57	205,922.00
223	Automotive-Gen Supp	63,161.85	71,388.05	75,489.05	29,866.81
301	Vehicles	27,190.09	48,630.37	25,551.40	174.83
404	Energy Delivery	96,079.87	93,194.83	122,876.23	39,276.86
406	Corp Admin Expense	121,630.67	122,806.53	152,252.73	73,715.76
421	Non-Productive Wages	236,632.85	211,999.82	258,281.92	87,054.25
422	Employee Benefits	294,474.43	438,756.94	636,814.12	248,594.66
423	Payroll Taxes	128,317.44	129,964.95	150,019.52	51,802.53
451	IS Exp-Prod & Dev	94,804.83	62,280.74	54,241.06	17,925.49
501	Outside Svcs-General	429,374.80	414,803.19	463,620.31	156,857.90
502	Outside Svcs-Legal	1,004.42	11,955.63	4,548.73	10,389.84
508	Outside Svcs-Environ	12,768.10	3,647.67	6,670.58	
509	Outside Svcs-Spec Use	13,399.62	34,125.90	26,909.40	29,808.89
520	Mainland Travel	4,007.38	4,214.04		
521	Meals & Entertainment	331.88	185.25		
522	Interisland Travel	1,639.04	1,665.00	146.80	
(blank)	Depreciation Expense	1,473,483.00	1,774,034.79	1,811,960.00	596,665.00
	Journal Entries	35,578.02	134,850.64	50,573.95	(699.31)
Grand Total		5,911,396.06	6,678,602.32	7,496,921.16	2,557,536.56

Note: 2007 represents April YTD charges.

Source: Financial account balance table of the vehicle clearing accounts 184110 and 184111.

Estimated Vehicle Counts

Vehicle Type	(1) **2004**	(1) **2005**	(1) **2006**	(1) **2007**
Heavy Trucks	63	65	62	63
Medium Trucks	39	37	37	37
Light Trucks	249	256	251	249
Sedans	134	133	122	122
Condor 150I	1	1	1	1
Caterpillar	1	1	1	1
Misc	209	214	212	218
Total	696	707	686	691

(1) Provided by Fleet Division extracted from Fleet Focus Application. 2007 is extracted from Fleet Focus as of June 14, 2007.

Note: Counts change throughout the year, as such, these counts are estimated.

EE	Rates Linked To	FY07
301	_ VEHCON Rate (Condor 150I)	1,968
301	_ VEHHVY Rate (Heavy Trucks)	144,403.92
301	_ VEHLGT Rate (Light Trucks)	458,284.04
301	_ VEHMED Rate (Medium Trucks)	108,780.04
301	_ VEHMIS Rate (Misc Veh & Equip)	408,152.08
301	_ VEHSED Rate (Sedans)	216,950.92
301	_ VEHXHY Rate (Caterpillar)	1,968
		1,340,507.00

AA

INTEROFFICE CORRESPONDENCE

Hawaiian Electric Co., Inc. **An HEI Company**

October 16, 2000

To: Managers and Direct Reports

From: Ernest Shiraki

Subject: Vehicle Costing change effective January 1, 2001

Effective January 1, 2001, a change in vehicle costing procedures will be implemented to address several concerns, including the "more-work" issue and more effective management of vehicle rates. **Vehicle usage from January 1, 2001 will no longer be recorded on timesheets or input into MIMS.** Instead, Accounting will process a monthly journal entry to allocate vehicle costs to department specified codeblocks.

The revised vehicle costing process will be as follows:

Recording of vehicle costs

Each assigned vehicle will have a single department designated codeblock to which vehicle costs will be distributed based on 8 hours per day (Monday through Friday, excluding holidays). Departments must provide the codeblocks (including any changes) to Fleet Division. In addition to maintaining costing information for assigned vehicles, Fleet Division will continue to maintain actual pool vehicle usage and costing information. Based on the vehicle costing information maintained by Fleet Division, Accounting will process a monthly journal entry to allocate vehicle costs to the codeblocks for the assigned and pool vehicles.

Forecasting for vehicle costs

Departments will forecast for each vehicle assigned to them, forecasting 8 hrs per day (Monday through Friday, excluding holidays) to the vehicle's designated codeblock. Departments will also forecast pool vehicle usage hours. Accounting will develop forecast vehicle rates based on forecast vehicle costs and hours.

This revised vehicle costing method will result in less direct charging of transportation costs since more vehicle costs will be charged to the clearing accounts which will then be included in the labor on-costs charged to final accounts (capital, billable, O&M, etc.). While this method deviates from our directive to direct charge more, it will reduce administrative costs related to vehicle costing by significantly reducing the labor effort to estimate and input vehicle usage into PILLAR for forecasting and eliminating the labor effort to input vehicle usage hours into MIMS. It will also reduce the administrative costs of managing vehicle rates since development of recorded rates for all vehicle classes will be eliminated. Development of forecast rates for all vehicle rates will still be required, however the development of these rates will be facilitated by this revised method.

This method should also result in more equitable distribution of vehicle costs. Currently, many users do not record and forecast vehicle usage, resulting in artificially inflated vehicle rates being applied to users who diligently follow the vehicle costing procedures. This revised method should result in a more equitable distribution since it will allocate vehicle costs based on 8 hours per day (Monday through Friday excluding holidays) for assigned vehicles and actual usage of pool vehicles, and will no longer depend on accurate input by users.

Finally, it will eliminate the problem due to inputting vehicle usage into MIMS as hours and minutes, while MIMS processes the inputs as decimals.

Please call me if there are any questions. Thank you.

Cc: Paul Fujioka
Lyle Matsunaga

Recorded Vehicle Hours

District	HECO

Assigned Cars

Sum of Hours	Year			
Description	2004	2005	2006	2007
Vehicle Costing - CAT	1,976	1,984	1,968	664
Vehicle Costing - CONDOR	1,976	1,984	1,968	664
Vehicle Costing - H TRK	119,640	118,216	115,496	37,848
Vehicle Costing - L TRK	459,192	472,376	456,904	152,216
Vehicle Costing - M TRK	70,616	71,128	66,912	22,576
Vehicle Costing - MISC	257,728	273,064	278,208	92,296
Vehicle Costing - SEDAN	187,392	197,544	195,144	65,560
Grand Total	1,098,520	1,136,296	1,116,600	371,824

Pool Cars	2004	2005	2006	2007
Vehicle Costing - CAT	-	-	-	-
Vehicle Costing - CONDOR	-	-	-	-
Vehicle Costing - H TRK	3,308	4,721	3,409	110
Vehicle Costing - L TRK	31,487	31,417	15,058	3,642
Vehicle Costing - M TRK	2,624	5,127	4,685	434
Vehicle Costing - MISC	-	-	-	-
Vehicle Costing - SEDAN	67,302	79,076	42,161	7,783
Grand Total	104,721	120,342	65,313	11,968

Total Hours	2004	2005	2006	2007
Vehicle Costing - CAT	1,976	1,984	1,968	664
Vehicle Costing - CONDOR	1,976	1,984	1,968	664
Vehicle Costing - H TRK	122,948	122,937	118,905	37,958
Vehicle Costing - L TRK	490,679	503,793	471,962	155,858
Vehicle Costing - M TRK	73,240	76,255	71,597	23,010
Vehicle Costing - MISC	257,728	273,064	278,208	92,296
Vehicle Costing - SEDAN	254,694	276,620	237,305	73,343
Grand Total	1,203,241	1,256,638	1,181,913	383,792

Note: 2007 represents April YTD hours.

CA-IR-341

Ref: HECO-629, pages 10-12; Response to CA-IR-183, (Electronic Shock Absorber).

Please provide the following additional information regarding the ESA project:

a. A complete copy of the "proposal to USDOE" referenced in response to CA-IR-183, part (d).

b. Explain and provide copies of documents indicating that "awards will be made in the fall of 2007" and otherwise describing project scheduling.

c. Provide, in as much detail as possible, a description of HECO plans associated with the "intent" to "build and test an ESA and other energy storage devices", indicating how such plans will vary depending upon USDOE funding, and explain any firm spending commitments that have been made for such planned work.

d. Provide complete copies of any documents associated with your response to part (c) of this information request.

HECO Response:

a. The proposal is still being developed as the due date has been extended from June 19, 2007 to July 25, 2007 (see Attachment 1 to this response for the latest version of USDOE Request for Proposal—Modification Number 3). The proposal is being developed jointly by HECO and MECO, in partnership with the Hawaii Natural Energy Institute, General Electric Company, and others, in response to Program Area of Interest 2: Renewable and Distributed Systems Integration (DE-PS26-07NT43119-02). A copy of the proposal will be provided when it becomes available.

b. Since the due dates were extended as discussed in the response to subpart a., the award date has also been revised. As stated in Part V, Section C *Anticipated Notice of Selection and Award Dates* of the latest USDOE Request for Proposals (RFP): "For Area of Interest 2, DOE anticipates notifying applicants selected for negotiations in early November 2007.

DOE anticipates making awards by the end of March 2008." (See page 32, section C., Anticipated Notice of Selection and Award Dates, of Attachment 1 to this response). Thus, no 2007 expenses for the electronic shock absorber (ESA) will be incurred for the work that is being proposed in response to the USDOE RFP. R&D funds in 2008, 2009 and future years will be proposed as cost-sharing for the USDOE project.

The 2007 expenses for the ESA will be used, however, for the disposal of the damaged ESA demonstration unit, described in HECO-629. Portions of the unit, the ultracapacitors, will need to be disposed of as hazardous waste. As discussed in CA-IR-183 c., HECO was awaiting a consultant report on the disposal of the ESA equipment. HECO has since received this report. The reports states:

> "The ultracapacitors contain acetonitrile/tetraethylammonium tetrefluoroborate as the electrolyte. Referring to the attached Maxwell document for handling damaged capacitors and discussions with Maxwell personnel, the electrolyte is flammable but not corrosive or toxic. Evaporation of the electrolyte leaves behind a white salt residue which is non corrosive and non toxic. Damaged capacitors should be disposed of by incineration or in accordance with local regulations. The Maxwell capacitors had significant fire damage and most have ruptured and burned. The significant amount of soot from the capacitors is from the internal organic materials (Cellulose – paper). If the capacitors have been destroyed by fire they can be disposed of with the remainder of the trailer components. Any capacitors that have not been ruptured and destroyed should be separately destroyed by incineration or in accordance with local regulations. The EPCOS capacitors contain the same materials and require the same handling. The EPCOS capacitors were not damaged by fire suffering only heat and smoke effects. These capacitors will require disposal by incineration or in accordance with local regulations. To complete the cleanup, the capacitors should be removed for separate disposal by a local hazardous material team. Once the capacitors are removed the trailer can be disposed of using normal procedures."

Bids will be sought from local vendors to dispose of this hazardous material and trailer. It is likely that the hazardous material will be shipped to the mainland for incineration and the non-hazardous material and trailer will be taken to a local construction landfill.

c. As described earlier, HECO and MECO are working jointly on the proposal to the USDOE. While the proposal to the USDOE has not been finalized, the concept envisioned is for MECO to host a new ESA and other energy management devices on Maui. Should the USDOE grant an award in 2008, design, construction and installation of the new ESA would follow generally in the 2008-2009 timeframe, partially funded by MECO and partially by the USDOE. HECO would provide R&D support.

As mentioned in the response to CA-IR-183, in the event this particular proposal is not funded, HECO and MECO will continue to pursue development of a new ESA on Maui while working with the Hawaii Natural Energy Institute and other organizations to seek external funds towards ESA-related work. These efforts would occur in 2008 and beyond. The only firm ESA spending envisioned by HECO in the 2007 test year is related to disposal of the earthquake damaged ESA demonstration trailer located on the Big Island as discussed above.

d. See Attachment 1 to this response for the latest USDOE RFP. A copy of the HECO/MECO proposal will be provided when it becomes available.

Attachments 1 and 2 are voluminous and available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. An electronic version of the requested information is being provided.

CA-IR-342

Ref: Response to CA-IR-2, HECO T-6, Attachment 13D, (Kahe Nonlabor Expenses).

This attachment summarizes, at pages 1 and 2, the amounts included in test year non-labor RA=PIL Expenses. However, some of the attachments are not legible or clearly organized. Please provide the following additional information regarding this attachment:

a. Attachment 13D, pages 3 and 4 contained listed non-project, non-labor items, which appear to be sub-totaled into alphabetical summaries. Please provide a legible sort of this "2007 Priority List" indicating which amount sum into the alphabetically posted totals and where other amounts included within the alphabetical totals are calculated and supported.

b. Attachment 13D, pages 7 through 9 contain forecasted amounts that appear to roll forward based upon some of the alphabetical summaries, but the amounts do not readily tie into summarized values at pages 1 and 2. Please provide additional information needed to reconcile each estimated amount into the summarized posted totals on pages 1 and 2.

c. Attachment 13D, pages 7 through 9 contain numerous line items described as "General Trend" or "General Plt.-Trend." For each of these "generally trended" items that individually exceeds $100,000 in test year expense, please provide the following details:

   1. Describe the types of costs incurred.
   2. Provide comparable actual expenses for each prior year 2003, 2004, 2005 and 2006.
   3. Explain how the trended amount was calculated and provide supporting calculations.
   4. If the proposed test year value is materially higher or lower than the historical actual amounts provided in response to part (b)(2) of this information request, please explain the reasons for such variances.

5. State whether any additional adjustment is believed to be required to correct calculations of any of the trended amounts.

d. Identify which specific amounts in pages 19 through 50 of this Attachment are intended to specifically support test year projected expenses and reference where such amounts are posted at pages 1 and 2, including any relevant intermediate calculates required to reconcile expenses.

HECO Response:

a. Please see Attachment 1 to this response. The totals of CA-IR-2, Attachment 13D, page 1 and 2, are shown in this attachment in the "Total" column. The line items in Attachment 1 are sorted by the ABM activity codes referenced on CA-IR-2, Attachment 13D, page 4. The alpha-numeric summation group identifier from CA-IR-2, Attachment 13D, page 4, is reflected in the right margin of Attachment 1.

b. Please see Attachment 1 to this response. The amounts of CA-IR-2, Attachment 13D, pages 7 to 9, are reflected in the column of the same name in Attachment 1.

c. Please see Attachment 2 to this response for a complete list of the General Trend budget items from CA-IR-2, Attachment 13D, pages 7 to 9.

1. General Trend items/activities are non-contracted transactions that are comprised of individual items that cost less than $10,000 each and are not uniquely identified in the budget to a specific unit or specific equipment code. Because the volume of transactions is high and the unit costs are low, it would not be practical to budget for these items individually. The General Trend became the means to manage many individual items at a group level. Examples of transactions that are budgeted for in the

General Trend are: 1) as-needed contract services for door repairs, plumbing repairs, tool repair, and, 2) as-needed materials drawn from the warehouse or purchased outside for normally minor type repairs. The expenses are budgeted in the General Trend account, but can be recorded to specific unit or equipment codes or to the General Trend account when work is performed.

2. Because the expenses are budgeted to the General Trend account but can be recorded to specific unit or specific equipment codes, it would be extremely burdensome to identify and correlate actual expenditures to budget amounts. However, please refer to Attachment 3 for Kahe (PIL), Honolulu (PIN) and Waiau (PIX) historical costs for the General Trend amounts, in aggregate, for each RA.

3. The 2007 General Trend forecast is based primarily on the historical expenditure patterns for these types of expenses. The first step is to review the total materials and outside services expenses for these items/activities for the Kahe RA (i.e., "PIL"). For a given budget year, the most recently completed and the current partial year expenditures are reviewed as the basis for the forecast for the following year. On this basis the General Trend forecast for PIL for 2006 was increased significantly to $2,051,000. The actual General Trend expenses for PIL in 2005 and 2006 were $2,224,000 and $2,409,000, respectively. Similarly, the General Trend expense for PIL in 2007 was estimated at $1,971,000. The total amount was then allocated into different code blocks where the General Trend items/activities commonly occur. The allocation is based on a reasonable historical level of expenditures for each RA, by code block. As shown in Attachment 2 to this response, the 2007 General Trend budget for PIL is $1,971,000, and it has been allocated to several code block activities and expense elements.

4. The 2007 General Trend forecast is not materially higher or lower than the historical actual amounts.

5. No adjustment is required.

d. The amounts in pages 19 through 50 of CA-IR-2, Attachment 13D, which are intended to specifically support test year projected expenses, including the references to where such amounts are posted at pages 1 and 2, are as follows:

1. Pages 19 – 27 support the estimated expense of $450,000 for Kahe Fuel Tank 11, Project P0001269, on page 1. The 2007 budget expense was based on the actual expense of $453,036 for Kahe Fuel Oil Tank #12, as shown on page 26 of CA-IR-2, Attachment 13D.

2. Pages 28 – 36 support the estimated expense of $280,000 for Kahe Pond 1A Clean & Line, Project P0000458, on page 1. The supporting documentation reflects an expense of $232,000 which was subsequently increased to $280,000 due to a reassessment of the volume of material to be removed and an increase in the landfill tipping fees.

3. Pages 37 – 44 support the estimated expense of $1,183,331 (the sum of $23,333 and $1,159,998) for Kahe Sludge Bed Removal, Project P0000456, on page 1. This amount is reflected on page 37 and page 42 of CA-IR-2, Attachment 13D.

4. Pages 45 – 50 support the estimated expense of $448,642 for Smart Signal, Project P0001308, on page 1. This amount is reflected in total on page 50 of CA-IR-2, Attachment 13D ($897,284), of which 50% (or $448,642) was allocated to PIL. (Note that the test year estimate for this item was normalized. See HECO T-6, page 59.)

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

2007 KAHE STATION O&M LIST

PROG	DESCRIPTION	2007 Total Non-non	2007 Total Project	RA	ABM	LOC	EE	Station List ABM Sum	CA-IR-2 Att13D pgs 7-9.	Total	
O&M	Kahe Boiler Feed Pump OH (1)		$170,000	IL	258	KST	201	$170,000		$170,000	
O&M	Kahe Basin Dredging		$200,000	IL	260	KST	501				
O&M	Lube Oil Tanks 11,12, 31,32		$200,000	IL	260	KST	501	$400,000		$400,000	(1)
O&M	Kahe Stilling Basin Structural Repairs		$150,000	IL	262	KST	501	$150,000		$150,000	
O&M	Kahe 1-6 Corrosion Control		$250,000	IL	265	KST	501				
O&M	Kahe 5&6 ACW Lines/ Inspect, Repair, Replace		$250,000	IL	265	KST	501				
O&M	Kahe Turbine Deck Coating Repairs		$300,000	IL	265	KST	501	$800,000		$800,000	(1)
	Kahe Burner Tips Replacements	$80,000		IL	257	KST	201				
	Kahe ABB Engineer	$36,000		IL	257	KST	501	$116,000	$187,200	$303,200	(A)
	Kahe Contract Helpers and Insulator	$360,000		IL	258	KST	501	$360,000		$360,000	
	Kahe Condenser Scrapers	$12,000		IL	260	KST	501				
	Kahe Intake Bar Grills Insp & Cln	$5,000		IL	260	KST	501				
	Kahe Westinghouse Engineer	$25,000		IL	260	KST	501				
	Kahe Condenser Clean	$60,000		IL	260	KST	501				
	Kahe Black start Annual Maint.	$20,000		IL	260	KST	501				
	Kahe Discharge Structure Bar Grills - Cln & Insp	$15,000		IL	260	KST	501	$137,000	$156,000	$293,000	(C)
	Kahe Circ Water Pump OH (1)	$50,000		IL	261	KST	201				
	Kahe Condensate Pump OH	$15,000		IL	261	KST	201	$65,000		$65,000	
	Kahe Screen Wash Water Piping	$25,000		IL	262	KST	501	$25,000	$804,800	$829,800	(D)
	Kahe Demin Mixed Bed Resin Replace	$90,000		IL	263	KWT	201	$90,000		$90,000	
	Kahe Septic Tank Pumping	$4,000		IL	265	KWW	501				
	Kahe Waste Water Structural Maint	$60,000		IL	265	KWW	501				
	Kahe Locker Room Lockers/Replace/Realign	$25,000		IL	265	KST	501				
	Kahe Admin Office/Refurbish, Paint, Ceiling Panels	$50,000		IL	265	KST	501				
	Kahe Culvert Drain Maintenance	$10,000		IL	265	KST	501				
	Kahe Roll-up Door Maintenance	$19,800		IL	265	KST	501				
	Kahe Gate Maintenance	$15,000		IL	265	KST	501				
	Kahe Discharge Shoebox Repairs	$50,000		IL	265	KST	501				
	Kahe Turbine Deck Drains	$50,000		IL	265	KST	501				
	Farrington Hwy Culvert Clean up	$50,000		IL	265	KST	501				
	Kahe Fence Repairs	$30,000		IL	265	KST	501				
	Kahe Fire Break Clearing	$20,000		IL	265	KST	501				
	Kahe Roadway Repairs	$100,000		IL	265	KST	501	$483,800	$180,000	$663,800	(F)
	Kahe Demin Structural Maint	$30,000		IL	265	KWT	501				

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

2007 KAHE STATION O&M LIST

PROG	DESCRIPTION	2007 Total Non-non	2007 Total Project	RA	ABM	LOC	EE	Station List ABM Sum	CA-IR-2 Att13D pgs 7-9.	Total	
	Kahe Distilled Water Tanks Insp & Rpr.	$30,000		IL	265	KWT	501	$60,000		$60,000	KWT
	Kahe A/C Duct Cleaning and Disinfection	$20,000		IL	266	KST	501				
	Kahe Drott Maint./Certification	$20,000		IL	266	KST	501				
	Kahe Gantry Crane Annual Insp.	$3,000		IL	266	KST	501	$43,000		$43,000	
	Kahe Fuel Oil Pipeline Repairs/Insp.	$50,000		IL	269	KTF	501	$50,000		$50,000	
	K6 CEMS Maintenance	$54,000		IL	875	KST	501	$54,000		$54,000	
	Kahe Asbestos Abatement/Disposal	$20,000		IL	878	KST	501				
	Kahe Hazardous Waste Disposal	$20,000		IL	878	KST	501				
	Kahe Lead Abatement	$4,000		IL	878	KST	501				
	Kahe Mercury Disposal	$20,000		IL	878	KST	501				
	Kahe Waste Oil Disposal	$20,000		IL	878	KST	501	$84,000		$84,000	
	Kahe Roadside Landscaping	$20,000		IL	931	KST	501				
	Kahe Tree Trimming	$20,000		IL	931	KST	501	$40,000	$62,400	$102,400	G)
								$3,127,800	$1,390,400	$4,518,200	
	CA-IR-2,Att 13D, pgs 7-9 ABM not in above										
					259-				$732,224	$732,224	(B)
					263-KST				$63,600	$63,600	(E)
					934-				$61,200	$61,200	
					268-				$108,000	$108,000	
	Subtotal							$3,127,800	$2,355,424	$5,483,224	
	Add: Kahe Sludge Bed Rem							$1,183,331		$1,183,331	
	Add: Kahe Pond 1A Clean & Line							$280,000		$280,000	
	Add: Kahe Fuel Tank 11 Clean							$450,000		$450,000	
	Add: Smart Signal							$448,642		$448,642	
	Total - Agrees with CA-IR-2, Att 13D, pg. 2							$5,489,773	$2,355,424	$7,845,197	

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE
Production Operation and Maintenance - Kahe Maintenance Division
(In Thousands)

Prod O&M- General Trend Item	Amount	Reference
Codeblock: PIL259KSTNENPIZZZZZ501		
Boiler Plt and Related Eq- Corr O/S	$288	CA-IR-2, Att 13D, page 7
Codeblock: PIL262KSTNENPIZZZZZ501		
Stm Turbo and Related Eq- Corr O/S	$360	CA-IR-2, Att 13D, page 7
Codeblock: PIL257KSTNENPIZZZZZ501		
Boiler Plt and Related Eq- Prev O/S	$67	CA-IR-2, Att 13D, page 7
Codeblock: PIL265KSTNENPIZZZZZ501		
Common Struct and Sys- Corr O/S	$60	CA-IR-2, Att 13D, page 8
Codeblock: PIL263KSTNENPIZZZZZ201		
Common Struct and Sys- Prev Matl	$2	CA-IR-2, Att 13D, page 8
Codeblock: PIL257KSTNENPIZZZZZ201		
Boiler Plt and Related Eq- Prev Matl	$120	CA-IR-2, Att 13D, page 8
Codeblock: PIL260KSTNENPIZZZZZ201		
Stm Turbo and Related Eq- Prev Matl	$156	CA-IR-2, Att 13D, page 9
Codeblock: PIL268KSTNENPIZZZZZ201		
Common Misc Eq- Corr Matl	$108	CA-IR-2, Att 13D, page 9
Codeblock: PIL265KSTNENPIZZZZZ201		
Common Struct and Sys- Corr Matl	$90	CA-IR-2, Att 13D, page 9
Codeblock: PIL259KSTNENPIZZZZZ201		
Boiler Plt and Related Eq- Corr Matl	$300	CA-IR-2, Att 13D, page 9
Codeblock: PIL262KSTNENPIZZZZZ201		
Stm Turbo and Related Eq- Corr Matl	$420	CA-IR-2, Att 13D, page 9
TOTAL	$1,971	

Hawaiian Electric Company, Inc.
PSO&M - Review of Station Cost - Material & O/S - General Trend (Not Tracked) Items
Actuals - Years 2003 - 2006
(In $000)

	2003	2004	2005	2006
PIL - Kahe				
Actual				
Material	$868	$1,104	$1,549	$1,772
O/S	$251	$117	$675	$637
	$1,119	$1,221	$2,224	$2,409
Budget				
Material	$862	$785	$655	$2,021
O/S	($30)	$0	($1)	$30
	$832	$785	$654	$2,051
Variance	$287	$436	$1,570	$358
PIN - Honolulu				
Actual				
Material	$81	$230	$337	$151
O/S	$33	$325	$97	$310
	$114	$555	$434	$461
Budget				
Material	$187	$96	$148	$337
O/S	$2	$0	$110	$322
	$188	$96	$258	$659
Variance	($74)	$459	$176	($198)
PIX - Waiau				
Actual				
Material	$535	$765	$1,096	$1,317
O/S	$181	$165	$1,216	$749
	$716	$930	$2,312	$2,066
Budget				
Material	$593	$650	$625	$1,036
O/S	$128	$151	$319	$189
	$721	$801	$944	$1,225
Variance	($5)	$129	$1,368	$841
TOTAL				
Actual				
Material	$1,484	$2,099	$2,982	$3,240
O/S	$465	$607	$1,988	$1,696
	$1,949	$2,706	$4,970	$4,936
Budget				
Material	$1,642	$1,531	$1,428	$3,394
O/S	$100	$151	$428	$541
	$1,741	$1,682	$1,856	$3,935
Variance	$208	$1,024	$3,114	$1,001

CA-IR-343

Ref: Response to CA-IR-2, HECO T-6, Attachment 13K, (Waiau Nonlabor Expenses).

