CA-IR-288

Ref: HECO T-7 Update, page 21; Attachment 5 (Greenhouse Gases Expense).

a. Provide an itemization of actual HECO expenses incurred to date, by payee, for compliance with Hawaii's Global Warming Solutions Act and explain the Company's specific strategy for compliance with the same.

b. Provide supporting documentation for the proposed level of test year expense for the cost of membership to a tracking organization, including any proposals or contracts associated with HECO commitments to same.

HECO Response:

a. HECO has been proceeding on several fronts for compliance with Hawaii's Global Warming Solutions Act (i.e., "Act 234"), including but not limited to: (1) Assessment and scenario analysis by HECO's Environmental Department; (2) Greenhouse gas emissions research by HECO's Public Affairs area, and (3) Miscellaneous activities including scenario analysis as part of HECO's Integrated Resource Plan filed with the Commission on September 30, 2008. Expenses for the first two categories have been tracked and are described below. The miscellaneous expenses for the third category have not been accounted in a manner that permits allocation that directly supports HECO's compliance efforts for Act 234. To date the efforts have focused entirely on HECO and there have been no allocation of any of the costs to HELCO or MECO.

HECO's Environmental Department has incurred the following non-labor outside service expenses associated with compliance with Act 234:

	Contract/PO #	Description	2007	2008	Total
Ashworth Leininger Group	PJB07029	Greenhouse Gas Reduction Initiatives	$ -	$ 12,854	$ 12,854
Ashworth Leininger Group	V21723	Ashworth Leininger Group - Greenhouse Gas Reduction Assistance		$ 11,505	$ 11,505
Jim Clary & Associates	PJB07002	Voluntary GHG Reporting for 2007	$ 18,597	$ -	$ 18,597
Jim Clary & Associates	PJB08010	Support for Green House Gases	$ -	$ 8,753	$ 8,753
		Total	$ 18,597	$ 33,113	$ 51,710

The role of the Environmental Department is to develop a complete and thorough understanding of HECO's historic and current greenhouse gas ("GHG") emissions so HECO may make informed decisions regarding the development of compliance mechanisms that meet greenhouse gas regulation reduction targets. This work includes the investigation of reporting and certification options.

The HECO Environmental Department also continues to work with EPRI and their development of "*PRISM,*" a computer model which will simulate and compile greenhouse gas emissions for the HECO generating system. *PRISM* may be utilized to evaluate alternative scenarios including: "Business as Usual" and those incorporating different GHG abatement options.

HECO expects future state law and/or federal laws will require routine compilation of GHG emission inventories that are certified and performed by an independent third party. Additionally, various outside groups have requested greenhouse gas emission information from HECO.

As filed with the Commission on January 31, 2008 in the HECO 2007 Rate Case (Docket No. 2006-0386), HECO Public Affairs also expended $200,000 GHG emissions research in 2007. These funds were paid to the University of Hawaii ("UH") in support of the work by the UH GHG Emissions Reduction Task Force.

b. HECO has investigated GHG reporting costs associated with The Climate Registry ("TCR"). As can be seen in Attachment 1 to this response, the TCR cost associated with reporting is $10,000 per year. TCR requires that GHG reports be verified by an American National Standards Institute accredited independent third party. HECO has obtained budgetary quotes from three qualified agencies. As can be seen in Attachment 1, the cost estimates associated with independent verification spanned over a significant range. HECO also obtained

budgetary information on the cost associated with contractor assistance with performing the inventory. Complete cost estimates for reporting GHG emission to TCR ranged from $45,000 to $165,000. The below table represents the cost estimates associated with reporting to TCR. TCR also has a one time $5,000 fee associated with historical reporting. This $5,000 one time fee is not included in HECO's 2009 test year estimate.

	Lowest Cost	Highest Cost
The Climate Registry Fee	$10,000	$10,000
Consultant Fee	$10,000	$10,000
3rd Party Verification	$25,000[1]	$145,000
Total	$45,000	$165,000

[1]Lowest cost estimate was between $20K-$30K and did not include travel and related expenses. Amount shown is based on $20K with 5K for travel and related expenses. High cost estimate included travel and related expenses.

Given the range in cost estimates, HECO discussed GHG reporting cost with TCR and determined that $75,000 was a realistic estimate for a company of HECO's size. This total cost was allocated to HECO, HELCO, and MECO on the basis of 60%, 20%, and 20%, respectively. The HECO allocation is $45,000, as shown in HECO's Rate Case Update, HECO T-7, Attachment 5.

The information in Attachment 1, pages 2-6, is confidential and is provided subject to the Protective Order filed on November 21, 2008 in this proceeding. The information is confidential and proprietary because disclosure of the cost estimate information could disadvantage HECO in its future negotiations with contractors/vendors who will be submitting bids to perform the work on various components of the project (which could result in higher prices and higher projected costs to be recovered through HECO's ratepayers).

The Climate Registry

*Annual Fee Structure

Commercial and Industrial Organizations with Revenues:

Over $2 billion.....$10,000
From $500 million - $2 billion..... $6,000
From $100 million - $500 million $3,500
From $20 million - $100 million $1,700
Under $20 million.....$600

Non-profit, Government and Academic Organizations with Budgets:

Over $2 billion..... $5,000
From $500 million - $2 billion..... $3,500
From $100 million - $500 million $2,500
From $20 million - $100 million $850
Under $20 million $450

****Reporting Historic Data:** Reporters may choose any year to begin reporting historical data, as long as they report consecutive years of data up through the year in which they join the Registry

- **To report 1-3 years of historical data**: One time fee of 25 percent of a Reporter's annual reporting fee
- **To report 4 or more years of historical data**: One time fee of 50 percent of a Reporter's annual reporting fee

Please provide a 100-word (or less) description of your organization:

Return to:
The Climate Registry, P.O. Box 712545, Los Angeles, CA 90071 or Fax to 213-623-6716

Decaprio, Michael

Subject: FW: GHG Emission Verification Conf. Call Information

From: [redacted]
Sent: Wednesday, July 16, 2008 1:12 PM
To: Decaprio, Michael; [redacted]
Subject: RE: GHG Emission Verification Conf. Call Information

Mike,

Thanks again for taking the time to talk this morning.

Regarding your TCR budget process, here's what we have for you:

- Following [redacted] process, as outlined in the call and in [redacted] previous e-mail.
- Estimated sample audit of two power plant sites per Island (for budget purposes)
- Sample audit of reporting process prior to field verification
- On-site evaluation time ranging from 2 weeks to 3 weeks depending on scheduling and site availability.
- Total evaluation period ranging from 6 weeks to 8 weeks. Shorter periods can be accommodated earlier in the year, with longer periods needed in late summer and the 3rd quarter as [redacted] volume increases in advance of annual reporting deadlines for all TCR members.

Budget cost (including travel and related expenses): [redacted] annually.

I hope this helps with your process. If you have any questions or need further clarification, just let me know.

Talk to you soon. PZ

Decaprio, Michael

From: [redacted]
Sent: Monday, July 21, 2008 10:23 AM
To: Decaprio, Michael
Cc: [redacted]
Subject: Requested Budgetary Information for HECO

Follow Up Flag: Follow up
Flag Status: Yellow

Dear Mr. DeCaprio:

[redacted] is pleased to provide the requested budgetary information related to [redacted]n of HECO's GHG emission inventories and [redacted]ed "rough" estimates for labor and expenses separately. In lieu of a range, [redacted] has opted to state the provided estimate may vary +/- 20%, depending upon m[redacted]s (timing of work, starting year, future developments with ANSI/The Climate Registry, labor rate adjustments, etc.). Please realize that savings may be realized in the following years of a multi-year services arrangement, as the initial year is typically more costly (assuming all else [e.g. sources] remain the same); the Climate Registry actually provides some estimates of what such savings may be.

The following labor amount is based on the verification of a single year of data (e.g. Reporting Year 2007) for the first/initial reporting year, and consists of the verification of GHG emissions for HECO and its subidiaries (consisting of the sources described in your e-mail of July 15, 2009 and as discussed in our phone conversation of the same day:

Labor: [redacted]
Expenses: [redacted] travel/expenses for approx. 3 person-weeks)
TOTAL [redacted]

The Labor Value was based on the following tasks:

Task 1 [redacted]ormance with TCR Requirements
[redacted] Conducts Case/Reporter-Specific Evalution of Conflict of Interest and Prepares [redacted]ion
[redacted] Finalizes Contract with Reporter
[redacted] Notifies TCR and Accrediting Body of Intended Verification (Allows for Accredit[redacted] accompany, if needed)
Task 2 [redacted] Conducts Core Verification Activities
[redacted]letion of Emissions Report
Perform Risk Assessment
Select a Sample
Verify Emissions Estimate (travel/expenses for 3 person-weeks) Task 3 Prepare Verification Report Task 4 Prepare Verification Statement

As stated during our phone conversations, we would estimate that the work could be completed approximately 6-9 weeks after a fully-executed contract is obtai[redacted], the aforementioned values are estimates and are subject to change. Likewise, [redacted] is a ANSI Pilot Program Participant and is currently in pursuit of accreditatio[redacted] Verfication Body.

Please call with any question or comments on the content of this e-mail or in your [redacted]hether or not to join The Climate Registry. Thank you for your interest in [redacted] GHG services and thanks for your time!

Sincerely,

[redacted]as Team Leader

Warning: Information provided via electronic media is not guaranteed against defects including translation and transmission errors.

If the reader is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this information in error, please notify the sender immediately.

Decaprio, Michael

From: [redacted]
Sent: Wednesday, August 06, 2008 3:27 AM
To: Decaprio, Michael
Subject: RE: Request for GHG Emission Verification Information
Follow Up Flag: Follow up
Flag Status: Yellow

Michael,

I am sorry that it has taken me a while to get back to you regarding this inquiry. We have been busy and juggling summer vacations at the same time.

As a way of introduction, our company – [redacted] – has been conducting verifications for the California Climate Action Registry for the last five years, and we have been the verifier of choice for most of the investor-owned and municipal utilities participating in that program. Our clients include Southern California Edison, PG&E, Los Angeles Dept of Water and Power, PacifiCorp, Salt River Project, Sierra Pacific Power, and Seattle City Light. We have verified more than 300 million metric tons of emissions associated with these utility operations over the last four years.

We are also participating in the ANSI Pilot Program to become accredited for the TCR program (ongoing through December) and we have also conducted verifications for the 1605(b) program for a large U.S. utility that chose to conduct third party verification on a voluntary basis.

In response to your questions, I would say that a first time verification would take on the order of three months from start to finish – allowing for time upfront to establish a contract, clear Conflict of Interest reviews and to develop a verification plan, and time at the end for issuing the Verification Opinion and closing the process in the Registry database. The cost estimate is a little more difficult, especially of your reporting emissions for all islands, as we would need to conduct a representative range of site visits and travel costs would be a factor. Based on previous experience, I would say the verification of one year of data for either program would cost on the order of [redacted] plus travel expenses for one person from California. If you would like a more detailed cost estimate, please let me know. We would need to know a little more about your facilities and emission sources to provide a more accurate estimate.

Thank you for contacting us.

Best regards.

[redacted]

[redacted]

Decaprio, Michael

From:	[redacted]
Sent:	Friday, June 13, 2008 9:47 AM
To:	Decaprio, Michael
Cc:	[redacted]
Subject:	Green House Gases Cost Estimates
Follow Up Flag:	Follow up
Flag Status:	Yellow

Mike – Per your request, we have prepared the following estimates to assist your budgeting.

- Complete the EIA-1605(b) reporting (no registration) – The majority of this work has been completed. The only outstanding items are completing the electronic submittal and final QA/QC of the inputs and calculations.
  - Est. cost - [redacted]

- Complete and register under the EIA-1605(b) program – Registering requires a based year no earlier than 2002. This greatly reduces the emission reductions from programs implemented before 2002 (i.e.; Puna Geothermal Venture and several wind and hydro projects). Registering will also require estimating emissions from mobile sources and SF6 emissions from transformers.
  - Est. cost - [redacted] ([redacted] for completing and submitting report + [redacted] for estimating emissions from mobile sources and any SF6 emissions from transformers.)

- The Climate Registry – At this time the climate registry only accepts GHG emissions and will require 3rd party verification. This will also require estimating emissions from mobile sources and SF6 emissions from transformers.
  - Est. Cost to prepared and submit EI – [redacted] ([redacted] for completing and submitting report + [redacted] for estimating emissions from transportation and any SF6 emissions from transformers.)
  - Additional non-JCA Cost
    1. The Climate Registry annual fee - [redacted] per yr
    2. The Climate Registry fee for reporting historical data – onetime fee of [redacted]
    3. 3rd part verification – HECO will be required to hire an approved consultant for this task. We don't have a good idea of this cost.

Please feel free to schedule a meeting next week to discuss. I will be in Hawaii & we can patch [redacted] in via phone.

CA-IR-289

Ref: HECO T-7 Update, Attachment 6, page 2 (PIU Outside Service Increase).

Please provide a detailed itemization of the revised $125,490 and $292,810 of Outside Service test year projected costs for RA= PIC and RA=PIU, respectively, with complete copies of all proposals, contracts, workpapers and other documents associated with the requested itemization and your response.

HECO Response:

The 2009 test year estimate of non-labor expenses in direct testimony for the Power Purchase Division (RA: PIC) was $281,150. Please refer to HECO T-7 response to CA-IR-2, Attachment 3, page 1 and Attachment 12, pages 1 and 5; HECO T-7 Rate Case Update Attachment 6, page 2.

In the months following the preparation of the test year estimates in direct testimony, it became apparent that the workload of the Power Purchase Division would be increasing significantly. As a result, the Power Supply Services Department created a new division, Renewable Energy Power Purchase (RA: PIU), to manage the increasing number of renewable energy power purchase negotiations. Please refer to HECO T-7 Rate Case Update, pages, 22-26. The pace of these negotiations has increased as a result of the HCEI Agreement which accelerated deadlines and project milestones for many of the renewable energy projects proposed by independent power producers ("IPP"). In addition, the HCEI Agreement calls for renegotiation of existing IPP contracts that are based on the avoided cost of fossil fuel.

In the HECO T-7 Rate Case Update, the expense for outside services was increased by $140,400 to $418,300, and divided between RAs: PIC and PIU on a 30%/70% basis, respectively. Thus, the updated Other Production Operations non-labor expense for RA: PIC is $128,740, and consists of $125,490 for outside services, $1,500 for materials and supplies, and

$1,750 for travel. The updated Other Production Operations non-labor expense for RA: PIU is $296,110, and consists of $292,810 for outside services, $1,500 for materials and supplies, and $1,800 for travel. The total Other Production Operations non-labor expense for RAs: PIC and PIU is $424,850 (i.e., $128,740 + $296,110). Please refer to HECO T-7 Rate Case Update, pages 24-25, and Attachment 6.

The outside services expense estimate is primarily for outside attorneys' fees supporting power purchase contract negotiations, Commission approval of those contracts, and contract administration. HECO forecasts the need for outside legal services for the following projects: 1) three projects grandfathered from competitive bidding as identified in the HCEI Agreement, i.e. Honua Power, Kahuku Wind Power, and Sea Solar Power; 2) a modification of the H-POWER contract consistent with the plans of the City and County of Honolulu to expand the facility, which is also identified in the HCEI Agreement; 3) an amendment to the AES-Hawaii contract to increase the committed capacity; 4) an extension of the Kalaeloa contract[1]; and 5) an amendment of the Chevron contract. Based on the current outlook, HECO estimates that the Power Purchase Division and the Renewable Energy Power Purchase Division will incur the following expenses for outside legal services in 2009:

- Kahuku Wind Power: $70,000
- Honua Power: $70,000
- C&C H-POWER 3rd Boiler: $84,000
- Sea Solar Power: $75,000
- AES Additional Capacity: $50,000 - $75,000

[1] The Kalaeloa PPA provides that negotiations to extend the contract may begin seven years before the termination of the contract in 2016.

- Kalaeloa PPA Extension: $100,000 ($300,000 over three years)
- Chevron PPA Amendment: $25,000

The assumptions for these estimates are discussed below.

Kahuku Wind Power. From the inception of this project in 2007 through December 2008, HECO has incurred outside legal expenses of approximately $101,400 in connection with negotiating the PPA and the confidential Term Sheet. The confidential Term Sheet was filed with the Commission on September 2, 2008. The parties are continuing to negotiate and revise the PPA which includes lengthy attachments on technical matters. There are still complex matters to be resolved in 2009 with respect to the interconnection requirements study (the first of its kind with a battery energy storage system) and those results will have to be incorporated into the PPA. In addition, there are expected to be new issues arising out of the changes in the financing markets due to the deterioration of the economy. Also, the PPA approval process with the new Model Renewable Energy PPA provisions and fixed pricing will take significant input from the outside attorneys. For the first two months of 2009, HECO has incurred expenses for outside legal services in the approximate amount of $18,400. HECO estimates that, for the remainder of 2009, additional expenses for outside legal services will total approximately $50,000 for a 2009 total of approximately $68,000 to $70,000.

Honua Power. Through 2008, HECO has incurred $74,000 for outside legal services for this project. A confidential Term Sheet for this project was submitted to the Commission on September 2, 2008. HECO estimates that the work to conclude negotiations and obtain approval of the PPA is approximately 50% completed. Therefore, HECO estimates approximately $70,000 - $75,000 of additional expenses for outside legal services in 2009.

H-POWER 3rd Boiler. HECO anticipates that outside legal services will be required for a modification of the H-POWER contract because the City and County of Honolulu plans to expand the facility. HECO estimates that outside legal services will be needed over a two-year period to complete this effort, and the level of expense will be comparable to the expenses for outside legal services involved in the AES PPA Amendment No. 1, which totaled $168,000 over two years. Accordingly, HECO estimates spending approximately $84,000 in 2009 for this project.

Sea Solar Power. The Sea Solar Power project involves a technology not currently in commercial operation. HECO is negotiating a two-phase contract for an ocean thermal energy conversion project, with the first phase being a proof of concept, as-available energy phase, and the second phase being a scheduled energy phase with varying levels of output due to the seasonality of surface water temperatures. Because of the two-phase approach, it is anticipated that the drafting, negotiation and approval of the contract will be complex. Through the end of 2008, HECO has incurred expenses approximately $16,000 for outside legal services.
A confidential Term Sheet for this project was submitted to the Commission on September 2, 2008. Work on drafting and negotiating the PPA is proceeding. Because of the level of complexity that will be involved in structuring appropriate contractual provisions for each of the two phases and obtaining approval of the contract, HECO anticipates that the effort and expense for outside legal services will equal or exceed the expense estimated for outside legal services for the Kahuku Wind Power project in 2009. Therefore, HECO estimates an expense of $75,000 for outside legal services for the Sea Solar Power project in 2009.

AES Additional Capacity. HECO has begun the process examining requirements for and consequences of an amendment to the AES-Hawaii contract to increase the committed capacity

of the AES facility. Through the end of 2008, HECO has incurred expenses of approximately $11,000 for outside legal services. Because the bulk of the effort for this project will take place during the remainder of 2009, HECO estimates that the expenses for outside legal services to draft, negotiate and obtain approval of the amendment will be approximately $50,000 - $75,000.

Kalaeloa PPA Extension. The Kalaeloa PPA will terminate in 2016. Under that contract, negotiations to extend the term of the contract may begin seven years before its termination date. HECO anticipates that the level of effort and outside legal services expenses for the contract extension will equal or exceed the $275,000 in expenses incurred for outside legal services for Amendments 5 and 6 to the Kalaeloa PPA in 2004. The drafting, negotiation and approval of the PPA extension is anticipated to require three years. HECO's estimate of outside legal expenses for this project is $300,000 spread over three years, resulting in an estimate for 2009 of $100,000.

Chevron PPA Amendment. Work on an amendment to the Chevron PPA is currently underway. An amendment to the PPA is required because Chevron is installing another cogeneration unit in addition to the three units identified in the PPA, and making modifications to the interconnecting substation as described in the PPA. Through the end of 2008, HECO has incurred expenses of approximately $5,000 for outside legal services. HECO anticipates that the level of effort and outside legal services expenses for the contract amendment will approximately equal the $30,000 for the total outside legal services expenses for the Kaheawa Wind Power Project in 2004. Therefore, HECO estimates that expenses for outside legal services for the Chevron PPA Amendment will be approximately $25,000 in 2009.

The total estimated expenses for outside legal services for the Power Purchase Division and the Renewable Energy Power Purchase Division is $475,000 - $500,000. However, HECO

is not adjusting the 2009 test year estimate of $418,300 provided in the HECO T-7 Update, pages 24-25 at this time. HECO recognizes that the outside service expense will vary significantly from year to year, as it has in the past and is expected in the future. The HECO T-7 Update estimate of $418,400 is considered to be a reasonable estimate consistent with the increased level of activity to negotiate, obtain approval for and administer PPAs as more renewable energy from third-party sources comes on to the HECO grid.