This attachment summarizes, at pages 1 and 2, the amounts included in test year non-labor RA=PIX Expenses. However, some of the attachments are not legible or clearly organized. Please provide the following additional information regarding this attachment:

a. Attachment 13K, pages 3 and 4 contained listed non-project, non-labor items, which appear to be sub-totaled into alphabetical summaries. Please provide a legible sort of this "2007 Priority List" indicating which amount sum into the alphabetically posted totals and where other amounts included within the alphabetical totals are calculated and supported.

b. Attachment 13K, pages 5 through 7 contain forecasted amounts that appear to roll forward based upon alphabetical summaries, but the amounts do not readily tie into summarized values at pages 1 and 2. Please provide additional information needed to reconcile each estimated amount into the summarized posted totals on pages 1 and 2.

c. Attachment 13K, pages 5 through 7 contain numerous line items described as "Gen Plant" or "General Plant-Trend." For each of these "generally trended" items that individually exceeds $100,000 in test year expense, please provide the following details:

   1. Describe the types of costs incurred.

   2. Provide comparable actual expenses for each prior year 2003, 2004, 2005 and 2006.

   3. Explain how the trended amount was calculated and provide supporting calculations.

   4. If the proposed test year value is materially higher or lower than the historical actual amounts provided in response to part (b)(2) of this information request, please explain the reasons for such variances.

   5. State whether any additional adjustment is believed to be required to correct calculations of any of the trended amounts.

HECO Response:

a. Please see Attachment 1 to this response. The totals of CA-IR-2, Attachment 13K, page 1 and 2, are shown in this attachment in the "Total" column. The line items in Attachment 1 are sorted by the ABM activity codes referenced on CA-IR-2, Attachment 13K, page 3. The

alphabetic summation group identifier from CA-IR-2, Attachment 13K, page 3, is reflected in the right margin of Attachment 1.

b. Please see Attachment 1 to this response. The amounts of CA-IR-2, Attachment 13K, pages 5 to 7, are reflected in the column of the same name in Attachment 1.

c. Please see Attachment 2 to this response for a complete list of the General Trend budget items from CA-IR-2, Attachment 13K, pages 5 to 7.

1. General Trend items/activities are non-contracted transactions that are comprised of individual items that cost less than $10,000 each and are not uniquely identified in the budget to a specific unit or specific equipment code. Because the volume of transactions is high and the unit costs are low, it would not be practical to budget for these items individually. The General Trend became the means to manage many individual items at a group level. Examples of transactions that are budgeted for in the General Trend are: 1) as-needed contract services for door repairs, plumbing repairs, tool repair, and, 2) as-needed materials drawn from the warehouse or purchased outside for normally minor type repairs. The expenses are budgeted in the General Trend account, but can be recorded to specific unit or equipment codes or to the General Trend account when work is performed.

2. Because the expenses are budgeted to the General Trend account but can be recorded to a specific unit or equipment codes, it would be extremely burdensome to identify and correlate actual expenditures to budget amounts. However, please refer to CA-IR-342, Attachment 3, for Kahe (PIL), Honolulu (PIN) and Waiau (PIX) historical cost for the General Trend amounts, in aggregate, for each RA.

3. The 2007 General Trend forecast is based primarily on the historical expenditure patterns for these types of expenses. The first step is to review the total materials and outside services expenses for these items/activities for the Waiau RA (i.e., "PIX"). For a given budget year, the most recently completed and the current partial year expenditures are reviewed as the basis for the forecast for the following year. On this basis the General Trend forecast for PIX for 2006 was increased to $1,225,000. The actual General Trend expenses for PIX in 2005 and 2006 were $2,312,000 and $2,066,000, respectively. Similarly, the General Trend expense for PIX in 2007 was estimated at $1,263,000. The total amount was then allocated into different code blocks where the General Trend items/activities commonly occur. The allocation is based on a reasonable historical level of expenditures for each RA, by code block. As shown in Attachment 2 to this response, the 2007 General Trend budget for PIX is $1,263,000, and it has been allocated to several code block activities and expense elements.
4. The 2007 General Trend forecast is significantly lower than the historical actual amounts for 2005 and 2006. The lower forecast was based on the perspective that the actual expenses for 2005 and 2006 were unusually high and that they would return to more typical levels in 2007.
5. No adjustment is required.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE
2007 WAIAU STATION O&M LIST

PROG	DESCRIPTION	2007 Total Non-non	2007 Total Project	RA	ABM	LOC	EE	Station List ABM Sum	CA-IR-2 Att13K pgs 5-7	Total	
O&M	Waiau Boiler Feed Pump Overhaul		$170,000	IX	258	WST	201	$170,000		$170,000	
O&M	Waiau Traveling Screens Overhaul W 5/6		$240,000	IX	260	WST	201	$240,000		$240,000	
O&M	Waiau Circ Water Pump Overhaul		$180,000	IX	261	WST	201	$180,000		$180,000	
O&M	Waiau Paint - Corrosion Control		$200,000	IX	265	WST	501				
O&M	Waiau Shop Bldg Repairs		$150,000	IX	265	WST	501	$350,000		$350,000	(H)
	Waiau Burner Tips Replacement	$50,000		IX	257	WST	201				
	Waiau ABB Engineer	$36,000		IX	257	WST	501	$86,000	$365,344	$451,344	(A)
	Waiau Contract Blr Mkr, Helper and Insulator	*$360,000*		IX	258	WST	501				
	Lube Oil Analysis Services - PDM	$0		IP	258	WST	501				
	Misc. PDM Purchases	$0		IP	258	WST	501	$360,000		$360,000	
	Waiau Condenser Scrapers	$15,000		IX	260	WST	501				
	Waiau Westinghouse Engineer	$25,000		IX	260	WST	501				
	Waiau Condenser Clean	$60,000		IX	260	WST	501	$100,000	$30,000	$130,000	
	Waiau Condensate Pump Overhaul	$40,000		IX	261	WST	201	$40,000		$40,000	
	Waiau Demin Mixed Bed Regen (Barney fill in)	$20,000		IX	263	WWT	501				
	Waiau Demin Reverse Osmosis Filters (Barney fill in)	$35,000		IX	263	WWT	501				
	Waiau Demin Remote Monitoring	$12,000		IX	263	WWT	501				
	Waiau Bathroom/Shower/Locker room Refurbishment	$20,000		IX	265	WST	501				
	Waiau Roll-up Door Maintenance	$19,800		IX	265	WST	501				
	Waiau Gate Maintenance	$15,000		IX	265	WST	501				
	Waiau Distilled Water Tank Maintenance Tank 4	$80,000		IX	265	WT2	501				
	Waiau Waste Water Treatment Facility Repairs - Gene	$75,000		IX	265	WWW	501				
	Waiau Fence Repairs	$80,000		IX	265	WST	501				
	Waiau Roadway Repairs	$100,000		IX	265	WST	501				
	Waiau Sludge Bed Drying Cell Renewal	$50,000		IX	265	WWW	501	$506,800	$195,000	$701,800	(E)
	Waiau A/C Duct Cleaning and Disinfection	$34,000		IX	266	WST	501				
	Waiau Fire Protection System Maintenance	$50,000		IX	266	WST	501				
	Waiau Equipment Maintenance (Snorkle/Fork/Carts)	$15,300		IX	266	WST	501				
	Waiau Gantry Crane Certification	$6,400		IX	266	WST	501	$105,700		$105,700	(F)
	Waiau Gantry Crane Mech/Hydraulic Repairs	$45,000		IX	268	WST	501	$45,000	$48,000	$93,000	(G)
	Waiau Fuel Oil Tank Maint.	$50,000		IX	269	WFS	501	$50,000		$50,000	
	Transformer Oil Analysis Services - PDM	$0		IP	349	WST	501				
	Used Transformer Oil Disposal - PDM	$0		IP	349	WST	501	$0		$0	
	Waiau Asbestos Abatement	$100,000		IX	878	WST	501				
	Waiau Hazardous Waste Disposal	$100,000		IX	878	WST	501				

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE
2007 WAIAU STATION O&M LIST

PROG	DESCRIPTION	2007 Total Non-non	2007 Total Project	RA	ABM	LOC	EE	Station List ABM Sum	CA-IR-2 Att13K pgs 5-7	Total	
	Waiau Lead Abatement	$40,000		IX	878	WST	501				
	Waiau Mercury Disposal	$4,000		IX	878	WST	501	$244,000		$244,000	
	Waiau Tree Trimming (Safety & Security)	$10,000		IX	931	WST	501	$10,000		$10,000	
								$2,487,500	$638,344	$3,125,844	
	CA-IR-2,Att 13K, pgs 5-7 ABM not in above										
					256-				$20,000	$20,000	
					259-				$564,800	$564,800	(B)
					262-				$105,000	$105,000	
					263-WST				$129,000	$129,000	(D)
					274-				$18,000	$18,000	
					934-				$129,600	$129,600	
					936-				$72,000	$72,000	
	Subtotal							$2,487,500	$1,676,744	$4,164,244	
	Add: Smart Signal							$448,642		$448,642	
	Total - Agrees with CA-IR-2, Att 13K, pg. 2							$2,936,142	$1,676,744	$4,612,886	

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE
Production Operation and Maintenance - Waiau Maintenance Division
(In Thousands)

Prod O&M- General Trend Item	Amount	Reference
Codeblock: PIX257WSTNENPIZZZZZ501		
Boiler Plt and Related Eq- Prev O/S	$187	CA-IR-2, Att 13K, page 5
Codeblock: PIX263WSTNENPIZZZZZ501		
Common Struct and Sys- Prev O/S	$8	CA-IR-2, Att 13K, page 5
Codeblock: PIX259WSTNENPIZZZZZ501		
Boiler Plt and Related Eq- Corr O/S	$300	CA-IR-2, Att 13K, page 5
Codeblock: PIX263WSTNENPIZZZZZ201		
Common Struct and Sys- Prev Matl	$60	CA-IR-2, Att 13K, page 6
Codeblock: PIX257WSTNENPIZZZZZ201		
Boiler Plt and Related Eq- Prev Matl	$72	CA-IR-2, Att 13K, page 6
Codeblock: PIX260WSTNENPIZZZZZ201		
Stm Turbo and Related Eq- Prev Matl	$30	CA-IR-2, Att 13K, page 6
Codeblock: PIX265WSTNENPIZZZZZ201		
Common Struct and Sys- Corr Matl	$195	CA-IR-2, Att 13K, page 7
Codeblock: PIX259WSTNENPIZZZZZ201		
Boiler Plt and Related Eq- Corr Matl	$240	CA-IR-2, Att 13K, page 7
Codeblock: PIX268WSTNENPIZZZZZ201		
Common Misc Equip- Corr Matl	$48	CA-IR-2, Att 13K, page 7
Codeblock: PIX262WSTNENPIZZZZZZ201		
Stm Turbo and Related Eq- Corr Matl	$105	CA-IR-2, Att 13K, page 7
Codeblock: PIX274WNSNENPIZZZZZ201		
CT Gen and Elec Eq- Corr Matl	$18	CA-IR-2, Att 13K, page 7
TOTAL	$1,263	

CA-IR-344

Ref: Response to CA-IR-246, Attachment 3 (Environmental EE508 Services).

Please provide the following information:

a. Updated actual monthly expenditures for April, May and June 2007.

b. Explain any unusual or non-recurring charges included in your response to part (a) of this information request.

HECO Response:

a. See Attachment 1 for actual monthly expenditures through May 2007. As discussed in subpart b below, the actual monthly expenditures are lower than the amounts in the 2007 test year estimate.

b. The outside services expense identified in CA-IR-246(d) is expected to be incurred. However, a significant portion of the expense will not be incurred in 2007 due to reasons discussed below. Consequently, the expense for Environmental EE508 Services in 2007 is currently estimated to be reduced by $126,000 below the 2007 test year estimate, from $240,000 to $114,000.

1. Timing of Hawaii Department of Health (HDOH) Activity – As previously explained in HECO's response to CA-IR-246(d), the timing and magnitude of HECO's expenditures on regulatory matters depend on the timing of HDOH's activities on the issue(s). Due to HDOH's limited availability in 2007 for substantive discussions on specific permit renewals, permit modifications, and regional haze compliance, $56,250 of the expense originally included in the 2007 test year estimate are now estimated to be deferred to 2008. The revised 2007 forecast for these activities was arrived at by taking the original 2007 forecasted amounts and reallocating them on a per month basis with expenses to

begin in October 2007. This resulted in three months of the original budget remaining in 2007 and nine months expected to be deferred to 2008. The breakdown of the expected deferrals is as follows:

a. Kahe CSP Renewal – Original estimate of $7,500 was revised to $1,875 in 2007 (3/12 of $7,500) and $5,625 deferred to 2008 (9/12 of $7,500).

b. Waiau CSP Renewal – Original estimate of $7,500 was revised to $1,875 in 2007 (3/12 of $7,500) and $5,625 deferred to 2008 (9/12 of $7,500).

c. Honolulu CSP Renewal – Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

d. Kahe Regional Haze Modeling - Original estimate of $15,000 was revised to $3,750 in 2007 (3/12 of $15,000) and $11,250 deferred to 2008 (9/12 of $15,000).

e. Waiau Regional Haze Modeling - Original estimate of $15,000 was revised to $3,750 in 2007 (3/12 of $15,000) and $11,250 deferred to 2008 (9/12 of $15,000).

f. Kahe Blackstart Modification - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

g. Waiau Air Compliance Blackstart Review - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

2. Senior Scientist Vacancy – The vacant Senior Scientist position has held up issuance of consultant scoping and work authorizations for compliance projects such as the opacity monitor regulations and the opacity compliance projects at Honolulu, Kahe, and Waiau. With the Senior Scientist position expected to be filled in the 3rd quarter of 2007, those projects should be moving forward. Due to the later than anticipated start, $43,500 in

projected expenses are estimated to carry over into 2008. The breakdown of the expected deferrals is as follows:

a. Honolulu Air Compliance Opacity Mitigation Project - Original estimate of $8,000 was revised to $2,000 in 2007 (3/12 of $8,000) and $6,000 deferred to 2008 (9/12 of $8,000).

b. Kahe Air Compliance Opacity Mitigation Project - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

c. Waiau Air Compliance Opacity Mitigation Project - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

d. Honolulu Air Compliance COMS Project - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

e. Kahe Air Compliance COMS Project - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

f. Waiau Air Compliance COMS Project - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

3. Greenhouse Gas Regulation – At the federal level, the Department of Energy announced changes in the works earlier this year to the voluntary submittal forms for the DOE 1605(b) program. Accordingly, work by HECO's consultant on completing those forms was placed on hold. The new forms are expected to be released in the 3rd quarter and HECO's consultant will then be asked to complete the forms for submittal.

At the state level, developments at the legislature on greenhouse gas (GHG) regulations caused HECO to place a hold on releasing consultant work earlier this year on assessing voluntary GHG programs. Instead, that work will be rescoped to provide assistance with assessing HB 226, now enacted as Act 234, and the State's intention to join the Climate Registry. This will result in $26,250 of expenditures expected to carry over into 2008. The breakdown of the expected deferrals is as follows:

a. General Compliance Support – Voluntary GHG Reporting. Original estimate of $20,000 was revised to $5,000 in 2007 (3/12 of $20,000) and $15,000 deferred to 2008 (9/12 of $20,000).

b. General Compliance Support – GHG Issues. Original estimate of $15,000 was revised to $3,750 in 2007 (3/12 of $15,000) and $11,250 deferred to 2008 (9/12 of $15,000).

Please refer to Attachment 2 of this response for an update of CA-IR-246 Attachment 1, reflecting the revised amounts for each of the forecasted outside services in 2007.

HAWAIIAN ELECTRIC COMPANY INC.
2007 RATE CASE

Air Quality & Noise Division (JB)
Actual 2007 Monthly Expenditures for Cost Type 508 Services
(Reference CA-IR-2, Exhibit HECO T-6, Attachment 7B, page 1; CA-IR-246, Attachment 3.)

	Jan-07	Feb-07	Mar-07	Apr-07	May-07
Kahe CSP Renewal	$0	$265	$212	$0	$0
Waiau Air Permit Renewal	$0	$0	$0	$0	$0
Honolulu Air Permit Renewal	$0	$0	$0	$0	$0
Honolulu Air Compliance	$99	$1,017	$928	$0	$0
Kahe Air Compliance	$5,382	$1,333	$1,634	$0	$0
Waiau Air Compliance	$2,471	$1,211	$1,411	$1,974	$0
General Compliance Support	$32,517	$1,708	$1,390	$110	$0
	$40,468	$5,535	$5,575	$2,084	$0

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
General Permitting Support (865PHE/NE)							
Kahe CSP Renewal (865KST/NE)							
			Kahe Covered Source Permit Renewal Review	$7,500	$1,875	$5,625	*Original estimate of $7,500 was revised to $1,875 in 2007 (3/12 of $7,500) and $5,625 deferred to 2008 (9/12 of $7,500).
Waiau Air Permit Renewal (865WST/NE)							
			Waiau Covered Source Permit Review	$7,500	$1,875	$5,625	*Original estimate of $7,500 was revised to $1,875 in 2007 (3/12 of $7,500) and $5,625 deferred to 2008 (9/12 of $7,500).
Honolulu Air Permit Renewal (865HST/NE)							
			Honolulu Covered Source Permit Review	$10,000	$2,500	$7,500	*Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
Honolulu Air Compliance (875HST/NE)							
	MSTR-JB-05-02	PJB-07-003	Honolulu Air Compliance	$12,000	$12,000	$0	Issued Work Authorization for $12,000 for assistance with compliance reports. Balance is currently on target for 2007.

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
			Honolulu Air Compliance	$8,000	$2,000	$6,000	**Compliance - Shared portion of outside consultant expenses associated with evaluation and implementation of opacity mitigation measures. Consultant will also initiate research into alternatives for opacity regulations under the State Implementation Plan. Original estimate of $8,000 was revised to $2,000 in 2007 (3/12 of $8,000) and $6,000 deferred to 2008 (9/12 of $8,000).
			Honolulu Air Compliance	$10,000	$2,500	$7,500	**Continuous Opacity Monitoring System (COMS) - Shared portion of outside consultant assistance with developing implementation plans and procedures associated with revisions to 40 CFR 60 Appendix F. Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
Kahe Air Compliance (875KST/NE)							
	MSTR-JB-05-02	PJB-07-004	Kahe Air Compliance	$15,000	$15,000	$0	Issued Work Authorization for $15,000 for assistance with compliance reports. Balance is currently on target for 2007.

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
			Kahe Air Compliance	$10,000	$2,500	$7,500	**Compliance - Shared portion of outside consultant expenses associated with evaluation and implementation of opacity mitigation measures. Consultant will also initiate research into alternatives for opacity regulations under the State Implementation Plan. Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
			Kahe Air Compliance	$10,000	$2,500	$7,500	**Continuous Opacity Monitoring System (COMS) - Shared portion of outside consultant assistance with developing implementation plans and procedures associated with revisions to 40 CFR 60 Appendix F. Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
	MSTR-JB-03-05	PJB-04-016	Kahe Regional Haze Modeling	$15,000	$3,750	$11,250	*Original estimate of $15,000 was revised to $3,750 in 2007 (3/12 of $15,000) and $11,250 deferred to 2008 (9/12 of $15,000).

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
	MSTR-JB-05-02	PJB-07-006	Kahe Blackstart Modification	$10,000	$2,500	$7,500	*Issued initial Work Authorization for $6,000, balance to be issued as amendment if necessary to respond to agency questions. Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
Waiau Air Compliance (875WST/NE)							
	MSTR-JB-05-02	PJB-07-005	Waiau Air Compliance	$15,000	$15,000	$0	Issued Work Authorization for $15,000 for assistance with compliance reports. Balance is currently on target for 2007.
			Waiau Air Compliance	$10,000	$2,500	$7,500	**Compliance - Shared portion of outside consultant expenses associated with evaluation and implementation of opacity mitigation measures. Consultant will also initiate research into alternatives for opacity regulations under the State Implementation Plan. Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
			Waiau Air Compliance	$10,000	$2,500	$7,500	**Continuous Opacity Monitoring System (COMS) - Shared portion of outside consultant assistance with developing implementation plans and procedures associated with revisions to 40 CFR 60 Appendix F. Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
			Waiau Air Compliance	$10,000	$2,500	$7,500	*Waiau Blackstart review - Original estimate of $10,000 was revised to $2,500 in 2007 (3/12 of $10,000) and $7,500 deferred to 2008 (9/12 of $10,000).
	MSTR-JB-03-05	PJB-04-015	Waiau Regional Haze Modeling	$15,000	$3,750	$11,250	*Original estimate of $15,000 was revised to $3,750 in 2007 (3/12 of $15,000) and $11,250 deferred to 2008 (9/12 of $15,000).

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
General Compliance Support (875PHE/NE)							
	MSTR-JB-05-02	PJB-07-002	General Compliance Support - Voluntary Green House Gas Reporting	$20,000	$5,000	$15,000	Issued work authorization to Jim Clary & Associates for assistance with Green House Gas reporting and preparing DOE 1605(b) submittal. Consultant's work has been placed on temporary hold due to pending changes announced by the Department of Energy on the submittal forms for the DOE 1605(b) program. New forms are anticipated to be released in the 3rd or 4th quarter of 2007. Original estimate of $20,000 was revised to $5,000 in 2007 (3/12 of $20,000) and $15,000 deferred to 2008 (9/12 of $20,000).
			General Compliance Support - Outside consultant legal services	$30,000	$30,000	$0	Actual invoice from Baker Botts for $28,800.

HAWAIIAN ELECTRIC COMPANY INC.
2007 TEST YEAR

HECO 2007 Non-Labor Forecast
JB - EE 508 Outside Consultant Services Summary (Updated July 2007)

	Consultant Services Master Agreement	Work Authorization No.	Description	Original Forecast for 2007	Revised Forecast for 2007	Amount Deferred to 2008	Comments
			General Compliance Support - Green House Gas Issues	$15,000	$3,750	$11,250	Outside consultant services to assist with evaluation of HB 226 (now Act 234) implementation and participation in the Climate Registry. Release of work authorization has been held due to the developments in the State legislature related to this issue. Original plans were for consultant to evaluate voluntary programs and make recommendation to HECO. With the passage of HB 226 and the State's announcement to join the Climate Registry, consultant's scope of work will be modified accordingly. Original estimate of $15,000 was revised to $3,750 in 2007 (3/12 of $15,000) and $11,250 deferred to 2008 (9/12 of $15,000).
				$240,000	$114,000	$126,000	

* Forecast revised to reflect the expected timing of the DOH's availability to hold substantive discussions on these issues. The budget forecast was prorated on a monthly basis to reflect 3 months of expenditures in 2007 and the balance of 9 months deferred into 2008.