CA-IR-290

Ref: HECO T-7 Update, pages 22 to 35 & 44 (Power Supply Staffing).

Please provide detailed position listing of all Power Supply Process Area positions in each RA, as modified by the T-7 Update, indicating actual staffing levels in each existing and newly approved position at December 31, 2008 and the planned hiring date to fill each vacancy as of December 31, 2008.

HECO Response:

Please refer to Attachment 1 to this response for a detailed listing of all Power Supply Process Area positions, by RA, as modified by the HECO T-7 Rate Case Update. The actual staffing level, as of December 31, 2008 is indicated, along with the planned hiring date for vacancies as of December 31, 2008. The planned hiring dates can reflect the filling of positions by external hires or by internal transfers.

Hawaiian Electric Company, Inc.
2009 Test Year - Power Supply Process Area
Filling of Vacancies in 2008 and 2009

Position	RA	12/31/07 Actual	03/31/08 Actual	06/30/08 Actual	12/31/08 Actual	2008 Budget	Rate Case TY 2009	Rate Case Update	12/31/08-RC Upd Var	Planned Hire Date
ENVIRONMENTAL DEPT										
ADMIN										
Manager	JA	1	1	1	1	1	1	1	0	
Sr. Environ Scientist	JA	1	1	1	1	1	1	1	0	
Secretary	JA	1	1	1	1	1	1	1	0	
Clerk Typist	JA	1	1	1	1	1	1	1	0	
Admin Subtotal		**4**	**4**	**4**	**4**	**4**	**4**	**4**	**0**	
Air Quality / Noise										
Prin Environ Scientist	JB	1	1	1	1	1	1	1	0	
Sr. Environ Scientist	JB	3	4	4	4	4	4	4	0	
Environ Scientist	JB	1	1	1	1	1	1	1	0	
Air Quality/Noise Subtotal		**5**	**6**	**6**	**6**	**6**	**6**	**6**	**0**	
Chemistry										
Lab Supervisor	JC	1	1	1	1	1	1	1	0	
Analytical Chemist	JC	5	5	5	6	5	6	6	0	
Department Temp	JC	1	0	0	0	0	0	0	0	
Chemistry Subtotal		**7**	**6**	**6**	**7**	**6**	**7**	**7**	**0**	
Water & Hazardous Materials										
Prin Environ Scientist	JW	1	1	1	1	1	1	1	0	
Sr. Environ Scientist	JW	4	4	4	4	4	4	4	0	
Environl Scientist	JW	2	2	2	2	2	2	2	0	
Environl Specialist	JW	1	1	1	1	1	1	1	0	
Water & Haz Mat Subtotal		**8**	**8**	**8**	**8**	**8**	**8**	**8**	**0**	
TOTAL ENVIRONMENTAL		**24**	**24**	**24**	**25**	**24**	**25**	**25**	**0**	
POWER SUPPLY ENGINEERING										
ADMIN										
Manager	YA	1	1	1	1	1	1	1	0	
Secretary	YA	1	1	1	1	1	1	1	0	
Administrator	YA	1	1	1	1	1	1	1	0	
Admin Subtotal		**3**	**3**	**3**	**3**	**3**	**3**	**3**	**0**	
Support Staff										
Project Cleck	YC	1	1	1	1	1	1	1	0	
Drawing Control Clerk	YC	1	1	1	1	1	1	1	0	
Clerk Typist III	YC	0	1	1	1	1	1	1	0	
Support Staff Subtotal		**2**	**3**	**3**	**3**	**3**	**3**	**3**	**0**	
Technical Services										
Superintendent	YE	1	1	1	1	1	1	1	0	
Senior Staff Engineer	YE	6	6	6	6	6	7	7	-1	Hire Jun-09.
Staff Engineer	YE	2	3	3	3	3	3	3	0	
Technical Services Subtotal		**9**	**10**	**10**	**10**	**10**	**11**	**11**	**-1**	
Electrical Engineering Section										
Sr. Supervising Engi	YF	1	1	1	1	1	1	1	0	
Engineer II	YF	2	2	2	2	3	4	4	-2	Offset by overfill in Engineer I position.
Engineer I (DesignerII)	YF	8	8	9	10	8	9	9	1	Filled 1 on 01/12/09; Var=2 @ 01/12/09 to offset Engr II vacancies.
Project Aide	YF	1	1	0	0	0	0	0	0	
Electrical Eng Sec Subtotal		**12**	**12**	**12**	**13**	**12**	**14**	**14**	**-1**	
Drafting Section										
Drafting Technician II	YG	2	2	2	2	2	2	2	0	
Drafting Subtotal		**2**	**2**	**2**	**2**	**2**	**2**	**2**	**0**	

Hawaiian Electric Company, Inc.
2009 Test Year - Power Supply Process Area
Filling of Vacancies in 2008 and 2009

Position	RA	12/31/07 Actual	03/31/08 Actual	06/30/08 Actual	12/31/08 Actual	2008 Budget	Rate Case TY 2009	Rate Case Update	12/31/08-RC Upd Var	Planned Hire Date
Project Manangement										
Project Manager	YJ	4	4	4	5	4	4	5	0	
Project Management Subtotal		**4**	**4**	**4**	**5**	**4**	**4**	**5**	**0**	
Mechanical Engineering Section										
Prin Eng, Power Plt Eng	YM	1	1	1	1	1	1	1	0	
Project Manager	YM	1	1	1	1	1	1	1	0	
Sr. Supervising Eng	YM	1	1	1	1	1	1	1	0	
Engineer II	YM	5	4	4	5	5	6	6	-1	Hire Apr-09.
Designer III	YM	0	0	0	1	0	0	0	1	Promotion from PYM Engineer I position; offsets one under-run in Engineer I.
Engineer I (Designer II)	YM	5	5	5	4	5	6	6	-2	One under-run to offset over-run in Designer III; +1 Filled 01/19/09; Net Var=0 @ 01/19/09. -1 transfer to PYB Planning Engr on 02/02/09, Var=-1 @ 02/02/09, planned backfill May-09.
Project Aide	YM	1	1	1	1	0	0	0	1	
Mechanical Eng Sec Subtotal		**14**	**13**	**13**	**14**	**13**	**15**	**15**	**-1**	
TOTAL POWER SUPPLY ENG		**46**	**47**	**47**	**50**	**47**	**52**	**53**	**-3**	
POWER SUPPLY SERVICES DEPT										
ADMIN										
Power Supply Srvc Mngr	IA	1	1	1	1	1	1	1	0	
Power Supply Srvc Secr	IA	1	1	1	1	1	1	1	0	
Admin Subtotal		**2**	**2**	**2**	**2**	**2**	**2**	**2**	**0**	
POWER PURCHASE										
Power Purchase Adminstration Director	IC	1	1	1	1	1	1	1	0	
Power Purch Contr Adm	IC	3	2	3	3	3	3	2	1	-1 on Mar-09 due to transfer to PIU; Var=0 @ Mar-09.
Administrative Assistant	IC	2	2	2	2	2	2	1	1	-1 on Mar-09 due to transfer to PIU; Var=0 @ Mar-09.
Power Purchase Subtotal		**6**	**5**	**6**	**6**	**6**	**6**	**4**	**2**	
FUELS RESOURCES										
Fuel Operations Director	IF	1	1	1	1	1	1	1	0	
Fuels Contracts Admin	IF	1	1	2	2	2	2	2	0	
Fuels Records Clerk	IF	1	1	1	1	1	1	1	0	
Fuels Operations Subtotal		**3**	**3**	**4**	**4**	**4**	**4**	**4**	**0**	
FUELS INFRASTRUCTURE										
Fuels Infrastructure Director	IJ	1	1	1	1	1	1	1	0	
Fuels Staff Engineer	IJ	1	1	2	2	2	2	2	0	
Fuels Resources Subtotal		**2**	**2**	**3**	**3**	**3**	**3**	**3**	**0**	
RENEW ENG PWR PURCHASE										
Renew Eng PP Negotiations Director	IU				0			1	-1	Hire Feb-09.
Renew Eng Contract Negotiator	IU				0			2	-2	+1 on Mar-09 due to transfer from PIC; Hire 1 Apr-09.
Administrative Assistant	IU				0			1	-1	+1 on Mar-09 due to transfer from PIC.
Renew Eng Pwr Purchase Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**4**	**-4**	
TOTAL POWER SUPPLY SERVICES		**13**	**12**	**15**	**15**	**15**	**15**	**17**	**-2**	
SYSTEM PLANNING DEPT										
ADMIN										
Power Supply Srvc Mngr	XA	1	1	1	1	1	1	1	0	
Power Supply Srvc Secr	XA	1	1	1	1	1	1	1	0	
Admin Subtotal		**2**	**2**	**2**	**2**	**2**	**2**	**2**	**0**	

Hawaiian Electric Company, Inc.
2009 Test Year - Power Supply Process Area
Filling of Vacancies in 2008 and 2009

Position	RA	12/31/07 Actual	03/31/08 Actual	06/30/08 Actual	12/31/08 Actual	2008 Budget	Rate Case TY 2009	Rate Case Update	12/31/08-RC Upd Var	Planned Hire Date
GENERATION PLANNING										
Generation Planning Dir	YB	1	1	1	1	1	1	1	0	
Sr Plannning Engineer	YB	3	3	3	3	3	3	3	0	
Planning Engineer	YB	5	5	5	3	5	5	5	-2	Filled 02/02/09 (w/ 1 xfer from PSD and 1 xfer from PYM).
Generation Planning Subtotal		**9**	**9**	**9**	**7**	**9**	**9**	**9**	**-2**	
TRANSMISSION PLANNING										
Transm Planning Dir	YT	1	1	1	1	1	1	1	0	
Lead Transm Plan Eng	YT	1	1	1	2	3	3	3	-1	Filled 1/26/2009.
Transm Planning Eng	YT	3	3	4	4	4	4	4	0	-2 transfers to PXP 02/02/09; +1 xfer from PNG Feb-09; +1 Hire Feb-09.
Transmission Planning Subtotal		**5**	**5**	**6**	**7**	**8**	**8**	**8**	**-1**	
GENERATION BIDDING										
Generation Bidding Dir	XB	1	1	1	1	1	1	1	0	
Project Manager	XB	2	2	2	2	2	2	2	0	
Generation Bidding Subtotal		**3**	**3**	**3**	**3**	**3**	**3**	**3**	**0**	
RENEWABLE ENERGY PLANNING										
Renew Eng Plan Director	XP				0			1	-1	Hire Mar-09.
Sr Renew Energy Plan Eng	XP				0			1	-1	Hire Apr-09.
Renew Energy Engineer	XP				0			2	-2	Filled 02/02/09 by transfers from PYT.
Renewable Energy Planning Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**4**	**-4**	
TOTAL SYSTEM PLANNING		**19**	**19**	**20**	**19**	**22**	**22**	**26**	**-7**	
POWER SUPPLY O&M										
ADMIN										
Power Supply O&M Mngr	IB	1	1	1	1	1	1	1	0	
Power Supply O&M Sec	IB	1	1	1	1	1	1	1	0	
Manager, Special Projects	IB	1	0	0	0	0	0	0	0	
O&M Services Superintendent	IB	0	0	1	1	0	0	0	1	Offset by Senior Technical Analyst in PIB.
Senior Technical Analyst	IB	1	1	0	0	1	1	1	-1	Offset by O&M Services Superintendent in PIB.
Ld Fin Administrator	IB	1	0	1	1	1	1	1	0	
Administrator	IB	1	1	0	1	1	1	1	0	
Budget Analyst	IB	1	0	1	0	1	1	1	-1	Hire Apr-09.
PSRO Prog Manager (to IV)	IB	0	0	0	0	0	0	0	0	
Env Compliance Superv (to IQ)	IB	1	1	0	0	1	1	1	-1	Offset by Env Compliance Superv in PIQ.
Station Chemist (to IQ)	IB	2	2	0	0	2	2	2	-2	Offset by Station Chemist in PIQ.
Environmental Specialist (to IQ)	IB	1	1	0	0	1	1	1	-1	Offset by Environmental Specialist in PIQ.
Admin Subtotal		**11**	**8**	**5**	**5**	**10**	**10**	**10**	**-5**	
ENVIRONMENTAL & COMPLIANCE										
Env Compliance Superv (fr IB)	IQ	0	0	1	1	0	0	0	1	Offset by Env Compliance Superv in PIB.
Station Chemist (fr IB)	IQ	0	0	2	2	0	0	0	2	Offset by Station Chemist in PIB.
Environmental Specialist (fr IB)	IQ	0	0	1	1	0	0	0	1	Offset by Environmental Specialist in PIB.
Environmental & Compliance Subtotal		**0**	**0**	**4**	**4**	**0**	**0**	**0**	**4**	
TRAINING										
Senior Supv, Trainer	ID	1	1	1	1	1	1	1	0	
Technical Trainer	ID	1	1	1	1	2	3	3	-2	Hire Apr-09.
Admin/Asst Clerk	ID	0	0	0	1	0	1	1	0	
Training Subtotal		**2**	**2**	**2**	**3**	**3**	**5**	**5**	**-2**	
PSRO PROGRAM										
PSRO Prog Manager (fr IB)	IV	0	0	0	0	0	1	1	-1	To be filled 02/16/09 by xfer from PIP Senior Supervisor.
MBO Coordinator (fr IP)	IV	0	0	0	0	0	1	1	-1	Hire Mar-09.
PSRO Program Subtotal		**0**	**0**	**0**	**0**	**0**	**2**	**2**	**-2**	

Hawaiian Electric Company, Inc.
2009 Test Year - Power Supply Process Area
Filling of Vacancies in 2008 and 2009

Position	RA	12/31/07 Actual	03/31/08 Actual	06/30/08 Actual	12/31/08 Actual	2008 Budget	Rate Case TY 2009	Rate Case Update	12/31/08-RC Upd Var	Planned Hire Date
OPERATIONS										
Station Superintendent (to IK & IW)	IO	2	2	0	0	2	2	2	-2	Offset by Station Superintendent in PIK & PIW.
Honolulu Senior Superv	IH	1	1	1	1	1	1	1	0	
Shift Supervisor	IH	5	5	5	5	5	5	5	0	
Honolulu Operators	IH	19	21	21	20	21	20	20	0	
Station Superintendent Kahe (fr IO)	IK	0	0	0	1	0	0	0	1	Offset by Station Superintendent in PIO.
Kahe Senior Shift Suprv	IK	1	1	1	0	1	1	1	-1	Filled 01/05/09 by xfer from PIK Kahe Operator.
Kahe Station Aide	IK	1	1	1	1	1	1	1	0	
Shift Supervisor	IK	7	7	7	7	7	7	7	0	
Kahe Operators	IK	51	51	52	52	52	50	50	2	-1 Transfer to Kahe Sr S/S 01/05/09; Var=+1 @ 01/05/09.
Station Superintendent Waiau/Hon (fr IO)	IW	0	0	1	1	0	0	0	1	Offset by Station Superintendent in PIO.
Waiau Sr Shift Super	IW	1	1	1	1	1	1	1	0	
Waiau Station Aide	IW	1	1	1	1	1	1	1	0	
Shift Supervisor	IW	7	7	7	7	7	7	7	0	Transfer to PIY CIP Shift Super 01/05/09; Var=-1 @ 01/05/09; backfill posted 01/13/09.
Waiau Operators	IW	53	54	54	58	57	55	55	3	-1 Transfer to PDM Spec 01/05/09; Var=+2 @ 01/05/09.
CIP Shift Super	IY	0	0	0	0	0	1	1	-1	Filled 01/05/09 by transfer from PIW Shift Supervisor.
CIP Operators	IY	0	0	0	0	0	6	6	-6	Hire Mar-09.
Operations Subtotal		**149**	**152**	**152**	**155**	**156**	**158**	**158**	**-3**	
PLANNING										
Planning & Eng Super	IP	1	1	1	1	1	1	1	0	
Senior Supervisor	IP	2	2	2	2	2	2	2	0	-1 Transfer to PSRO Prog Manager 02/16/09; Var=-1 @ 02/16/09.
Power Plant Clerk	IP	1	1	1	1	1	1	1	0	
Work Management Spec	IP	1	1	1	1	1	1	1	0	
Resource Planner	IP	10	9	9	10	10	10	10	0	
O&M Engineer	IP	4	5	6	7	6	7	7	0	
PDM Specialist	IP	3	3	3	3	3	4	4	-1	Filled 01/05/09 from PIW Waiau Oper.
MBO Coordinator (to IV)	IP	0	0	0	0	0	0	0	0	
Project Aide	IP	1	1	0	0	0	0	0	0	
Planning Subtotal		**23**	**23**	**23**	**25**	**24**	**26**	**26**	**-1**	
MAINTENANCE										
Kahe										
Kahe Maint Supervisor	IL	1	1	2	2	2	2	2	0	
Boiler Working Foreman	IL	1	1	0	1	1	1	1	0	
Elec Working Foreman	IL	1	1	1	1	1	1	1	0	
Machinist Work Foreman	IL	1	1	1	1	1	1	1	0	
Senior Electrician	IL	4	4	4	4	4	4	4	0	
Machinist	IL	3	3	3	3	3	3	3	0	
Pipefitter Mechanic	IL	2	2	3	4	5	5	5	-1	Hire Jun-09.
Certified Comb Welder	IL	4	4	4	4	4	4	4	0	
Insulator	IL	1	1	1	1	1	1	1	0	
Control Technician	IL	7	7	7	6	8	8	8	-2	Hire Jun-09.
Helper	IL	2	2	2	2	2	2	2	0	
Mob Crn & Hvy Eq Oper	IL	1	1	1	1	1	1	1	0	
Kahe Maint Subtotal		**28**	**28**	**29**	**30**	**33**	**33**	**33**	**-3**	
Maint Admin										
O&M Maint Superint	IM	1	1	1	1	1	1	1	0	
Maintenance Clerk	IM	1	1	1	1	1	1	1	0	
Maint Admin Subtotal		**2**	**2**	**2**	**2**	**2**	**2**	**2**	**0**	

Hawaiian Electric Company, Inc.
2009 Test Year - Power Supply Process Area
Filling of Vacancies in 2008 and 2009

Position	RA	12/31/07 Actual	03/31/08 Actual	06/30/08 Actual	12/31/08 Actual	2008 Budget	Rate Case TY 2009	Rate Case Update	12/31/08-RC Upd Var	Planned Hire Date
Honolulu										
Hono Maint Supervisor	IN	1	1	1	1	1	1	1	0	
Boiler Working Foreman	IN	1	1	1	1	1	1	1	0	
Elec Working Foreman	IN	1	1	1	1	1	1	1	0	
Machinist Work Foreman	IN	1	1	1	1	1	1	1	0	
Senior Electrician	IN	1	1	1	1	1	1	1	0	
Machinist	IN	1	1	1	1	1	1	1	0	
Pipefitter Mechanic	IN	1	1	1	1	1	1	1	0	
Control Technician	IN	3	3	2	3	3	3	3	0	
Cert Comb Welder	IN	1	1	1	1	1	1	1	0	
Insulator	IN	0	0	0	1	1	1	1	0	
Honolulu Maint Subtotal		**11**	**11**	**10**	**12**	**12**	**12**	**12**	**0**	
Travel										
Senior Supv Overhauls	IT	1	1	1	1	1	1	1	0	
Travel Maint Outage Coor	IT	0	0	0	0	0	1	1	-1	Hire Mar-09.
Travel Clerk	IT	0	0	0	0	0	1	1	-1	Hire Feb-09.
Traveling Maint Superv	IT	4	4	4	4	4	4	4	0	
Boiler Working Foreman	IT	2	2	2	2	2	2	2	0	
Elec Working Foreman	IT	2	2	2	2	2	2	2	0	
Machinist Work Foreman	IT	2	2	2	2	2	2	2	0	
Insulator Work Foreman	IT	1	1	1	1	1	1	1	0	
Condenser Crew Leader	IT	1	1	1	1	1	1	1	0	
Senior Electrician	IT	10	10	10	10	10	10	10	0	
Machinist	IT	8	7	7	7	9	9	9	-2	Hire 1 on 04/09; Hire 1 on 06/09.
Pipefitter Mechanic	IT	6	6	6	5	7	7	7	-2	Hire 1 on 04/09; Hire 1 on 06/09.
Certified Equip Mechanic	IT	2	2	2	2	2	2	2	0	
Certified Comb Welder	IT	7	7	7	9	9	9	9	0	
Control Technician	IT	6	5	5	7	9	9	9	-2	Hire Jun-09.
Helper	IT	3	3	3	3	3	3	3	0	
Insulator	IT	14	14	14	13	11	14	14	-1	Hire Mar-09.
Mob Crane & Equip Oper	IT	1	1	1	1	1	1	1	0	
Condenser Cleaner	IT	7	8	8	8	8	8	8	0	
Travel Crew Subtotal		**77**	**76**	**76**	**78**	**82**	**87**	**87**	**-9**	
Waiau										
Waiau Maint Supervisor	IX	2	2	2	2	2	2	2	0	-1 xfer to PIZ CIP Maint Supervisor 01/05/09; Var =-1 @ 01/05/09; backfill posted 01/29/09.
Boiler Working Foreman	IX	1	1	1	1	1	1	1	0	
Elec Working Foreman	IX	1	1	1	1	1	1	1	0	
Machinist Work Foreman	IX	1	1	1	1	1	1	1	0	
Senior Electrician	IX	3	3	4	4	4	4	4	0	
Machinist	IX	3	3	3	3	3	3	3	0	
Pipefitter Mechanic	IX	5	5	4	4	5	5	5	-1	Filled 01/12/09.
Certified Comb Welder	IX	4	4	4	4	4	4	4	0	
Insulator	IX	1	1	1	1	1	1	1	0	
Control Technician	IX	7	8	8	6	8	8	8	-2	Hire Jun-09.
Helper	IX	1	1	1	1	1	1	1	0	
Mob Crn & Hvy Eq Oper	IX	1	1	1	1	1	1	1	0	
Waiau Maint Subtotal		**30**	**31**	**31**	**29**	**32**	**32**	**32**	**-3**	

Hawaiian Electric Company, Inc.
2009 Test Year - Power Supply Process Area
Filling of Vacancies in 2008 and 2009

Position	RA	12/31/07 Actual	03/31/08 Actual	06/30/08 Actual	12/31/08 Actual	2008 Budget	Rate Case TY 2009	Rate Case Update	12/31/08-RC Upd Var	Planned Hire Date
CIP										
CIP Maint Supervisor	IZ	0	0	0	0	0	1	1	-1	Filled 01/05/09 by xfer from PIX Waiau Maint Supervisor.
Elec Working Foreman	IZ	0	0	0	0	0	1	1	-1	Hire Feb-09.
Working Foreman	IZ	0	0	0	0	0	1	1	-1	Hire Feb-09.
Sr. Electrician	IZ	0	0	0	0	0	1	1	-1	Hire Mar-09.
Control Technician	IZ	0	0	0	0	0	2	2	-2	Hire Feb-09.
Sr. CT & Diesel Mech	IZ	0	0	0	0	0	1	1	-1	Hire Apr-09.
Clerk/Warehouseman	IZ	0	0	0	0	0	1	1	-1	Hire Mar-09.
CIP Maint Subtotal		**0**	**0**	**0**	**0**	**0**	**8**	**8**	**-8**	
Maintenance Subtotal		**148**	**148**	**148**	**151**	**161**	**174**	**174**	**-23**	
TOTAL POWER SUPPLY O&M		**333**	**333**	**334**	**343**	**354**	**375**	**375**	**-32**	
POWER SUPPLY - VP										
Vice President	7V	1	1	1	1	1	1	1	0	
VP Secretary	7V	1	1	1	1	1	1	1	0	
Manager, Renewable Integration	7V	0	1	1	1	0	1	1	0	
TOTAL POWER SUPPLY - VP		**2**	**3**	**3**	**3**	**2**	**3**	**3**	**0**	
TOTAL PROCESS AREA		**437**	**438**	**443**	**455**	**464**	**492**	**499**	**-44**	
SUMMER INTERNS										
Summer Interns	YE	0	0	1	0	0	0	0	0	Temporary summer hire positions not included in 2009TY count. Positions vacated prior to 2008YE.
Summer Interns	IK	0	0	1	0	0	0	0	0	
Summer Interns	IP	0	0	2	0	0	0	0	0	
Summer Interns	IJ	0	0	1	0	0	0	0	0	
Summer Interns Subtotal		**0**	**0**	**5**	**0**	**0**	**0**	**0**	0	
TOTAL SUMMER INTERNS		**0**	**0**	**5**	**0**	**0**	**0**	**0**	0	
TOTAL PROCESS AREA + SUMMER INTERNS		**437**	**438**	**448**	**455**	**464**	**492**	**499**	**-44**	

CA-IR-291

Ref: HECO T-7 Update, Attachment 6, page 1 (Outside Consulting RA=PXP).

Please provide a detailed itemization of Outside Service test year projected costs of $100,000 for RA= PXP, with complete copies of all proposals, contracts, workpapers and other documents associated with the requested itemization and your response.

HECO Response:

As described in HECO's response to CA-IR-287, the analysis of the integration of large wind power penetration on the Oahu grid is progressing on schedule with numerous consultants identified and work initiated. In addition to large wind penetration, there is a rapidly growing need to effectively evaluate the grid impact of relatively large photovoltaic ("PV") power integration scenarios, both from distributed and centralized PV sources, on the HECO system. More specifically, there are issues unique with PV sources that must be considered and analyzed to determine both the local and system level impacts associated with the full range of types and sizes of PV sources, from small fixed-axis distributed PV facilities to large central plant PV stations that track the path of the sun over the course of the day. Some of the technical issues include the rapid change in power output (i.e. ramp rate) due to passing cloud cover, the effect of facility layout and site diversity on rapid power ramp characteristics, and the off-nominal frequency trip setting of the power inverters for PV facilities. Issues such as these are among the critical issues that the new Renewable Energy Planning Division (RA=PXP) will focus on. Accordingly, while the scope of work for the needed evaluation of the grid impact of relatively large PV integration scenarios has not been fully developed while staffing of this new Division is progressing, it is anticipated that the cost of this evaluation to be conducted with the support of qualified consultant services will be on the order of $100,000. The work is expected to start before the middle of 2009, and be completed prior to the end of 2009.

CA-IR-292

Ref: HECO T-7 Update, page 37; Attachment 11 (PV Engineer).

Please provide a detailed written position description for the Photovoltaic Engineer position and explain the Company's planned posting and recruitment activities for this position, indicating why a July 2009 hiring date is being targeted.

HECO Response:

A unique written position description for the Photovoltaic Engineer position is not available. As discussed by Ms. Faye Chiogioji (HECO T-15) on page 6 and in Attachment 1 of her rate case update, the Energy Projects Department will increase the number of employees (engineers) who share the same job description of "Senior Technical Services Engineer." As shown in the attached job description for the Senior Technical Services Engineer, duties include preparing project proposals and acting as project engineer/construction manager for distributed generation and renewable energy projects. Ms. Chiogioji also discusses the targeted July hiring date in her update. Also refer to the response to CA-IR-278, Attachment 2, for the planned recruitment activities for this position.

HAWAIIAN ELECTRIC COMPANY
MERIT
POSITION DESCRIPTION

Position Title:	**Senior Technical Services Engineer**
Department:	**Energy Projects**
Reports to:	**Manager, Energy Projects**

Job Code:	**S2534**	***FLSA:***	**P**
Role:	**T**	***Date:***	**1/13/03**

Primary Role/Function

Prepares project proposals and acts as project engineer/construction manager for distributed generation and renewable energy projects in the commercial, governmental, and residential sectors based upon standardized combined heat and power systems and other alternative forms of energy generation. Develops, implements, and plans various programs and services related to onsite installations of distributed generation and renewable energy projects.

Job Responsibilities

*	15%	Assists utility energy services staffs in the assessment of distributed generation and alternate energy opportunities for the benefit of the Company's customers. This includes addressing opportunities such as cogeneration systems, renewable energy systems, hot water heating systems, thermally driven cooling processes, etc.
*	20%	Provides consultation services to major commercial and industrial customers, residential customers, engineering consultants, and architects with a focus on resolving issues related to equipment selection/sizing, economic feasibility, maintenance issues, operational issues, and proper use of distributed generation equipment. Conducts field surveys and site inspections to investigate customer equipment and operations. Actively participates in distributed generation program implementation. Works closely with Customer Technology Applications Project Engineers and Marketing Services Account Managers to assess opportunities for distributed generation.
*	15%	Works closely with Power Supply Departments to integrate and optimize the function, utility and application of distributed generation within the Company.

*** Denotes a "Fundamental Responsibility"**

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

Senior Technical Services Engineer

Job Responsibilities		
*	45%	Serves as project engineer and construction manager for utility distributed generation and renewable energy projects. Responsibilities include project scheduling, budget preparation, tracking and maintenance, supervision of outside consultants and contractors, and front-line interface with the customer. The goal is to provide additional revenue to the Company while providing "value" to the customer.
*	5%	Conducts research and actively pursues applications for cogeneration and other forms of distributed generation. This activity is designed to provide "value" to the Company's customers while providing the competitive edge necessary to maintain and grow the Company's business.

*** Denotes a "Fundamental Responsibility"**

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

Senior Technical Services Engineer

Minimum Qualifications

Knowledge Requirements:

- Mechanical or Electrical engineering degree (Bachelor of Science or Master of Science) from an ABET-accredited college or university is required. Demonstrates detailed knowledge of the application of engineering theories and principles that are pertinent to the Job Responsibilities. This includes thorough knowledge of HVAC&R equipment, HVAC&R systems, digital control systems, maintenance, remote communications, operations, electrical power systems (utility and in-building systems), generation systems, and renewable energy concepts.
- Hands-on experience and knowledge of direct digital controls (DDC), HVAC&R hardware (chillers, heat pumps, compressors, pumps, pump packages, control valves, sensors, relays, valves, heat exchangers, materials selection, piping systems design, electrical control and power systems, etc.).
- Working knowledge of project management principles and concepts usually acquired through engineering experience including services provided by Energy Services Companies.
- Detailed knowledge of personal computers and standard software applications such as Microsoft Office. Knowledge of Autocad™, Visio™, Microstation™, or other CAD software is highly desirable.
- Ability to perform independent research and investigation into fields outside of mechanical engineering (such as electrotechnologies) is highly desirable.
- Ability to perform detailed financial analysis using skills usually obtained through completion of Engineering Economics, Capital Investment Courses, or similar courses in college. Additional course work in accounting and finance would be desirable.
- A Professional Engineer's license is desirable to allow certification of engineering designs.

Skills Requirements

- Must have or be able to qualify for State of Hawaii driver's license and HECO driver's license in order to travel to a customer sites on a frequent basis.
- Must be a self-starter with a clear ability to research, plan, organize, execute, and report on work with little supervision.
- Effective interpersonal skills with the ability to handle difficult and/or sensitive issues with tact, courtesy, and discretion. This skill must be displayed under demanding conditions in the field and over the telephone.
- In-depth analytical, organizational, planning, and conceptual skills to handle multiple projects, programs, and priorities concurrently.
- Effective oral, written, listening and platform skills to communicate with all levels inside and outside of the organization.

Requirements are representative of minimum levels of knowledge, skills, and abilities. To perform the position successfully, the incumbent will need to demonstrate the use of these knowledge, skills, and abilities at an "Effective" level.

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

Senior Technical Services Engineer

Experience Requirements

- Extensive (7 or more years) of experience in engineering supplemented by job experience and course work in economic analysis.

Requirements are representative of minimum levels of knowledge, skills, and abilities. To perform the position successfully, the incumbent will need to demonstrate the use of these knowledge, skills, and abilities at an "Effective" level.

Positions Supervised

N/A

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

Senior Technical Services Engineer

Physical Requirements

Only items that are necessary to perform the "fundamental" responsibilities of the position are indicated.

"F" for Frequently: Daily, several times a week, weekly
"O" for Occasionally: Monthly, Couple times a year

F	Standing
F	Walking
F	Sitting
F	Climbing Ascending or descending ladders, stairs, or other objects.
F	Balancing on narrow, slippery, or erratically moving surfaces.
F	Stooping, kneeling, crouching, crawling, and/or squatting
F	Handling Working with hands, arms or fingers.
F	Feeling Perceiving attributes such as size, share, temperature or texture.
F	Ability to follow written/oral instructions

F	Lifting/Carrying below 25 lbs.
O	26 to 50 lbs.
O	above 50 lbs.
F	Vision acuity the ability to see clearly 20 feet or more
F	Color vision the ability to identify and distinguish different colors.
F	Night vision the ability to perform work at night with the use of portable lighting.
F	Talking
F	Hearing
O	Ability to perform simple, repetitive tasks for an extended period of time
F	Ability to perform complex and varied tasks for an extended period

Environmental Conditions

The employee will be exposed to the following environmental conditions in performing the "fundamental" responsibilities of the position.

	Extreme Cold cold temperatures for an hour or more
O	Extreme Heat warm/hot temperatures for an hour or more
O	Wetness
O	Use of personal protective equipment (hard hats, respirator, leather gloves, rubber glove, safety shoes, nomex clothing)
O	Work in emergency/potentially "high stress" situations
O	Noise At least 80 decibels

O	Working Outdoors may be during prevailing weather/climate conditions
O	Hazardous Conditions potentially life-threatening situations
O	Work above 5 feet
O	Work above 70 feet
	Work on mountain trails/cliff sides

Job responsibilities are subject to possible modification to reasonably accommodate individuals with disabilities.

Some job requirements may exclude individuals who pose a direct threat or significant risk to the health and safety of themselves or other individuals.

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

CA-IR-293

Ref: HECO T-7 Update, pages 38 to 42 (P-month Replacement).

Please provide the following information:

a. Explain whether HECO has decided upon a P-month replacement simulation model and explain how the replacement was determined to be optimal.

b. Provide the commercial terms of the replacement simulation software.

c. Explain why training costs should be borne solely by HECO, when the new simulation software would be used to also benefit MECO and HELCO.

HECO Response:

a. HECO has not yet decided upon a P-Month replacement production simulation model.

b. Not applicable.

c. Since MECO and HELCO will benefit from use of the new software, the allocation of training costs will be revised such that MECO and HELCO will bear a portion of the training costs. See Attachment 1 for the allocation to the three companies.

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year
Replacement Simulation Software: Proposed Training Cost Allocation

	HECO	HELCO	MECO	Total
Training Cost per Rate Case Update, HECO T-7, page 42	$25,000	$0	$0	$25,000
Proposed Training Cost Adjustment	($12,500)	$6,250	$6,250	$0
As Allocated: 50% HECO, 25% HELCO, 25% MECO	$12,500	$6,250	$6,250	$25,000

CA-IR-294

Ref: HECO T-7 Update pages 42 & 43; Response to CA-IR-188, Attachment 1 (Station Maintenance).

Please provide the following information regarding station maintenance:

a. A listing of station maintenance projects, in the format of CA IR-2, Attachments 11E, 11G and 11L, showing in each of the years 2005, 2006, 2007, 2008 to date, the actual station maintenance expenses incurred by project.
b. An updated listing of station maintenance projects, in the format of CA-IR-2, Attachments 11E, 11G and 11L, showing changes made in planned activities and identifying each of the projects included and excluded in determining updated test year proposed levels of expense.
c. Identify, for each of the listed station maintenance projects in your response to part (b) of this information request, when the project was initially identified as needed and identify the reasons why work has been delayed in any of the projects that were determined to be needed prior to 2008.
d. Provide an Excel electronic file for CA-IR-188, updated to include the full calendar year 2008 in place of the column "Rec YTD 08/2008."
e. Explain whether or not "Asset Optimization" as included in CA-IR-188, Attachment 1 for only recent years was not performed prior to 2008, and
f. Provide a revised Attachment 1 showing such "Asset Optimization" spending in prior years if applicable, to ensure comparability of the amounts shown across all years.

HECO Response:

a. A listing is provided as Attachment 1 to this response that shows station maintenance tasks, in the format of CA-IR-2, Attachments 11E, 11G and 11L, for each of the years 2005, 2006, 2007, 2008 the actual station maintenance expenses incurred. Please note that Attachments 1, 2, and 3 to this response and Attachments 11E, 11G, and 11L to the response to CA-IR-2 include station maintenance projects and non-projects.

b. An updated listing of station maintenance tasks that have been added or deleted in 2009 is provided as Attachment 2 to this response, in the format of CA-IR-2, Attachments 11E, 11G and 11L, showing changes made in planned activities and identifying each of the tasks included and excluded in determining the HECO T-7 Rate Case Update test year proposed levels of expense.

c. For each of the listed station maintenance tasks shown in Attachment 2 to this response (see the response to subpart b this information request), the last column of Attachment 2 identifies the year the subject task was initially identified as being needed. The only task that was determined to be needed prior to 2008 and is being reduced to zero (from $50,000) is for cathodic protection work at Waiau Power Plant. This task has existed since at least 2001 and expenditures in any given year have varied depending on the relative need from zero to approximately $24,000. As described in HECO T-7 Rate Case Update, pages 43 and 44, this cathodic protection work was removed from the 2009 test year Other Production Maintenance expense as part of the offset for the increase of $329,000 for Kahe Fuel Oil Tank #11 Cleaning and Inspection expense.

d. Attachment 3 to this response is an Excel electronic file for CA-IR-188, updated to include the full calendar year 2008 in place of the column "Rec YTD 08/2008."

e. As stated in response to CA-IR-188, expenses for Asset Optimization were included in HECO's PSOM annual budget for the first time in 2008. The concept of "Asset Optimization" was first presented in the HELCO Rate Case, Docket No. 05-0315, in HELCO T-5 testimony, pages 38-41, and described in greater detail in the response to CA-IR-188. The "Asset Optimization – Various Jobs" account also allows for management of the overall budget within a given year without having to cancel and/or defer planned work in order to accommodate the purchase of materials that were not foreseen to be needed. Examples of unanticipated repairs falling into this category of expense would include air preheater basket replacement, gantry crane repairs, Iwilei fuel oil pipeline repairs, and Waiau circulating water tunnel cleaning.

f. Attachment 1 to CA-IR-188 has not been updated for Asset Optimization because there was no spending for Asset Optimization prior to 2008.