** Forecast revised to reflect the timing of filling the currently vacant Senior Scientist position and work can be properly scoped and released. The budget forecast was prorated on a monthly basis to reflect 3 months of expenditures in 2007 and the balance of 9 months deferred into 2008.

CA-IR-345

Ref: Response to CA-IR-238, parts (c) and (d) (EDSG System Costs).

Please provide the "updated estimates" and supporting documentation, as well as updated actual monthly spending and allocations between capital/expense and to MECO/HELCO referenced in your responses to parts (c) and (d) of CA-IR-238.

HECO Response:

HECO has not yet received from EDSG an updated estimate or supporting documentation for the capital and O&M cost of the Environmental Management System project. As stated in CA-IR-238 parts (a), (b), (c), and (e), the updated estimate is still expected in June/July 2007. As stated in CA-IR 238 part (c), final allocation of costs between HECO, HELCO and MECO has yet to be determined and will be determined following implementation of Module 1. In terms of actual monthly spending, $14,630 was spent in May 2007. CA-IR-238, part (d) asked for actual expenditures, to date, by RA, expense element and activity. Although HECO's response was "EDSG Design $28,000 in progress as of May 11, 2007 (PJA875PHENE)", HECO's actual expenditures are $14,630 as indicated above. The $28,000 is the total amount allocated for the design portion only of the Modules 1 and 2. The design process is still in progress.

CA-IR-346

Ref: Response to CA-IR-67, Attachment 1 (Vacant Positions Analysis).

Please provide the following information:

a. Explain which of the assumed vacant positions through May 2007 on each line of the Attachment 1 spreadsheet actually occurred in the months shown.

b. Update the spreadsheet shown at pages 1 and 2 in columns A through G to substitute actual vacancies through May 2007 and the related direct labor costs avoided in column H (per page 4 labor rates).

c. Provide the actual amounts of overtime (hours and dollars) incurred through May 2007 to "replace" the labor hours not available due to vacancies for each line in the schedule, placing the hours in column G by month and the dollars in column H by month for each line on the schedule.

d. Provide the actual amounts of outside service contractors (hours and dollars) incurred through May 2007 to "replace" the labor hours not available due to vacancies for each line in the schedule, placing the contract labor hours in column G by month and the dollars in column H by month for each line on the schedule.

e. Combine the net impact of vacancy labor cost savings with replacement overtime costs and contractor costs within revised column H, by month and line item, to quantify the net cost or benefit to HECO associated with actual vacancies.

f. State whether or not each hour of direct labor avoided because of vacancies was, in fact, replaced by either additional overtime or outside services for the period January through May 2007.

HECO Response:

a. Please see Attachment 1 to this response for explanations of the status as of May 31, 2007, for each vacant position identified in Attachment 1 to the response to CA-IR-67.

b. Please see Attachment 2 to this response for an update of Attachment 1 to the response to CA-IR-67, pages 1 and 2, columns A through G that shows actual vacancies through May 31, 2007. The calculated labor cost saving (i.e., "direct labor cost avoided") that corresponds to these actual vacancies for January 1 to May 31, 2007, is shown in the far

right column of Attachment 2 to this response. The total calculated labor cost saving was $952,936.

c. The respective actual amounts of overtime (hours and dollars) incurred through May 2007 to "replace" the labor hours not available due to actual vacancies for each line in Attachment 2 are not available. As discussed in the response to CA-IR-236 and Attachment 1 to that response, a uniform 15% overtime rate was applied in the 2007 test year estimate to the following RA's: PIL, PIN, and PIX. As shown in Attachment 3 to this response, the actual overtime rates for PIL, PIN, and PIX through May 27, 2007, have been 39.6%, 16.4%, and 29.8%, respectively. A reasonable portion of this excess overtime has been incurred to replace the labor hours not available due to actual vacancies in these RA's. As shown in Attachment 6 to the response to CA-IR-74, the budgeted overtime hours for RA=PIT was 39,920 hours, which corresponds to an overtime rate for PIT of 27.4%, and which was applied in the 2007 test year estimate. As shown in Attachment 3 to this response, the actual overtime rate for PIT through May 27, 2007, has been 38.7%. A reasonable portion of this excess overtime has been incurred to replace the labor hours not available due to actual vacancies in this RA. As discussed in the response to CA-IR-236 and Attachment 1 to that response, a uniform 15% overtime rate was applied in the 2007 test year estimate to the following RA's: PIH, PIK, and PIW. However, these values were subsequently revised as discussed in the response to revised CA-IR-232, filed on 7/13/07, which contributed to the proposed reduction in labor expense of $402,000. As shown in Attachment 1 to the response to CA-IR-232, pages 3, 4, and 5, the updated and revised overtime rates for PIH, PIK, and PIW are 11.0%, 11.7%, and 9.8%, respectively. As shown in Attachment 3 to this response, the actual overtime rates for PIH, PIK, and PIW through May 27, 2007, have been

14.7%, 13.1%, and 16.3%, respectively. A reasonable portion of this excess overtime has been incurred to replace the labor hours not available due to actual vacancies in these RAs.

d. The respective actual amounts of outside service contractors (hours and dollars) incurred through May 2007 to "replace" the labor hours not available due to actual vacancies for each line in Attachment 4 are not available. However, as shown on Attachment 4 to this response, the respective amounts of supplemental labor (dollars) are available for January through May 2007. Supplemental labor can only be used to replace vacancies in the Maintenance Division. The amounts are presented "By Craft" and "By RA" in Attachment 4, and total $2,008,875. The cost for supplemental labor has been incurred, in part, to replace the labor hours not available due to actual vacancies in PIL, PIN, PIT, and PIX.

e. The actual cost data is not available to perform a comparative analysis of the costs for overtime and supplemental labor as an offset for the calculated cost savings that correspond to the actual vacancies, by month and line item. However, the total cost of the supplemental labor of $2,008,875 exceeds the total calculated cost savings of $952,936 by $1,055,939. In addition, excess overtime has been incurred in all the RA's in the Operations and Maintenance Divisions, in part, to replace the labor hours not available due to actual vacancies. (As reported in HECO's response to CA-IR-74, Attachment 7, the 2007 budget for Maintenance Division includes $2,176,000 of outside service supplemental labor for the whole year.)

a. In general, the work that was forecast for the Operations and Maintenance Divisions in the 2007 test year estimate for the period January through May 2007 has been performed by HECO personnel working more overtime than forecast plus supplemental labor being contracted. This has been accomplished at a net cost to HECO which exceeds $1,000,000.

Hawaiian Electric Company, Inc.
2007 Rate Case
Production O&M - Vacant Position Analysis

Per CA-IR-67 Attachment 1				
RA	Position	Period Vacant in 2007	Vacancy occur in the months shown? (Y/N)	Explanations of actuals through 5/31/07
IB	Environ Specialist	January	Y	Position Filled 2/07.
ID	Technical Trainer	January	Y	Vacant as of 5/31/07 and projected to fill 10/07.
IH	Hono Operators	Jan-May	Y	Vacanies existed; staffing dropped to 18 as of 12/31/06; staffing at 20 as of 5/31/07; Expect to be fully staffed by 9/07.
IK	Kahe Operators	Jan-May	Y	Expect to be fully staffed by 9/07.
IW	Waiau Operators	Jan-Aug	Y	Expect to be fully staffed by 9/07.
IP	Resource Planner	January	Y	Expect to be fully staffed by 8/07.
IL	Pipefitter Mech	Jan-Feb	Y	Position now expected to be filled in 12/07.
IL	Cert Comb Welder	Jan-Feb	Y	Position filled in 6/07.
IL	Insulator	Jan-Feb	N	Insulator position filled in 10/06.
IL	Control Tech	Jan-Apr	Y	Position now expected to be filled in 12/07.
IM	Rotating Eq Spec	Jan-Mar	Y	Position now expected to be filled in 12/07.
IN	Senior Electrician	Jan-Feb	N	Vacancy did not occur in 12/06.
IN	Welder	Jan-Apr	Y	Position filled in 6/07.
IN	Insulator	Jan-Feb	N	Position will not be filled in 2007; transferred count to PIP.
IN	Control Tech	Jan-May	Y	Position filled in 3/07.
IT	Machinist	Jan-Feb	Y	Position now expected to be filled in 12/07.
IT	Pipefitter Mech	Jan-Feb	Y	Position now expected to be filled in 12/07.
IT	Welder	Jan-Feb	Y	Position now expected to be filled in 9/07.
IT	Insulator	Jan-Feb	Y	Position filled in 5/07.
IT	Mob Cr Eq Oper	Jan-Feb	Y	Position now expected to be filled in 7/07.
IX	Pipefitter Mech	Jan-Feb	N	Position filled 12/06; no vacancy existed as of 12/31/06.
IX	Welder	Jan-Feb	Y	Position filled in 5/07.
IX	Insulator	Jan-Feb	N	Position filled 10/06; no vacancy existed as of 12/31/06.
IX	Control Tech	Jan-Apr	Y	One position filled in May. Second position expected to be filled in 12/07.

Hawaiian Electric Company, Inc.
2007 Rate Case
Staffing - 2006 and 2007 STATUS AS OF MAY 31, 2007

[A]	[B]	[C]	[D]	[E]	[F]	[G] 2007 Activity													Calculated Labor Cost Savings from Vacancies Jan-May Actuals
		Year End	09/30/06	Actual	Projected	------ A C T U A L------					-------- P R O J E C T E D----------								
Position	RA	2005	Actual	2006 Y-E	2007w/reorg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOT	
ADMIN																			
Power Supply O&M Manager	IB	1	1	1	1													0	
Mgr Special Projects	IB	0	1	1	1													0	
Power Supply O&M Secretary	IB	1	1	1	1													0	
Senior Technical Analyst	IB	0	1	1	1													0	
Budget Analyst/Admin	IB	1	1	1	2							1						1	
Technical Trainer	IB	1	0	0	0													0	
Principal Staff Engineer	IB	0	0	0	0													0	
Environmental Specialist	IB	0	0	0	1		1	(no offset)										1	$4,836
Env Compliance Supervisor	IB	1	1	1	1													0	
Station Chemist	IB	2	2	2	2		-1		1	-1	1	(no offset)						0	$5,742
IT Specialist	IB	0	0	0	0													0	
Lead Func Admin Work Mgmt	IB	0	0	0	0													0	
Admin Subtotal		**7**	**8**	**8**	**10**	**0**	**0**	**0**	**1**	**-1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	
TRAINING																			
Senior Supv, Trainer	ID	0	1	1	1													0	
Technical Trainer	ID	0	1	1	2										1	(no offset)		1	$19,140
Training Subtotal		**0**	**2**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	
OPERATIONS																			
Honolulu Senior Supervisor	IH	1	1	1	1													0	
Honolulu Clerk	IH	0	0	0	0													0	
Shift Supervisor	IH	4	5	5	5					-1		1	(Repl w/ OT)					0	$3,052
Honolulu Operators	IH	21	20	18	21	1				1				1	(Repl w/ OT)			3	$55,340
Kahe Senior Shift Supervisor	IK	1	1	1	1													0	
Kahe Station Aide	IK	1	1	1	1													0	
Shift Supervisor	IK	7	6	7	7													0	
Kahe Operators	IK	49	48	50	52	-1	3	-1						1		(Repl w/ O		2	$35,971
Station Superintendent	IO	1	2	2	2													0	
Operation Pwr Engineer	IO	1	0	0	0													0	
Waiau Senior Shift Supervisor	IW	1	1	1	1													0	
Waiau Station Aide	IW	1	1	1	1													0	
Shift Supervisor	IW	7	6	5	7	1				1								2	$30,515
Waiau Operators	IW	49	52	54	57	-4	5	-1		1				2		(Repl w/ O		3	$96,845
Operations Subtotal		**144**	**144**	**146**	**156**	**-3**	**8**	**-2**	**0**	**2**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**10**	
PLANNING																			
Planning & Eng Super	IP	1	1	1	1													0	
Power Plant Clerk	IP	1	1	1	1													0	
Senior Supervisor	IP	1	2	2	2			-1	1	(no offset)								0	$6,103

Hawaiian Electric Company, Inc.
2007 Rate Case
Staffing - 2006 and 2007 STATUS AS OF MAY 31, 2007

[A]	[B]	[C]	[D]	[E]	[F]	[G] 2007 Activity													Calculated Labor Cost Savings from Vacancies Jan-May Actuals
		Year End	09/30/06	Actual	Projected	------ A C T U A L------					-------- P R O J E C T E D----------								
Position	RA	2005	Actual	2006 Y-E	2007w/reorg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOT	
Work Management Specialist	IP	0	0	0	1			1	(no offset)									1	$9,570
Resource Planner	IP	8	7	7	10		1	-1	2		-1			2	(no offset)			3	$48,342
Planning/Project Coordinator	IP	1	1	0	0													0	
O&M Engineer	IP	0	2	6	5									-1				-1	
PDM Supervisor	IP	1	0	0	0													0	
PDM Specialist	IP	3	3	3	3				-1				2	(no offset)				1	$4,836
BRO Engineer	IP	2	1	0	1									1				1	
Temporary	IP	1	0	0	0													0	
Planning Subtotal		**19**	**18**	**20**	**24**	**0**	**1**	**-1**	**2**	**0**	**-1**	**0**	**2**	**2**	**0**	**0**	**0**	**5**	
MAINTENANCE																			
Kahe																			
Kahe Maint Supervisor	IL	2	2	2	2													0	
Boiler Working Foreman	IL	1	1	1	1													0	
Elec Working Foreman	IL	1	1	1	1													0	
Machinist Working Foreman	IL	1	1	1	1													0	
Senior Electrician	IL	4	4	4	4													0	
Machinist	IL	3	3	3	3													0	
Pipefitter Mechanic	IL	4	3	3	5												2	2	$60,470
Certified Comb Welder	IL	3	3	3	4						1	(Replace w/ OT+OSS)						1	$30,235
Insulator	IL	0	0	1	1													0	
Control Technician	IL	6	6	6	8												2	2	$60,470
Helper	IL	2	2	2	2													0	
Mobile Crn & Hvy Eq Operator	IL	1	1	1	1													0	
Kahe Maintenance Subtotal		**28**	**27**	**28**	**33**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**5**	
Maint Admin																			
O&M Maint Superintendent	IM	1	1	1	1													0	
Rotating Equipment Specialist	IM	0	0	0	1												1	1	$16,120
Maintenance Clerk	IM	1	1	1	1													0	
Maintenance Admin Subtotal		**2**	**2**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	
Honolulu																			
Honolulu Maint Supervisor	IN	1	1	1	1						1	-1						0	
Boiler Working Foreman	IN	1	1	1	1													0	
Elec Working Foreman	IN	1	1	1	1													0	
Machinist Working Foreman	IN	1	1	1	1													0	
Senior Electrician	IN	1	1	1	1													0	
Machinist	IN	1	1	1	1													0	
Pipefitter Mechanic	IN	0	1	1	1													0	
Welder	IN	0	0	0	1						1	(Replace w/ OT+OSS)						1	$30,235
Insulator	IN	0	0	0	1	(Transfer count to PIP)												0	

Hawaiian Electric Company, Inc.
2007 Rate Case
Staffing - 2006 and 2007 STATUS AS OF MAY 31, 2007

[A]	[B]	[C]	[D]	[E]	[F]	[G] 2007 Activity													Calculated Labor Cost Savings from Vacancies Jan-May Actuals
		Year End	09/30/06	Actual	Projected	------ A C T U A L------					-------- P R O J E C T E D----------								
Position	RA	2005	Actual	2006 Y-E	2007w/reorg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOT	
Control Technician	IN	2	2	2	3			1	(Replace w/ OT+OSS)									1	$15,118
Honolulu Maintenance Subtotal		**8**	**9**	**9**	**12**	**0**	**0**	**1**	**0**	**0**	**2**	**-1**	**0**	**0**	**0**	**0**	**0**	**2**	
Travel																			
Traveling Maint Supervisor	IT	4	4	4	4							1		-1				0	
IT Senior Supv (frm Outage Mgr)	IT	0	1	1	1													0	
Outage Coordinator	IT	0	0	0	0													0	
Boiler Working Foreman	IT	2	2	2	2													0	
Elec Working Foreman	IT	2	1	2	2													0	
Machinist Working Foreman	IT	2	2	2	2													0	
Insulator Working Foreman	IT	1	1	1	1													0	
Condenser Crew Leader	IT	1	1	1	1													0	
Senior Electrician	IT	8	9	9	10				1	(Replace w/ OT+OSS)								1	$21,546
Machinist	IT	9	8	8	9												1	1	$30,780
Pipefitter Mechanic	IT	5	6	5	7												2	2	$61,560
Certified Equip Mechanic	IT	1	1	1	2	1												1	$3,078
Certified Comb Welder	IT	7	8	7	9									2	(Replace w/ OT+			2	$61,560
Control Technician	IT	7	7	9	9			-1									1	0	
Helper	IT	3	3	3	3													0	
Insulator	IT	9	9	7	10					2	(Replace w/ OT+OSS)					-1	2	3	$86,184
Mobile Crane & Equip Operator	IT	0	0	0	1							1	(Replace w/ OT+OSS)					1	$30,780
Condenser Cleaner	IT	6	7	8	8	-1				-1	1		1	(Replace w/ OT+OSS				0	$30,780
Travel Crew Subtotal		***67***	***70***	***70***	***81***	***0***	***0***	***-1***	***1***	***1***	***1***	***2***	***1***	***1***	***0***	***-1***	***6***	***11***	
Waiau																			
Waiau Maint Supervisor	IX	2	2	2	2													0	
Boiler Working Foreman	IX	1	1	1	1													0	
Elec Working Foreman	IX	1	1	1	1													0	
Machinist Working Foreman	IX	1	1	1	1													0	
Senior Electrician	IX	2	4	4	4			-1		1	(Replace w/ OT+OSS)							0	$12,094
Machinist	IX	3	3	3	3													0	
Pipefitter Mechanic	IX	4	4	5	5													0	
Certified Comb Welder	IX	2	2	3	4					1	(Replace w/ OT+OSS)							1	$27,212
Insulator	IX	0	0	1	1													0	
Control Technician	IX	6	6	6	8			1									1	2	$45,353
Helper	IX	1	1	1	1				-1								1	0	$9,071
Mobile Crn & Hvy Eq Operator	IX	1	1	1	1													0	
Waiau Maintenance Subtotal		**24**	**26**	**29**	**32**	**0**	**0**	**0**	**-1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	
Maintenance Subtotal		**129**	**134**	**138**	**161**	**0**	**0**	**0**	**0**	**3**	**4**	**1**	**1**	**1**	**0**	**-1**	**13**	**22**	
Total PSOM		**299**	**306**	**314**	**354**	**-3**	**9**	**-3**	**3**	**4**	**4**	**3**	**3**	**7**	**1**	**-1**	**13**	**40**	$952,936

Hawaiian Electric Company, Inc.
2007 Rate Case
Staffing - 2006 and 2007 STATUS AS OF MAY 31, 2007

[A]	[B]	[C]	[D]	[E]	[F]	[G] 2007 Activity													Calculated Labor Cost Savings from Vacancies Jan-May Actuals
		Year End	09/30/06	Actual	Projected	------ A C T U A L------					-------- P R O J E C T E D----------								
Position	RA	2005	Actual w/AKF	2006 Y-E	2007w/reorg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOT	
Less Aaron					-1														
					353	Agrees with HECO-IR-302													

NOTE:

-- Comparson of total RA to HECO-IR-302 shows a difference for RAs IP and IN. The difference is due to adding of a PDM Specialist in IP and not filling the Insulator position in IN.

-- For the Shift Supervisor positions, apply the average Maint monthly rate of $6,103 per CA-IR-67, Attachment 1, page 4, Select Labor Class Monthly labor cost

Column Description

Column A -- Position title.
Column B -- Responsibility Area.
Column C -- Staffing level at 2005 year end.
Column D -- Staffing level as of 09/30/06.
Column E -- Actual 2006 Year End staffing level.
Column F -- Projected 2007 staffing level with 06/06 and 01/07 reorganization
Column G -- Actual Jan-May and Projected June-Dec position fill date.

ASSUMPTIONS:

1) Assume during first 3 months of Operator training when cost is captured as "NC", clearing, that related OT cost offsets the budgeted "NE" cost for the Operator position.
2) Assume during period of maintenance vacancy, work is performed by other staff @ 50% OT and 50% contract workers.
3) Assume when vacancy exists, only regular working hours will be assumed by existing working personnel or by contract worker.
4) Assume employee vacancies and filling of positions occur mid-month.

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE

Payroll Recap Report Summary
Report Date: 05/30/07 (Report 11 of 26)

Operating Division Labor Hours

RA	Base	Non-Prod	Prod ST	OT	ST + OT	%OT
PIH	22,249	3,226	19,023	2,799	21,822	14.7%
PIK	51,972	6,760	45,212	5,934	51,147	13.1%
PIW	54,049	6,387	47,662	7,772	55,434	16.3%
			111,897	16,505	128,402	14.8%

Maintenance Division Labor Hours

RA	Base	Non-Prod	Prod ST	OT	ST + OT	%OT
PIL	24,548	3,605	20,944	8,288	29,232	39.6%
PIN	8,361	1,673	6,688	1,096	7,784	16.4%
PIX	24,617	2,897	21,719	6,472	28,191	29.8%
PIT	60,483	8,470	52,014	20,114	72,128	38.7%
			101,364	35,970	137,334	35.5%

HAWAIIAN ELECTRIC COMPANY, INC.
2007 RATE CASE
2007 Outside Service Supplemental Labor

		Jan	Feb	Mar	Apr	May	Jan-May
By Craft	Boiler/Welder	$ 111,495	$ 132,622	$ 430,613	$ 94,462	$ 280,127	$ 1,049,320
	Electrician	$ 8,300	$ 1,935	$ 1,411		$ 784	$ 12,430
	Helper	$ 28,027		$ 159,371	$ 72,513	$ 9,047	$ 268,957
	Insulator	$ 9,065	$ 13,853	$ 85,644	$ 125,947	$ 104,822	$ 339,331
	Machinist	$ 39,707	$ 17,486	$ 84,733	$ 57,129	$ 139,783	$ 338,837
	Technician	$ -	$ -	$ -	$ -	$ -	$ -
	Total	$ 196,593	$ 165,896	$ 761,772	$ 350,051	$ 534,562	$ 2,008,875

		Jan	Feb	Mar	Apr	May	Jan-May
By RA	PIL	$ 28,743	$ 16,780	$ 72,525	$ 52,445	$ 23,641	$ 194,134
	PIN	$ 6,500	$ 25,785	$ 25,285	$ 27,002	$ 26,275	$ 110,846
	PIT	$ 126,682	$ 108,438	$ 466,620	$ 108,331	$ 380,141	$ 1,190,212
	PIX	$ 34,668	$ 14,893	$ 197,342	$ 162,274	$ 104,506	$ 513,683
	Total	$ 196,593	$ 165,896	$ 761,772	$ 350,051	$ 534,562	$ 2,008,875

Data from: Labor Support_10_All_Trans_Detail_200701_200705.xls

CA-IR-347

Ref: Response to CA-IR-70, Attachment 1 (Production Department Outside Services by Dept, Account, RA, Act).

Please provide an update to this spreadsheet, adding a column of actual year-to-date 2007 data through May.

HECO Response:

Please refer to Attachment 1 to this response for the update of the information of CA-IR-70, Attachment 1, through May 31, 2007.