Hawaiian Electric Company, Inc.
2009 Rate Case
PIL Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Oper	502	STEAM EXP	PIL	245	Mon Plt Perf-Boiler	K05	NE	NPYZZZZZ	501	NonProject	B30		113,723	15,645	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	731	Dev & Demo New Tech	PPO	NE	NPIZZZZZ	201	NonProject	B30		168,476	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	878	Cmply Sld&HazWste NonOil	KST	NE	NPIZZZZZ	201	NonProject	B30	322	403	502	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	934	Prov&Mg Svcs-Custodial	KST	NE	NPIZZZZZ	201	NonProject	B30	7,059	10,847	15,707	15,700
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	240	Dev & Maint Pol & Proc	KST	NE	NPIZZZZZ	205	NonProject	B30	260			141
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	731	Dev & Demo New Tech	PPO	NE	NPIZZZZZ	205	NonProject	B30		502	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	878	Cmply Sld&HazWste NonOil	KST	NE	NPIZZZZZ	205	NonProject	B30		34	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	934	Prov&Mg Svcs-Custodial	KST	NE	NPIZZZZZ	205	NonProject	B30				120
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	731	Dev & Demo New Tech	PPO	NE	NPIZZZZZ	301	NonProject	B30		104	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	731	Dev & Demo New Tech	PPO	NE	NPIZZZZZ	501	NonProject	B30		201,009	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	875	Comply Ongo Perm-Air	K06	NE	NPIZZZZZ	501	NonProject	B30	42,712	56,950	45,632	53,612
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	878	Cmply Sld&HazWste NonOil	KST	NE	NPIZZZZZ	501	NonProject	B30	14,963	30,468	48,333	55,120
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	931	Care for Bldgs & Grnds	KST	NE	NPIZZZZZ	501	NonProject	B30	61,418	66,338	61,528	70,650
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	934	Prov&Mg Svcs-Custodial	KST	NE	NPIZZZZZ	501	NonProject	B30	58,952	57,400	58,026	56,251
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	936	Mg Svcs-Wstenon-haz	KST	NE	NPIZZZZZ	501	NonProject	B30	284	180	31,064	26,745
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	731	Dev & Demo New Tech	PPO	NE	NPIZZZZZ	505	NonProject	B30		41,686	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIL	875	Comply Ongo Perm-Air	K06	NE	NPIZZZZZ	506	NonProject	B30		63,250	-	
	Prod Oper Total												**185,970**	**811,370**	**276,437**	**278,339**
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	263	Maint Com Struc-Prev	KST	NE	NPIZZZZZ	201	NonProject	B31	885	20	346	2,450
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K01	NE	NPIZZZZZ	201	NonProject	B31				10
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K03	NE	NPIZZZZZ	201	NonProject	B31	1,240			92
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K05	NE	NPIZZZZZ	201	NonProject	B31		-	2,139	5,746
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K06	NE	NPIZZZZZ	201	NonProject	B31		1,371	-	8,004
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KST	NE	NPIZZZZZ	201	NonProject	B31	46,670	59,911	94,880	199,886
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	NPIZZZZZ	201	NonProject	B31	33,851	32,153	80,580	50,473
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	263	Maint Com Struc-Prev	KST	NE	NPIZZZZZ	205	NonProject	B31	123	94	1,432	90
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K01	NE	NPIZZZZZ	205	NonProject	B31		-	9	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K03	NE	NPIZZZZZ	205	NonProject	B31				59
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K05	NE	NPIZZZZZ	205	NonProject	B31		-	87	348
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K06	NE	NPIZZZZZ	205	NonProject	B31		58	57	1,427
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KST	NE	NPIZZZZZ	205	NonProject	B31	4,330	9,809	11,143	6,912
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	NPIZZZZZ	205	NonProject	B31	266	490	639	695
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	263	Maint Com Struc-Prev	KST	NE	NPIZZZZZ	501	NonProject	B31	60,265	38,201	39,031	45,136
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K01	NE	NPIZZZZZ	501	NonProject	B31	785			
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KST	NE	NPIZZZZZ	501	NonProject	B31	349,040	232,242	326,077	748,310
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	NPIZZZZZ	501	NonProject	B31	125,408	34,443	1,587	40,051
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	NPIZZZZZ	522	NonProject	B31	495			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	257	Maint Boiler Plt Eq-Prev	KST	NE	NPIZZZZZ	201	NonProject	B31	128,247	90,700	96,569	123,165
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K01	NE	NPIZZZZZ	201	NonProject	B31	12,977	30,701	1,890	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K02	NE	NPIZZZZZ	201	NonProject	B31	169,867	8	165	116,652
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K03	NE	NPIZZZZZ	201	NonProject	B31	14,765	630	-	1,447
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K04	NE	NPIZZZZZ	201	NonProject	B31		17,450	21,365	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K05	NE	NPIZZZZZ	201	NonProject	B31	118	1,910	-	175
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K06	NE	NPIZZZZZ	201	NonProject	B31	3,743	2,163	2,164	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	KST	NE	NPIZZZZZ	201	NonProject	B31	200,306	1,208	1,116	20,402
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K01	NE	NPIZZZZZ	201	NonProject	B31	193,190	187,439	79,716	254,681
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K02	NE	NPIZZZZZ	201	NonProject	B31	137,758	185,145	180,458	135,143
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K03	NE	NPIZZZZZ	201	NonProject	B31	304,677	284,020	129,938	181,802
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K04	NE	NPIZZZZZ	201	NonProject	B31	152,215	180,993	141,082	226,496
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K05	NE	NPIZZZZZ	201	NonProject	B31	157,426	149,093	214,067	185,780
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K06	NE	NPIZZZZZ	201	NonProject	B31	127,895	191,432	238,787	194,688
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	201	NonProject	B31	183,965	47,364	69,906	59,392
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	W04	NE	NPIZZZZZ	201	NonProject	B31		591	-	

Hawaiian Electric Company, Inc.
2009 Rate Case
PIL Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	265	Maint Com Struc-Corr	KWT	NE	NPIZZZZZ	201	NonProject	B31	152,992	24,862	25,063	57,817
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	269	Maint Fuel Feed Sys-Prev	KTF	NE	NPIZZZZZ	201	NonProject	B31	2,950	79	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	270	Maint Fuel Feed Sys-Pred	KTF	NE	NPIZZZZZ	201	NonProject	B31				998
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	271	Maint Fuel Feed Sys-Corr	KTF	NE	NPIZZZZZ	201	NonProject	B31	9,527	12,765	26,096	14,102
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	257	Maint Boiler Plt Eq-Prev	KST	NE	NPIZZZZZ	205	NonProject	B31	984	783	1,993	710
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K02	NE	NPIZZZZZ	205	NonProject	B31	290	121	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K04	NE	NPIZZZZZ	205	NonProject	B31		235	491	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K05	NE	NPIZZZZZ	205	NonProject	B31	40	80	-	103
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K06	NE	NPIZZZZZ	205	NonProject	B31	41	814	826	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	KST	NE	NPIZZZZZ	205	NonProject	B31	5,588	29	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K01	NE	NPIZZZZZ	205	NonProject	B31	2,849	1,438	1,854	368
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K02	NE	NPIZZZZZ	205	NonProject	B31	1,346	1,598	1,374	152
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K03	NE	NPIZZZZZ	205	NonProject	B31	4,508	2,935	322	583
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K04	NE	NPIZZZZZ	205	NonProject	B31	623	4,312	2,768	183
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K05	NE	NPIZZZZZ	205	NonProject	B31	3,547	2,329	2,411	1,183
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K06	NE	NPIZZZZZ	205	NonProject	B31	2,677	2,353	2,988	1,762
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	205	NonProject	B31	4,215	1,759	646	3,608
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	265	Maint Com Struc-Corr	KWT	NE	NPIZZZZZ	205	NonProject	B31	1,591	504	3,755	960
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	269	Maint Fuel Feed Sys-Prev	KTF	NE	NPIZZZZZ	205	NonProject	B31	557			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	271	Maint Fuel Feed Sys-Corr	KTF	NE	NPIZZZZZ	205	NonProject	B31		883	328	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	301	NonProject	B31	15,956	15,517	11,816	5,329
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	257	Maint Boiler Plt Eq-Prev	KST	NE	NPIZZZZZ	501	NonProject	B31	921	-	577	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K01	NE	NPIZZZZZ	501	NonProject	B31	11,382	25,672	21,305	540
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K02	NE	NPIZZZZZ	501	NonProject	B31	8,833			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K03	NE	NPIZZZZZ	501	NonProject	B31	1,083	2,948	410	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K04	NE	NPIZZZZZ	501	NonProject	B31		278	2,918	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K05	NE	NPIZZZZZ	501	NonProject	B31	7,499	1,359	22,775	20,497
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K06	NE	NPIZZZZZ	501	NonProject	B31	1,422	547	-	502
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	KST	NE	NPIZZZZZ	501	NonProject	B31	11,220	-	347	40,155
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K01	NE	NPIZZZZZ	501	NonProject	B31	53,389	36,423	28,165	80,667
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K02	NE	NPIZZZZZ	501	NonProject	B31	14,343	40,402	81,377	38,554
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K03	NE	NPIZZZZZ	501	NonProject	B31	79,038	32,254	18,441	21,402
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K04	NE	NPIZZZZZ	501	NonProject	B31	10,882	194,756	92,118	31,873
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K05	NE	NPIZZZZZ	501	NonProject	B31	114,922	51,328	53,996	47,463
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K06	NE	NPIZZZZZ	501	NonProject	B31	242,689	62,749	37,116	86,296
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	501	NonProject	B31	540,439	377,284	422,707	588,640
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	46,875			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	265	Maint Com Struc-Corr	KWT	NE	NPIZZZZZ	501	NonProject	B31	18,680	1,862	44,645	11,119
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	269	Maint Fuel Feed Sys-Prev	KTF	NE	NPIZZZZZ	501	NonProject	B31	404,366	(1,900)	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	270	Maint Fuel Feed Sys-Pred	KTF	NE	NPIZZZZZ	501	NonProject	B31		-	515	21,369
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	271	Maint Fuel Feed Sys-Corr	KTF	NE	NPIZZZZZ	501	NonProject	B31	8,953	7,182	66,384	18,353
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	505	NonProject	B31	18,946			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	506	NonProject	B31	17,815	32,240	29,040	5,297
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K06	NE	NPIZZZZZ	522	NonProject	B31	173			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	260	Maint Stm Turbo Eq-Prev	K02	NE	NPIZZZZZ	201	NonProject	B31		114	38	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	260	Maint Stm Turbo Eq-Prev	KST	NE	NPIZZZZZ	201	NonProject	B31	100,853	161,053	175,646	134,771
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K01	NE	NPIZZZZZ	201	NonProject	B31	1,591	1,967	2,732	13,105
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K02	NE	NPIZZZZZ	201	NonProject	B31		-	15,879	10,673
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K03	NE	NPIZZZZZ	201	NonProject	B31	15,896	17,770	14,677	10,682
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K04	NE	NPIZZZZZ	201	NonProject	B31		3,012	3,514	3,996
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K05	NE	NPIZZZZZ	201	NonProject	B31	10,426	2,018	8,203	4,080
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K06	NE	NPIZZZZZ	201	NonProject	B31	709	4,000	14,915	17,495
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	KST	NE	NPIZZZZZ	201	NonProject	B31	5,776			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K01	NE	NPIZZZZZ	201	NonProject	B31	111,126	86,140	84,447	43,238

Hawaiian Electric Company, Inc.
2009 Rate Case
PIL Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K02	NE	NPIZZZZZ	201	NonProject	B31	26,000	30,486	92,218	28,338
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K03	NE	NPIZZZZZ	201	NonProject	B31	79,267	118,116	40,303	80,102
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K04	NE	NPIZZZZZ	201	NonProject	B31	47,561	133,670	93,282	51,884
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K05	NE	NPIZZZZZ	201	NonProject	B31	105,857	134,750	121,715	109,749
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K06	NE	NPIZZZZZ	201	NonProject	B31	53,997	117,490	122,348	92,893
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	KST	NE	NPIZZZZZ	201	NonProject	B31	5,814	6,916	7,892	9,488
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	260	Maint Stm Turbo Eq-Prev	KST	NE	NPIZZZZZ	205	NonProject	B31	982	4,100	4,400	3,340
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K01	NE	NPIZZZZZ	205	NonProject	B31	1,020	-	17	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K02	NE	NPIZZZZZ	205	NonProject	B31		801	768	133
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K03	NE	NPIZZZZZ	205	NonProject	B31		246	494	493
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K04	NE	NPIZZZZZ	205	NonProject	B31		34	-	278
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K05	NE	NPIZZZZZ	205	NonProject	B31		-	530	609
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K06	NE	NPIZZZZZ	205	NonProject	B31		-	193	707
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K01	NE	NPIZZZZZ	205	NonProject	B31	5,099	4,154	1,080	1,365
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K02	NE	NPIZZZZZ	205	NonProject	B31	556	1,145	4,516	201
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K03	NE	NPIZZZZZ	205	NonProject	B31	1,402	537	558	1,489
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K04	NE	NPIZZZZZ	205	NonProject	B31	1,729	4,097	2,137	228
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K05	NE	NPIZZZZZ	205	NonProject	B31	5,743	2,291	6,557	4,050
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K06	NE	NPIZZZZZ	205	NonProject	B31	1,555	1,686	1,472	308
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	KST	NE	NPIZZZZZ	205	NonProject	B31		176	300	200
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	KST	NE	NPIZZZZZ	301	NonProject	B31	19,644	24,424	25,844	25,665
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	KST	NE	NPIZZZZZ	462	NonProject	B31		12,439	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	260	Maint Stm Turbo Eq-Prev	KST	NE	NPIZZZZZ	501	NonProject	B31	1,008	-	350	695
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K01	NE	NPIZZZZZ	501	NonProject	B31	9,971	-	16,795	1,240
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K02	NE	NPIZZZZZ	501	NonProject	B31		-	326	5,955
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K03	NE	NPIZZZZZ	501	NonProject	B31	585	2,689	-	387
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K04	NE	NPIZZZZZ	501	NonProject	B31				236
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K05	NE	NPIZZZZZ	501	NonProject	B31	92	-	3,576	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K06	NE	NPIZZZZZ	501	NonProject	B31		-	8,849	19,149
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	KST	NE	NPIZZZZZ	501	NonProject	B31	86,203			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K01	NE	NPIZZZZZ	501	NonProject	B31	485,870	46,866	22,366	34,763
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K02	NE	NPIZZZZZ	501	NonProject	B31	10,700	103	79,635	14,218
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K03	NE	NPIZZZZZ	501	NonProject	B31	37,105	14,703	1,443	22,595
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K04	NE	NPIZZZZZ	501	NonProject	B31	68,732	12,152	6,719	5,033
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K05	NE	NPIZZZZZ	501	NonProject	B31	46,310	110,054	136,081	32,704
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K06	NE	NPIZZZZZ	501	NonProject	B31	71,405	28,979	56,352	4,557
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	KST	NE	NPIZZZZZ	501	NonProject	B31	39,858	18,024	214,390	77,470
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	KST	NE	NPIZZZZZ	506	NonProject	B31		4,671	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	256	Plan Sch Maint & Const	KST	NE	NPIZZZZZ	201	NonProject	B31	309	16	12	66
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	266	Maint Com Misc Eq-Prev	KST	NE	NPIZZZZZ	201	NonProject	B31	5,227	2,446	6,341	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	NPIZZZZZ	201	NonProject	B31	91,763	121,645	179,362	245,825
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	256	Plan Sch Maint & Const	KST	NE	NPIZZZZZ	205	NonProject	B31	212	41	23	31
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	266	Maint Com Misc Eq-Prev	KST	NE	NPIZZZZZ	205	NonProject	B31				21
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	267	Maint Com Misc Eq-Pred	KST	NE	NPIZZZZZ	205	NonProject	B31		96	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	NPIZZZZZ	205	NonProject	B31	24,006	23,377	26,076	16,964
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	256	Plan Sch Maint & Const	KST	NE	NPIZZZZZ	301	NonProject	B31		-	164	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	266	Maint Com Misc Eq-Prev	KST	NE	NPIZZZZZ	301	NonProject	B31	388			3,344
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	NPIZZZZZ	301	NonProject	B31		880	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	256	Plan Sch Maint & Const	KST	NE	NPIZZZZZ	501	NonProject	B31		-	18,750	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	266	Maint Com Misc Eq-Prev	KST	NE	NPIZZZZZ	501	NonProject	B31	35,356	31,107	2,458	79,237
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	K03	NE	NPIZZZZZ	501	NonProject	B31		9,716	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	NPIZZZZZ	501	NonProject	B31	108,798	146,339	143,898	261,337
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIL	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	201	NonProject	B31		2,583	2,192	619
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIL	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	205	NonProject	B31		-	876	

Hawaiian Electric Company, Inc.
2009 Rate Case
PIL Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIL	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	501	NonProject	B31		-	16,860	6,824
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIL	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	508	NonProject	B31		-	16,351	
	Prod Maint Total												**5,961,159**	**4,168,538**	**4,547,717**	**5,192,927**
	Grand Total												**6,147,129**	**4,979,908**	**4,824,154**	**5,471,266**

Hawaiian Electric Company, Inc.
2009 Rate Case
PIL Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Oper	500	OPER SUPV & ENG	PIL	211	Engr Design & Mng Proj	K06	NE	P0000641	201	Project	B30	30,690			
PS O&M	Prod Oper	500	OPER SUPV & ENG	PIL	211	Engr Design & Mng Proj	K06	NE	P0000641	501	Project	B30	677	69,593	-	
	Prod Oper Total												**31,367**	**69,593**	**-**	**-**
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	K06	NE	P0001581	501	Project	B31				19,448
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KST	NE	P0001271	201	Project	B31		-	64	390
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KST	NE	P0001271	501	Project	B31		-	303,582	509,246
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	P0000458	201	Project	B31	832	478	943	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	P0000458	205	Project	B31	177			
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	P0000458	501	Project	B31	350,960	317,769	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIL	265	Maint Com Struc-Corr	KWW	NE	P0000458	508	Project	B31		3,169	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	257	Maint Boiler Plt Eq-Prev	K01	NE	P0000846	201	Project	B31		6,587	19,906	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K01	NE	P0000846	201	Project	B31		-	5,843	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K01	NE	P0001271	201	Project	B31		-	262	148,360
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K01	NE	P0001271	205	Project	B31				362
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K01	NE	P0001271	501	Project	B31				24,621
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K02	NE	P0001107	201	Project	B31				455
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K02	NE	P0001271	201	Project	B31				195,058
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K04	NE	P0001271	201	Project	B31		187,094	-	149,070
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K04	NE	P0001271	205	Project	B31		838	-	417
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K05	NE	P0001271	201	Project	B31		214,188	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	258	Maint Boiler Plt Eq-Pred	K05	NE	P0001271	205	Project	B31		646	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K02	NE	P0000650	201	Project	B31	1,058			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K03	NE	P0001105	201	Project	B31		-	8,637	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K04	NE	P0000845	201	Project	B31		113	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K04	NE	P0000845	501	Project	B31		74,914	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K05	NE	P0001276	201	Project	B31				5,072
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIL	259	Maint Boiler Plt Eq-Corr	K06	NE	P0000844	201	Project	B31	1,667			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	260	Maint Stm Turbo Eq-Prev	K01	NE	P0000846	201	Project	B31		600	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K01	NE	P0001271	201	Project	B31				25,456
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	261	Maint Stm Turbo Eq-Pred	K01	NE	P0001271	501	Project	B31		-	10,973	389,761
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K03	NE	P0001105	201	Project	B31		-	1,071	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	K04	NE	P0000845	201	Project	B31		11,003	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	H09	NE	P0001496	201	Project	B31		-	28,450	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIL	262	Maint Stm Turbo Eq-Corr	H09	NE	P0001496	205	Project	B31		-	1,795	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	212	Construct Projects	K06	NE	P0000641	501	Project	B31		20,490	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	266	Maint Com Misc Eq-Prev	KST	NE	P0001271	201	Project	B31				4,190
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	266	Maint Com Misc Eq-Prev	KST	NE	P0001271	501	Project	B31		-	8,192	136,267
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	P0001271	201	Project	B31		-	228	8,660
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	P0001271	205	Project	B31				542
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIL	268	Maint Com Misc Eq-Corr	KST	NE	P0001271	501	Project	B31		-	112	525,818
	Prod Maint Total												**354,694**	**837,889**	**390,058**	**2,143,193**
	Grand Total												**386,061**	**907,482**	**390,058**	**2,143,193**