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
C&M	505	ELECTRIC EXP	PDA	246	Mon Plt Perf-Turbo	O/S ...	0	0	$0	$934	0	0
							0	0	$0	$934	0	0
							0	0	$0	$934	0	0
Corp Comm	506	MISC STM PWR EXP	PQC	730	Rsrch New Technology	O/S ...	$8,288	$0	0	0	0	0
							$8,288	$0	0	0	0	0
							$8,288	$0	0	0	0	0
Engineering	502	STEAM EXP	PBY	211	Engr Design & Mng Proj	O/S ...	$0	$46	0	0	0	0
							$0	$46	0	0	0	0
	511	MAINT STRUCTURES	PBT	265	Maint Com Struc-Corr	O/S ...	0	0	$0	$88,213	0	0
			PBY	265	Maint Com Struc-Corr	O/S ...	0	0	0	0	0	0
							0	0	$0	$88,213	0	0
	512	MAINT BLR & FO PLT	PBT	211	Engr Design & Mng Proj	O/S ...	$1,812	$0	0	0	0	0
				259	Maint Boiler Plt Eq-Corr	O/S ...	0	0	0	0	0	0
				270	Maint Fuel Feed Sys-Pred	O/S ...	$4	$0	0	0	0	0
				271	Maint Fuel Feed Sys-Corr	O/S ...	0	0	0	0	0	0
			PBY	270	Maint Fuel Feed Sys-Pred	O/S ...	$255	$0	0	0	0	0
							$2,071	$0	0	0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
Engineering							$2,071	$46	$0	$88,213	0	0
Engy Proj	506	MISC STM PWR EXP	PNG	730	Rsrch New Technology	O/S ...	$0	$9,861	-$9,082	$23,645	$1,658	0
							$0	$9,861	-$9,082	$23,645	$1,658	0
	510	MAINT SUPV & ENG	PNG	210	Plan & Approve Projects	O/S ...	$320	$0	$2,005	$2,375	$1,016	0
							$320	$0	$2,005	$2,375	$1,016	0
	546	OPR SUPV/ENG OT...	PNG	122	Eval & Neg New Cont	O/S ...	0	0	0	0	$20,280	0
				211	Engr Design & Mng Proj	O/S ...	0	0	$87,590	$52,978	0	0
							0	0	$87,590	$52,978	$20,280	0
	549	MISC EXP-OTH PROD	PNG	700	Dev & Adm Business Pl...	O/S ...	0	0	0	0	0	$4,800
				739	PUC Cap Proj Filings	O/S ...	0	0	$0	$0	0	0
							0	0	$0	$0	0	$4,800
	551	M SUPV/ENG-OTH ...	PNG	210	Plan & Approve Projects	O/S ...	0	0	$8,844	$26,982	0	$31,365
							0	0	$8,844	$26,982	0	$31,365
							$320	$9,861	$89,358	$105,980	$22,954	$36,165
Environ	500	OPER SUPV & ENG	PJW	211	Engr Design & Mng Proj	O/S ...	0	0	0	0	$58,216	0
							0	0	0	0	$58,216	0
	502	STEAM EXP	PJA	242	Op & Mon Plt Eq-Boiler	O/S ...	0	0	$0	-$30	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
			PJC	241	Op & Mon Fuel Feed Sys	O/S ...	$0	$4,194	$22,474	$29,861	$5,559	0
				245	Mon Plt Perf-Boiler	O/S ...	$0	$1,347	0	0	0	0
							$0	$5,541	$22,474	$29,831	$5,559	0
	506	MISC STM PWR EXP	PJA	875	Comply Ongo Perm-Air	O/S ...	$829	$579	$2,683	$0	0	$149,700
				876	Comply Ongo-Wstewtr	O/S ...	$0	$4,301	$31,079	$13,530	$18,579	0
				878	Cmply Sld&HazWste No...	O/S ...	$780	$0	0	0	0	0
			PJB	788	Conduct Empl Training	O/S ...	0	0	0	0	0	0
				865	Apply Envir Permits-Air	O/S ...	$21,081	$164	$20,071	$32,730	$176	$25,000
				875	Comply Ongo Perm-Air	O/S ...	$1,539,528	$284,221	$1,082,538	$1,016,647	$254,548	$1,328,000
				876	Comply Ongo-Wstewtr	O/S ...	$0	$344	$0	-$107	0	0
				878	Cmply Sld&HazWste No...	O/S ...	0	0	$0	$11	0	0
			PJC	876	Comply Ongo-Wstewtr	O/S ...	$22,832	$35,904	$20,827	$47,888	$494	$74,000
				877	Cmply Sld&HazWste Oil...	O/S ...	$4,542	$3,679	0	0	0	0
				878	Cmply Sld&HazWste No...	O/S ...	$589	$13,611	$4,930	$0	0	0
			PJW	787	Dev Empl Training	O/S ...	0	0	$0	$6,708	0	0
				788	Conduct Empl Training	O/S ...	0	0	0	0	0	0
				865	Apply Envir Permits-Air	O/S ...	0	0	0	0	$18	0
				866	Apply Envir Permits-Wtr	O/S ...	$1,162	$16,619	$14,701	$0	$171	0
				875	Comply Ongo Perm-Air	O/S ...	$0	$300	$300	$300	$300	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
Environ	506	MISC STM PWR EXP	PJW	876	Comply Ongo-Wstewtr	O/S ...	$45,224	$34,790	$66,723	$26,589	$31,461	$90,000
				877	Cmply Sld&HazWste Oil...	O/S ...	$22,134	$1,200	$1,356	$0	0	$85,000
				878	Cmply Sld&HazWste No...	O/S ...	$9,411	$120	$7,452	$1,287	0	$50,000
							$1,668,113	$395,833	$1,252,661	$1,145,584	$305,747	$1,801,700
	512	MAINT BLR & FO PLT	PJW	257	Maint Boiler Plt Eq-Prev	O/S ...	0	0	0	0	0	0
				259	Maint Boiler Plt Eq-Corr	O/S ...	0	0	$11	$11	0	0
							0	0	$11	$11	0	0
	513	MAINT ELEC PLT	PJW	260	Maint Stm Turbo Eq-Prev	O/S ...	0	0	0	0	0	0
							0	0	0	0	0	0
	557	OTH PWR SUPPLY ...	PJB	121	Adm Firm Cap Contracts	O/S ...	0	0	0	0	0	0
							0	0	0	0	0	0
							$1,668,113	$401,374	$1,275,146	$1,175,426	$369,521	$1,801,700
Ind Rel	506	MISC STM PWR EXP	PPA	723	Mg Incent & Recog Pgm	O/S ...	0	0	0	0	0	0
							0	0	0	0	0	0
							0	0	0	0	0	0
IRP	506	MISC STM PWR EXP	PYP	700	Dev & Adm Business Pl...	O/S ...	0	0	$256	$597	0	0
				730	Rsrch New Technology	O/S ...	$156	$251	$0	$0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
IRP	506	MISC STM PWR EXP	PYP	731	Dev & Demo New Tech	O/S ...	$100	-$898	0	0	0	0
							$256	-$647	$256	$597	0	0
							$256	-$647	$256	$597	0	0
Legal	500	OPER SUPV & ENG	PNC	211	Engr Design & Mng Proj	O/S ...	$9,792	$11,880	$0	-$21,672	0	0
			PNL	211	Engr Design & Mng Proj	O/S ...	0	0	0	0	0	0
							$9,792	$11,880	$0	-$21,672	0	0
	506	MISC STM PWR EXP	PNC	240	Dev & Maint Pol & Proc	O/S ...	0	0	$0	$12,546	0	0
			PNL	926	Manage Property	O/S ...	$0	$6,769	$8,042	$8,803	$4,639	$8,985
				928	Process Easements	O/S ...	$2,084	$0	0	0	0	0
							$2,084	$6,769	$8,042	$21,349	$4,639	$8,985
	557	OTH PWR SUPPLY ...	PNC	121	Adm Firm Cap Contracts	O/S ...	$50,162	$9,223	-$30,000	-$9,608	$15,000	0
							$50,162	$9,223	-$30,000	-$9,608	$15,000	0
							$62,039	$27,872	-$21,958	-$9,932	$19,639	$8,985
Production	506	MISC STM PWR EXP	PIR	240	Dev & Maint Pol & Proc	O/S ...	0	0	0	0	0	0
							0	0	0	0	0	0
							0	0	0	0	0	0
PS O&M	500	OPER SUPV & ENG	PIL	211	Engr Design & Mng Proj	O/S ...	0	0	$677	$69,593	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
							0	0	$677	$69,593	0	0
	502	STEAM EXP	PIB	245	Mon Plt Perf-Boiler	O/S ...	$0	$100,930	$76,101	$76,684	$400	$114,000
			PIH	242	Op & Mon Plt Eq-Boiler	O/S ...	$20,488	$18,938	$35,863	$38,564	$15,410	$34,800
				248	Perf Wtr Treat & Anlys	O/S ...	$0	$0	0	0	0	0
			PIK	242	Op & Mon Plt Eq-Boiler	O/S ...	$152,939	$224,931	$187,777	$181,313	$76,526	$198,000
				248	Perf Wtr Treat & Anlys	O/S ...	0	0	$208	$8,984	0	0
			PIL	242	Op & Mon Plt Eq-Boiler	O/S ...	$0	$266	0	0	0	0
				245	Mon Plt Perf-Boiler	O/S ...	0	0	$0	$113,723	$15,645	0
			PIM	245	Mon Plt Perf-Boiler	O/S ...	0	0	0	0	$160	0
			PIN	241	Op & Mon Fuel Feed Sys	O/S ...	$0	$57	0	0	$79	0
				242	Op & Mon Plt Eq-Boiler	O/S ...	0	0	0	0	0	0
			PIW	242	Op & Mon Plt Eq-Boiler	O/S ...	$38,561	$24,550	$28,181	$14,493	$11,207	$36,000
				245	Mon Plt Perf-Boiler	O/S ...	0	0	$149	$1,498	$3,636	0
			PIX	242	Op & Mon Plt Eq-Boiler	O/S ...	$3,466	$1,000	0	0	0	0
							$215,455	$370,671	$328,280	$435,259	$123,062	$382,800
	505	ELECTRIC EXP	PIH	243	Op & Mon Plt Eq-Turbo	O/S ...	0	0	0	0	0	0
				246	Mon Plt Perf-Turbo	O/S ...	0	0	0	0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	505	ELECTRIC EXP	PIK	243	Op & Mon Plt Eq-Turbo	O/S ...	0	0	$0	$13	0	0
			PIN	243	Op & Mon Plt Eq-Turbo	O/S ...	0	0	0	0	0	0
			PIW	243	Op & Mon Plt Eq-Turbo	O/S ...	0	0	0	0	0	0
							0	0	$0	$13	0	0
	506	MISC STM PWR EXP	PIB	240	Dev & Maint Pol & Proc	O/S ...	$22,244	$28,725	$31,456	$41,194	$14,284	$30,000
				753	Maint Rel-Community	O/S ...	$0	$161	$12	$0	0	0
				787	Dev Empl Training	O/S ...	$145	$0	0	0	0	0
				875	Comply Ongo Perm-Air	O/S ...	$0	$741	$843	$1,782	$687	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$0	$2,231	0	0	0	0
			PIH	240	Dev & Maint Pol & Proc	O/S ...	$12,012	$12,975	$7,997	$8,867	$2,305	$9,600
				806	Adm Labor Grievances	O/S ...	0	0	0	0	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$18,930	$6,194	$6,328	$6,557	$2,210	$6,600
				878	Cmply Sld&HazWste No...	O/S ...	0	0	0	0	0	0
			PIK	240	Dev & Maint Pol & Proc	O/S ...	$6,227	$8,468	$7,447	$7,290	$3,102	$7,800
				875	Comply Ongo Perm-Air	O/S ...	$10,000	$0	$15,000	$12,500	0	$12,000
				877	Cmply Sld&HazWste Oil...	O/S ...	$11,618	$12,388	$12,656	$13,113	$4,420	$13,000
			PIL	240	Dev & Maint Pol & Proc	O/S ...	$105	$0	0	0	0	0
				731	Dev & Demo New Tech	O/S ...	0	0	$0	$242,695	0	0
				866	Apply Envir Permits-Wtr	O/S ...	$23,670	$0	0	0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	506	MISC STM PWR EXP	PIL	875	Comply Ongo Perm-Air	O/S ...	$61,986	$45,697	$42,712	$120,200	$17,214	$54,000
				876	Comply Ongo-Wstewtr	O/S ...	$2,583	$0	0	0	0	0
				878	Cmply Sld&HazWste No...	O/S ...	$45,495	$10,581	$14,963	$30,468	$18,608	$84,000
				931	Care for Bldgs & Grnds	O/S ...	$54,069	$63,419	$61,418	$66,338	$20,547	$102,400
				933	Prov&Mg Svcs-Security	O/S ...	0	0	0	0	0	$0
				934	Prov&Mg Svcs-Custodial	O/S ...	$57,400	$58,457	$58,952	$57,400	$24,367	$61,200
				936	Mg Svcs-Wstenon-haz	O/S ...	$10,353	$0	$284	$180	$9,764	$0
			PIM	240	Dev & Maint Pol & Proc	O/S ...	$95,379	$104,043	$24	$72,761	0	$0
				877	Cmply Sld&HazWste Oil...	O/S ...	0	0	$5,363	$0	0	0
			PIN	240	Dev & Maint Pol & Proc	O/S ...	0	0	0	0	0	0
				878	Cmply Sld&HazWste No...	O/S ...	$65,374	$112,437	$70,886	$102,176	$97,988	$136,000
				931	Care for Bldgs & Grnds	O/S ...	$2,249	$1,331	$1,331	$2,130	0	$6,400
				933	Prov&Mg Svcs-Security	O/S ...	0	0	$7,458	$0	0	0
				934	Prov&Mg Svcs-Custodial	O/S ...	$51,912	$56,751	$51,912	$51,912	$24,348	$54,000
				936	Mg Svcs-Wstenon-haz	O/S ...	$9,296	$8,887	$10,730	$12,237	$3,916	$10,800
			PIO	240	Dev & Maint Pol & Proc	O/S ...	$103	$0	0	0	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$139,000	$139,000	$175,418	$139,000	$160,800	$173,300
				878	Cmply Sld&HazWste No...	O/S ...	$400	$0	0	0	0	0
			PIP	240	Dev & Maint Pol & Proc	O/S ...	$190	$232	$0	-$131	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$3,254	$1,823	$1,302	$2,344	$1,377	$3,000

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	506	MISC STM PWR EXP	PIT	240	Dev & Maint Pol & Proc	O/S ...	$103	$103	0	0	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$73,755	$8,389	$195	$0	0	0
			PIW	240	Dev & Maint Pol & Proc	O/S ...	$37,371	$39,548	$52,144	$81,986	$46,210	$55,200
				805	Mg BU & Oth Lbr Agrmnt	O/S ...	0	0	$0	$880	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$11,618	$12,388	$12,656	$13,113	$4,420	$13,200
			PIX	240	Dev & Maint Pol & Proc	O/S ...	$146	$0	0	0	0	0
				876	Comply Ongo-Wstewtr	O/S ...	$61,168	$485	$3,101	$2,971	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	$5,415	$85,517	$13,878	$671	0	0
				878	Cmply Sld&HazWste No...	O/S ...	$77,892	$167,956	$92,288	$106,676	$57,074	$244,000
				931	Care for Bldgs & Grnds	O/S ...	$4,049	$78,868	$98,240	$92,637	$28,356	$10,000
				933	Prov&Mg Svcs-Security	O/S ...	0	0	$0	$14	0	$0
				934	Prov&Mg Svcs-Custodial	O/S ...	$82,523	$84,488	$129,759	$135,437	$56,728	$129,600
				936	Mg Svcs-Wstenon-haz	O/S ...	0	0	0	0	0	$0
							$1,058,033	$1,152,281	$986,754	$1,425,397	$598,727	$1,216,100
	510	MAINT SUPV & ENG	PIL	263	Maint Com Struc-Prev	O/S ...	0	0	0	0	0	$23,333
							0	0	0	0	0	$23,333
	511	MAINT STRUCTURES	PIH	263	Maint Com Struc-Prev	O/S ...	0	0	0	0	0	0
			PIL	263	Maint Com Struc-Prev	O/S ...	$34,291	$54,465	$60,265	$38,201	$10,328	$1,501,198
				264	Maint Com Struc-Pred	O/S ...	$8,568	$0	0	0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	O/S ...	$131,949	$494,087	$826,193	$587,623	$301,210	$1,373,800
			PIN	263	Maint Com Struc-Prev	O/S ...	$10,257	$10,712	$8,025	$11,182	$7,357	$30,200
				265	Maint Com Struc-Corr	O/S ...	$66,008	$139,075	$47,668	$94,443	$35,490	$284,200
				266	Maint Com Misc Eq-Prev	O/S ...	0	0	0	0	0	$4,000
			PIP	212	Construct Projects	O/S ...	0	0	0	0	0	$0
			PIT	263	Maint Com Struc-Prev	O/S ...	0	0	0	0	$3,072	0
			PIX	263	Maint Com Struc-Prev	O/S ...	$27,747	$18,783	$29,990	$160,139	$10,133	$69,000
				264	Maint Com Struc-Pred	O/S ...	0	0	0	0	0	0
				265	Maint Com Struc-Corr	O/S ...	$247,249	$1,212,989	$644,578	$200,197	$58,014	$709,800
				266	Maint Com Misc Eq-Prev	O/S ...	$44,846	$38,071	$10,754	$1,991	$10,117	0
				268	Maint Com Misc Eq-Corr	O/S ...	0	0	$0	$8,625	$7,689	0
							$570,914	$1,968,182	$1,627,474	$1,102,401	$443,409	$3,972,198
	512	MAINT BLR & FO PLT	PIB	258	Maint Boiler Plt Eq-Pred	O/S ...	$1,664	$0	0	0	0	0
				259	Maint Boiler Plt Eq-Corr	O/S ...	0	0	0	0	0	0
			PIH	248	Perf Wtr Treat & Anlys	O/S ...	0	0	0	0	0	0
			PIK	248	Perf Wtr Treat & Anlys	O/S ...	0	0	0	0	0	0
			PIL	257	Maint Boiler Plt Eq-Prev	O/S ...	$16,338	$1,449	$921	$0	0	$103,200
				258	Maint Boiler Plt Eq-Pred	O/S ...	$173,659	$11,752	$41,439	$30,805	$21,817	$360,000

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	O/S ...	$374,761	$1,271,375	$1,139,338	$902,349	$210,463	$336,000
				265	Maint Com Struc-Corr	O/S ...	$558	$25,383	$18,680	$1,862	$1,070	$60,000
				269	Maint Fuel Feed Sys-Prev	O/S ...	0	0	$404,366	-$1,900	0	$500,000
				271	Maint Fuel Feed Sys-Corr	O/S ...	$97,453	$4,904	$8,953	$7,182	$8,431	0
			PIM	257	Maint Boiler Plt Eq-Prev	O/S ...	0	0	0	0	0	0
				258	Maint Boiler Plt Eq-Pred	O/S ...	$3,000	$5,943	$17,511	$30,185	$4,922	$0
				259	Maint Boiler Plt Eq-Corr	O/S ...	0	0	$0	$812	0	0
			PIN	257	Maint Boiler Plt Eq-Prev	O/S ...	$1,305	$39,764	$1,025	$1,176	0	$3,600
				258	Maint Boiler Plt Eq-Pred	O/S ...	0	0	$12,581	$5,687	0	$288,000
				259	Maint Boiler Plt Eq-Corr	O/S ...	$16,216	$168,483	$252,958	$410,130	$105,848	$48,000
				265	Maint Com Struc-Corr	O/S ...	$11,069	$3,616	$19,945	$1,140	$24,462	$25,000
				269	Maint Fuel Feed Sys-Prev	O/S ...	$1,300	$0	$9,025	$0	$2,335	$100,000
				270	Maint Fuel Feed Sys-Pred	O/S ...	$133,187	$73,125	$237,076	$27,075	0	$450,000
				271	Maint Fuel Feed Sys-Corr	O/S ...	$25,234	$191,921	$147,570	$3,092	0	$105,000
			PIP	258	Maint Boiler Plt Eq-Pred	O/S ...	$0	$8,112	$14,742	$6,552	$2,926	$14,400
			PIT	257	Maint Boiler Plt Eq-Prev	O/S ...	$387,395	$520,662	$790,780	$647,616	$662,911	$381,500
				258	Maint Boiler Plt Eq-Pred	O/S ...	$293,737	$1,168,659	$613,336	$708,241	$697,401	$991,416
				259	Maint Boiler Plt Eq-Corr	O/S ...	$350,318	$522,053	$533,738	$1,017,603	$545,968	$806,666
				271	Maint Fuel Feed Sys-Corr	O/S ...	$0	-$3,313	0	0	0	0
			PIW	259	Maint Boiler Plt Eq-Corr	O/S ...	$495	$0	0	0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
			PIX	257	Maint Boiler Plt Eq-Prev	O/S ...	$248,982	$178,306	$217,382	$255,571	$136,777	$223,200
				258	Maint Boiler Plt Eq-Pred	O/S ...	$35,658	$145,277	$154,837	$114,702	$49,907	$360,000
				259	Maint Boiler Plt Eq-Corr	O/S ...	$387,469	$435,738	$666,442	$936,648	$412,408	$300,000
				263	Maint Com Struc-Prev	O/S ...	$0	$15,808	$21,706	$10,832	0	0
				265	Maint Com Struc-Corr	O/S ...	$17,111	$2,247	$2,608	$417	$750	$147,000
				268	Maint Com Misc Eq-Corr	O/S ...	0	0	$0	$2,000	0	0
				269	Maint Fuel Feed Sys-Prev	O/S ...	$536,354	$1,200	0	0	0	$50,000
				271	Maint Fuel Feed Sys-Corr	O/S ...	$13,484	$196,758	$167,240	$65,528	$23,214	0
							$3,126,748	$4,989,222	$5,494,198	$5,185,303	$2,911,610	$5,652,982
	513	MAINT ELEC PLT	PIL	260	Maint Stm Turbo Eq-Prev	O/S ...	$1,197	$0	$1,008	$0	0	$525,000
				261	Maint Stm Turbo Eq-Pred	O/S ...	$0	$6,057	$96,851	$2,689	$8,532	0
				262	Maint Stm Turbo Eq-Corr	O/S ...	$198,892	$750,318	$759,979	$235,550	$169,378	$535,000
			PIM	261	Maint Stm Turbo Eq-Pred	O/S ...	$34,389	$35,287	$38,044	$42,385	$10,285	$42,000
				262	Maint Stm Turbo Eq-Corr	O/S ...	$23,900	$14,431	$21,442	$9,073	$683	$21,600
			PIN	260	Maint Stm Turbo Eq-Prev	O/S ...	$0	$234	$423	$38,703	0	$0
				261	Maint Stm Turbo Eq-Pred	O/S ...	0	0	$0	$10,555	$11,925	$100,000
				262	Maint Stm Turbo Eq-Corr	O/S ...	$23,862	$138,354	$82,092	$274,933	$38,782	$0
			PIT	260	Maint Stm Turbo Eq-Prev	O/S ...	$755,245	$780,385	$807,852	$436,168	$770,460	$362,584
				261	Maint Stm Turbo Eq-Pred	O/S ...	$671,107	$1,659,857	$694,838	$270,983	$263,924	$424,166

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	513	MAINT ELEC PLT	PIT	262	Maint Stm Turbo Eq-Corr	O/S ...	$906,823	$366,129	$378,380	$1,254,334	$426,587	$234,584
			PIX	260	Maint Stm Turbo Eq-Prev	O/S ...	$0	$1,587	$10,000	$58,123	$792	$85,000
				261	Maint Stm Turbo Eq-Pred	O/S ...	$0	$52,529	$614	$37,114	$6,797	0
				262	Maint Stm Turbo Eq-Corr	O/S ...	$274,748	$187,278	$656,546	$1,641,755	$227,700	$0
							$2,890,163	$3,992,426	$3,548,069	$4,312,367	$1,935,845	$2,329,934
	514	MAINT MISC STM PLT	PIB	720	Improve Bus Processes	O/S ...	$31	$0	0	0	0	0
				753	Maint Rel-Community	O/S ...	0	0	0	0	0	0
				765	Empl Pol Prac Proc	O/S ...	0	0	0	0	0	0
				807	Co-wide Empl Commun	O/S ...	0	0	$0	$456	0	0
				933	Prov&Mg Svcs-Security	O/S ...	0	0	0	0	0	0
			PIL	212	Construct Projects	O/S ...	0	0	$0	$20,490	0	0
				256	Plan Sch Maint & Const	O/S ...	$0	$156	0	0	$18,750	0
				266	Maint Com Misc Eq-Prev	O/S ...	$52,667	$64,451	$35,356	$31,107	$10,650	$43,000
				267	Maint Com Misc Eq-Pred	O/S ...	$4,000	$0	0	0	0	0
				268	Maint Com Misc Eq-Corr	O/S ...	$41,904	$71,189	$108,798	$156,055	$51,197	0
			PIM	933	Prov&Mg Svcs-Security	O/S ...	0	0	0	0	$5,254	0
			PIN	266	Maint Com Misc Eq-Prev	O/S ...	$15,552	$11,774	$10,597	$10,718	$4,863	0
				268	Maint Com Misc Eq-Corr	O/S ...	$21,714	$7,584	$50,841	$7,329	$5,398	0
			PIP	256	Plan Sch Maint & Const	O/S ...	$829	$1,149	$1,490	$2,724	$1,639	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS O&M	514	MAINT MISC STM PLT	PIT	268	Maint Com Misc Eq-Corr	O/S ...	0	0	$1,839	$10,946	0	0
			PIX	256	Plan Sch Maint & Const	O/S ...	0	0	$0	$49	0	$20,000
				266	Maint Com Misc Eq-Prev	O/S ...	$74,660	$91,944	$73,970	$44,583	$42,863	$105,700
				267	Maint Com Misc Eq-Pred	O/S ...	0	0	$0	$13,797	0	0
				268	Maint Com Misc Eq-Corr	O/S ...	$176,622	$94,595	$210,939	$264,391	$57,740	$45,000
				936	Mg Svcs-Wstenon-haz	O/S ...	$35,526	$25,264	$67,868	$36,589	$10,486	$72,000
							$423,506	$368,106	$561,697	$599,233	$208,840	$285,700
	548	GEN EXP-OTH PROD	PIM	244	Op & Mon Plt Eq-NonStm	O/S ...	0	0	$1,678	$44,521	$18,168	$405,900
			PIW	244	Op & Mon Plt Eq-NonStm	O/S ...	0	0	$7,763	$4,350	0	0
				877	Cmply Sld&HazWste Oil...	O/S ...	0	0	0	0	0	0
			PIX	876	Comply Ongo-Wstewtr	O/S ...	$14,118	$6,615	0	0	0	0
							$14,118	$6,615	$9,441	$48,871	$18,168	$405,900
	552	M STRUC-OTH PRD	PIX	265	Maint Com Struc-Corr	O/S ...	$891	$1,403	$725	$0	0	0
				269	Maint Fuel Feed Sys-Prev	O/S ...	0	0	0	0	0	0
				271	Maint Fuel Feed Sys-Corr	O/S ...	$19,500	$50,348	$19,468	$8,451	$15,618	0
							$20,391	$51,751	$20,193	$8,451	$15,618	0
	553	M ELEC PLT-OTH P...	PIL	277	Maint Combust Eng Eq-...	O/S ...	0	0	0	0	$547	0
			PIM	277	Maint Combust Eng Eq-...	O/S ...	0	0	$0	$25,582	$38,547	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
			PIT	272	Maint CT & Elec Eq-Prev	O/S ...	$0	$83,388	$799,737	$1,051,736	$819	$82,500
				273	Maint CT & Elec Eq-Pred	O/S ...	$0	$239,963	$1,449,722	$830,969	0	$27,000
				274	Maint CT & Elec Eq-Corr	O/S ...	$0	$2,930	$46,224	$102,501	0	$17,000
			PIX	268	Maint Com Misc Eq-Corr	O/S ...	0	0	0	0	$3,342	0
				273	Maint CT & Elec Eq-Pred	O/S ...	$0	$41,622	$318,404	$1,719	0	0
				274	Maint CT & Elec Eq-Corr	O/S ...	$694	$11,913	$23,212	$23,829	$38,625	0
				275	Maint Combust Eng Eq-...	O/S ...	0	0	0	0	0	$0
							$694	$379,817	$2,637,299	$2,036,335	$81,879	$126,500
							$8,320,023	$13,279,071	$15,214,083	$15,223,222	$6,337,159	$14,395,447
PS Svcs	506	MISC STM PWR EXP	PIA	240	Dev & Maint Pol & Proc	O/S ...	$229	$0	$1,513	$2,358	0	$2,000
				720	Improve Bus Processes	O/S ...	0	0	$756	$10	0	$1,000
				807	Co-wide Empl Commun	O/S ...	0	0	$6	$0	0	0
				844	Prep Contr-Svcs & Mat	O/S ...	0	0	$10,497	$0	0	0
			PIC	240	Dev & Maint Pol & Proc	O/S ...	0	0	0	0	0	0
				700	Dev & Adm Business Pl...	O/S ...	0	0	0	0	0	$175,000
			PIF	816	Perf Fuel Accounting	O/S ...	0	0	0	0	0	0
							$229	$0	$12,773	$2,367	0	$178,000
	557	OTH PWR SUPPLY ...	PIC	120	Adm As Avail Contracts	O/S ...	$34,369	$9,864	$1,884	$1,923	$1,336	$2,000

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PS Svcs	557	OTH PWR SUPPLY ...	PIC	121	Adm Firm Cap Contracts	O/S ...	$177,746	$242,802	$28,699	$6,577	$308	$100,200
				122	Eval & Neg New Cont	O/S ...	$24,054	$14,807	$7,018	$12,748	0	$100,000
							$236,170	$267,473	$37,601	$21,247	$1,644	$202,200
							$236,399	$267,473	$50,373	$23,615	$1,644	$380,200
PwrSup Eng	500	OPER SUPV & ENG	PIE	200	Dev Gen Forecasts	O/S ...	0	0	0	0	0	0
			PYA	201	Perf Gen Plng Studies	O/S ...	$0	$900	0	0	0	$20,400
				211	Engr Design & Mng Proj	O/S ...	$0	$13,124	$10,134	$0	0	0
			PYF	211	Engr Design & Mng Proj	O/S ...	0	0	$11,090	-$33,887	0	0
			PYJ	211	Engr Design & Mng Proj	O/S ...	0	0	$0	$83,388	0	0
							$0	$14,024	$21,223	$49,501	0	$20,400
	502	STEAM EXP	PIE	245	Mon Plt Perf-Boiler	O/S ...	0	0	0	0	0	0
			PYE	245	Mon Plt Perf-Boiler	O/S ...	$11,452	$11,477	$3,788	$12,813	$648	$18,800
							$11,452	$11,477	$3,788	$12,813	$648	$18,800
	506	MISC STM PWR EXP	PIE	745	Maint Rel-Leg & Govt Ag	O/S ...	0	0	0	0	0	0
			PYA	240	Dev & Maint Pol & Proc	O/S ...	0	0	0	0	0	0
				730	Rsrch New Technology	O/S ...	0	0	0	0	0	0
			PYJ	240	Dev & Maint Pol & Proc	O/S ...	0	0	$0	-$81,870	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PwrSup Eng	506	MISC STM PWR EXP	PYJ	711	Adm & Impl IRP Pgm-B...	O/S ...	0	0	0	0	0	$0
			PYM	240	Dev & Maint Pol & Proc	O/S ...	0	0	0	0	0	0
							0	0	$0	-$81,870	0	$0
	511	MAINT STRUCTURES	PYM	265	Maint Com Struc-Corr	O/S ...	-$5,570	$0	0	0	0	0
							-$5,570	$0	0	0	0	0
	512	MAINT BLR & FO PLT	PIE	259	Maint Boiler Plt Eq-Corr	O/S ...	0	0	0	0	0	0
			PYA	271	Maint Fuel Feed Sys-Corr	O/S ...	0	0	0	0	0	0
			PYE	258	Maint Boiler Plt Eq-Pred	O/S ...	$0	$765	0	0	0	0
				259	Maint Boiler Plt Eq-Corr	O/S ...	$149	$5,128	$164	$198	$69	0
			PYM	269	Maint Fuel Feed Sys-Prev	O/S ...	0	0	$656	$0	0	0
				270	Maint Fuel Feed Sys-Pred	O/S ...	0	0	$50	$0	0	0
							$149	$5,893	$870	$198	$69	0
	514	MAINT MISC STM PLT	PYF	212	Construct Projects	O/S ...	0	0	$0	$0	0	0
							0	0	$0	$0	0	0
	551	M SUPV/ENG-OTH ...	PYM	210	Plan & Approve Projects	O/S ...	0	0	$0	$5,710	0	0
							0	0	$0	$5,710	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
PwrSup Eng	553	M ELEC PLT-OTH P...	PYM	274	Maint CT & Elec Eq-Corr	O/S ...	0	0	$0	-$5,710	0	0
							0	0	$0	-$5,710	0	0
							$6,031	$31,393	$25,880	-$19,358	$717	$39,200
Reg Affairs	506	MISC STM PWR EXP	PNP	700	Dev & Adm Business Pl...	O/S ...	$0	$913	0	0	0	0
				730	Rsrch New Technology	O/S ...	0	0	0	0	0	0
							$0	$913	0	0	0	0
							$0	$913	0	0	0	0
SSF	506	MISC STM PWR EXP	PFS	796	Prov & Mg Fire Protect	O/S ...	$0	$2,046	$0	$2,952	0	0
			PHB	730	Rsrch New Technology	O/S ...	$17	$37	$56	$76	$35	0
				931	Care for Bldgs & Grnds	O/S ...	0	0	$0	$1,650	0	0
			PHF	730	Rsrch New Technology	O/S ...	$6,292	$0	0	0	0	0
				930	Mg Const & Reconfig Fac	O/S ...	0	0	0	0	0	0
				931	Care for Bldgs & Grnds	O/S ...	$1,469	$6,199	$4,469	$49,284	$1,667	0
			PHS	933	Prov&Mg Svcs-Security	O/S ...	$625,585	$550,994	$559,316	$525,841	$260,906	$730,280
							$633,363	$559,276	$563,841	$579,803	$262,607	$730,280
	511	MAINT STRUCTURES	PHF	932	Repair Bldgs & Grnds	O/S ...	0	0	0	0	0	$17,322
							0	0	0	0	0	$17,322

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
SSF							$633,363	$559,276	$563,841	$579,803	$262,607	$747,602
SVP-EnSol	549	MISC EXP-OTH PROD	P9S	730	Rsrch New Technology	O/S ...	0	0	$130,610	$0	0	$221,000
							0	0	$130,610	$0	0	$221,000
							0	0	$130,610	$0	0	$221,000
SVP-Oper	506	MISC STM PWR EXP	P8V	877	Cmply Sld&HazWste Oil...	O/S ...	0	0	0	0	0	0
							0	0	0	0	0	0
							0	0	0	0	0	0
Sys Op	500	OPER SUPV & ENG	PRD	375	Sch Gen Resources	O/S ...	$3,420	$27,591	$3,911	$26,630	$400	0
							$3,420	$27,591	$3,911	$26,630	$400	0
	506	MISC STM PWR EXP	PRD	375	Sch Gen Resources	O/S ...	$0	$1,015	0	0	0	0
							$0	$1,015	0	0	0	0
	511	MAINT STRUCTURES	PRX	263	Maint Com Struc-Prev	O/S ...	0	0	0	0	0	$3,000
				265	Maint Com Struc-Corr	O/S ...	0	0	0	0	0	$3,000
							0	0	0	0	0	$6,000
							$3,420	$28,606	$3,911	$26,630	$400	$6,000
Sys Plng	500	OPER SUPV & ENG	PYB	200	Dev Gen Forecasts	O/S ...	$6,760	$6,760	$6,760	$6,760	$7,472	$9,460
				201	Perf Gen Plng Studies	O/S ...	-$4	$0	0	0	0	0

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
Sys Plng	500	OPER SUPV & ENG	PYB	211	Engr Design & Mng Proj	O/S ...	$1,749	$796	$0	-$2,545	0	0
							$8,506	$7,556	$6,760	$4,215	$7,472	$9,460
	506	MISC STM PWR EXP	PXA	240	Dev & Maint Pol & Proc	O/S ...	0	0	0	0	$720	0
				720	Improve Bus Processes	O/S ...	0	0	0	0	$110	0
			PYB	700	Dev & Adm Business Pl...	O/S ...	$0	$16,860	$46,466	$105,931	$1,045	$10,000
				712	Adm & Impl IRP Pgm-Incr	O/S ...	0	0	0	0	0	$10,800
							$0	$16,860	$46,466	$105,931	$1,874	$20,800
	557	OTH PWR SUPPLY ...	PXB	210	Plan & Approve Projects	O/S ...	0	0	0	0	$1,183	0
							0	0	0	0	$1,183	0
							$8,506	$24,415	$53,226	$110,145	$10,528	$30,260
Tech	506	MISC STM PWR EXP	PNR	730	Rsrch New Technology	O/S ...	$460	$134	$19,389	$49,061	$3,668	$0
							$460	$134	$19,389	$49,061	$3,668	$0
	546	OPR SUPV/ENG OT...	PNR	211	Engr Design & Mng Proj	O/S ...	0	0	$0	$418	0	0
							0	0	$0	$418	0	0
	549	MISC EXP-OTH PROD	PNR	730	Rsrch New Technology	O/S ...	0	0	0	0	0	$249,000
				731	Dev & Demo New Tech	O/S ...	0	0	$76,714	$281,485	$111,117	$505,000

Dept	NARUC	NARUC Descr	*RA #	*Act #	Activity	Cost...	FY03 Act03-04$RA	FY04 Act03-04$RA	FY05 Act05-06$ RA	FY06 Act05-06$ RA	FY07 Act07$RA	FY07 RC Budget07
Tech	549						0	0	$76,714	$281,485	$111,117	$754,000
							$460	$134	$96,103	$330,964	$114,786	$754,000
WFSD	502	STEAM EXP	PFD	242	Op & Mon Plt Eq-Boiler	O/S ...	$0	-$70	0	0	0	0
							$0	-$70	0	0	0	0
							$0	-$70	0	0	0	0
							$10,949,288 (1)	$14,629,718 (1)	$17,480,830 (1)	$17,636,238 (1)	$7,139,956	$18,420,559 (1)

(1) Agrees with CA-IR-70, Attachment 1, page 11, Grand total O/S Production O&M.

CA-IR-348

Ref: HECO T-7, pages 7-8 & Response to CA-IR-87 (O&M Corrections).

According to the response to CA-IR-87(b), HECO's efforts to reduce overtime in 2005 included the deferral of lower priority O&M work without impacting reliability or safety. Please provide the following:

a. Was any of the T&D O&M work that was deferred in 2005 nevertheless included in the 2005 rate case test year forecast? Please identify any such work and describe the test year treatment.

b. Was any of the T&D O&M work that was deferred in 2005 included in the 2007 test year forecast? Please explain.

c. Referring to part (b) above, please identify and quantify the O&M costs included in the 2007 test year forecast.

HECO Response:

a. In its response to CA-IR-87, part b., HECO stated that, "HECO's effort to reduce the amount of overtime worked by employees in situations where it was possible to do so, in addition to other conditions such as outages or emergency work, contributed to the deferral of some maintenance work in 2005." HECO specifically noted in its response to CA-IR-87, part d., that, "HECO did not track or quantify the O&M expense reduction realized in 2005 as a result of these temporary measures (i.e., the effort to reduce the amount of overtime worked by employees in situations where it was possible to do so)." Thus, HECO is unable to identify specific O&M work that was deferred solely as a result of the work order adjustment.

Any O&M work deferred in 2005 in response to the work order adjustment would have been limited. As noted in its response to CA-IR-87, the quantification for the C&M work order adjustment was completed in September 2005. See response to CA-IR-85. Research regarding CID and Engineering work orders was not completed until December 2005. See response to

CA-IR-86. Therefore, the period of time during which the temporary management of O&M costs was in effect was limited to the few remaining months of 2005.

During that same time, HECO had a number of capital projects underway that contributed to a reduction in O&M expenses, thereby reducing the impact of the work order adjustment, such as the New Dispatch Center Building (New Energy Management System) Project, Docket No. 03-0360. Employees from the Communication, Instrument & Control, Operating Engineering, Relay and Substation divisions provided the labor resources necessary to install and implement the new Energy Management System ("EMS"), which is referred to as the new Siemens EMS in HECO T-7, pages 16, 20-23. Labor hours for the employees from these areas who worked on the EMS project were charged to the capital project and this contributed to reductions in O&M labor expense. The C&M Department also experienced a shift in labor to various capital projects during 2005, including the Ford Island and New Kuahua Substations line work, and various cable replacement projects. See response to CA-IR-87.

Overtime was also minimized without resorting to deferring O&M work by scheduling maintenance activity so that, when possible, crews could perform the work during straight time hours. See response to CA-IR-87.

Rather than attempting to isolate those few instances of O&M work that were deferred in the last few months of 2005 in connection with the work order adjustment, a more meaningful perspective on T&D O&M expenses in 2005 can be gained by comparing the overall 2005 T&D O&M test year expenses that were allowed in the settlement of HECO's prior rate case, Docket No. 04- 0113, with the actual T&D O&M expenses for 2005 and 2006. As shown below, T&D O&M actual expenses for 2005 and 2006 exceeded the expenses that were included in the interim rates approved by the Commission on September 27, 2005 in Order No. 22050.

	2005 RC Settlement	2005 Actual With Work Order Adjustment (1)	2005 Actual Without Work Order Adjustment (2)	2006 Actual
Transmission Operation	$3,332	$3,971	$3,971	$4,237
Transmission Maintenance	$4,608	$3,861	$3,713	$5,253
Distribution Operation	$8,488	$9,549	$8,804	$9,040
Distribution Maintenance	$11,416	$13,492	$11,355	$13,130
Total	$27,844	$30,873	$27,843	$31,660
Labor Adjustment	$49	-	-	-
Total with 2005 Labor Adjustment	**$27,795**	**$30,873**	**$27,843**	**$31,660**

(1) Includes work order adjustment. See HECO T-7, pages 6-7, and HECO-734.
(2) Work order adjustment removed for work done prior to 2005. See HECO-734.

The 2005 actual O&M expenses exceeded the amount allowed in the 2005 rate case settlement by an amount greater than these figures would suggest: the interim rates were in effect only for the last three months of 2005.

b. As indicated in subpart a. above, HECO is unable to identify the O&M work that was deferred specifically as a result of the work order adjustment. In the broader sense, any work that was deferred in 2005 would have been included with the mix of work that was planned for 2006. As HECO indicated in response to CA-IR-89, subpart d., the determination of the work requirements and labor resource hours is an iterative process and is done to balance the work demands to the available labor resources, however, the final decision for the work that will be done is also based on the knowledge, experience and judgment of the supervisors of the

respective work groups. HECO is unable, therefore, to identify if any of the work that may have been deferred in 2005 was included in the 2007 test year estimate.

c. Please refer to the response to b., above.

d. Please refer to the response to a., above.

CA-IR-349

Ref: HECO T-7, pages 8 to 10, Responses to CA-IR-1 & CA-IR-89 (T&D Work Requirements).

The response to part (b) of CA-IR-89 explains that HECO did not rely solely upon "work requirement" units for purposes of developing quantitative values and labor hours for the 2007 test year forecast. According to this response, the C&M department organizes its work into programs while System Operations relies on inspections, infrared scans, tests, trends and other factors for forecasting purposes. Please provide the following:

a. Please confirm the accuracy of the above summary. If this cannot be confirmed, please explain.

b. Referring to CA-IR-1, Attachment A, pages 3-4, HECO lists a series of C&M project numbers (e.g., P0000120, P0000359, P0000361, P0000740, etc.) and generally refers to Attachment E for further details. Page 13 of Attachment E-2 specifically relates to P0000359. Please provide the following:

    1. Please provide an illustration showing how the labor hours on page 13 of Attachment E-2 support the two entries of $848,427 and $848,348 of labor expense appearing on Attachment A, page 4, for P0000359.

    2. Has HECO provided any forecast support showing how the labor hours for the various C&M projects, including P0000359, were determined?

        a. If so, please provide a pinpoint reference to said documentation.

        b. If not, please explain how those labor hours are determined, specifically referring to P0000359.

            1. Please provide a copy of any additional documentation specifically relied upon by the Company in determining the C&M project hours chargeable to O&M expense.

HECO Response:

a. The summary in the opening paragraph of this Information Request is generally accurate. In response to CA-IR-89, HECO explained that the need for and types of future work are examined from several perspectives to develop the test year estimate. Work units, for example, the number of relays for the protection of the system and the number of wood poles, were used as parts of the basis for estimating the workload for the 2007 test year

estimate. C&M organizes its work into programs to track the work being done in those particular areas; however, the process for determining its work requirements also includes inspections and infrared scans.

b. For illustrative purposes, relevant portions of CA-IR-1, HECO T-7, Attachments E-2, A-1, and A, and HECO-WP-101(F) are provided as the following Attachments to this response:

- Attachment 1 (previously submitted as CA-IR-1, HECO T-7, Attachment E-2, Page 13);
- Attachment 1(A) (previously submitted as CA-IR-1, HECO T-7, Attachment A-1, Pages 12 and 13;
- Attachment 2 (previously submitted as CA-IR-1, HECO T-7, Attachment A, Pages 3 and 4; and
- Attachment 2(A) (previously submitted as HECO-WP-101(F), Pages 813 and 815).

1. The labor hour estimates, for Activities 475 and 478 for labor classes D_OHCREW and D_UGCREW were based on a 5-year historical average for program P0000359 (see Attachment 8 pages 2 and 3[1]). The calculated averages are used as a guideline for estimating the labor classes for the respective activities. As shown in Attachment 1, the total labor hours for P0000359 for Activities 475 and 478 are 21,500 hours each. These estimates take into account the 5-year historical average and the system knowledge and experience of the supervisory personnel as they provide their input to the labor class hour estimates. This knowledge and experience takes into account the hours that may be necessary to account for the aging of the assets and the additional equipment that is installed on the system. These hours were input into Pillar and the standard labor rate

[1] HECO would like to point out that the calculation of the 5 year average for activity 475 for D_UGCREW is not shown in the attachment. HECO is not able to locate the reference document for this calculation.

was applied. The results of the Pillar calculations are shown in Attachment 1A, and the results show the hours for P0000359, RA: PDS, Activities 475 (rounded to 21,501 hours) and 478 (rounded to 21,499 hours). See also, CA-IR-1, HECO T-7, Attachment AG page 9 (D_OHCREW) and page 14 (D-UGCREW), Resource Leveling report pages showing these same hours. The Pillar output in Attachment 1(A) also shows that the labor expenses associated with the labor hours for P0000359, Activities 475 and 478 are $848,426.71 and $848,347.79, respectively. These dollar amounts agree with the $848,427 and $848,348 labor expenses for RA: PDS, P0000359, Activities 475 and 478, respectively listed in Attachment 2. The reference for the labor expenses shown in Attachment 2 for the 2007 test year estimate, is provided as Attachment 2(A), and is comprised of the following expenses shown in Attachment 2:

NARUC 593
RA:PDS – Operations
ACTIVITY 475

P0000359	**$**	**848,427**	**Attachment 2, page 1**
P0000123		**218,239**	**Attachment 2, page 2**
Total	**$**	**1,066,666**	**Attachment 2(A), page 1 (HECO-WP-101(F), PAGE 813)**

NARUC 594
RA:PDS
ACTIVITY 478

P0000359	**$**	**848,348**	**Attachment 2, page 1**
P0000122		**116,354**	**Attachment 2, page 2**
Total	**$**	**964,702**	**Attachment 2(A), page 2 (HECO-WP-101(F), PAGE 815)**

2. Yes, in HECO's response to CA-IR-1 and also the May 11, 2007 Supplement to CA-IR-1.

a. Additional documentation is available for the labor hour determinations with respect to some of the projects. Please refer to the additional documentation supporting the development of the 2007 test year estimates included in response to this IR as Attachments 3 - 13. The following table identifies which attachments support the C&M programs for which additional documentation is available:

P0000120	Attachment 3
P0000121	Attachment 4
P0000122	Attachment 5
P0000123	Attachment 6
P0000124	Attachment 7
P0000359	Attachment 8
P1789000	Attachment 9
P1793000	Attachment 10
P3400000	Attachment 11
P3401000	Attachment 12
Labor hours based on reliability initiatives to support P1789000, P1793000, P3400000, P3401000 estimates	Attachment 13

Attachments 3 to 13 are the workpapers that support the labor class estimates for the C&M programs shown in the table above. The following narrative describes how the workpapers in Attachment 8 were used to develop the labor hour estimates for P0000359. The labor hour estimates that were budgeted for the 2007 labor

classes D_OHCREW and D-UGCREW are shown in Attachment 8, page 1. Pages 2 and 3 of Attachment 8 are the worksheets that were used to determine the estimate of the labor class hours for these two labor classes. Each page shows the calculated 5 year average of the historical hours for the different labor classes and Activities (for example activities 475 and 478). These averages were then used as a starting point to estimate the labor hours for each resource for the different activities. The calculated averages were not necessarily used as the input to the Pillar budget file because as HECO explained in response to CA-IR-89 the budgeting process is iterative and as more information (capital project resource requirements, the impact aging facilities, and the growth of the system) is received the labor hour estimates may change from what was originally calculated.