Hawaiian Electric Company, Inc.
2009 Rate Case
PIN Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Oper	502	STEAM EXP	PIN	241	Op & Mon Fuel Feed Sys	HST	NE	NPIZZZZZ	201	NonProject	B30		-	27	78
PS O&M	Prod Oper	502	STEAM EXP	PIN	241	Op & Mon Fuel Feed Sys	HST	NE	NPIZZZZZ	205	NonProject	B30		291	-	
PS O&M	Prod Oper	502	STEAM EXP	PIN	242	Op & Mon Plt Eq-Boiler	HST	NE	NPIZZZZZ	301	NonProject	B30		5,365	12,182	11,585
PS O&M	Prod Oper	502	STEAM EXP	PIN	241	Op & Mon Fuel Feed Sys	HST	NE	NPIZZZZZ	501	NonProject	B30		-	79	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	878	Cmply Sld&HazWste NonOil	HST	NE	NPIZZZZZ	201	NonProject	B30		79	302	4,562
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	931	Care for Bldgs & Grnds	HST	NE	NPIZZZZZ	201	NonProject	B30				99
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	934	Prov&Mg Svcs-Custodial	HST	NE	NPIZZZZZ	201	NonProject	B30		1,570	6,280	9,088
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	878	Cmply Sld&HazWste NonOil	HST	NE	NPIZZZZZ	205	NonProject	B30		-	906	165
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	931	Care for Bldgs & Grnds	HST	NE	NPIZZZZZ	205	NonProject	B30				7
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	934	Prov&Mg Svcs-Custodial	HST	NE	NPIZZZZZ	205	NonProject	B30				212
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	878	Cmply Sld&HazWste NonOil	HST	NE	NPIZZZZZ	501	NonProject	B30	70,886	102,176	133,930	103,126
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	931	Care for Bldgs & Grnds	HST	NE	NPIZZZZZ	501	NonProject	B30	1,331	2,130	880	2,511
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	933	Prov&Mg Svcs-Security	HST	NE	NPIZZZZZ	501	NonProject	B30	7,458			
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	934	Prov&Mg Svcs-Custodial	HST	NE	NPIZZZZZ	501	NonProject	B30	51,912	51,912	54,788	58,426
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIN	936	Mg Svcs-Wstenon-haz	HST	NE	NPIZZZZZ	501	NonProject	B30	10,730	12,237	11,749	10,405
	Prod Oper Total												**142,317**	**175,760**	**221,123**	**200,264**
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	263	Maint Com Struc-Prev	HST	NE	NPIZZZZZ	201	NonProject	B31	2,197	-	44	73
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HST	NE	NPIZZZZZ	201	NonProject	B31	17,188	8,658	12,176	5,550
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HWW	NE	NPIZZZZZ	201	NonProject	B31	19,050	15,409	4,334	52
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	263	Maint Com Struc-Prev	HST	NE	NPIZZZZZ	205	NonProject	B31		99	153	971
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	H08	NE	NPIZZZZZ	205	NonProject	B31	288			
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HST	NE	NPIZZZZZ	205	NonProject	B31	866	1,987	5,287	1,645
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HWW	NE	NPIZZZZZ	205	NonProject	B31	884	1,649	726	68
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	263	Maint Com Struc-Prev	HST	NE	NPIZZZZZ	501	NonProject	B31	8,025	11,182	16,315	13,066
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	H08	NE	NPIZZZZZ	501	NonProject	B31				736
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HST	NE	NPIZZZZZ	501	NonProject	B31	41,081	90,718	92,852	130,393
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HWW	NE	NPIZZZZZ	501	NonProject	B31	6,587	3,725	499	1,968
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	257	Maint Boiler Plt Eq-Prev	H08	NE	NPIZZZZZ	201	NonProject	B31	2,615	3,658	95	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	257	Maint Boiler Plt Eq-Prev	HST	NE	NPIZZZZZ	201	NonProject	B31	631	389	20,527	21,279
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	258	Maint Boiler Plt Eq-Pred	H09	NE	NPIZZZZZ	201	NonProject	B31	974	12,504	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	258	Maint Boiler Plt Eq-Pred	HST	NE	NPIZZZZZ	201	NonProject	B31	1,457			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H08	NE	NPIZZZZZ	201	NonProject	B31	114,136	49,800	36,950	36,150
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	NPIZZZZZ	201	NonProject	B31	64,479	48,926	75,698	14,406
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	NPIZZZZZ	201	NonProject	B31	53,383	53,311	68,597	70,736
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	W08	NE	NPIZZZZZ	201	NonProject	B31	825			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	265	Maint Com Struc-Corr	HWT	NE	NPIZZZZZ	201	NonProject	B31	29,470	14,725	2,731	3,685
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	265	Maint Com Struc-Corr	ITF	NE	NPIZZZZZ	201	NonProject	B31	18,344	-	768	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	269	Maint Fuel Feed Sys-Prev	HST	NE	NPIZZZZZ	201	NonProject	B31		-	781	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	269	Maint Fuel Feed Sys-Prev	HTF	NE	NPIZZZZZ	201	NonProject	B31		-	3,375	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HST	NE	NPIZZZZZ	201	NonProject	B31	20			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HST	NE	NPIZZZZZ	201	NonProject	B31	3,289			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HTF	NE	NPIZZZZZ	201	NonProject	B31	8,885	6,728	1,217	3,188
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	ITF	NE	NPIZZZZZ	201	NonProject	B31	4,213	-	20	339
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	257	Maint Boiler Plt Eq-Prev	H09	NE	NPIZZZZZ	205	NonProject	B31		47	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	257	Maint Boiler Plt Eq-Prev	HST	NE	NPIZZZZZ	205	NonProject	B31		168	78	431
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	258	Maint Boiler Plt Eq-Pred	H09	NE	NPIZZZZZ	205	NonProject	B31		225	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H08	NE	NPIZZZZZ	205	NonProject	B31	729	1,316	3,333	769
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	NPIZZZZZ	205	NonProject	B31	835	2,211	1,323	344
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	NPIZZZZZ	205	NonProject	B31	2,572	2,561	2,696	5,025
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	265	Maint Com Struc-Corr	HWT	NE	NPIZZZZZ	205	NonProject	B31	674	1,261	-	40
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	265	Maint Com Struc-Corr	ITF	NE	NPIZZZZZ	205	NonProject	B31	393	107	126	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	269	Maint Fuel Feed Sys-Prev	HST	NE	NPIZZZZZ	205	NonProject	B31				45
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	269	Maint Fuel Feed Sys-Prev	HTF	NE	NPIZZZZZ	205	NonProject	B31	86	-	613	

Hawaiian Electric Company, Inc.
2009 Rate Case
PIN Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HST	NE	NPIZZZZZ	205	NonProject	B31	49			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HST	NE	NPIZZZZZ	205	NonProject	B31	168			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HTF	NE	NPIZZZZZ	205	NonProject	B31	442	329	176	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	ITF	NE	NPIZZZZZ	205	NonProject	B31	100	548	-	25
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	NPIZZZZZ	301	NonProject	B31	47,630	(11,368)	6,453	5,166
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HTF	NE	NPIZZZZZ	301	NonProject	B31	35			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	ITF	NE	NPIZZZZZ	301	NonProject	B31	182			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	257	Maint Boiler Plt Eq-Prev	H08	NE	NPIZZZZZ	501	NonProject	B31	1,025	1,176	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	257	Maint Boiler Plt Eq-Prev	HST	NE	NPIZZZZZ	501	NonProject	B31		-	915	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	258	Maint Boiler Plt Eq-Pred	H08	NE	NPIZZZZZ	501	NonProject	B31				2,090
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	258	Maint Boiler Plt Eq-Pred	H09	NE	NPIZZZZZ	501	NonProject	B31	12,581	5,687	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H08	NE	NPIZZZZZ	501	NonProject	B31	25,188	17,278	17,023	8,777
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	NPIZZZZZ	501	NonProject	B31	31,743	40,379	16,898	4,240
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	NPIZZZZZ	501	NonProject	B31	187,120	338,899	207,449	187,475
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	265	Maint Com Struc-Corr	HWT	NE	NPIZZZZZ	501	NonProject	B31	17,174	1,140	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	265	Maint Com Struc-Corr	ITF	NE	NPIZZZZZ	501	NonProject	B31	2,771	-	24,462	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	269	Maint Fuel Feed Sys-Prev	HST	NE	NPIZZZZZ	501	NonProject	B31		-	661	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	269	Maint Fuel Feed Sys-Prev	HTF	NE	NPIZZZZZ	501	NonProject	B31	9,025	-	146,741	123,900
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HST	NE	NPIZZZZZ	501	NonProject	B31	310,201	27,075	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HTF	NE	NPIZZZZZ	501	NonProject	B31	(73,125)			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HST	NE	NPIZZZZZ	501	NonProject	B31	28,734			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HTF	NE	NPIZZZZZ	501	NonProject	B31	118,836	2,800	24,507	27,075
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	ITF	NE	NPIZZZZZ	501	NonProject	B31		292	-	44,360
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	NPIZZZZZ	506	NonProject	B31				15,862
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	NPIZZZZZ	506	NonProject	B31	8,907	1,073	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HTF	NE	NPIZZZZZ	520	NonProject	B31	1,597			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	271	Maint Fuel Feed Sys-Corr	HTF	NE	NPIZZZZZ	521	NonProject	B31	42			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	260	Maint Stm Turbo Eq-Prev	H08	NE	NPIZZZZZ	201	NonProject	B31	1	34	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	260	Maint Stm Turbo Eq-Prev	HST	NE	NPIZZZZZ	201	NonProject	B31	6,025	37,613	18,994	31,155
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	261	Maint Stm Turbo Eq-Pred	H08	NE	NPIZZZZZ	201	NonProject	B31		22	2,290	63
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	261	Maint Stm Turbo Eq-Pred	H09	NE	NPIZZZZZ	201	NonProject	B31		32	4,711	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	261	Maint Stm Turbo Eq-Pred	HST	NE	NPIZZZZZ	201	NonProject	B31	2,440			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H08	NE	NPIZZZZZ	201	NonProject	B31	10,184	50,660	32,361	33,689
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H09	NE	NPIZZZZZ	201	NonProject	B31	6,444	36,912	22,004	10,285
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	HST	NE	NPIZZZZZ	201	NonProject	B31	5,162	16,172	847	2,224
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	260	Maint Stm Turbo Eq-Prev	H08	NE	NPIZZZZZ	205	NonProject	B31	644	56	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	260	Maint Stm Turbo Eq-Prev	HST	NE	NPIZZZZZ	205	NonProject	B31		2,807	1,182	128
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H08	NE	NPIZZZZZ	205	NonProject	B31	548	1,658	1,230	782
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H09	NE	NPIZZZZZ	205	NonProject	B31	1,470	3,588	516	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	HST	NE	NPIZZZZZ	205	NonProject	B31		203	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H09	NE	NPIZZZZZ	301	NonProject	B31		-	2,082	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	HST	NE	NPIZZZZZ	462	NonProject	B31		6,220	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	260	Maint Stm Turbo Eq-Prev	H08	NE	NPIZZZZZ	501	NonProject	B31	423			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	260	Maint Stm Turbo Eq-Prev	HST	NE	NPIZZZZZ	501	NonProject	B31		38,703	-	41,136
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	261	Maint Stm Turbo Eq-Pred	H08	NE	NPIZZZZZ	501	NonProject	B31		1,423	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	261	Maint Stm Turbo Eq-Pred	H09	NE	NPIZZZZZ	501	NonProject	B31		9,132	14,182	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H08	NE	NPIZZZZZ	501	NonProject	B31	66,436	15,795	17,554	9,882
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H09	NE	NPIZZZZZ	501	NonProject	B31	15,656	114,679	42,203	1,800
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	HST	NE	NPIZZZZZ	501	NonProject	B31		138,623	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	H08	NE	NPIZZZZZ	506	NonProject	B31		1,750	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIN	262	Maint Stm Turbo Eq-Corr	HST	NE	NPIZZZZZ	506	NonProject	B31		4,085	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	256	Plan Sch Maint & Const	HST	NE	NPIZZZZZ	201	NonProject	B31				20
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	266	Maint Com Misc Eq-Prev	HST	NE	NPIZZZZZ	201	NonProject	B31	963	-	3,737	7,611
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	266	Maint Com Misc Eq-Prev	WST	NE	NPIZZZZZ	201	NonProject	B31				40

Hawaiian Electric Company, Inc.
2009 Rate Case
PIN Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	268	Maint Com Misc Eq-Corr	HST	NE	NPIZZZZZ	201	NonProject	B31	29,183	17,379	3,725	529
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	256	Plan Sch Maint & Const	HST	NE	NPIZZZZZ	205	NonProject	B31		-	208	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	266	Maint Com Misc Eq-Prev	HST	NE	NPIZZZZZ	205	NonProject	B31		-	2,015	1,742
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	268	Maint Com Misc Eq-Corr	HST	NE	NPIZZZZZ	205	NonProject	B31	2,530	5,192	1,534	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	268	Maint Com Misc Eq-Corr	HST	NE	NPIZZZZZ	301	NonProject	B31	1,625			
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	266	Maint Com Misc Eq-Prev	HST	NE	NPIZZZZZ	501	NonProject	B31	10,597	10,718	15,029	14,340
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	268	Maint Com Misc Eq-Corr	HST	NE	NPIZZZZZ	501	NonProject	B31	31,696	7,329	20,602	10,069
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIN	268	Maint Com Misc Eq-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	19,145			
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIN	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	201	NonProject	B31				146
	Prod Maint Total												**1,345,773**	**1,277,457**	**1,003,605**	**895,570**
	Grand Total												**1,488,090**	**1,453,217**	**1,224,728**	**1,095,834**

Hawaiian Electric Company, Inc.
2009 Rate Case
PIN Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HST	NE	P0001271	201	Project	B31		-	710	3,561
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HST	NE	P0001271	205	Project	B31		-	20,760	559
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIN	265	Maint Com Struc-Corr	HST	NE	P0001271	501	Project	B31		-	398,179	(81,827)
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H08	NE	P0001278	201	Project	B31				171,463
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	P0001280	201	Project	B31		33,912	2,251	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	P0001280	205	Project	B31		-	1,138	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	H09	NE	P0001280	501	Project	B31		-	31,070	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	P0001271	501	Project	B31				732
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	259	Maint Boiler Plt Eq-Corr	HST	NE	P000ABAN	501	Project	B31		12,500	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HST	NE	P0001271	201	Project	B31				208
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HST	NE	P0001271	501	Project	B31				631,081
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIN	270	Maint Fuel Feed Sys-Pred	HTF	NE	P0001271	501	Project	B31		-	154,011	282,657
	Prod Maint Total												**-**	**46,412**	**608,119**	**1,008,434**
	Grand Total												**-**	**46,412**	**608,119**	**1,008,434**

Hawaiian Electric Company, Inc.
2009 Rate Case
PIX Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Oper	502	STEAM EXP	PIX	242	Op & Mon Plt Eq-Boiler	WST	NE	NPIZZZZZ	301	NonProject	B30	6,989			
PS O&M	Prod Oper	502	STEAM EXP	PIX	242	Op & Mon Plt Eq-Boiler	WST	NE	NPIZZZZZ	501	NonProject	B30		-	30,000	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	876	Comply Ongo-Wstewtr	WST	NE	NPIZZZZZ	201	NonProject	B30		9,243	1,140	701
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	877	Cmply Sld&HazWste OilRel	WST	NE	NPIZZZZZ	201	NonProject	B30	5,060			
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W03	NE	NPIZZZZZ	201	NonProject	B30	22	321	981	63
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W04	NE	NPIZZZZZ	201	NonProject	B30	327	-	2,397	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W06	NE	NPIZZZZZ	201	NonProject	B30		128	496	321
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W07	NE	NPIZZZZZ	201	NonProject	B30		449	2,124	42
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W08	NE	NPIZZZZZ	201	NonProject	B30		237	149	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	WST	NE	NPIZZZZZ	201	NonProject	B30	7,458	9,291	10,331	11,757
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	933	Prov&Mg Svcs-Security	WST	NE	NPIZZZZZ	201	NonProject	B30		-	122	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	934	Prov&Mg Svcs-Custodial	WST	NE	NPIZZZZZ	201	NonProject	B30	20,410	22,111	19,911	21,810
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	240	Dev & Maint Pol & Proc	WST	NE	NPIZZZZZ	205	NonProject	B30	(30)	-	41	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	876	Comply Ongo-Wstewtr	WST	NE	NPIZZZZZ	205	NonProject	B30	499			
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	877	Cmply Sld&HazWste OilRel	WST	NE	NPIZZZZZ	205	NonProject	B30	3,109			
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W03	NE	NPIZZZZZ	205	NonProject	B30		-	147	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	WST	NE	NPIZZZZZ	205	NonProject	B30		843	-	138
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	933	Prov&Mg Svcs-Security	WST	NE	NPIZZZZZ	205	NonProject	B30		26	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	876	Comply Ongo-Wstewtr	WST	NE	NPIZZZZZ	501	NonProject	B30	3,101	2,971	654	733
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	877	Cmply Sld&HazWste OilRel	WST	NE	NPIZZZZZ	501	NonProject	B30	1,878	671	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W03	NE	NPIZZZZZ	501	NonProject	B30		-	23,937	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W04	NE	NPIZZZZZ	501	NonProject	B30		32,315	31,089	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W05	NE	NPIZZZZZ	501	NonProject	B30		-	1,388	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W06	NE	NPIZZZZZ	501	NonProject	B30		-	2,601	3,818
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W07	NE	NPIZZZZZ	501	NonProject	B30		-	16,391	1,830
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	W08	NE	NPIZZZZZ	501	NonProject	B30		-	7,002	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	878	Cmply Sld&HazWste NonOil	WST	NE	NPIZZZZZ	501	NonProject	B30	92,288	74,361	60,330	98,230
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	931	Care for Bldgs & Grnds	WST	NE	NPIZZZZZ	501	NonProject	B30	98,240	92,637	96,515	114,592
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	933	Prov&Mg Svcs-Security	WST	NE	NPIZZZZZ	501	NonProject	B30		14	-	
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	934	Prov&Mg Svcs-Custodial	WST	NE	NPIZZZZZ	501	NonProject	B30	129,759	135,437	140,387	156,942
PS O&M	Prod Oper	506	MISC STM PWR EXP	PIX	877	Cmply Sld&HazWste OilRel	WST	NE	NPIZZZZZ	506	NonProject	B30	12,000			
PS O&M	Prod Oper	549	MISC EXP-OTH PROD	PIX	796	Prov & Mg Fire Protect	W10	NE	NPIZZZZZ	501	NonProject	B30				4,494
	Prod Oper Total												**381,110**	**381,055**	**448,133**	**415,471**
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	263	Maint Com Struc-Prev	WST	NE	NPIZZZZZ	201	NonProject	B31	60,137	66,787	34,797	16,631
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	264	Maint Com Struc-Pred	W07	NE	NPIZZZZZ	201	NonProject	B31		-	421	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	264	Maint Com Struc-Pred	WST	NE	NPIZZZZZ	201	NonProject	B31		-	4	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W03	NE	NPIZZZZZ	201	NonProject	B31		11,085	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W04	NE	NPIZZZZZ	201	NonProject	B31		10,290	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W05	NE	NPIZZZZZ	201	NonProject	B31		-	717	2,145
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W07	NE	NPIZZZZZ	201	NonProject	B31	4,171	2,866	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W08	NE	NPIZZZZZ	201	NonProject	B31	4,255	2,770	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WST	NE	NPIZZZZZ	201	NonProject	B31	32,459	32,059	59,293	55,595
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WWW	NE	NPIZZZZZ	201	NonProject	B31	13,246	15,932	134,197	26,341
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	266	Maint Com Misc Eq-Prev	WWW	NE	NPIZZZZZ	201	NonProject	B31	4,386	22,814	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	268	Maint Com Misc Eq-Corr	WWW	NE	NPIZZZZZ	201	NonProject	B31		29,587	5,697	68
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	263	Maint Com Struc-Prev	WST	NE	NPIZZZZZ	205	NonProject	B31	7,959	7,678	5,189	100
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	264	Maint Com Struc-Pred	W07	NE	NPIZZZZZ	205	NonProject	B31		-	270	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W03	NE	NPIZZZZZ	205	NonProject	B31		666	166	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W05	NE	NPIZZZZZ	205	NonProject	B31		-	400	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W06	NE	NPIZZZZZ	205	NonProject	B31	156	18	-	39
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W07	NE	NPIZZZZZ	205	NonProject	B31		188	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WST	NE	NPIZZZZZ	205	NonProject	B31	6,250	4,616	5,160	3,244
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WWW	NE	NPIZZZZZ	205	NonProject	B31	4,976	752	777	152

Hawaiian Electric Company, Inc.
2009 Rate Case
PIX Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	268	Maint Com Misc Eq-Corr	WWW	NE	NPIZZZZZ	205	NonProject	B31		1,064	187	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	263	Maint Com Struc-Prev	WST	NE	NPIZZZZZ	301	NonProject	B31		-	153	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	263	Maint Com Struc-Prev	WST	NE	NPIZZZZZ	501	NonProject	B31	29,990	160,139	114,056	25,480
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	264	Maint Com Struc-Pred	WST	NE	NPIZZZZZ	501	NonProject	B31				19,581
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W03	NE	NPIZZZZZ	501	NonProject	B31		11,400	9,500	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W04	NE	NPIZZZZZ	501	NonProject	B31		1,600	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W05	NE	NPIZZZZZ	501	NonProject	B31		-	9,894	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W06	NE	NPIZZZZZ	501	NonProject	B31				4,283
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W07	NE	NPIZZZZZ	501	NonProject	B31		7,816	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	W08	NE	NPIZZZZZ	501	NonProject	B31		15,687	-	
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	574,589	134,727	124,445	296,758
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WWW	NE	NPIZZZZZ	501	NonProject	B31	69,989	28,967	32,361	25,579
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	266	Maint Com Misc Eq-Prev	WWW	NE	NPIZZZZZ	501	NonProject	B31	10,754	1,991	10,117	11,634
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	268	Maint Com Misc Eq-Corr	WWW	NE	NPIZZZZZ	501	NonProject	B31		8,625	18,775	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W03	NE	NPIZZZZZ	201	NonProject	B31		574	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W05	NE	NPIZZZZZ	201	NonProject	B31				2,828
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W06	NE	NPIZZZZZ	201	NonProject	B31		51	208	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W07	NE	NPIZZZZZ	201	NonProject	B31				4,807
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W08	NE	NPIZZZZZ	201	NonProject	B31		5,885	-	1,482
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	WST	NE	NPIZZZZZ	201	NonProject	B31	5,525	6,989	10,939	164,960
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	K02	NE	NPIZZZZZ	201	NonProject	B31	92			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W03	NE	NPIZZZZZ	201	NonProject	B31		10,904	119,457	9,892
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W04	NE	NPIZZZZZ	201	NonProject	B31	69	-	858	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W05	NE	NPIZZZZZ	201	NonProject	B31	817	916	-	9,521
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W06	NE	NPIZZZZZ	201	NonProject	B31	4,346	1,638	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W07	NE	NPIZZZZZ	201	NonProject	B31	673	10,628	34,103	102,787
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W08	NE	NPIZZZZZ	201	NonProject	B31	1,640	10,895	565	6,843
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	WST	NE	NPIZZZZZ	201	NonProject	B31	18,217	3,261	37,500	11,416
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W03	NE	NPIZZZZZ	201	NonProject	B31	49,697	118,907	59,667	134,953
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W04	NE	NPIZZZZZ	201	NonProject	B31	35,325	48,125	53,341	41,151
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	NPIZZZZZ	201	NonProject	B31	85,645	85,229	53,918	127,591
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W06	NE	NPIZZZZZ	201	NonProject	B31	69,232	104,387	87,334	114,524
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W07	NE	NPIZZZZZ	201	NonProject	B31	51,787	114,382	208,143	117,987
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W08	NE	NPIZZZZZ	201	NonProject	B31	324,628	213,375	144,420	108,749
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	NPIZZZZZ	201	NonProject	B31	72,192	143,655	272,046	270,409
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	265	Maint Com Struc-Corr	WT1	NE	NPIZZZZZ	201	NonProject	B31	53	654	4,935	808
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	265	Maint Com Struc-Corr	WT2	NE	NPIZZZZZ	201	NonProject	B31	20,394	32,496	39,719	48,121
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	267	Maint Com Misc Eq-Pred	WT2	NE	NPIZZZZZ	201	NonProject	B31				16,873
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	268	Maint Com Misc Eq-Corr	WT1	NE	NPIZZZZZ	201	NonProject	B31		4	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	268	Maint Com Misc Eq-Corr	WT2	NE	NPIZZZZZ	201	NonProject	B31		29,960	696	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	270	Maint Fuel Feed Sys-Pred	W08	NE	NPIZZZZZ	201	NonProject	B31		697	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	W05	NE	NPIZZZZZ	201	NonProject	B31		1	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	W08	NE	NPIZZZZZ	201	NonProject	B31		22	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	WFS	NE	NPIZZZZZ	201	NonProject	B31	27,211	31,900	10,525	17,547
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	WST	NE	NPIZZZZZ	201	NonProject	B31	10,360	168	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W03	NE	NPIZZZZZ	205	NonProject	B31		31	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W05	NE	NPIZZZZZ	205	NonProject	B31				180
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W08	NE	NPIZZZZZ	205	NonProject	B31		59	-	375
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	WST	NE	NPIZZZZZ	205	NonProject	B31		84	588	43
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W03	NE	NPIZZZZZ	205	NonProject	B31		244	998	893
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W04	NE	NPIZZZZZ	205	NonProject	B31	377	-	257	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W05	NE	NPIZZZZZ	205	NonProject	B31	284			216
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W06	NE	NPIZZZZZ	205	NonProject	B31	341			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W07	NE	NPIZZZZZ	205	NonProject	B31	480			72