The other attachments provide additional calculations not found in the workpapers for Attachment 8. Using the workpapers in Attachment 3 for P0000120 the following information can be obtained from the worksheets. Starting with pages 1 and 2 of Attachment 3, this shows the data that was used for the budget data input into Pillar. Pages 3 and 4 of Attachment 3 shows the calculation of the 5 year average of the historical labor hours for each of the labor class listed and the corresponding activity and expense indicator. To show how these calculated averages are used, please refer to the labor class D_OHCREW activity 481 and cost indicator NE, the average shown on page 3 of 6 is 1,597 hours and this is shown on Attachment 3, page 1 of the workpapers that was used for the input into Pillar.

In addition to the labor resource calculations the workpapers were used to determine the estimates for outside services and materials. Attachment 3, page 5

shows the 5 year average of the actual costs for materials and outside services. The material costs and outside services costs also need to be allocated between the two activities 481 and 504 for cost indicators NI and NR. To calculate the allocation of the material cost and outside services costs between the two activities, the average of the 5 year historical costs were used to determine how to allocate the costs between NI and NR. The results of the calculations on the far right of Attachment 3, page 6 show the percentages that were used to distribute these costs between the two activities. On page 5 of Attachment 3, The ratios are shown on the left side of the page (for example, 96% of the 5 year average for NI materials was allocated to activity 481 and 4% was allocated to activity 504).

The P1789000, P1793000, P3400000, and P3401000 program estimates are provided for reliability related work. Following are two examples of how Attachments 9, 10, 11, 12, and 13 relate to each other for this reliability related work. The first example uses the workpapers for program P1789000 in Attachment 9, page 2 at the bottom of the page there is an estimate for activity 125 OH Transformer Replacements. The basis for the estimate is 10 (Trans Repl) replacements requiring 4 (EE) employees, working 8 (Hrs) hours for a total of 320 (Hrs/Month) hours per month. The table in Attachment 13 at the bottom of the table provides the estimated hours in the 5th column and the number of employees required for the work in the 3rd column from the right. The table also shows that there are approximately 200 transformer replacements estimated per year. The estimate in Attachment 9 shows an estimated 10 OH transformer replacements per month (or about 120 in the year) being estimated for the 2007

budget, and Attachment 10 shows an estimated 7 UG transformer replacements per month (or about 80 in the year).

The second example refers to Attachment 11, page 2, where 3 reliability focused activities are listed; OH Dist Repl, Lightning Arrestor Repl, and Omni-rupter Inst/Repl are listed. Referring again to Attachment 13, guidelines for Lightning Arrestor Repl and Omni-rupter Inst/Repl can be found in the center of the table. For the Lightning Arrestor Repl the resource requirement is 3 employees for 20 days each month. The estimate for the number of replacements is 30 each month. On page 2 of Attachment 11, the information from the table in Attachment 13 is used to calculate the estimate of 480 hours/month for this work. The table in Attachment 13 has information for the Omni-rupter Inst/Repl, and an estimated 300 pole replacements for the year. The estimate in Attachment 11, shows an estimated 10 Distribution pole replacements per month (or about 120 in the year) being estimated for the 2007 budget, and Attachment 12 shows an estimated 15 Subtransmission pole replacements per month (or about 180 in the year).

In general, the labor hour estimates for the preventive program, P0000360, and the corrective program, P0000362, will use historical costs as a basis for developing the labor hour estimates. Because historical costs are used, the estimate may be adjusted, based on a trend in the costs for the historical periods that were reviewed. However, as indicated in HECO's response to CA-IR-89, during the budgeting process, manual adjustments may be made to the labor hour estimates so that the demand for budgeted labor resources is a reasonable amount.

For program P0000126 which is for vegetation management HECO has provided testimony (see HECO T-7 pages 30-33) and information requested for

CA-IR-93, CA-IR-96, CA-IR-98, CA-IR-99, and CA-IR-103 in support of the test year estimate. See also HECO T-7's response to CA-IR-1, Attachment E-2, page 11.

For program P0000127 that is for the wood pole test and treat program, HECO's objective is to complete between 10,000 to 15,000 poles each year. The estimate for this program is based on meeting this objective and this work is generally done by a contractor although HECO employees will inspect the work that is done by the inspector to see if the work is being done in accordance with the contract. See also HECO T-7's response to CA-IR-1, Attachment E-2, page 12.

Support for the following programs can be found at the references indicated below:

P0000361	HECO T-7's response to CA-IR-1, Attachment E-2, page 15.
P0000362	HECO T-7's response to CA-IR-1, Attachment E-2, page 16.
P1810000	HECO T-7's response to CA-IR-1, Attachment E-2, page 19.
P3402000	HECO T-7's response to CA-IR-1, Attachment E-2, page 22.

Additional support for C&M program expense estimates can be found in HECO-735 and 736. The description of C&M programs is contained in HECO-738. Other than the matters discussed above, HECO is not aware of additional documentation supporting specific program expense estimates.

b. See HECO's response to a., above.

Attachments 1-13 are voluminous and available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect these documents. Electronic versions of the attachments are being provided.

CA-IR-350

Ref: HECO T-7, pages 8 to 10, Responses to CA-IR-1 & CA-IR-89 (T&D Work Requirements).

The response to part (b) of CA-IR-89 explains that HECO did not rely solely upon "work requirement" units for purposes of developing quantitative values and labor hours for the 2007 test year forecast. According to this response, the C&M department organizes its work into programs while System Operations relies on inspections, infrared scans, tests, trends and other factors for forecasting purposes. Please provide the following:

a. Based on a review of the response to CA-IR-1, it appears that there are only three System Operations RA's (PRI, Attachment H-6; PRR, Attachment H-7; & PRS, Attachment H-8) that employed the inspections/scans methodology for purposes of developing the 2007 test year labor hour forecast.

   1. Is this correct?
   2. If not, please explain and identify the specific RA's and portions of the response to CA-IR-1 using such a work requirements method.

b. Please identify each System Operations RA that uses "trends" to develop the 2007 labor hour forecast, specifically identifying the portions of CA-IR-1 that document the use of such method.

c. Please identify each System Operations RA that uses "other factors" to develop the 2007 labor hour forecast, specifically identifying the portions of CA-IR-1 that document the use of such method.

HECO Response:

a.

1. No, responsibility areas PRI, PRR and PRS are not the only System Operation RA's that use inspections/scans methodology for determining their work requirements and they do not depend solely on inspections/scans for determining their work requirements. HECO's response to CA-IR-89 was provided to describe, in general, how an area develops its work forecast and the associated O&M budget for that work. Rather than explain in detail how each RA prepares its estimate, an example for one RA, PRS, was provided. Of the three RA's, PRS uses inspections/scans more often to determine its

work requirements whereas RA's PRI, PRR as well as PRC use inspections/scans less often to determine their work requirements.

2. In general, the work that System Operation performs can be categorized in two groups; large equipment/construction (work that RA's PRS and PRX perform) and electronic based equipment (work that PRC, PRI and PRR perform). The remaining RA's PRD (Operations) and PRE (Operating Engineering) are responsible for the operation of the electrical system and the maintenance of the new EMS and OMS as well as the GIS map products, schematics and drawings that are used to operate the HECO system, respectively.

RA PRS's work requirements are based on a combination of planned maintenance schedules relating to equipment type and inspections/scans methodology. As shown in CA-IR-1, Attachment H-8, pages 4 and 5, there are a number of equipment types listed that have a maintenance cycle associated with them. For example, in CA-IR-1, Attachment H-8, page 4, the 138 kV transformers have a schedule of 48 months. Attachment H-8 also shows other kinds of equipment that need to be maintained and their respective calculated manhours. But in addition to these maintenance cycles, the PRS group uses tests such as the Dissolved Gas Analysis (DGA) test, for each transformer to determine the relative condition of the transformer. In situations where the DGA samples show increasing levels of combustible gasses, then this is an indicator that the transformer may fail and steps should be taken to replace the transformer. Other monitoring systems such as the transformer and load tap changer temperature monitoring system provide an indication that a problem may be developing if there is too large a differential in the oil temperature between those two sections of

the transformer. When the temperature differential reaches a certain limit then an alarm is sent to the Energy Management System to indicate that the transformer and the load tap changer need to be checked.

For responsibility areas PRI, PRC, and PRR, each group has a prioritized equipment schedule of maintenance whereby they inspect and test the electronic equipment installed on the system. Worksheets were provided for RA's PRI and PRR (see CA-IR-1, Attachment H-6, pages 10 to 13, for PRI and Attachment H-7 pages 3 and 4 for PRR). Worksheets were not provided for RA PRC but the communication equipment is also electronic and is similar to the equipment that PRI and PRR support. In general, the inspections/scans methodology is used by these groups in between the periodic maintenance to determine if the equipment is operating as it should. When a problem in the equipment occurs, there may be an indicator such as an LED that shows the technician that there is a problem with the equipment. Equipment inspections are therefore done to check for alarms that indicate if there is a problem with the device. Some of the equipment is connected to the EMS and the technicians check the EMS periodically for alarms indicating that there is a problem with equipment.

The group PRX generally responds to work that is found during periodic inspections or capital projects. For the activities that contribute to O&M expenses, the group PRX will do substation repairs (to fences or walls) or will respond to emergency work such as oil spills. However, in general, its work is determined by the substation inspections.

b. Trends may be used by different RAs to estimate the labor hours for corrective work. CAHIR-1 does not contain specific line items for which trends were used. In addition, as described in CA-IR-89, because of the iterative process for the budget preparation,

adjustments may be made to the estimated hours for predictive and corrective work and, as a result of these manual adjustments, the estimate may be different from what trends would indicate.

c. As indicated in response to CA-IR-89, the "other factors" are the capital projects and the capital labor hours that are forecasted independently of the O&M estimates. When the capital labor resource requirements are combined with maintenance labor requirements, then the budget preparer looks at the total demands on the labor resources and, using experience and judgment, adjusts the O&M labor resource hours so that the entire capital and O&M labor requirements are reasonable in light of the available labor resources. Reasonableness is determined by reviewing the estimates for the capital labor hours to see that they are consistent with the scope of the project tasks, and modifications are made if necessary. Finally, the O&M labor hours are reviewed so that the O&M forecast is realistic in terms of the work that can be accomplished given that some of the forecast includes time for uncertain events such as outages and equipment problems.

CA-IR-351

Ref: HECO T-7, pages 8 to 10 & Response to CA-IR-89 (T&D Work Requirements).

In response to part (d) of CA-IR-89, HECO explained the method used to determine work requirements and labor hours for purposes of the 2007 test year forecast, in part by using System Operation-Substation (RA: PRS) as an example. At page 8 of the response to CA-IR-89, part (d) illustrates how the budget preparer modified the labor hour estimate, based on quantified work requirements, by referencing labor hours on Attachments 1 and 2 for "Trans Equip Prev – Crew" for labor class R_SUBCRW. Please provide the following:

a. Attachment 1 showed a total of 13,854 man-hours based on work requirements derived from equipment counts, inspection cycles and man-hours per inspection. Attachment 2 shows that 9,554 man-hours were input into Pillar, explaining that the reduction in calculated O&M labor hours was made to achieve a manageable level of work.

   1. Does HECO T-7's original response to CA-IR-1 show how or explain why the 13,854 man-hours were reduced to 9,554 man-hours? If so, please provide a pinpoint reference to such documentation.
   2. Does HECO T-7's supplemental response to CA-IR-1 (Supplement 5-11-07) show how or explain why the 13,854 man-hours were reduced to 9,554 man-hours? If so, please provide a pinpoint reference to such documentation.
   3. Please confirm that, other than stating that the 13,854 man-hours were reduced to 9,554 man-hours, the response to CA-IR-89 does not show how the 13,854 man-hours were reduced to 9,554 man-hours. If this cannot be confirmed, please explain.
   4. In the absence of CA-IR-89, please explain how the Consumer Advocate could have independently determined that the 13,854 man-hours were reduced to 9,554 man-hours.

b. Attachment 1 showed a total of 7,650 man-hours based on work requirements derived from equipment counts, inspection cycles and man-hours per inspection. Attachment 2 shows that 4,600 man-hours were input into Pillar, explaining that the reduction in calculated O&M labor hours was made to achieve a manageable level of work.

   1. Does HECO T-7's original response to CA-IR-1 show how or explain why the 7,650 man-hours were reduced to 4,600 man-hours? If so, please provide a pinpoint reference to such documentation.
   2. Does HECO T-7's supplemental response to CA-IR-1 (Supplement 5-11-07) show how or explain why the 7,650 man-hours were reduced to 4,600 man-hours? If so, please provide a pinpoint reference to such documentation.
   3. Please confirm that, other than stating that the 7,650 man-hours were reduced to 4,600 man-hours, the response to CA-IR-89 does not show how the 7,650 man-hours were reduced to 4,600 man-hours. If this cannot be confirmed, please explain.

4. In the absence of CA-IR-89, please explain how the Consumer Advocate could have independently determined that the 7,650 man-hours were reduced to 4,600 man-hours.

HECO Response:

a. See response to numbered items below.

1. Attachment H-8, page 4, to HECO T-7's response to CA-IR-1 (excerpts of which were provided as Attachment 1 to the response to CA-IR-89) shows 13,854 hours for Transmission Preventive Maintenance of transformers, breakers, switches and batteries. Attachment H-8, page 1, to HECO T-7's response to CA-IR-1 shows 9,554 hours for FY 2007 for Labor Class R_SUBCRW, "Trans Equip Prev – Crew". Attachment H-8 to HECO T-7's response to CA-IR-1 does not contain an explanation of the resource leveling process in which the 13,854 hours for substation equipment preventive maintenance were reduced to 9,554 hours.

2. HECO's supplemental response to CA-IR-1 (Supplement 5-11-07) does not contain an explanation of the resource leveling process in which the 13,854 hours for substation equipment preventive maintenance were reduced to 9,554 hours.

3. See response to a.1., above. HECO notes that the explanation provided in CA-IR-89 follows up an informal discussion with the Consumer Advocate's consultant on the process for determining the 2007 budget estimates. In this discussion, HECO explained that the budget preparation was an iterative process. The example that was provided in response to CA-IR-89 was one example of this iterative process and the documents that were provided in the supplement to CA-IR-1 (Supplement 05-11-2007) were work papers from different stages of the budgeting process. As new information on the future work plan is received, the budget preparer makes changes to the budget estimates based

on his or her expertise and knowledge of the system and work history requirements. Through each iteration of the process, the budget preparer takes into account the demand for capital work (by labor class or in total), which may exceed the available labor hours, and makes manual adjustments in Pillar, exercising his or her best judgment to ensure that, if the total amount of hours demanded are greater than the resources available, the amount of the overage is within an acceptable range of about 7%-10%. A range is used as a guideline because during the budget iteration process, engineers may be independently revising the labor resource requirements for the capital projects. Only when the O&M and capital resource hours are combined is the O&M budget preparer able to see the effect of his or her manual adjustments to the O&M budget.

4. There is no workpaper that explains how the original budget estimates are manually adjusted to arrive at the final numbers input into Pillar because the outcome is the result of the O&M budget and the capital budget estimates being developed separately for a single pool of resources. Changes in the capital project labor estimates may necessitate changes in the O&M labor resource estimate so that the estimated work hours are not unreasonably high. When this occurs, the planned work that may be based on an ideal work plan at the beginning of the budgeting period is altered because of the resource availability. The outcome is that the budgeted hours for a particular task may be reduced from what was originally calculated to an amount that more closely defines what can actually be accomplished in the year.

b.

1. Attachment H-8, page 5, to HECO T-7's response to CA-IR-1 (excerpts of which were provided as Attachment 1 to the response to CA-IR-89) shows 7,650 hours for Distribution Corrective Maintenance of transformers, breakers, switches, batteries and other. Attachment H-8, page 1, to HECO T-7's response to CA-IR-1 shows 4,600 hours for FY 2007 for Labor Class R_SUBCRW, "Dist Equip Corr – Crew". Attachment H-8 to HECO T-7's response to CA-IR-1 does not contain an explanation of the resource leveling process in which the 7,650 hours for substation equipment corrective maintenance were reduced to 4,600 hours.
2. HECO's supplemental response to CA-IR-1 (Supplement 5-11-07) does not contain an explanation of the resource leveling process in which the 7,650 hours for substation equipment corrective maintenance were reduced to 4,600 hours.
3. See HECO's response to b.1. and a.3.
4. See HECO's response to a. 4.

CA-IR-352

Ref: HECO Response to CA-IR-104 (T&D Labor Overtime).

Attachment 1 of CA-IR-104 provides a historical comparison of straight time and overtime hours by department and RA. Please provide the following:

a. Do the straight time and overtime hours for calendar year 2005 include or exclude the effect of the capital/O&M correction discussed by HECO T-7, pages 6-8?

   1. If included, is it possible to exclude or otherwise restate the 2004 and 2005 straight time and overtime hours as if the problem had not occurred?

   2. If so, please do so if administratively feasible.

b. Please confirm that the "2007 Budget" straight time and overtime hours are based on the 2007 test year forecast. If this cannot be confirmed, please explain.

c. The following table summarizes the total straight time and overtime hours from Attachment 1.

	2004	2005	2006	2007*
		RECORDED		BUDGET
Straight Time Hours	731,386	952,771	1,001,493	1,058,616
Overtime Hours	72,424	130,866	92,212	119,620
OT as a % of ST	9.90%	13.74%	9.21%	11.30%

   1. Please confirm that the hours listed in the above table accurately represent the information provided by HECO. If this cannot be confirmed, please explain.

   2. Please explain the significant increase in 2007 overtime hours in relation to the prior years, particularly in light of HECO's proposed increase in T&D employee count in the 2007 test year forecast.

HECO Response:

a. The straight time and overtime hours for 2005 shown on Attachment 1 to the response to CA-IR-104 excludes the effect of the capital/O&M correction that was discussed in HECO T-7 pages 6 to 8.

1. N/A

2. N/A

b. The "2007 Budget" straight time and overtime hours shown in Attachment 1 to the response to CA-IR-104, in accordance with the instruction in CA-IR-104, represent total labor hours, that is, both O&M and capital work. Therefore, the 2007 Budget straight time and overtime hours shown in CA-IR-104, Attachment 1 are different from the labor hours used in the 2007 T&D O&M test year estimate since the labor hours for the test year O&M estimate do not include hours for capital projects.

c.

1. The table above accurately summarizes the data HECO provided in Attachment 1 of its response to CA-IR 104 which was based on actual hours for 2004-2006 recorded from payroll entries and on the 2007 Budget that included both O&M and capital labor resource hours.

2. The overtime hours from the 2007 Budget are higher than the 2006 recorded overtime hours, but lower than the 2005 recorded overtime hours. The 2007 Budget straight time hours are higher than the recorded straight time hours for both 2005 and 2006.

As explained in the response to CA-IR-89, T&D forecasted overtime hours result when the total labor demand for O&M and capital work exceeds the total labor hours available at the forecasted staffing level. In the column labeled "2007 Budget" on Attachment 1 to the response to CA-IR-104, the total forecasted demand for O&M and capital labor exceeded the total forecasted labor supply by 119,620 hours.

The high demand for T&D labor resources has been addressed in this proceeding. As indicated in HECO T-7 pages 34 to 43, T&D Plant Aging, Growth in T&D Utility

Plant, and System Reliability, are factors that contributed to the increase in T&D O&M spending. As system additions continue the quantity of equipment that needs to be maintained increases resulting in a larger workload for the various departments. Because HECO's plant is aging, more inspections and maintenance are required to ensure the proper operation of the T&D equipment. In the event a piece of equipment fails resulting in an outage, this impacts the system. The types of failures or system problems that affected HECO's system reliability were: 1) cable faults, 2) equipment deterioration, 3) trees and branches, and 4) faulty equipment. (See HECO T-7 pages 41 and 42.) These failures and the resulting outages may occur during off business hours and consequently need to be addressed during that time, resulting in labor resources working overtime hours. As shown in HECO-719, the Customer Average Interruption Duration ("CAID") increased from 2004 to 2005 and HECO-718 shows that the System Average Interruption Frequency or SAIF also showed an increase from 2004 to 2005. The increase in interruptions resulted in more work, in the form of responding to outages and making repairs to the system. Because the timing of system interruptions is unpredictable, responding to such interruptions may result in overtime.

The need to work overtime was also explained in HECO's response to CA-IR-477, Docket No. 04-0113. In this response the following factors were cited to describe why overtime may be incurred: 1) system outages due to equipment deterioration/failure, 2) outages/damage due to outside parties (vehicle accidents, objects in the lines), 3) weather related problems (storms, high winds), 4) customer electrical service problems, 5) work on commercial services to not impact their business, and 6) work to meet customer schedules. In these instances working overtime is a necessary part of

providing electrical service and cannot be easily forecasted. It should not be presumed that by comparing supply versus demand that it will account for each of these instances when unexpected work may occur.

Some overtime also results from increased staffing, in this case in the Operating Division of the System Operation Department, that was necessary to replenish the dispatch area labor force as employees retired or transferred to other areas. When new employees are hired, training is required for these very specialized positions and the level of overtime increases in order to ensure full 24/7 shift coverage until the new employees are able to handle a full shift on their own.

On an on-going basis, because of the specialized skills and knowledge required for these positions, training is necessary to maintain and improve the level of knowledge as the system continues to grow. Additionally, as conditions on the system change, and when new system additions are made (e.g., new generating sources), new operating issues may arise which may require additional training for the dispatchers.

As mentioned in HECO T-8, Docket No. 04-0113, new employees are not as productive as experienced employees because of their lack of training and familiarity with the system, equipment and work methods. Because of this, an hour of available time from a new employee will not necessarily eliminate an hour of overtime from an experienced employee. In fact, as noted above, adding new employees can temporarily increase overtime because of the need for training and supervision.

CA-IR-353

Ref: HECO Response to CA-IR-104 (T&D Labor O&M/Capital Ratios).

Attachment 2 of CA-IR-104 provides a historical comparison of the O&M/Capital ratios by department and RA, using the formula noted at the bottom of the page. Please provide the following:

a. The spreadsheet file supporting Attachment 2 contains input percentages, rather than formulae containing the hours used in deriving in response.
   1. Was this information downloaded from Pillar as values or were the percentages calculated from underlying "hour" data?
   2. If the response to part (a)(1) indicates that hour data is available, please provide such information in a spreadsheet format.

b. The formula at the bottom of the page calculates the O&M percentage, for example, as O&M hours divided by the sum of O&M hours plus capital hours. Please explain how and whether this formula considers the following hours:
   1. nonproductive time (sick leave, vacation, etc.);
   2. hours billable to third parties;
   3. removal hours; and
   4. deferred hours.

c. For each of the following 2007 Budget items, please provide the O&M and capital hours (i.e., identifying indicator codes) used to derive the O&M percentages listed below, with a pinpoint reference to the forecast workpapers serving as the source of said hours:
   1. C&M, PDS: 24% O&M.
   2. Engineering, PBZ: 100%.
   3. Sys Op, PRE: 99% O&M.

d. In general terms, the 2007 budget appears to reflect higher O&M percentages, as compared to prior years. Please explain the basis for the 2007 test year increases.

HECO Response:

a.

1. The information was not downloaded from Pillar as values. The percentages were calculated from underlying hour data. The data for 2004-2006 was extracted from a DARS 3387 report. The relevant portion of that report is provided with this response as Attachment 1. Data for 2007 was derived from the file ResLev07-Rate Case-ABM.pln, a Resource Leveling Summary Report with the run date of 4/20/07. That report is provided with this response as Attachment 2.

2. The hour data is available and has been compiled in a spreadsheet that is provided with this response as Attachment 3.

b. The hours for CA-IR-104, Attachment 2 include only actual hours worked for both O&M and capital. Attachment 2 excludes hours classified by Indicator codes NC, ND, BE, NR, BI, NP, BT (vacation, billables, non-productive, removals, etc.). Only O&M and capital (NE, NS and NI) indicators were included.

c.

1. C&M PDS 115,023 (NE) 141,638 (NI)

Note: Due to a typographical error for the 2007 O&M hours on the original calculation, the ratio for PDS has changed from 24%/76% to 45%/55%.

The pinpoint references for the 115,023 hours are as follows:

CA-IR-1, Attachment AG, page 2	37 hours
CA-IR-1, Attachment AG page 6-7	605 hours
CA-IR-1, Attachment AG page 9-10	73,727 hours
CA-IR-1, Attachment AG page 13	91 hours
CA-IR-1, Attachment AG page 14	40,563 hours

2. Engr. PBZ 581 (NE) 0 (NI)

The pinpoint references for the 581 hours are as follows:

CA-IR-1, Attachment AG, page 20	16 hours
CA-IR-1, Attachment AG, page 24	48 hours
CA-IR-1, Attachment AG, page 42	9 hours
CA-IR-1, Attachment AG, page 43	508 hours

1. SysOp PRE 24,775 (NE) 364 (NI)

The pinpoint references for the 24,775 hours are as follows:

CA-IR-1, Attachment AG, page 58	9,780 & 83 hours
CA-IR-1, Attachment AG, page 59	13,036 hours
CA-IR-1, Attachment AG, page 59-60	1,876 hours

d. In general terms, the 2007 budget reflects higher O&M percentages as compared to prior

years because of a greater amount of maintenance work due to HECO's aging T&D system, growth in utility plant additions and system reliability improvements, as well as staffing increases in various departments to support this increased maintenance work and a decrease in large capital project demands versus prior years (i.e. projects in 2004 – Barbers Point Fuel Tank Farm, EMS replacement; Mokuuone Substation, North Shore Automation; in 2005 – Kuahua Substation, Waiau CT Separation, Helemano/Ewa Nui/Iwilei DG; in 2006 – Ford Island, Kuahua, Ocean Point, Kalaeloa/CEIP DG's.)

In addition to the impact of the general wage increases and the impact of the appropriate inflation adjustment, the O&M increases are addressed in HECO T-7 under the headings of Transmission Operation, Transmission Maintenance, Distribution Operation and Distribution Maintenance, with further details included in the Reasonableness of Test Year Estimate section of the testimony. In addition, HECO-WP-705 provides explanations of 2007 Test Year expense items that exceed 2005 recorded amounts by $200,000 and 10%.

Attachment 1 is voluminous and available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. An electronic version of the requested information is being provided.

CA-IR-353
DOCKET NO. 2006-0386
ATTACHMENT 2
PAGE 1 OF 5

_RA	_Ind	_LbrClass	_EE	FY07
P2V	*Supply			4,176
P2V	ND			-448
P2V	NE			-3,810
P2V	NI			-12
P2V				-94
PBA	*Supply			14,616
PBA	NC			-12,479
PBA	ND			-2,060
PBA	NE			-36
PBA	NI			-615
PBA				-574
PBE	*Supply			48,024
PBE	BD			0
PBE	BE			-257
PBE	BI			-536
PBE	NC			-35,112
PBE	ND			-5,788
PBE	NE			-408
PBE	NI			-10,985
PBE	NP			-3,016
PBE	NR			-12
PBE				-8,090
PBP	*Supply			14,616
PBP	BE			0
PBP	NC			-9,347
PBP	ND			-3,974
PBP	NE			-96
PBP	NI			-3,711
PBP	NP			-192
PBP				-2,704
PBT	*Supply			37,584
PBT	BE			-168
PBT	BI			-646
PBT	BT			-252
PBT	NC			-19,966
PBT	ND			-4,464
PBT	NE			-908
PBT	NI			-13,259
PBT	NP			-692
PBT	NR			-276
PBT	NS			0
PBT				-3,047
PBY	*Supply			45,936
PBY	BE			-888
PBY	BI			-2,134
PBY	NC			-25,071
PBY	ND			-5,936
PBY	NE			-64
PBY	NI			-11,279
PBY	NP			-6,231
PBY	NR			-48
PBY				-5,715
PBZ	*Supply			16,704

_RA	_Ind	_LbrClass	_EE	FY07
PBZ	BE			-395
PBZ	BI			-500
PBZ	NC			-16,237
PBZ	ND			-2,140
PBZ	NE			-581
PBZ	NI			0
PBZ	NP			-40
PBZ				-3,189
PDA	*Supply			12,528
PDA	NC			-11,736
PDA	ND			-1,698
PDA	NE			-28
PDA				-934
PDC	*Supply			16,704
PDC	NC			-13,223
PDC	ND			-2,500
PDC	NE			-2,008
PDC	NI			0
PDC				-1,027
PDD	NE			-37
PDD				-37
PDF	*Supply			45,936
PDF	BE			-60
PDF	NC			-4,224
PDF	ND			-6,864
PDF	NE			-35,024
PDF	NI			-7,588
PDF	NR			-216
PDF				-8,040
PDH	BE			-84
PDH	NE			-32
PDH	NI			-4,220
PDH	NR			-24
PDH				-4,360
PDJ	NE			0
PDJ	NI			0
PDJ	NR			0
PDJ				0
PDK	NE			0
PDK	NI			0
PDK				0
PDL	NE			0
PDL	NI			0
PDL				0
PDM	NC			-1,186
PDM	NE			-32
PDM	NI			-520
PDM	NR			-568
PDM				-2,306

_RA	_Ind	_LbrClass	_EE	FY07
PDP	*Supply			27,144
PDP	NC			-25,387
PDP	ND			-3,690
PDP	NE			-176
PDP	NI			-458
PDP	NR			-66
PDP				-2,633
PDS	*Supply			354,960
PDS	BE			-732
PDS	BT			-2,676
PDS	NC			-62,929
PDS	ND			-45,414
PDS	NE			-115,023
PDS	NI			-141,638
PDS	NP			-140
PDS	NR			-35,897
PDS				-49,489
PDU	BT			-312
PDU	NE			-80
PDU	NI			-1,216
PDU	NR			-756
PDU				-2,364
PDV	*Supply			2,088
PDV	ND			-232
PDV	NE			-1,909
PDV				-53
PDZ	NE			-16
PDZ				-16
PRA	*Supply			14,616
PRA	NC			-14,121
PRA	ND			-2,343
PRA	NE			-928
PRA	NS			-23
PRA				-2,799
PRC	*Supply			16,704
PRC	BE			-24
PRC	NC			-1,306
PRC	ND			-2,232
PRC	NE			-12,048
PRC	NI			-4,192
PRC	NN			-396
PRC	NR			-24
PRC				-3,518
PRD	*Supply			56,376
PRD	NC			-8,448
PRD	ND			-9,792
PRD	NE			-31,593
PRD	NI			-40
PRD	NS			-12,600
PRD				-6,097
PRE	*Supply			29,232

951

44,193

_RA	_Ind	_LbrClass	_EE	FY07
PRE	BT			-48
PRE	NC			-2,826
PRE	ND			-5,140
PRE	NE			-24,775
PRE	NI			-364
PRE				-3,921
PRI	*Supply			18,792
PRI	NC			-420
PRI	ND			-2,720
PRI	NE			-14,258
PRI	NI			-2,916
PRI	NR			-30
PRI				-1,552
PRR	*Supply			20,880
PRR	BE			-700
PRR	BI			0
PRR	NC			-2,599
PRR	ND			-2,616
PRR	NE			-10,862
PRR	NI			-3,993
PRR				110
PRS	*Supply			81,432
PRS	ND			-11,336
PRS	NE			-51,020
PRS	NI			-18,424
PRS	NR			-1,983
PRS				-1,331
PRX	*Supply			6,264
PRX	NC			-120
PRX	ND			-804
PRX	NE			-3,576
PRX	NI			-3,852
PRX				-2,088
PVA	*Supply			10,440
PVA	BE			-753
PVA	NC			-6,480
PVA	ND			-1,361
PVA	NE			-1,846
PVA				0
PVF	*Supply			52,200
PVF	BE			-68
PVF	NC			-52,355
PVF	ND			-6,908
PVF	NE			-8
PVF				-7,139
PVL	*Supply			25,056
PVL	BC			-350
PVL	BE			-390
PVL	BN			-120
PVL	NC			-7,184
PVL	ND			-3,480
PVL	NE			-14,093

_RA	_Ind	_LbrClass	_EE	FY07
PVL	NI			-1,001
PVL	NR			-132
PVL				-1,694
PVM	*Supply			58,464
PVM	NC			-55,578
PVM	ND			-8,364
PVM	NE			-2,288
PVM	NI			-36
PVM				-7,802
PVP	*Supply			31,320
PVP	BE			-4,836
PVP	ND			-3,768
PVP	NE			-23,381
PVP	NI			-1
PVP				-666
				-133,169

Hawaiian Electric Company, Inc.
2007 Test Year

O&M/CAPITAL RATIOS*

		2004				2005 RECORDED				2006				2007 BUDGET			
Dept	RA	OM	CAP	OM	CAP	OM	CAP	OM	CAP	OM	CAP	OM	CAP	OM	CAP	OM	CAP
		Hours		%		Hours		%		Hours		%				%	
C&M	PDA	2,022	4,753	30%	70%	1,563	3,681	30%	70%	2,130	5,824	27%	73%	28	-	100%	0%
C&M	PDC	928	28	97%	3%	867	11	99%	1%	750	-	100%	0%	2,008	-	100%	0%
C&M	PDD	9,364	25,132	27%	73%	4,717	5,419	47%	53%	1,204	2,468	33%	67%	37	-	100%	0%
C&M	PDF	32,606	12,734	72%	28%	35,178	7,965	82%	18%	36,249	10,004	78%	22%	35,024	7,588	82%	18%
C&M	PDH	265	9,760	3%	97%	229	3,131	7%	93%	19	1,208	2%	98%	32	4,220	1%	99% [1]
C&M	PDJ	29,810	60,801	33%	67%	29,656	54,823	35%	65%	26,491	52,759	33%	67%	-	-	#DIV/0!	#DIV/0!
C&M	PDK	16,338	24,542	40%	60%	19,348	23,977	45%	55%	16,395	25,455	39%	61%	-	-	#DIV/0!	#DIV/0!
C&M	PDL	21,643	54,194	29%	71%	32,594	44,014	43%	57%	29,527	41,245	42%	58%	-	-	#DIV/0!	#DIV/0!
C&M	PDM	189	426	31%	69%	24	427	5%	95%	-	-	#DIV/0!	#DIV/0!	32	520	6%	94% [2]
C&M	PDP	1,004	1,179	46%	54%	1,495	5,249	22%	78%	5,632	5,870	49%	51%	176	458	28%	72%
C&M	PDS	4,859	3,715	57%	43%	5,700	3,947	59%	41%	4,150	3,985	51%	49%	115,023	141,638	45%	55% [3]
C&M	PDU	24,257	33,715	42%	58%	28,719	21,557	57%	43%	28,999	23,131	56%	44%	80	1,216	6%	94%
C&M	PDV	3,626	3	100%	0%	3,707	-	100%	0%	3,662	0	100%	0%	1,909	-	100%	0%
C&M	PDZ	48	1	98%	2%	13	-	100%	0%	-	-	#DIV/0!	#DIV/0!	16	-	100%	0%
Total		146,959	230,983	39%	61%	163,810	174,201	48%	52%	155,208	171,949	47%	53%	154,365	155,640	50%	50%
Engineering	PBA	40	747	5%	95%	6	732	1%	99%	21	422	5%	95%	36	615	6%	94%
Engineering	PBE	1,169	16,901	6%	94%	1,447	15,336	9%	91%	1,210	12,211	9%	91%	408	10,985	4%	96%
Engineering	PBP	230	4,769	5%	95%	129	5,530	2%	98%	345	4,406	7%	93%	96	3,711	3%	97%
Engineering	PBT	2,513	16,658	13%	87%	2,307	14,629	14%	86%	1,853	14,980	11%	89%	908	13,259	6%	94%
Engineering	PBY	600	17,446	3%	97%	1,239	19,259	6%	94%	624	19,545	3%	97%	64	11,279	1%	99%
Engineering	PBZ	917	486	65%	35%	722	477	60%	40%	292	1,235	19%	81%	581	-	100%	0%
Total		5,469	57,007	9%	91%	5,850	55,963	9%	91%	4,345	52,799	8%	92%	2,093	39,849	5%	95%
Supp Svcs	PVA	968	0	100%	0%	872	-	100%	0%	556	-	100%	0%	1,846	-	100%	0%
Supp Svcs	PVF	60	0	100%	0%	17	-	100%	0%	-	-	#DIV/0!	#DIV/0!	8	-	100%	0%
Supp Svcs	PVL	12,846	3,941	77%	23%	11,937	5,313	69%	31%	11,240	3,486	76%	24%	14,093	1,001	93%	7%
Supp Svcs	PVM	2,884	101	97%	3%	1,129	3	100%	0%	927	77	92%	8%	2,288	36	98%	2%
Supp Svcs	PVP	13,727	3	100%	0%	16,141	-	100%	0%	21,233	-	100%	0%	23,381	1	100%	0%
Supp Svcs		30,485	4,045	88%	12%	30,096	5,316	85%	15%	33,956	3,563	91%	9%	41,616	1,038	98%	2%
Sys Op	PRA	199	0	100%	0%	81	114	42%	58%	174	49	78%	22%	951	-	100%	0%
Sys Op	PRC	10,280	4,213	71%	29%	8,284	8,055	51%	49%	8,180	7,865	51%	49%	12,048	4,192	74%	26%
Sys Op	PRD	42,747	213	100%	0%	45,516	1,437	97%	3%	41,407	1,520	96%	4%	44,193	40	100%	0%
Sys Op	PRE	13,829	2,397	85%	15%	14,650	5,079	74%	26%	18,444	3,081	86%	14%	24,775	364	99%	1%
Sys Op	PRI	9,742	4,903	67%	33%	9,021	9,117	50%	50%	10,641	6,289	63%	37%	14,258	2,916	83%	17%
Sys Op	PRR	10,654	5,410	66%	34%	9,414	6,943	58%	42%	11,258	4,962	69%	31%	10,862	3,993	73%	27%
Sys Op	PRS	42,216	20,040	68%	32%	39,772	30,489	57%	43%	45,629	23,939	66%	34%	51,020	18,424	73%	27%
Sys Op	PRX	2,146	3,658	37%	63%	1,601	4,551	26%	74%	1,053	4,996	17%	83%	3,576	3,852	48%	52%
		131,813	40,834	76%	24%	128,339	65,785	66%	34%	136,786	52,701	72%	28%	161,683	33,781	83%	17%
EDP Total		314,726	332,869	49%	51%	328,095	301,265	52%	48%	330,295	281,012	54%	46%	359,757	230,308	61%	39%

[1] This row of data was inadvertently omitted on Attachment 2 of CA-IR 104.

[2] This row of data was not included on Attachment 2 of CA-IR 104.

[3] Due to an input typo for the 2007 O&M hours on the original calculation the ratio has changed from 24%/76% to 45%/55%

CA-IR-354

Ref: HECO T-8, page 16, Response to CA-IR-115 (Uncollectible Write-offs).

At page 16, Mr. Yamamoto states, "However, in the past several months the Company has experienced higher write-off levels, similar to those experienced in 2004 (HECO-WP-805)." Please provide the following information regarding the recently experienced higher write-off levels:

a. Provide monthly gross and net write-off amounts for each month of 2004, 2005, 2006 and 2007, to date.

b. For each of the months in your response to part (a) of this information request, identify and describe any individually large (over $50,000) write-offs or recoveries.

c. Explain with specificity the steps taken by HECO to "emphasize" each of the policies listed in your response to part (b) of CA-IR-115.

d. State each reason why the recently improved net write-off performance in the years 2004 through 2006 should not be more heavily weighted, relative to the "ten year time services used to calculate 2007 uncollectibles" (T-8, page 15) in the Company's filing.

e. Provide complete copies of all studies, reports, analyses, projections, workpapers and other documents supportive of your response to part (d) of this information request.

HECO Response:

a. Please refer to CA-IR-354. Attachment 1, Page 1 for 2004-2007 Year-To-Date Gross Write-off and Net Write-off data.

b. Individually large (over $50,000 in one month) write-offs and recoveries during the period 2004 – 2007 include:

1. Recoveries

a) K mart Corp., May 2004, $52,202.95, Chapter 11 Bankruptcy payment.

b) Hawaiian Airlines, June 2005, $67,930.27, Chapter 11 Bankruptcy payment.

2. Write-off

a) Kahuku Shrimp, October 2006, $50,146.36, business closed.

b) Kahuku Hospital, March 2007, $424,663.25, Chapter 11 Bankruptcy.

c. The policies as listed in part b. of CA-IR-115 were reiterated to employees to ensure that these policies were followed.

1. Commercial: In 1998, revised procedures were implemented requiring all new commercial customers to establish credit in one of the following ways:

   a) Maximum Deposit: Pay the maximum deposit (equivalent to the sum of the highest bills for two consecutive months within a 12-month period, while the account was active and the location was occupied). The maximum deposit amount is based on the usage at the "service address". If the address has no prior usage history the maximum deposit amount is $200.00.

   b) Have an active account with good credit under the same business name.

   c) Commercial Guaranty of Payment: Have someone with locally established credit sign a Commercial Guaranty of Payment.

2. Residential Maximum Deposit: Effective February 1999, new guidelines were implemented requiring a maximum deposit (equivalent to the sum of the highest bills for two consecutive months within a 12-month period, while the account was active and the location was occupied) for the residential customers below. The maximum deposit amount is based on the usage at the "service address". If the address has no prior usage history the maximum deposit amount is $200.00.

   a) Existing residential customers who were disconnected for non-payment.

   b) Existing residential customers who are consistently delinquent within a 12-month period.

   c) New customers with no occupation.

d) New customers registering for service at a location which has one or more Allowance Provision for Uncollectible Accounts (APUAs), a closing bill equal to 3 months, or the lower sequence was disconnected for non-payment. APUAs are closed accounts greater than ninety days from closing date with a balance owing that are written-off to the Allowance Provision for Uncollectible Account and assigned to an outside agency for collection. Lower sequence is the prior customer or current customer at the new location whose service was disconnected for non-payment.

e) Former customers who had APUAs or whose credit code was 01. The credit code 01 is defined as poor pay or new customers.

d. Weighing 2004 – 2006 (with its relatively lower write-off percentage) more heavily would not be reasonable, given historical fluctuations in write-offs due to external factors and especially in light of the recently increasing trend of lost revenues to bankruptcy in 2007. It is reasonable to reflect the long run uncollectibles experience of the Company by using data from the most recent 10-year period to estimate HECO's uncollectible rate. As indicated in T-8, historically write-offs fluctuate from year to year due to a number of external factors including bankruptcy filings, the economy, and increases in fuel prices. For example, over the last ten years revenues uncollected due to bankruptcy filings have fluctuated for HECO from a high of $415,964 in 2002 to a low of $42,167 in 2006. The average annual lost revenues due to bankruptcy filings was $339,558 from 2001 – 2003 and $67,096 from 2004 – 2006. The improved net-write off performance in the years 2004 to 2006 appears to be related to the sharp decrease in revenues lost to bankruptcy in these years. Currently there has been an increase over last year in lost revenues due to bankruptcy filings; year-to-date 2007 is $458,517 compared to a low of $42,167 recorded for 2006. Using a ten year

time series is representative of a more realistic uncollectible write-off since external factors such as general economic conditions affect write-offs which historically rise and fall from year to year.

e. Please see table below for information on lost revenue to HECO due to bankruptcy.

Source Data: Bankruptcy Report.xls

Year	Dollars
1997	$ 154,443
1998	$ 301,773
1999	$ 98,291
2000	$ 131,264
2001	$ 252,664
2002	$ 415,964
2003	$ 350,046
2004	$ 81,823
2005	$ 77,298
2006	$ 42,167
2007 YTD	$ 458,517

Confidential Information Deleted
Pursuant to Amended Protective Order No. 23378

Hawaiian Electric Company, Inc.
2004 - 2007

Month	$ Gr Write-off	$ Net Write-off
Jan-04	58,256	21,114
Feb-04	74,068	36,046
Mar-04	88,109	46,968
Apr-04	69,846	34,802
May-04	73,166	-18,728
Jun-04	91,027	45,366
Jul-04	71,329	15,074
Aug-04	64,850	16,928
Sep-04	89,890	59,638
Oct-04	65,300	30,561
Nov-04	163,387	127,336
Dec-04	156,938	118,950
Jan-05	47,305	-10,038
Feb-05	57,042	23,051
Mar-05	74,410	25,056
Apr-05	58,057	7,427
May-05	91,213	50,683
Jun-05	73,220	-42,378
Jul-05	55,717	22,616
Aug-05	100,442	61,732
Sep-05	51,733	26,978
Oct-05	79,612	49,813
Nov-05	97,823	62,149
Dec-05	117,663	86,748
Jan-06	132,590	102,807
Feb-06	121,396	72,982
Mar-06	96,446	36,388
Apr-06	118,784	77,221
May-06	146,519	113,845
Jun-06	90,838	61,605
Jul-06	82,671	52,925
Aug-06	73,631	20,937
Sep-06	141,817	97,277
Oct-06	168,349	132,120
Nov-06	158,515	123,656
Dec-06	143,556	107,615
Jan-07	122,559	84,694
Feb-07	68,591	27,737
Mar-07	523,854	468,897
Apr-07	[redacted]	[redacted]
May-07	[redacted]	[redacted]

CA-IR-355

Ref: Response to CA-IR-115, Attachment 1 (Uncollectible Write-offs).

According to response to this request, 12-month cumulative net write offs have more than doubled since March 2006. Please provide the following information:

a. Explain each known reason for the deteriorating uncollectible performance on Oahu.

b. Please provide a detailed discussion of any changes in Company policies or procedures that are under consideration or have been recently implemented to address increasing uncollectibles.

c. Explain any commercial bankruptcy events that have contributed to the noted change in uncollectibles, indicating anticipated recoveries from any individual cases.

d. Update the Attachment for all available months of 2007 beyond March.

e. Explain the specific criteria used by the Company to determine when an account should be written off.

f. Provide accounts receivable aging analyses and other studies prepared to determine appropriate accruals to an uncollectible reserve account.

g. Provide detailed calculations supporting the most recent month's accrual for uncollectible accounts on the Company's books.

HECO Response:

a. The increase in uncollectibles in 2006 may be caused by customer growth and higher electric bills.

b. To address increasing uncollectibles, Customer Service Department's Customer Field Service Division implemented the following initiatives:

   1. Disconnection notices are sent to customers seven days earlier than under the previous procedure, allowing the customer more time to make a payment before a credit related field order is generated (electricity service is disconnected).

2. Credit related field orders are generated earlier by four days allowing field personnel four additional days to take collection action in the field.
3. Technology that will enable remote disconnection and reconnection of service is being researched, investigated, and piloted.
4. Manual outbound credit calls providing an additional step in the delinquent customer notification process are being piloted.
5. Also under consideration is the implementation of a credit scoring tool. This tool would provide better risk predictions up front and better enable HECO to collect the appropriate security deposit (as allowed under HECO Tariff Rule No. 5, Establishment and Re-establishment of Credit) from customers.

c. The following commercial bankruptcy events have contributed to the noted change in uncollectibles accounts over the last 12-months:

Date	Name	$	Description
Sep-06	MTS Inc. (Tower Records)	18,198	Chapter 11 Bankruptcy
Mar-07	Kahuku Hospital	424,663	Chapter 11 Bankruptcy

Recoveries, if any, are unknown at this time.

d. Please see Attachment 1 for an updated electronic spreadsheet that includes all available actual data from September 1996 to May 2007.

e. All closed accounts greater than ninety days from closing date with a balance owing are written-off to the Allowance Provision for Uncollectible Account (APUA) and are assigned to an outside agency for collection.

f. Please refer to CA-IR-681, Docket No. 04-0113, Attachment 1, Pages 1 – 2 for the methodology employed to determine the accruals to the uncollectible reserve account. There are no studies or analyses available.

g. Please see Attachment 2, pages 1-2 for detailed calculations supporting the most recent month's accrual for uncollectible accounts on the Company's books.