Hawaiian Electric Company, Inc.
2009 Rate Case
PIX Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W08	NE	NPIZZZZZ	205	NonProject	B31	203			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	WST	NE	NPIZZZZZ	205	NonProject	B31	1,643	480	871	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W03	NE	NPIZZZZZ	205	NonProject	B31	1,729	4,413	3,643	1,455
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W04	NE	NPIZZZZZ	205	NonProject	B31	1,105	3,325	850	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	NPIZZZZZ	205	NonProject	B31	6,983	2,321	576	812
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W06	NE	NPIZZZZZ	205	NonProject	B31	1,127	1,228	265	336
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W07	NE	NPIZZZZZ	205	NonProject	B31	1,860	1,970	3,855	221
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W08	NE	NPIZZZZZ	205	NonProject	B31	3,807	9,375	2,190	577
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	NPIZZZZZ	205	NonProject	B31	5,368	4,832	14,623	14,922
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	265	Maint Com Struc-Corr	WT1	NE	NPIZZZZZ	205	NonProject	B31		-	1,128	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	265	Maint Com Struc-Corr	WT2	NE	NPIZZZZZ	205	NonProject	B31	1,287	1,815	387	184
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	268	Maint Com Misc Eq-Corr	WT2	NE	NPIZZZZZ	205	NonProject	B31		-	226	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	W08	NE	NPIZZZZZ	205	NonProject	B31		175	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	WFS	NE	NPIZZZZZ	205	NonProject	B31	4,253	422	3,106	643
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	WST	NE	NPIZZZZZ	205	NonProject	B31	1,453			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	WST	NE	NPIZZZZZ	301	NonProject	B31	21,514	19,987	33,507	4,586
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	NPIZZZZZ	301	NonProject	B31				5
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	NPIZZZZZ	301	NonProject	B31	14,440	70,205	84,674	61,978
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	WST	NE	NPIZZZZZ	462	NonProject	B31	8,112			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W03	NE	NPIZZZZZ	501	NonProject	B31		600	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W05	NE	NPIZZZZZ	501	NonProject	B31				2,348
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W06	NE	NPIZZZZZ	501	NonProject	B31		-	1,270	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W07	NE	NPIZZZZZ	501	NonProject	B31				789
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	W08	NE	NPIZZZZZ	501	NonProject	B31		5,553	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	257	Maint Boiler Plt Eq-Prev	WST	NE	NPIZZZZZ	501	NonProject	B31	217,382	249,418	240,475	53,122
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W03	NE	NPIZZZZZ	501	NonProject	B31	138	11,794	21,918	12,809
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W04	NE	NPIZZZZZ	501	NonProject	B31	5,628	-	1,601	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W05	NE	NPIZZZZZ	501	NonProject	B31	90,895	-	22,775	22,432
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W06	NE	NPIZZZZZ	501	NonProject	B31	600	-	4,000	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W07	NE	NPIZZZZZ	501	NonProject	B31	11,705	32,852	1,217	78,374
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W08	NE	NPIZZZZZ	501	NonProject	B31	3,016	33,532	4,669	22,166
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	WST	NE	NPIZZZZZ	501	NonProject	B31	8,495	-	13,492	1,606
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	KST	NE	NPIZZZZZ	501	NonProject	B31				18,024
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W03	NE	NPIZZZZZ	501	NonProject	B31	13,636	157,791	173,286	63,513
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W04	NE	NPIZZZZZ	501	NonProject	B31	17,634	25,416	64,473	46,272
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	NPIZZZZZ	501	NonProject	B31	32,140	78,049	51,836	37,100
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W06	NE	NPIZZZZZ	501	NonProject	B31	75,088	114,636	73,637	51,062
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W07	NE	NPIZZZZZ	501	NonProject	B31	35,188	96,025	171,382	265,671
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W08	NE	NPIZZZZZ	501	NonProject	B31	246,325	261,661	82,162	28,421
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	228,616	170,828	520,064	837,799
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	263	Maint Com Struc-Prev	WT2	NE	NPIZZZZZ	501	NonProject	B31	21,706	10,832	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	265	Maint Com Struc-Corr	WT1	NE	NPIZZZZZ	501	NonProject	B31		-	25,047	58,487
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	265	Maint Com Struc-Corr	WT2	NE	NPIZZZZZ	501	NonProject	B31	2,608	417	-	3,063
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	267	Maint Com Misc Eq-Pred	WT2	NE	NPIZZZZZ	501	NonProject	B31				1,573
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	268	Maint Com Misc Eq-Corr	WT1	NE	NPIZZZZZ	501	NonProject	B31		900	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	268	Maint Com Misc Eq-Corr	WT2	NE	NPIZZZZZ	501	NonProject	B31		1,100	-	439
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	W03	NE	NPIZZZZZ	501	NonProject	B31				15,658
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	WFS	NE	NPIZZZZZ	501	NonProject	B31	42,141	53,875	56,605	42,883
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	271	Maint Fuel Feed Sys-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	125,099	11,653	-	31,000
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	NPIZZZZZ	506	NonProject	B31				22,981
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	NPIZZZZZ	506	NonProject	B31	17,815	32,239	26,707	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	W03	NE	NPIZZZZZ	201	NonProject	B31		29,744	3,971	4,347
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	W04	NE	NPIZZZZZ	201	NonProject	B31		9,787	1,047	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	W08	NE	NPIZZZZZ	201	NonProject	B31		5,804	-	

Hawaiian Electric Company, Inc.
2009 Rate Case
PIX Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	WST	NE	NPIZZZZZ	201	NonProject	B31	42,319	208,426	102,054	78,159
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W03	NE	NPIZZZZZ	201	NonProject	B31	188	1,547	2,040	1,493
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W04	NE	NPIZZZZZ	201	NonProject	B31		420	4,903	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W05	NE	NPIZZZZZ	201	NonProject	B31	5			2,279
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W07	NE	NPIZZZZZ	201	NonProject	B31	2	-	11,245	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W08	NE	NPIZZZZZ	201	NonProject	B31	4,396	164	-	1,826
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	WST	NE	NPIZZZZZ	201	NonProject	B31	1,103	340	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W03	NE	NPIZZZZZ	201	NonProject	B31	152,404	181,380	43,810	38,431
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W04	NE	NPIZZZZZ	201	NonProject	B31	6,389	21,791	33,470	21,436
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W05	NE	NPIZZZZZ	201	NonProject	B31	28,418	23,890	30,724	57,580
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W06	NE	NPIZZZZZ	201	NonProject	B31	35,031	76,636	45,390	96,859
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W07	NE	NPIZZZZZ	201	NonProject	B31	6,362	102,175	74,167	73,189
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	NPIZZZZZ	201	NonProject	B31	286,411	209,986	36,432	72,137
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	WST	NE	NPIZZZZZ	201	NonProject	B31	19,748	6,762	80,136	23,856
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	WST	NE	NPIZZZZZ	205	NonProject	B31	1,319	3,154	5,031	3,193
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W03	NE	NPIZZZZZ	205	NonProject	B31	489	192	-	79
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W05	NE	NPIZZZZZ	205	NonProject	B31				591
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W08	NE	NPIZZZZZ	205	NonProject	B31		477	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	WST	NE	NPIZZZZZ	205	NonProject	B31	2,113			
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W03	NE	NPIZZZZZ	205	NonProject	B31	2,439	3,765	1,261	946
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W04	NE	NPIZZZZZ	205	NonProject	B31	490	478	452	1,485
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W05	NE	NPIZZZZZ	205	NonProject	B31	1,142	3,767	77	1,131
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W06	NE	NPIZZZZZ	205	NonProject	B31	1,161	2,452	1,952	293
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W07	NE	NPIZZZZZ	205	NonProject	B31	1,270	1,819	2,679	3,473
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	NPIZZZZZ	205	NonProject	B31	3,203	3,896	4,493	983
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	WST	NE	NPIZZZZZ	205	NonProject	B31				71
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W07	NE	NPIZZZZZ	301	NonProject	B31		-	10	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	NPIZZZZZ	301	NonProject	B31		2,241	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	WST	NE	NPIZZZZZ	301	NonProject	B31	15,692	3,956	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	WST	NE	NPIZZZZZ	462	NonProject	B31		12,439	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	W03	NE	NPIZZZZZ	501	NonProject	B31		57,606	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	260	Maint Stm Turbo Eq-Prev	WST	NE	NPIZZZZZ	501	NonProject	B31	10,000	517	15,583	71,997
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W03	NE	NPIZZZZZ	501	NonProject	B31		23,026	-	8,616
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W04	NE	NPIZZZZZ	501	NonProject	B31		3,400	136	701
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W05	NE	NPIZZZZZ	501	NonProject	B31				13,411
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W06	NE	NPIZZZZZ	501	NonProject	B31				155
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W07	NE	NPIZZZZZ	501	NonProject	B31		-	6,661	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W08	NE	NPIZZZZZ	501	NonProject	B31		10,417	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	WST	NE	NPIZZZZZ	501	NonProject	B31	614	272	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W03	NE	NPIZZZZZ	501	NonProject	B31	158,098	249,414	138,949	27,203
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W04	NE	NPIZZZZZ	501	NonProject	B31	14,568	25,543	16,860	15,793
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W05	NE	NPIZZZZZ	501	NonProject	B31	72,864	2,926	5,767	60,720
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W06	NE	NPIZZZZZ	501	NonProject	B31	1,309	168,003	86,245	52,177
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W07	NE	NPIZZZZZ	501	NonProject	B31	2,359	88,354	13,990	39,035
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	NPIZZZZZ	501	NonProject	B31	353,537	677,270	39,491	37,663
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	53,812	65	45,743	20,078
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W07	NE	NPIZZZZZ	506	NonProject	B31		4,250	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	NPIZZZZZ	506	NonProject	B31		4,250	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	WST	NE	NPIZZZZZ	506	NonProject	B31		16,348	-	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W07	NE	NPIZZZZZ	522	NonProject	B31		737	1,028	
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	NPIZZZZZ	900	NonProject	B31	(539,248)	(337,998)	11,168	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	256	Plan Sch Maint & Const	WST	NE	NPIZZZZZ	201	NonProject	B31	11	-	1,402	1,089
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	266	Maint Com Misc Eq-Prev	WST	NE	NPIZZZZZ	201	NonProject	B31	15,147	30,320	43,033	5,123
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	267	Maint Com Misc Eq-Pred	WST	NE	NPIZZZZZ	201	NonProject	B31		295	763	

Hawaiian Electric Company, Inc.
2009 Rate Case
PIX Non-Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	KST	NE	NPIZZZZZ	201	NonProject	B31		-	1,318	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W03	NE	NPIZZZZZ	201	NonProject	B31		155	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W06	NE	NPIZZZZZ	201	NonProject	B31		63	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W08	NE	NPIZZZZZ	201	NonProject	B31		10,701	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	WST	NE	NPIZZZZZ	201	NonProject	B31	48,876	154,468	125,222	109,606
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	753	Maint Rel-Community	PPM	NE	NPIZZZZZ	201	NonProject	B31		134	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	256	Plan Sch Maint & Const	WST	NE	NPIZZZZZ	205	NonProject	B31	10,603	5,901	3,878	4,205
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	266	Maint Com Misc Eq-Prev	WST	NE	NPIZZZZZ	205	NonProject	B31	6,622	7,689	1,250	863
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	267	Maint Com Misc Eq-Pred	WST	NE	NPIZZZZZ	205	NonProject	B31		108	84	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W03	NE	NPIZZZZZ	205	NonProject	B31		36	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W08	NE	NPIZZZZZ	205	NonProject	B31		57	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	WST	NE	NPIZZZZZ	205	NonProject	B31	23,736	23,093	42,453	21,836
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	753	Maint Rel-Community	PPM	NE	NPIZZZZZ	205	NonProject	B31	382			
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	256	Plan Sch Maint & Const	WST	NE	NPIZZZZZ	301	NonProject	B31				86
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	266	Maint Com Misc Eq-Prev	WST	NE	NPIZZZZZ	301	NonProject	B31		171	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	WST	NE	NPIZZZZZ	301	NonProject	B31	33,379	12,546	11,038	389
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	256	Plan Sch Maint & Const	WST	NE	NPIZZZZZ	501	NonProject	B31		49	364	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	266	Maint Com Misc Eq-Prev	WST	NE	NPIZZZZZ	501	NonProject	B31	73,970	44,583	91,130	143,866
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	267	Maint Com Misc Eq-Pred	WST	NE	NPIZZZZZ	501	NonProject	B31		13,797	8,570	4,143
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	KST	NE	NPIZZZZZ	501	NonProject	B31		-	131	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W05	NE	NPIZZZZZ	501	NonProject	B31	22,401			
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W06	NE	NPIZZZZZ	501	NonProject	B31	37,643	5,159	-	4,283
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W07	NE	NPIZZZZZ	501	NonProject	B31		4,940	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	W08	NE	NPIZZZZZ	501	NonProject	B31	3,946	8,364	-	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	WST	NE	NPIZZZZZ	501	NonProject	B31	146,948	245,928	197,762	258,965
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	936	Mg Svcs-Wstenon-haz	WST	NE	NPIZZZZZ	501	NonProject	B31	67,868	36,589	30,297	32,882
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	265	Maint Com Struc-Corr	W09	NE	NPIZZZZZ	201	NonProject	B31		24	-	
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	265	Maint Com Struc-Corr	WNS	NE	NPIZZZZZ	201	NonProject	B31	256			1,523
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	271	Maint Fuel Feed Sys-Corr	W09	NE	NPIZZZZZ	201	NonProject	B31		-	404	
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	271	Maint Fuel Feed Sys-Corr	W10	NE	NPIZZZZZ	201	NonProject	B31	423	21,826	1,584	1,690
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	271	Maint Fuel Feed Sys-Corr	WFN	NE	NPIZZZZZ	201	NonProject	B31	17,546	-	282	44
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	265	Maint Com Struc-Corr	WNS	NE	NPIZZZZZ	205	NonProject	B31	394			791
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	271	Maint Fuel Feed Sys-Corr	W10	NE	NPIZZZZZ	205	NonProject	B31		565	-	
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	271	Maint Fuel Feed Sys-Corr	WFN	NE	NPIZZZZZ	205	NonProject	B31	1,453			
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	265	Maint Com Struc-Corr	WNS	NE	NPIZZZZZ	501	NonProject	B31	725	-	3,300	2,594
PS O&M	Prod Maint	552	M STRUC-OTH PRD	PIX	271	Maint Fuel Feed Sys-Corr	WFN	NE	NPIZZZZZ	501	NonProject	B31	19,468	8,451	17,231	
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	274	Maint CT & Elec Eq-Corr	W09	NE	NPIZZZZZ	201	NonProject	B31	18,946	22,564	36,399	14,202
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	274	Maint CT & Elec Eq-Corr	W10	NE	NPIZZZZZ	201	NonProject	B31	2,649	23,227	38,518	16,540
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	201	NonProject	B31				146
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	274	Maint CT & Elec Eq-Corr	W09	NE	NPIZZZZZ	205	NonProject	B31	852	600	883	1,010
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	274	Maint CT & Elec Eq-Corr	W10	NE	NPIZZZZZ	205	NonProject	B31	425	889	1,944	
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	268	Maint Com Misc Eq-Corr	WNS	NE	NPIZZZZZ	501	NonProject	B31		-	3,342	
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	273	Maint CT & Elec Eq-Pred	W09	NE	NPIZZZZZ	501	NonProject	B31		1,719	-	
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	274	Maint CT & Elec Eq-Corr	W09	NE	NPIZZZZZ	501	NonProject	B31	19,974	19,437	17,279	26,876
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	274	Maint CT & Elec Eq-Corr	W10	NE	NPIZZZZZ	501	NonProject	B31	3,238	4,391	43,141	9,838
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	276	Maint Combust Eng Eq-Pred	W09	NE	NPIZZZZZ	501	NonProject	B31				2,349
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	277	Maint Combust Eng Eq-Corr	PDG	NE	NPIZZZZZ	501	NonProject	B31		-	622	
	Prod Maint Total												**4,191,329**	**5,646,691**	**5,003,899**	**5,102,294**
	Grand Total												**4,572,439**	**6,027,746**	**5,452,032**	**5,517,765**

Hawaiian Electric Company, Inc.
2009 Rate Case
PIX Project Non-Labor

Dept	Acct Blk Descr	NARUC	NARUC Descr	RA	Act	Activity	Loc	Ind	Proj	EE	Proj_or_NonProj	Acct Blk	Sum of FY05 Act04-05$RA	Sum of FY06 Act06-07$ RA	Sum of FY07 Act06-07$ RA	Sum of FY08 Act08$RA
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WST	NE	P0001271	201	Project	B31		-	109,513	49,263
PS O&M	Prod Maint	511	MAINT STRUCTURES	PIX	265	Maint Com Struc-Corr	WST	NE	P0001271	501	Project	B31		-	54,597	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	H09	NE	P0001280	501	Project	B31		-	15,042	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W04	NE	P0000847	201	Project	B31	386	4,732	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W04	NE	P0000847	205	Project	B31		985	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W04	NE	P0000847	501	Project	B31	17,873	36,523	-	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W05	NE	P0001279	201	Project	B31				7,633
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W06	NE	P0000654	201	Project	B31	118			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W06	NE	P0000654	501	Project	B31	16,488			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	258	Maint Boiler Plt Eq-Pred	W07	NE	P0001106	201	Project	B31		-	157,451	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W03	NE	P0001271	201	Project	B31				8,431
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W03	NE	P0001271	501	Project	B31				154,246
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	P0001279	201	Project	B31				47,938
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	P0001279	205	Project	B31				917
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W05	NE	P0001279	501	Project	B31				31,294
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W06	NE	P0001162	201	Project	B31	304,121			
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W07	NE	P0001271	201	Project	B31		-	33,466	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W07	NE	P0001271	205	Project	B31		-	4,640	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	W07	NE	P0001271	501	Project	B31		-	10,281	
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	P0001271	201	Project	B31				9
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	P0001271	205	Project	B31				107
PS O&M	Prod Maint	512	MAINT BLR & FO PLT	PIX	259	Maint Boiler Plt Eq-Corr	WST	NE	P0001271	501	Project	B31				240,535
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W05	NE	P0001279	201	Project	B31				14,873
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W05	NE	P0001279	205	Project	B31				1,371
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	261	Maint Stm Turbo Eq-Pred	W05	NE	P0001279	501	Project	B31				65,380
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W03	NE	P0001271	201	Project	B31		158,220	1,007	42,060
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W03	NE	P0001271	205	Project	B31		5,810	-	366
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W03	NE	P0001271	501	Project	B31		405,334	(838)	105,329
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W06	NE	P0001271	201	Project	B31				47,608
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W06	NE	P0001271	501	Project	B31				92,961
PS O&M	Prod Maint	513	MAINT ELEC PLT	PIX	262	Maint Stm Turbo Eq-Corr	W08	NE	P0001273	201	Project	B31				5,215
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	WST	NE	P0001271	201	Project	B31		-	2,467	
PS O&M	Prod Maint	514	MAINT MISC STM PLT	PIX	268	Maint Com Misc Eq-Corr	WST	NE	P0001271	501	Project	B31		-	123,304	
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	273	Maint CT & Elec Eq-Pred	W09	NE	P0000937	201	Project	B31	323,626			
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	273	Maint CT & Elec Eq-Pred	W09	NE	P0000937	205	Project	B31	5,057			
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	273	Maint CT & Elec Eq-Pred	W09	NE	P0000937	221	Project	B31	99,345			
PS O&M	Prod Maint	553	M ELEC PLT-OTH PROD	PIX	273	Maint CT & Elec Eq-Pred	W09	NE	P0000937	501	Project	B31	318,404			
	Prod Maint Total												**1,085,418**	**611,604**	**510,930**	**915,536**
	Grand Total												**1,085,418**	**611,604**	**510,930**	**915,536**

Hawaiian Electric Company, Inc.
2009 Test Year
HECO Station Maintenance - Update Items

Adj#	Dept	acct blk	acct	naruc desc	ra	ra desc	act	act desc	loc	ind	prj	ee	2009 $	First Identified
12-CIP CT-1 Crane Insp	Prod-O&M	Prod Maint	5531	Maint Elec Plt CT1	PIZ	CIP Stn Maint	266	Maint Com Misc Eq Prev	CP1	NE	NPIZZZZZ	501	($3,000)	2008
16- Kahe FO Tnk #11	Prod-O&M	Prod Maint	512030	Maint Blr & FO Plant Kahe	PIL	Kahe Stn Maint	269	Maint Fuel Fd Sys-Prev	KTF	NE	P0001269	501	$329,000	2008
17- Iwilei Pipeline	Prod-O&M	Prod Maint	512010	Maint Blr & FO Plant Hono	PIN	Hono Stn Maint	270	Maint Fuel Fd Sys-Predict	ITF	NE	P0001271	501	($200,000)	2008
18- Hono Brkr Retrofit	Prod-O&M	Prod Maint	513010	Maint Elec Plt Hono	PIN	Hono Stn Maint	260	Maint Stm TurboGen & RelEq Prev	HST	NE	NPIZZZZZ	501	($25,000)	2008
18- Waiau Brkr Retrofit	Prod-O&M	Prod Maint	513020	Maint Elec Plt Waiau	PIX	Waiau Stn Maint	260	Maint Stm TurboGen & RelEq Prev	WST	NE	NPIZZZZZ	501	($25,000)	2008
18- Kahe Brkr Retrofit	Prod-O&M	Prod Maint	513030	Maint Elec Plt Kahe	PIL	Kahe Stn Maint	260	Maint Stm TurboGen & RelEq Prev	KST	NE	NPIZZZZZ	501	($29,000)	2008
19- Waiau Cath Prot	Prod-O&M	Prod Maint	513020	Maint Elec Plt Waiau	PIX	Waiau Stn Maint	260	Maint Stm TurboGen & RelEq Prev	WST	NE	NPIZZZZZ	501	($50,000)	2001
21- HCEI Biofuels	Energy Proj	Prod Maint	551	Maint SupvEng Oth Prod	PNG	Energy Proj	210	Plan and Approve Projects	PDG	NE	NPASVP7Z	506	$50,000	2008
													$47,000	

Hawaiian Electric Company, Inc.
2009 Test Year
($ in thousands)
Comparable Listing with Maintenance Interval

		Recorded						TY	Maintenance
LOC	Description	2003	2004	2005	2006	2007	2008	2009	Interval
HON	Asbestos	53.7	162.3	50.8	85.7	97.7	80.8		annual
HON	BFP	161.7	158.1					170.0	1 - 3yrs
HON	Building & Grounds Maint		105.0		64.6	64.4	105.6		annual
HON	Circ Water Pump				132.7				5 - 10 yrs
HON	Gantry Crane							150.0	30 yrs
HON	Iwilei Pipeline	133.0		408.0		414.3	1,290.4	200.0	1 - 2 yrs
HON	Travel Screen				62.0		68.5		3 - 6 yrs
HON	Tunnel				146.7			200.0	3 - 5 yrs
HON	Waste Water Facil				79.1	58.4	147.7		3 - 5 yrs
HON	Asset Optimization							156.0	annual
KAHE	APH		84.2	165.0			202.2		3-5 yrs
KAHE	Basin Dredge		93.6	285.3		132.4	140.5	150.0	1-2 yrs
KAHE	BFP	671.1	65.6	350.8		57.7	355.7	170.0	1-2 yrs
KAHE	Condensate Pump						415.3		5 - 10 yrs
KAHE	Corrosion Control		605.2	211.9					3 - 5 yrs
KAHE	Fire Stop				53.2		24.9		15 - 30 yrs
KAHE	FO Tank			408.3					5 - 10 yrs
KAHE	Fuel Oil Dead Leg							130.0	30 yrs
KAHE	Gantry Crane					282.0	89.2		5 - 10 yrs
KAHE	H2 Coolers			71.7					30 yrs
KAHE	Pond		56.6	57.7			26.6	220.0	2 - 5 yrs
KAHE	Roadway Repairs		65.6			157.9	265.8	200.0	2 - 4 yrs
KAHE	Shoe Box							200.0	5 - 10 yrs
KAHE	Spall Repr		369.3	75.8		171.1			1 - 2 years

Hawaiian Electric Company, Inc.
2009 Test Year
($ in thousands)
Comparable Listing with Maintenance Interval

		Recorded						TY	Maintenance
LOC	Description	2003	2004	2005	2006	2007	2008	2009	Interval
KAHE	Stilling Basin						16.9	100.0	3 - 6 yrs
KAHE	Transformer				53.5				30 years
KAHE	Travel Screen	96.1		52.1			17.0	240.0	3 - 5 yrs
KAHE	Turbine Deck	66.8		86.7	126.4	56.5	245.1	300.0	3 - 5 years
KAHE	Waste Water Facil	142.6							5 - 10 years
KAHE	Asset Optimization						497.5	499.2	annual
WAIAU	Air Conditioning		53.6						5 - 10 yrs
WAIAU	BFP		165.9	160.5		109.9	286.9	100.0	1 - 2 yrs
WAIAU	Blr Chem Cln				137.1				5 - 10 yrs
WAIAU	Building & Grounds Maint		156.4						5 - 10 yrs
WAIAU	Circ Water Pump			176.5	80.8			180.0	3 - 6 yrs
WAIAU	Condensate Pump	88.3			76.3				5 - 10 yrs
WAIAU	*Corrosion Control*		*680.1*	*211.6*				*250.0*	*3 - 5 yrs*
WAIAU	Demin	56.2					37.7		5 - 10 yrs
WAIAU	Drying Bed	59.1					24.2		5 - 10 yrs
WAIAU	Fire Line Repairs				54.9				5 - 10 yrs
WAIAU	FO Tank	682.8	58.0						5 - 10 yrs
WAIAU	FWH					52.3			30 yrs
WAIAU	Gantry Crane	60.8		72.3	123.5	107.2	12.7		3 - 5 yrs
WAIAU	H2 Coolers			72.5	141.3				30 yrs
WAIAU	Insulation				99.0				One Time as a project
WAIAU	Roadway Repairs		96.8				226.1		5 - 10 yrs
WAIAU	Spall Repr			68.7					10 - 20 yrs
WAIAU	Travel Screen				198.5	142.8	297.0	240.0	1 - 2 yrs

Hawaiian Electric Company, Inc.
2009 Test Year
($ in thousands)
Comparable Listing with Maintenance Interval

		Recorded						TY	Maintenance
LOC	Description	2003	2004	2005	2006	2007	2008	2009	Interval
WAIAU	Tunnel	53.1		128.5	488.2		172.9		2 - 5 yrs
WAIAU	Turbine Deck			61.9		58.3		300.0	3 - 5 years
WAIAU	Waste Water Facil					161.0	91.6		5 - 10 yrs
WAIAU	Asset Optimization						381.1	499.2	annual

CA-IR-295

Ref: HECO T-7 Update; page 44 (Biofuels outside Engineering).

Please provide the most detailed available description of this planned work and consulting work scoping, as well as all RFP's, contracts and other documents associated with your response.

HECO Response:

In 2009, outside engineering, environmental permitting, and testing services will be required to conduct and evaluate longer duration emissions, operations and maintenance tests of a HECO DG unit fired on biodiesel. The objectives of these tests will be to verify the HECO DG units' ability to operate within existing air permits on biodiesel, determine DG engine and fuel system modifications needed for biodiesel operation (if any), and to develop operations and maintenance protocols, requirements, and cost estimates. No scopes of work have been developed yet, however, outside services are needed to develop test plans, obtain approvals from the Department of Health to conduct biodiesel test burns, for emissions testing, for fuel and lube oil analyses, and for data analysis and reporting. No contracts for outside services have been executed yet, but HECO expects to complete the work authorizations and retain the consultants by the end of the second quarter of 2009. The expense adjustment of $50,000 in Other Production Maintenance non-labor expense for these test activities is considered a reasonably conservative estimate, given that contractor costs for the San Diego short term biodiesel emissions testing referenced in the HECO T-7 Update totaled $59,730, as evidenced by the attached Work Authorization with Hawthorne Pacific Corp for $46,063 and the amendment authorizing an additional $13,667 in expenses, provided as Attachments 1 and 2 to this response, respectively.

WORK AUTHORIZATION NO. WA-PNG-08-007

UNDER PURCHASE ORDER NO. /CONTRACT NO. PDP-07-012

Biofuel Testing 1.6 MW Distributed Generation

I. Request for Quote

Under the terms and conditions of the General Services Master Agreement, dated January 1, 2008, by and between **Hawthorne Pacific Corp.** ("Contractor") and **Hawaiian Electric Company, Inc.** ("Company"), Company hereby requests a proposal from Contractor to perform the following Work:

1. Objectives

The overall objective of this Work Authorization (WA) is to demonstrate, gain operational experience and obtain emissions data by burning 99% or 100% palm oil based biodiesel in a Caterpillar Model XQ2000 ICE DG power unit operating at the nominal 1.6 MW (full load), the same model used for HECO's 18 DG units on Oahu. The emissions data for NOx, CO, CO2 and O2 concentrations will be recorded and used to evaluate possible future operations for ICE DG units for HECO, MECO and HELCO using palm oil based biofuel.

A second objective is to gain an understanding of the fuel properties and viscosities of the palm based biofuel. In order to complete the testing using a Caterpillar XQ2000 Power Module, Caterpillar requires that the biofuel meet ASTM D6751 (B100) standard and be from a B9000 certified supplier. The fuel supplier's fuel documentation / certification will be verified and in addition fuel samples from the delivered biofuel and the baseline California diesel fuel will be independently tested for the following properties.

1) API Gravity at 60 deg F
2) Viscosity
3) Heat content, both LHV and HHV
4) Flash point, deg F
5) Cetane Index or Aromatic Content
6) Sulfur content, % by weight
7) Nitrogen content, PPM

2. Scope of Work / Task Descriptions

Testing will be conducted using portable load bank(s) capable of dissipating up to 2000 kW of electrical load. A resistive load is necessary to provide the ability to operate the engine at the 1600 KW power output. Technicians will set up and operate the generator set and load bank(s). The emission testing is to be performed by an

independent third party test company hired by the Contractor. SCEC of Orange California is the designated testing company. Emissions information shall only be performed at the 100% or full load point.

The Scope of this contract includes the following tasks

2.1 Task 1 Biofuel Test Plan

Task 1 will consist of developing a detailed test plan with HECO based on the test outline below for running a Caterpillar Model XQ2000 Power Module on baseline California diesel and palm oil based biodiesel.

A. Baseline testing operating on California Diesel Fuel.

a. Operate the unit at rated kW until temperatures and emission level stabilize

b. Record engine operating temperatures, generator output, and fuel flow and temp every 20 minutes

c. Record real time date for NOx, CO, CO2 and O2 concentrations and calculate mass flows using recorded fuel flow

i. Emission data will be collected using EPA Methodology

d. During start up and load changes the exhaust shall be visually monitored and recorded.

B. Baseline testing operating on 100% Bio Diesel

a. Reconnect fuel lines and fuel flow metering to temporary fuel storage tank

b. Operate the unit and determine Engine Power De-rate, if any, when operating on the alternate fuel

c. Record engine operating temperatures, generator output, and fuel flow and temp every 20 minutes

d. Record real time date for NOx, CO, CO2 and O2 concentrations and calculate mass flows using recorded fuel flow

i. Emission data will be collected using EPA Methodology

e. During start up and load changes the exhaust shall be visually monitored and recorded.

C. Repeat testing operating on 100% Bio Diesel Step (Same Load Level)

a. Operate the unit at rated kW until temperatures and emission levels stabilize

b. Record engine operating temperatures, generator output, and fuel flow and temp every 20 minutes

c. Record real time date for NOx, CO, CO2 and O2 concentrations and calculate mass flows using recorded fuel flow

i. Emission data will be collected using EPA Methodology

ii. Compare data from previous test and determine variations

e. During start up and load changes the exhaust shall be visually monitored and recorded.

D. Repeat baseline testing operating on California Diesel Fuel

a. Reconnect fuel lines and fuel flow metering to Power Module fuel tank

b. Operate the unit at rated kW until temperatures and emission level stabilize

c. Record real time date for NOx, CO, CO2 and O2 concentrations and calculate mass flows using recorded fuel flow

i. Emission data will be collected using EPA Methodology

e. During start up and load changes the exhaust shall be visually monitored and recorded.

2.2 Task 2 Conduct Biofuel Testing & Fuel Analysis

The biofuel testing will take place at the Hawthorne Caterpillar facility in San Diego. Testing shall be performed in accordance with the testing procedure developed in Task 1. The fuels analysis for the baseline California diesel and the palm oil based biofuel shall be completed.

2.3 Task 3 Prepare Results Report

Task 3 will involve reporting and documenting the results for the biofuel testing, which will include emissions testing, fuel analysis, opacity observations and overall conclusions.

3. Deliverables & Completion Dates

Following are the deliverables and completion dates:

A.	Biofuel Testing Procedure	September 26, 2008
B.	Biofuel Testing and Fuel Analysis	October 17, 2008
C.	Results Report	October 31, 2008

4.0 Intellectual Property Rights

In accordance with Article IX of the General Services Master Agreement, as between Company and Contractor, Company shall own all right, title and interest in and to any and all reports, correspondence, documents and other information prepared or developed by Contract in the performance of the Work under this Work Authorization

5.0 Insurance

The minimum insurance limits and warranty defect discovery period specified in the Master Agreement shall be as stated in the General Services Master Agreement (GSMA) unless modified below:

- No changes to GSMA

Dated: Sept 9, 2008

Sam Gillie

Sam Gillie - HECO

II. Contractor's Proposal

Contractor hereby proposes to perform the Work described above in Section I, under a time-and-material basis with a not-to-exceed cost of $ 46,063.00, including taxes. The procurement of the bio-diesel and fuel testing costs are not included in this work authorization.

Work will begin no later than Sept 12, 2008 and be completed on or before Dec 31, 2008.

Jim Moor will act as Contractor's Designated Representative during the performance of this Work.

Dated: Sept 9, 2008

Contractor
Clifford Yuen
Engine Sales Manager

III. Work Authorization

Contractor's foregoing Proposal is accepted. Contractor is authorized to perform the Work as proposed. Company's Designated Representative for this Work Authorization shall be Sam Gillie (cell 551-4531).

Dated: 9/10/08

Company
Scott Seu
Manager Energy Projects

AMENDMENT NO. 1 TO WORK AUTHORIZATION NO. PNG-08-007

UNDER PURCHASE ORDER NO. V23626 / CONTRACT NO. PDP-07-012

Hawaiian Electric Company, Inc. (HECO) and Hawthorne Pacific Corp. ("Contractor") agree to amend Work Authorization No. PNG-08-007 of Contract No. PDP-07-012, dated September 10, 2008 as follows:

Previous total not-to-exceed amount for Authorization No. PNG-08-007	$ 46,063.00
Additional Costs:	
600 gallons B-100 Palm Bio-Fuel	$ 6,167.74
Fuel Test Analysis	$ 6,884.36
Sub-Total	$ 13,052.10
GET Tax	615.01
Total not-to-exceed cost for Amendment No. 1 work	$ 13,667.11
New total not-to-exceed amount for Authorization No.PNG-08-007 Including all taxes	$ 59,730.11

Sam Gillie is the designated HECO representative for this work.

Except as provided herein, the terms of said Agreement shall remain the same and are incorporated by reference herein.

Please sign both copies of this document and return both to Hawaiian Electric Company, Inc. We will endorse and return one copy to you for your files.

THE ABOVE AMENDMENT IS ACCEPTED BY:

HAWTHORNE PACIFIC CORP

By: M Mason

Title: ENG DIV. MGR

Date: 12/11/08

HAWAIIAN ELECTRIC COMPANY, INC.

By: DMS

Title: Manager, Energy Projects

Date: 12/15/08

CA-IR-296

Ref: HECO T-7 Update; page 45 (HCEI Solar Outside Services).

Please provide the following information:

a. The most detailed available description of this planned work in each category listing on page 45.
b. Copies of all RFP's, contracts and other documents associated with your response to part (a) of this information request.
c. Explain whether each category of these costs will be ongoing in years subsequent to 2009 and in what amounts.
d. Describe whether/why CEIS surcharge recovery is believed to be appropriate for PV Host Solar program costs.

HECO Response:

a. The following outside services are associated with the development of the PV Host program during the test year:

1. System Integration Analysis. The PV Host program is intended to initially target development of larger PV systems in the size range of 500 kW to 1 MW for HECO, and 250 kW to 500 kW for MECO and HELCO at multiple customer sites. HECO, MECO, and HELCO will commission engineering analyses to identify potential system integration issues that may arise with these sizes of PV systems, and identify potential technical requirements for the PV systems to successfully interconnect with each of the island's grids. Such information will help the HECO Companies determine key critical PV system specification details that may need to be identified to facilitate grid integration in subsequent RFP's to be issued and what should be expected in the way of interconnection requirements as the program is implemented. A scope of work for the study will soon be prepared. The analyses are expected to be conducted in the second half of 2009

as the HECO Companies conduct site evaluations and characterize the preferred Host sites for solicitation of applicable PV system bids.

2. Project Site Assessment Support. The HECO Companies will contract with qualified outside contractors and engineering consultants to assist in inspecting and qualifying potential sites, identifying on a preliminary basis the size and recommended type of PV system to be considered for each site and to consider preliminary interconnection requirements. These site specific PV system details (considering among other things structural integrity of facilities, roof repair and maintenance requirements, electrical tie-in points, and layout of PV system panels and electrical equipment) will subsequently be included in a request for proposals to provide bidders as much information as necessary to facilitate the bidding process and result in more favorable bidding results. In addition, the preliminary interconnection information will allow more efficient interconnection reviews once the program is approved and project contracts awarded. This project site assessment support will begin after the submission of the program application to the Commission and may continue throughout the remainder of 2009 until the application is approved and the 2010 Host sites are all characterized appropriately for RFP development

3. Program Design. The HECO Companies will retain Solar Design Associates, Inc. as a consultant to assist with the design of the PV Host program and the development of the program application. The consultant will provide support throughout the regulatory proceeding to consider the PV Host program

application, including providing testimony and responding to information requests.

4. Regulatory Filing Support – Legal. Outside legal counsel will support the development and filing of the program application, and will provide counsel throughout the regulatory proceeding to consider the PV Host program application.

b. The Work Authorization with Solar Design Associates, Inc. (SDA) is under development and has not yet been executed. This work authorization encompasses the program design and also includes some project site assessment work.

The analyses relating to system integration have not yet begun and no current contracts are in place for this work.