NET WRITE-OFFS		SALES REVENUES		
Mo/Yr	12 Months Ending	Mo/Yr	12 Months Ending	% Write-off *
Sep-96	1,351,144	May-96	727,926.8	0.18562%
Oct-96	1,385,503	Jun-96	733,692.3	0.18884%
Nov-96	1,391,768	Jul-96	741,335.9	0.18774%
Dec-96	1,391,795	Aug-96	743,307.8	0.18724%
Jan-97	1,431,064	Sep-96	746,939.3	0.19159%
Feb-97	1,334,076	Oct-96	749,951.8	0.17789%
Mar-97	1,356,690	Nov-96	755,648.7	0.17954%
Apr-97	1,382,070	Dec-96	768,788.9	0.17977%
May-97	1,369,514	Jan-97	770,894.9	0.17765%
Jun-97	1,396,488	Feb-97	775,115.9	0.18017%
Jul-97	1,259,338	Mar-97	776,385.9	0.16221%
Aug-97	1,282,069	Apr-97	786,485.5	0.16301%
Sep-97	1,353,341	May-97	787,312.7	0.17189%
Oct-97	1,384,048	Jun-97	785,934.2	0.17610%
Nov-97	1,370,725	Jul-97	783,061.5	0.17505%
Dec-97	1,459,809	Aug-97	782,455.2	0.18657%
Jan-98	1,436,960	Sep-97	784,851.1	0.18309%
Feb-98	1,433,201	Oct-97	785,636.7	0.18243%
Mar-98	1,404,239	Nov-97	781,205.1	0.17975%
Apr-98	1,311,608	Dec-97	778,240.8	0.16853%
May-98	1,263,318	Jan-98	775,810.6	0.16284%
Jun-98	1,468,636	Feb-98	771,004.0	0.19048%
Jul-98	1,401,318	Mar-98	765,741.6	0.18300%
Aug-98	1,365,270	Apr-98	756,997.4	0.18035%
Sep-98	1,293,944	May-98	749,919.1	0.17254%
Oct-98	1,266,397	Jun-98	743,326.5	0.17037%
Nov-98	1,226,766	Jul-98	737,535.1	0.16633%
Dec-98	1,111,397	Aug-98	732,908.3	0.15164%
Jan-99	1,073,698	Sep-98	724,646.9	0.14817%
Feb-99	1,063,191	Oct-98	716,083.7	0.14847%
Mar-99	1,047,338	Nov-98	714,901.6	0.14650%
Apr-99	1,028,931	Dec-98	710,814.3	0.14475%
May-99	1,037,296	Jan-99	707,274.7	0.14666%
Jun-99	780,974	Feb-99	704,539.7	0.11085%
Jul-99	777,205	Mar-99	698,193.0	0.11132%
Aug-99	754,389	Apr-99	696,160.9	0.10836%
Sep-99	742,846	May-99	698,896.6	0.10629%
Oct-99	689,311	Jun-99	700,032.0	0.09847%
Nov-99	718,268	Jul-99	701,245.6	0.10243%
Dec-99	717,975	Aug-99	704,314.0	0.10194%

NET WRITE-OFFS		SALES REVENUES		
Mo/Yr	12 Months Ending	Mo/Yr	12 Months Ending	% Write-off *
Jan-00	691,699	Sep-99	705,621.9	0.09803%
Feb-00	705,040	Oct-99	712,044.2	0.09902%
Mar-00	695,928	Nov-99	715,009.8	0.09733%
Apr-00	699,667	Dec-99	725,604.3	0.09643%
May-00	687,443	Jan-00	733,734.2	0.09369%
Jun-00	668,912	Feb-00	743,853.9	0.08993%
Jul-00	663,323	Mar-00	757,727.2	0.08754%
Aug-00	646,734	Apr-00	770,223.8	0.08397%
Sep-00	655,407	May-00	782,607.8	0.08375%
Oct-00	685,529	Jun-00	796,323.4	0.08609%
Nov-00	707,453	Jul-00	811,356.0	0.08719%
Dec-00	837,709	Aug-00	826,857.1	0.10131%
Jan-01	814,157	Sep-00	841,178.6	0.09679%
Feb-01	764,831	Oct-00	855,590.8	0.08939%
Mar-01	663,387	Nov-00	868,022.3	0.07643%
Apr-01	679,070	Dec-00	874,206.1	0.07768%
May-01	671,006	Jan-01	884,834.8	0.07583%
Jun-01	675,657	Feb-01	891,885.5	0.07576%
Jul-01	686,072	Mar-01	894,649.8	0.07669%
Aug-01	751,423	Apr-01	897,764.7	0.08370%
Sep-01	869,430	May-01	898,703.6	0.09674%
Oct-01	902,087	Jun-01	898,830.1	0.10036%
Nov-01	860,511	Jul-01	900,834.8	0.09552%
Dec-01	774,635	Aug-01	899,953.4	0.08608%
Jan-02	753,661	Sep-01	904,740.1	0.08330%
Feb-02	769,445	Oct-01	903,460.9	0.08517%
Mar-02	809,180	Nov-01	898,643.3	0.09004%
Apr-02	790,002	Dec-01	891,698.6	0.08860%
May-02	1,030,610	Jan-02	880,381.5	0.11706%
Jun-02	1,018,622	Feb-02	868,466.5	0.11729%
Jul-02	931,019	Mar-02	859,986.8	0.10826%
Aug-02	912,549	Apr-02	855,493.9	0.10667%
Sep-02	793,242	May-02	851,635.4	0.09314%
Oct-02	773,313	Jun-02	852,288.1	0.09073%
Nov-02	766,756	Jul-02	851,115.2	0.09009%
Dec-02	764,393	Aug-02	848,860.0	0.09005%
Jan-03	792,559	Sep-02	844,623.1	0.09384%
Feb-03	792,473	Oct-02	845,847.8	0.09369%
Mar-03	831,944	Nov-02	850,081.3	0.09787%
Apr-03	840,975	Dec-02	858,635.7	0.09794%
May-03	683,004	Jan-03	869,367.4	0.07856%

NET WRITE-OFFS		SALES REVENUES		
Mo/Yr	12 Months Ending	Mo/Yr	12 Months Ending	% Write-off *
Jun-03	795,584	Feb-03	882,400.9	0.09016%
Jul-03	970,816	Mar-03	899,062.1	0.10798%
Aug-03	952,196	Apr-03	911,131.8	0.10451%
Sep-03	937,554	May-03	923,370.9	0.10154%
Oct-03	958,486	Jun-03	933,521.6	0.10267%
Nov-03	951,452	Jul-03	938,160.0	0.10142%
Dec-03	975,434	Aug-03	945,952.4	0.10312%
Jan-04	955,302	Sep-03	953,462.8	0.10019%
Feb-04	962,704	Oct-03	956,538.5	0.10064%
Mar-04	974,837	Nov-03	959,694.7	0.10158%
Apr-04	965,425	Dec-03	960,784.2	0.10048%
May-04	811,993	Jan-04	963,593.2	0.08427%
Jun-04	707,004	Feb-04	968,410.5	0.07301%
Jul-04	588,208	Mar-04	969,442.2	0.06067%
Aug-04	546,681	Apr-04	971,772.5	0.05626%
Sep-04	562,260	May-04	973,013.3	0.05779%
Oct-04	492,445	Jun-04	974,892.1	0.05051%
Nov-04	567,413	Jul-04	981,537.5	0.05781%
Dec-04	534,055	Aug-04	987,643.7	0.05407%
Jan-05	502,903	Sep-04	996,558.0	0.05046%
Feb-05	489,908	Oct-04	1,009,179.8	0.04855%
Mar-05	467,996	Nov-04	1,022,596.2	0.04577%
Apr-05	440,622	Dec-04	1,036,013.4	0.04253%
May-05	510,033	Jan-05	1,049,133.2	0.04861%
Jun-05	422,289	Feb-05	1,052,081.4	0.04014%
Jul-05	429,831	Mar-05	1,053,587.6	0.04080%
Aug-05	474,635	Apr-05	1,056,634.2	0.04492%
Sep-05	441,975	May-05	1,066,815.3	0.04143%
Oct-05	461,227	Jun-05	1,082,022.6	0.04263%
Nov-05	396,040	Jul-05	1,094,459.7	0.03619%
Dec-05	363,838	Aug-05	1,115,076.4	0.03263%
Jan-06	476,683	Sep-05	1,132,603.5	0.04209%
Feb-06	526,614	Oct-05	1,152,725.6	0.04568%
Mar-06	537,946	Nov-05	1,175,402.6	0.04577%
Apr-06	607,739	Dec-05	1,194,052.4	0.05090%
May-06	670,901	Jan-06	1,212,561.8	0.05533%
Jun-06	774,884	Feb-06	1,237,755.6	0.06260%
Jul-06	805,193	Mar-06	1,262,525.3	0.06378%
Aug-06	764,398	Apr-06	1,285,917.3	0.05944%
Sep-06	834,697	May-06	1,304,153.2	0.06400%
Oct-06	917,004	Jun-06	1,321,190.5	0.06941%

Amended
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Pursuant to Protective Order No. 23378

NET WRITE-OFFS		SALES REVENUES		
Mo/Yr	12 Months Ending	Mo/Yr	12 Months Ending	% Write-off *
Nov-06	978,511	Jul-06	1,343,448.9	0.07284%
Dec-06	999,378	Aug-06	1,356,117.0	0.07369%
Jan-07	981,265	Sep-06	1,368,261.4	0.07172%
Feb-07	936,020	Oct-06	1,375,487.1	0.06805%
Mar-07	1,368,528	Nov-06	1,368,611.9	0.10000%
Apr-07		Dec-06		
May-07		Jan-07		
Sep '96 - May '07				

Confidential Information Deleted
Pursuant to Amended
Protective Order No. 23378

HECO
Computation of bad debt write off %
After 1990 adjustments

	(B)	(D)		(G)	(I)	(K)
	Net Write-Offs			Billed Revenues		(D/I)/1000
	Current Month	Cumulative 12 Months		Current Month	Cumulative 12 Months	% Write-off col D/col I
12/05	86,748	363,838	8/05	110,330.5	1,115,076.4	0.00033
1/06	102,807	476,683	9/05	111,474.1	1,132,603.5	0.00042
2/06	72,982	526,614	10/05	114,821.8	1,152,725.6	0.00046
3/06	36,388	537,946	11/05	116,384.1	1,175,402.6	0.00046
4/06	77,221	607,739	12/05	110,045.6	1,194,052.4	0.00051
5/06	113,845	670,901	1/06	111,654.0	1,212,561.8	0.00055
6/06	61,605	774,884	2/06	107,027.0	1,237,755.6	0.00063
7/06	52,925	805,193	3/06	105,581.8	1,262,525.3	0.00064
8/06	20,937	764,398	4/06	107,205.5	1,285,917.3	0.00059
9/06	97,277	834,697	5/06	109,051.4	1,304,153.2	0.00064
10/06	132,120	917,004	6/06	117,696.0	1,321,190.5	0.00069
11/06	123,656	978,511	7/06	122,177.1	1,343,448.9	0.00073
12/06	107,615	999,378	8/06	122,998.6	1,356,117.0	0.00074
1/07	84,694	981,265	9/06	123,618.5	1,368,261.4	0.00072
2/07	27,737	936,020	10/06	122,047.5	1,375,487.1	0.00068
3/07	468,896	1,368,528	11/06	109,508.9	1,368,611.9	0.00100
4/07	[redacted]	[redacted]	12/06	[redacted]	[redacted]	[redacted]
5/07	[redacted]	[redacted]	**1/07**	[redacted]	[redacted]	[redacted]

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Pursuant to Amended
Protective Order No. 23378

		HECO				
		Accrual for Uncollectible Accounts & Deferred Taxes				
		2007				
DR PCD 618 OAH NE NPCZZZZZ 900						
CR 14401000						
	(B)	**(C)**	**(D)**	**(E)**	**(F)**	**(G)**
			(B)*(C)		Book Bal	(E)-(F)
	(see R55)			Allowance	Before Adjust	Bad Debt
	Billed Electric	(1)	Theoretical	Should Be 4	(Intermediate	Expense
	Revenues	Ratio	Provision	Mos Reserve	a/c 144010)	For Month
		10/06	84,212.74			
		11/06	79,941.50			
		12/06	75,064.53			
Jan	105,414,631.81	0.00072	75,898.53	702,117.30	620,640.88	81,476.42
Feb	97,089,756.90	0.00068	66,021.03	683,925.59	674,380.10	9,545.49
Mar	98,275,171.12	0.00100	98,275.17	315,259.26	215,029.30	100,229.96
Apr						
May						

CA-IR-356

Ref: Response to CA-IR-3, HECO T-8, Attachment 1 (Staffing Adjustments).

Please provide comparable actual data for all available months to replace the estimated information set forth in calculations supporting the Company's proposed budget adjustment, indicating actual amounts spent on temporary personnel and actual positions vacant by month.

HECO Response:

Please refer to the response to CA-IR-253.

CA-IR-357 **Ref: HECO-916 (DSM Program Expense).**

Please provide an update of all information on HECO-916, inserting a column containing actual 2006 information and another column with actual 5 months ending May 31, 2007 data, explaining any significant variances in such additional data relative to test year proposed levels.

HECO Response:

See the page 4 for workpaper with additional columns. For a May year-to-date comparison, the YTD test year estimate presented in this IR response is a simple proration of 5/12ths the test year estimate. The test year estimates have been revised to incorporate the changes identified in HECO's response to CA-IR-122. Both the test year estimates and actual expenses include expense elements 406, 422, and 423. These expense elements are subtracted from the test year Customer Service expense estimates through the GL code and transferred into the appropriate NARUC account. (See HECO's response to CA-IR-360 for the impact on HECO's test year DSM expense and Account 910 estimates of the revisions identified in the response to CA-IR-122.)

As shown in the attached workpaper, the significant variances are in the CICR, CIDLC, and RDLC Programs.

CICR Program

As indicated in its response to CA-IR-122, HECO proposes to include in base rates the labor expenses of a C&I Engineer who is currently classified as incremental. The test year expense estimate for the CICR Program in the attached workpaper has been increased from the expense filed in direct testimony (T-9) to reflect HECO's proposal. However, until such time as the Commission issues a Decision and Order approving the recovery of these additional base labor expenses in base rates, HECO will continue to recover the labor expenses for the C&I

Engineer through the IRP Clause. Therefore, the prorated YTD revised test year estimate includes the additional labor expense of a C&I Engineer, but YTD actual expenses do not because the labor expenses associated with that position are currently considered incremental and recovered through the IRP Clause.

CIDLC Program

The prorated YTD test year labor estimate for the CIDLC Program is greater than the YTD actual expense because the test year CIDLC Program expenses assume that the program modifications filed with the Commission on December 29, 2006 are in effect since January 2007. As indicated in HECO's response to CA-IR-265, part a., additional base labor was expected to be necessary to respond to the proposed addition of two new CIDLC program elements (the Voluntary Load Control and Small Business Direct Load Control program elements). However, as of June 1, 2007, those program modifications have not yet been approved by the Commission; therefore, the additional labor expenses have not been incurred. HECO expects Commission approval of the proposed CIDLC Program modifications in 2007.

The delay in Commission approval of the CIDLC Program modifications described above is also the main reason for the CIDLC Program prorated test year non-labor estimate being greater than YTD actuals. As indicated in HECO's responses to CA-IR-2 (HECO T-9, pages 5 and 6 of 11), CA-IR-3 (HECO T-9, page 1 of 1), and CA-IR-122 part a., additional non-labor expenses associated with the implementation of the two new CIDLC Program elements were expected to be incurred. See HECO's response to CA-IR-358 for more detail regarding the difference between prorated YTD test year and YTD actual non-labor expenses for the CIDLC Program.

RDLC Program

The prorated YTD test year labor estimate is greater than the YTD actual labor expense because the RDLC program manager was assigned to develop and setup the implementation of the Solar Saver Pilot Program. This meant that he had less time to devote to the RDLC Program.

The prorated YTD test year non-labor estimate is greater than the YTD actual non-labor expense primarily because of lower advertising costs than projected. Please see HECO's response to CA-IR-359.

HECO-916 (Revised 6/25/07)

Hawaiian Electric Company, Inc.
Account 910 -- Customer Assistance Expense
Test Year DSM Program Expense
Variance with Actual 2005
($1,000s)

Line		2005	2006	2007 TY*	TY - 2005 Difference	5/12 x 2007 TY	Actual YTD 5/31/2007	TY Less Actual
1	DSM Program Labor Costs							
2	CIEE	82	92	96	14	40	35	5
3	CINC	44	55	60	16	25	22	3
4	CICR	42	49	162	120	68	20	48
5	REWH	51	46	49	-2	20	12	8
6	RNC	19	27	29	10	12	8	4
7	ESH	0	16	14	14	6	14	-8
8	RLI	0	0	14	14	6	3	3
9	CIDLC	164	225	308	144	128	73	55
10	RDLC	67	35	97	30	40	8	32
11	Total Program Costs	469	545	829	360	345	195	150
12	DSM Program Non-Labor Costs							
13	CIEE	22	51	50	28	21	18	3
14	CINC	16	31	31	15	13	12	1
15	CICR	16	26	83	67	35	11	24
16	REWH	18	21	24	6	10	6	4
17	RNC	7	13	15	8	6	4	2
18	ESH	0	8	7	7	3	7	-4
19	RLI	0	0	7	7	3	1	2
20	CIDLC	83	163	851	768	355	103	252
21	RDLC	173	312	575	402	240	67	173
22	Total Program Costs	335	625	1,643	1,308	685	229	456
23	Total DSM Program Costs	804	1,170	2,472	1,668	1,030	424	606

* Test Year estimates revised per CA-IR-122, page 6. See also HECO's response to CA-IR-357, 358, 359, and 360.

CA-IR-358 **Ref: HECO-917 (CIDLC Base Non-labor Program Expenses).**

Please provide an update of all information on HECO-917, inserting a column containing actual 2006 information and another column with actual 5 months ending May 31, 2007 data, explaining any significant variances in such additional data relative to test year proposed levels.

HECO Response:

See page 5 for workpaper with additional columns. For a May year-to-date comparison, the YTD test year estimate presented in this IR response is a simple proration of 5/12ths the test year estimate. The test year estimates have been revised to incorporate the changes identified in HECO's response to CA-IR-122. (See HECO's response to CA-IR-360 for the impact on HECO's test year DSM expense and Account 910 estimates of the revisions identified in the response to CA-IR-122.)

As shown in the attached workpaper, the significant variances are in Non-labor OHs, evaluation, advertising, and training and miscellaneous. It is important to note that the increase in CIDLC Program expenses are mainly due to the fact that two new program elements and modifications to the existing CIDLC program have been submitted for Commission approval on Dec. 29, 2006 (Docket No. 03-0415), and that these new program elements and the required additional resources to implement them are included in the 2007 TY Budget. These new program elements include modifications to the existing CIDLC program, creation of a Voluntary Load Control Program, and creation of a Small Business Direct Load Control Program. However, as these requested program elements have not yet been approved by the Commission, expenses for these expected resources have not yet accrued as these new program elements are not currently being implemented. As a result, the prorated YTD test year estimate is greater than YTD actual expense. Pending Commission approval of Docket No. 03-0415, expenses for the

below-mentioned areas will begin to accrue as the new program elements are implemented. The new program elements are expected to increase the overall number of customer participants, but also require increased resources to effectively administer, market, evaluate, and implement such programs to a much larger customer base than the existing CIDLC program.

Non-Labor Overheads ("OH")

The prorated YTD test year non-labor OH estimate for the CIDLC Program is greater than the YTD actuals because the test year CIDLC Program expenses assume that the program modifications filed with the Commission on December 29, 2006 are in effect since January 2007. As indicated in HECO's response to CA-IR-265, part a., additional base labor is expected to be necessary to respond to the proposed addition of two new CIDLC program elements (the Voluntary Load Control and Small Business Direct Load Control program elements) and the revisions to the existing CIDLC program. However, as of June 1, 2007, those program modifications have not yet been approved by the Commission; therefore, the additional labor and non-labor overhead expenses have not been incurred. HECO expects Commission approval of the proposed CIDLC Program modifications in 2007.

Evaluation

The test year estimate of evaluation expense was based on a detailed evaluation to be conducted with on-site metering for the modified and expanded CIDLC Program which was assumed to start in January 2007. As indicated above, however, the modifications have not yet been approved by the Commission, and as such, the prorated YTD test year estimate is greater than YTD actual expense. To date, HECO has been evaluating and verifying the CIDLC program, and the level of demand reduction, through real-time activation of the system using the program's load control software, Yukon™, and through available metering data.

Advertising

The prorated YTD test year estimate for CIDLC Program advertising expense is greater than YTD actual expense because the test year estimate projected a substantial level of advertising expense to make commercial customers aware of the two new proposed program elements, the Voluntary Load Control program element and the Small Business Direct Load Control program element. As of June 1, 2007, the Commission had not yet approved the proposed program elements. Thus, the expenses have not been incurred.

The two program elements are designed to increase the participation of commercial customers in the CIDLC Program. However, in order to reach new market segments and maintain participants' involvement in the program once they have enrolled, the test year program budget projects mass media advertising efforts. In particular, the advertising and marketing effort for the Small Business Direct Load Control program element may be similar to the advertising and marketing efforts for the Residential Direct Load Control Program, which is also based on the installation and activation of load control switches under utility control. Such marketing efforts will focus on reaching a wide-spread audience through the use of extensive advertising efforts, which may include television, radio, and print media outlets.

Training & Miscellaneous

The prorated YTD test year estimate for training and miscellaneous expenses is greater than the YTD actual expense primarily because the test year expenses include the costs for implementing and administering the two new program elements. The new program elements, primarily the Small Business Direct Load Control Program, and the modifications to the existing CIDLC program are expected to require substantial increases in administrative resources to effectively market and enroll small to medium size business customers. However, since the

program elements have not yet been approved by the Commission, those costs, and other costs associated with the proposed CIDLC Program modifications, have not been incurred.

HECO-917 (Revised 6/25/07)

Hawaiian Electric Company, Inc.

2005 ACTUALS VS. 2007 TEST YEAR BUDGET
COMMERCIAL & INDUSTRIAL
DIRECT LOAD CONTROL PROGRAM
BASE NON-LABOR PROGRAM EXPENSES
($000)

	2005 Base Actuals	2006 Base Actuals	2007 Test Year Base*	Variance Between Test Year and 2005	5/12 x 2007 TY	Actual YTD 5/31/07	TY Less Actual
NON-LABOR OHs	70	117	155	85	65	41	24
TRACKING	0	25	22	22	9	3	6
EVALUATION	0	0	90	90	38	0	38
ADVERTISING	0	3	350	350	146	55	91
TRAINING & MISC.	13	17	234	221	98	6	92
TOTAL	83	162	851	768	355	105	250

* Test year estimates revised per response to CA-IR-122, page 6.

CA-IR-359 **Ref: HECO-918 (RDLC Base Non-labor Program Expenses).**

Please provide an update of all information on HECO-918, inserting a column containing actual 2006 information and another column with actual 5 months ending May 31, 2007 data, explaining any significant variances in such additional data relative to test year proposed levels.

HECO Response:

See the attached workpaper with additional columns. For a May year-to-date comparison, the YTD test year estimate presented in this IR response is a simple proration of 5/12ths the test year estimate. As shown in the attached workpaper, the significant variances are in non-labor overheads, evaluation, and advertising.

Non-Labor Overhead ("OH")

The prorated YTD test year estimate of non-labor OH expense is greater than the YTD actual expense because the RDLC program manager spent a greater portion of his time than expected on developing and setting up the implementation of the SolarSaver Pilot Program. Once the SolarSaver Pilot Program is running, the RDLC program manager will be able to re-focus back in the RDLC program. In addition, the load management engineer, who shares time between the RDLC and CIDLC Program, has been spending most of his time to date on the CIDLC Program.

Evaluation

To date, HECO has not yet begun evaluation efforts at the level of detail included in the test year estimate. While this evaluation is expected to be performed by the end of the year, in the meantime, HECO has been verifying the functionality of the RDLC Program and the level of demand reduction through real-time activation of the system through its Yukon™ software.

Advertising

The prorated YTD test year advertising expense for the RDLC program is greater than the YTD actual expense because 1) spending on advertising is not incurred evenly throughout the year, and 2) the response from customers continues to be strong to date; therefore, more aggressive advertising efforts are not yet necessary. However, the advertising expense to continue the current levels of customer acceptance, and to overcome the effects of increased measure penetration, is expected to more closely attain the test year levels by year end.

The test year advertising expense estimate was predicated upon approaching market saturation with the program sometime this year. HECO's marketing efforts in this program have been aggressive, and to date, HECO has not yet had to use the more aggressive levels of advertising/marketing that would be necessary to overcome high levels of market penetration. Thus far, HECO has effectively used direct mail as the primary marketing tool for this program. However, HECO is in its third round of direct mail across the island of Oahu. At some point in time market saturation will be approached and additional expenses to market the program in order to add to program participation will be necessary.

Hawaiian Electric Company, Inc.

2005 ACTUALS VS. 2007 TEST YEAR BUDGET
RESIDENTIAL DIRECT LOAD CONTROL PROGRAM
BASE NON-LABOR PROGRAM EXPENSES
($000)

	2005 Base Actuals	2006 Base Actuals	2007 Test Year Base	Variance Between Test Year and 2005	5/12 x 2007 TY	Actual YTD 5/31/07	TY Less Actual
NON-LABOR OHs	13	21	49	36	20	4	16
TRACKING	0	4	22	22	9	1	8
EVALUATION	0	0	82	82	34	0	34
ADVERTISING	157	276	415	258	173	58	115
TRAINING & MISC.	3	10	7	4	3	3	0
TOTAL	173	311	575	402	240	66	174