There is no contract in place yet for the outside legal services.

c. These expenses are primarily intended to support the development and approval of the PV Host program application in 2009. Assuming program approval in 2009 by the Commission, no utility expenses for program design and regulatory filing support are anticipated subsequent to 2009. No utility expenses for PV Host system integration analyses are anticipated subsequent to 2009, as the costs for system integration studies for actual projects, if any, will be charged to the proper project consistent with other power purchase contracting mechanisms. The Hawaiian Electric Companies anticipate ongoing use of outside contractors to assist with project site assessments as applications are received for the program. The number of site assessments performed each year and associated costs will ultimately depend on the approved scope of the program, but is expected to be at least $25,000, the annual amount identified in the HECO T-7 Update,

page 45. In addition, the HECO Companies expect to incur similar expenses in these categories of cost for other projects and programs that it will initiate in the years following the 2009 test year.

The Hawaiian Electric Companies propose that the $200,000 outside services costs be allocated based on sales by company – 80% to HECO, 10% to MECO, and 10% to HELCO – similar to the allocation of decoupling consultant services costs described in the response to CA-IR-341. Use of sales as the allocator is reasonable because sales are an appropriate measure of how the utilities' systems compare in terms of size and the potential to acquire renewable energy via the PV Host Program. As shown in the table below, HECO proposes to remove $40,000 of the $200,000 HCEI Solar Outside Services costs from Other Production Operations non-labor expense.

Outside Service	Provider	Scope	Total	HECO 80%	HELCO 10%	MECO 10%
Engineering	TBD	System Integration Analysis	$75,000	$60,000	$7,500	$7,500
Consulting	TBD	Project Site Assess Support	$25,000	$20,000	$2,500	$2,500
Consulting	TBD	Program Design	$75,000	$60,000	$7,500	$7,500
Legal	GAQ&S	Regulatory Filing Support	$25,000	$20,000	$2,500	$2,500
Total			$200,000	$160,000	$20,000	$20,000

d. The Companies intends to file an application for the PV Host program by the end of April 2009 that will propose how the different categories of cost will be recovered. The Companies anticipate that they will propose recovery of the interconnection costs through the CEIS (also referred to as the Renewable Energy Infrastructure Program Surcharge). The interconnection costs will be for infrastructure investments and associated costs that

will be required to interconnect the PV systems to the Companies' grid. The following provisions in the CEIS section of the HCEI Agreement (page 34) clearly support recovery of these costs through the CEIS:

1. The establishment of a CEIS to recover the reasonable costs of new transmission and other infrastructure investment needed to facilitate new clean energy investments by the utility or by IPPs. Subject to Commission approval, the CEIS may also be used to recover costs that would normally be expensed in the year incurred and may be used to accelerate cost recovery.

4. The reasonable costs of infrastructure investments that may be recovered through the CEIS, as determined by the Commission, include transmission lines built, in significant part, to facilitate renewable energy development, inter-connection equipment, advanced metering infrastructure, battery storage, and other equipment to facilitate increased use of renewable energy whether utility or third-party owned.

In addition, Section III.B.1.a of the proposed Renewable Energy Infrastructure Program ("REIP") Framework (Exhibit B of the Companies' Reply Statement of Position filed on September 17, 2008 in Docket No. 2007-0416) that all parties in that proceeding agreed should be approved by the Commission (see the October 22, 2008 letter filed by the parties) identifies the types of infrastructure projects whose costs may be included in the REIP and that are eligible for inclusion in the REIP Surcharge – in particular, Section III.B.1.a.(i) applies to the PV Host Program interconnection costs:

a. As set forth in Section V.A.2, above, infrastructure projects whose costs may be included in the Renewable Energy Infrastructure Program, and that are eligible for inclusion in the Renewable Energy Infrastructure Surcharge, subject to the Commission's approval, include:

   (i) <u>Infrastructure that is necessary to connect renewable energy projects.</u> Infrastructure projects such as transmission lines, interconnection equipment and substations, are necessary to bring renewable energy to the system. For example, many renewable IPP projects, such as wind farms, biomass plants and hydroelectric plants, are not located in

> proximity to the electric grid, and must overcome the additional economic barrier of constructing transmission lines, a switching station and other interconnection equipment. Building infrastructure to these projects will encourage additional renewable generation on the grid;

HECO is also considering whether to propose recovery of other program costs such as lease payments through the surcharge. The PV Host program application will propose that the Companies recover energy payments to the PV providers in the program through the ECAC to the extent that such payments are not already included in base rates.

CA-IR-297

Ref: HECO T-7 Update, Attachment 14, pages 6 to 8; Response to CA-IR-207 Attachment 1 (CIP CT-1 O&M Expense Projections).

Please provide detailed source documents, calculations, proposals, contracts and all other available information supporting each of the following elements of CT-1 projected Non-labor O&M expenses:

a.	Waste Water treatment chemicals	$ 84,000;
b.	Demin/Evap Chemicals	$ 24,000;
c.	Boiler Water Treatment	$ 84,000;
d.	RO Water	$180,000;
e.	Hazardous Waste Disp	$ 28,000;
f.	Landscaping	$ 25,000;
g.	Prev. Mtce. Various /	$500 - $1,000 per month;
h.	Facility Repairs	$160,000; and
i.	Blackstart Maint.	$ 20,000.

HECO Response:

At the time the 2009 test year estimate was prepared, the available information pertaining to the operation and maintenance of CIP CT-1 was very limited and HECO relied on professional judgment and familiarity with these types of equipment at other HECO generating stations to develop CIP CT-1 cost estimates. HECO's intent was to estimate the typical expense and not necessarily the actual expense in the categories for a power plant that will be in its first year of operation.

Additional information beyond that provided in responses to CA-IR-207 and CA-IR-208 is provided below for each item.

a. Waste Water Treatment Chemicals – Waste water treatment and handling at the facility will be by ground water injection which will not require chemical treatment. HECO will propose that the amount of $49,000 for 2009 Budgeted O&M expense and $84,000 for Full Cost O&M expense be removed at the next opportunity.

b. Demin/Evap Chemicals – Demin/Evap Chemical expense was recalculated in HECO's response to CA-IR-468 due to the delayed in-service date of the Water Treatment System. Please refer to CA-IR-468 for the recalculated expense and proposed adjustment to 2009 Budgeted O&M and Full Cost O&M.

c. Boiler Water Treatment – There will be no Boiler Water Treatment expense at the CIP CT-1 facility. HECO will propose to remove the amount of $42,000 for 2009 Budgeted O&M expense and $84,000 for Full Cost O&M expense at the next opportunity.

d. RO Water – RO Water expense was recalculated in HECO's response to CA-IR-468 due to the delayed in-service date of the Water Treatment System. Please refer to CA-IR-468 for the recalculated expense and proposed adjustment to 2009 Budgeted O&M and Full Cost O&M.

e. Hazardous Waste Disposal – The assumptions for the amount of $14,000 for 6 months were presented in HECO's response to CA-IR-208, Attachment 1, page 3. No other source documents are available. The $14,000 was multiplied by 2 to obtain the $28,000 estimate for the full year of operation.

f. Landscaping – The assumptions for the amount of $25,000 were presented in HECO's response to CA-IR-208, Attachment 1, page 3. No other source documents are available.

g. Preventive Maintenance Various – The estimates for preventive maintenance activities include costs for materials and outside services associated with the performance of preventive maintenance on the plant and equipment. CIP CT-1 is a new type of unit and not all operations and maintenance needs were known at the time of budgeting, or at this time. The budgeted amounts of $500 or $1,000 per month are rough estimates. No other source documents are available.

h. Facility Repairs – The assumptions for the amount of $160,000 were presented in HECO's response to CA-IR-208, Attachment 1, page 4, and discussed further in CA-IR-390.

i. Blackstart Maintenance – The assumptions for the amount of $20,000 were presented in HECO's response to CA-IR-208, Attachment 1, page 3. No other source documents are available.

CA-IR-298

Ref: HECO T-7 Update, Attachment 15 (Emission Fee Forecast).

Please provide the following additional information:

a. Explain whether/why the test year projected emission fee reduction (due to lower anticipated sales) should be reflected in the revenue requirement, irrespective of whether or not the decoupling mechanism and deferral accounting justify not updating sales and revenue forecasts.
b. Confirm that revenue decoupling will not track any future over or under-recoveries of emission fees arising from changing sales levels.
c. Provide all analyses, studies, projections, workpapers, correspondence and other documents relied upon by HECO to add a 5% contingency to estimated test year emission fees.

HECO Response:

a. The emission fee amount should be consistent with the fuel consumption and sales forecast estimates in the 2009 test year. The Company's position is if the Commission approves the establishment of a revenue balancing account to be effective upon issuance of the interim decision and order in this rate case, HECO will not need to incorporate the sales forecast reduction and its impacts, including the associated emission fee reduction, into the Company's test year estimates. Alternatively, if the Commission rejects the proposal to establish the revenue balancing account, the Commission should allow the Company to incorporate the sales forecast reduction and its impacts, including the associated reduction in emission fees, into the test year.

b. Revenue decoupling through a revenue balancing account will track the difference between target and actual revenues. Target revenues will be based on the revenue requirement approved in the last rate case (which would include the emission fee estimate in the test year) and subsequent adjustments resulting from application of the revenue adjustment

mechanism ("RAM") in post-test year periods. The Company does not anticipate that the RAM indices will be based on sales levels or its impact to emission fees.

c. Attachment 1 to this response, an update of CA-IR-213, Attachment 1, shows the most recently submitted fee payment for the operating year 2008 and paid in 2009. The fee payment for operating year 2008 was $852,714. The amount of the fee payment was comprised of the fee payment for HECO's three steam power plants (the amount of $850,214) and the fee payment for HECO's five Distributed Generator ("DG") sites (the amount of $2,500). The fee calculation for the three steam power plants is provided in Attachment 2 to this response. The DG site emission fee payments are detailed in Attachment 3 to this response.

Also updated in Attachment 1 to this response are the fee amounts paid for 2005 through 2007. These amounts were updated to include the emission fees for HECO's DG sites. These amounts were inadvertently not included in CA-IR-213, Attachment 1.

In performing the calculation for the fee payment for 2008, HECO discovered that the estimate of $874,114 for 2008 operating year emission fee did not include a 5% contingency as presented in HECO's response to CA-IR-213, Attachment 1. Attachment 1 to this response has also been updated to reflect this. The actual emission fee for 2008 operating year and paid in 2009 (in the amount of $852,714) was slightly less than the estimate of $874,114. Given this, HECO will remove the 5% contingency amount from the 2009 test year estimate for emission fee. The revised emission fee amount is $912,923 (i.e., under the rate case update, base case, with no sales reduction cost scenario), and is also shown in Attachment 1 to this response. The emission fee reduction is $45,521 in Other Production Operations non-labor expense. Workpapers supporting the revised fee

amount were provided in CA-IR-2, HECO T-7, Attachment 7B, pages 4 to 14. If the assumption to update the production simulation with the September 2008 Sales and Peak Forecast (which projected lower sales for the 2009 test year) was applied, the total emission fees for the test year would be $872,000 (excluding the 5% contingency) as shown in the Rate Case Update, HECO T-7, Attachment 15, page 1.

Hawaiian Electric Company Inc.
2009 Test Year
Emission Fee History

Operating Year	Fees Payable	(A) Amount Estimated	(B) Amount Paid	(C) Contingency	(D=B-A) Variance	(D/A) %
1993	1994	$ 663,380	$ 601,634	0%	$ (61,746)	-9%
1994	1995	$ 632,000	$ 624,424	0%	$ (7,576)	-1%
1995	1996	$ 652,521	$ 672,023	0%	$ 19,502	3%
1996	1997	$ 865,992	$ 676,770	0%	$ (189,222)	-22%
1997	1998	not available	$ 649,103			
1998	1999	$ 649,104	Waived	0%		
1999	2000	not available	$ 677,127			
2000	2001	$ 677,128	$ 671,211	0%	$ (5,917)	-1%
2001	2002	not available	Waived			
2002	2003	$ 694,733	$ 747,541	0%	$ 52,808	8%
2003	2004	$ 712,796	Waived	0%		
2004	2005	$ 740,844	$ 841,544	0%	$ 100,700	14%
2005	2006	$ 953,568	$ 846,784	10%	$ (106,784)	-11%
2006	2007	$ 988,826	$ 846,018	10%	$ (142,808)	-14%
2007	2008	$ 897,596	$ 900,055	5%	$ 2,459	0%
2008	2009	$ 874,114	$ 852,714	0%	$ (21,400)	-2%
2009TY (ORIGINAL)	2010	$ 958,444		5%		
2009TY (REVISED)	2010	$ 912,923		0%		

2009 Emission Fee Adjustment:

$ 958,444	Original Amount
$ (912,923)	Revised Amount
$ 45,521	Adjustment

Permit No.:	0240-01-C
Date Rec'd:	

FORM F-1

2009 ANNUAL FEE SUMMARY FOR COVERED SOURCES

(FOR AIR POLLUTANTS EMITTED DURING CALENDAR YEAR 2008)

INPUT DATA IN YELLOW COLORED CELLS

1. FACILITY INFORMATION (Signature box to be signed by Responsible Official)

A. Facility Name:	HECO - Kahe Power Plant	B. Location:	92-200 Farrington Highway	C. Island:	Oahu
D. Mailing Address:	P.O. Box 2750	E. City:	Honolulu F. State: HI	G. Zip Code:	96840
H. Contact Person:	Michael DeCaprio	I. Title:	Senior Environmental Scientist	J. Telephone No.:	808-543-4535
K. Responsible Official:	Thomas C. Simmons	L. Title:	VP, Power Supply	M. Telephone No.:	(808) 543-4301
N. Signature:		Date:			

Based on the information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete

2. CALCULATED EMISSIONS [Report emissions to the nearest tenth of a ton (Line 2.B.) and total annual emis. (Line 2.C.) subject to fees without the fraction(s) of a ton]

Equipment: Unit No. or Activity No.	Air Pollutant Emissions (tons/yr)												
	Other Regulated Air Pollutants Including Hazardous Air Pollutants (please specify)												Annual Total
	TSP	PM_{10}	$PM_{2.5}$	SO_2	CO	NOx	VOC	Pb	HAPs	NH_3			
K1	127.7	97.3	77.2	968.3	76.0	713.5	11.5	0.0	2.8	--			
K2	111.4	84.9	67.4	845.4	66.2	622.6	10.1	0.0	2.4	--			
K3	153.3	116.9	92.8	1162.7	91.2	583.5	13.9	0.0	3.4	--			
K4	142.4	108.5	86.2	1080.3	84.6	541.6	12.9	0.0	3.1	--			
A. Supplement (if appl.) A	357.9	266.3	209.7	3092.7	243.7	1801.2	37.1	0.0	8.9	--			
B. Total Report Emissions	892.7	673.9	533.3	7149.4	561.7	4262.4	85.5	0.0	20.6	--			
C. Total Emissions Subject to Fees	892			4,000		4,000	85					D.	8,977

3 ANNUAL FEE CALCULATION (Use the total annual emissions subject to fees calculated in Block 2.D.)

		Total Annual Emissions Subject to Fees (enter 2.D. value below)		Multiply	2008 $/TON	Multiply	CPI Index Adjustmnt (2.0% incr. '06 to '07)	Equal		Total
Fee payable to:	"Clean Air Special Fund - COV"	A.	8,977	x	46.03	x	1.0197	=	B.	$421,351.57
	"Clean Air Special Fund - NON"	C.	8,977	x	11.22	x	1.0197	=	D.	$102,706.16
							Total	=	E.	$524,057.73

Note: 2009 $/ton charge payable to Clean Air Special Fund - COV = $46.03 x 1.0197 = $46.94/ton.
2009 $/ton charge payable to Clean Air Special Fund - NON = $11.22 x 1.0197 = $11.44/ton.
If the summed amount found in 3.E is less than $500, then pay the minimum amount of $500, with a check made payable to the 'Clean Air Special Fund - COV.'
If the summed amount found in 3.E is greater than $500, then pay the fee amounts found in 3.B & 3.D with two separate checks made payable to the 'Clean Air Special Fund - COV' & 'Clean Air Special Fund - NON,' respectively.

CA-IR-298
DOCKET NO. 2008-0083
ATTACHMENT 2
PAGE 1 OF 5

Permit No.:	0240-01-C
Date Rec'd:	

FORM F-2
SUPPLEMENT A
2009 ANNUAL FEE SUMMARY FOR COVERED SOURCES
(FOR AIR POLLUTANTS EMITTED DURING CALENDAR YEAR 2008)

INPUT DATA IN YELLOW COLORED CELLS

1. FACILITY INFORMATION (Signature box to be signed by Responsible Official)

A. Facility Name:	HECO - Kahe Power Plant	B. Location:	92-200 Farrington Highway	C. Island:	Oahu
D. Responsible Official:	Thomas C. Simmons	E. Title:	VP, Power Supply	F. Telephone No.:	808-543-4535
G. Signature:		Date:			

Based on the information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete

2. CALCULATED EMISSIONS (Report emissions to the nearest tenth of a ton)

Equipment:	Air Pollutant Emissions (tons/yr)												
	Other Regulated Air Pollutants Including Hazardous Air Pollutants (please specify)												
Unit No. or Activity No.	TSP	PM_{10}	$PM_{2.5}$	SO_2	CO	NOx	VOC	Pb	HAPs	NH_3			
K5	174.8	133.3	105.8	1326.3	103.9	976.9	15.8	0.0	3.8	--			
K6	182.9	133.0	103.9	1766.4	138.4	819.0	21.1	0.0	5.1	--			
A	0.1	0.0	0.0	0.0	0.7	2.8	0.1	0.0	0.0	--			
B	0.1	0.0	0.0	0.0	0.7	2.5	0.1	0.0	0.0	--			
Supplement _____													
Total Report Emissions	357.9	266.3	209.7	3092.7	243.7	1801.2	37.1	0.0	8.9	--			

CA-IR-298
DOCKET NO. 2008-0083
ATTACHMENT 2
PAGE 2 OF 5

Permit No.:	0239-01-C
Date Rec'd:	

FORM F-1

2009 ANNUAL FEE SUMMARY FOR COVERED SOURCES

(FOR AIR POLLUTANTS EMITTED DURING CALENDAR YEAR 2008)

INPUT DATA IN YELLOW COLORED CELLS

1. FACILITY INFORMATION (Signature box to be signed by Responsible Official)

A. Facility Name:	HECO - Waiau Power Plant	B. Location:	475 Kamehameha Hwy.	C. Island:	Oahu
D. Mailing Address:	P.O. Box 2750	E. City:	Honolulu F. State: HI	G. Zip Code:	96840
H. Contact Person:	Michael DeCaprio	I. Title:	Senior Environmental Scientist	J. Telephone No.:	543-4535
K. Responsible Official:	Thomas C. Simmons	L. Title:	VP, Power Supply	M. Telephone No.:	(808) 543-4301
N. Signature:		Date:			

Based on the information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete

2. CALCULATED EMISSIONS [Report emissions to the nearest tenth of a ton (Line 2.B.) and total annual emis. (Line 2.C.) subject to fees without the fraction(s) of a ton]

Equipment: Unit No. or Activity No.	Air Pollutant Emissions (tons/yr)												
	Other Regulated Air Pollutants Including Hazardous Air Pollutants (please specify)												Annual Total
	TSP	PM_{10}	$PM_{2.5}$	SO_2	CO	NOx	VOC	Pb	HAPs	NH_3			
3	21.8	16.6	13.2	160.1	13.2	124.4	2.0	0.0	0.5	--			
4	28.4	21.7	17.3	209.2	17.3	162.4	2.6	0.0	0.6	--			
5	37.3	28.4	22.7	274.3	22.7	213.0	3.5	0.0	0.8	--			
6	39.1	29.9	23.8	287.8	23.8	223.5	3.6	0.0	0.9	--			
A. Supplement (if appl.) A	240.4	183.8	146.8	1762.4	145.6	1066.4	22.0	0.0	5.5	--			
B. Total Report Emissions	367.0	280.4	223.8	2693.8	222.6	1789.7	33.7	0.0	8.3	--			
C. Total Emissions Subject to Fees	367			2,693		1,789	33					D.	4,882

3 ANNUAL FEE CALCULATION (Use the total annual emissions subject to fees calculated in Block 2.D.)

		Total Annual Emissions Subject to Fees (enter 2.D. value below)		Multiply	2008 $/TON	Multiply	CPI Index Adjustmnt (2.0% incr. '06 to '07)	Equal		Total
Fee payable to:	"Clean Air Special Fund - COV"	A.	4,882	x	46.03	x	1.0197	=	B.	$229,145.41
	"Clean Air Special Fund - NON"	C.	4,882	x	11.22	x	1.0197	=	D.	$55,855.13
							Total	=	E.	$285,000.54

Note: 2009 $/ton charge payable to Clean Air Special Fund - COV = $46.03 x 1.0197 = $46.94/ton.
2009 $/ton charge payable to Clean Air Special Fund - NON = $11.22 x 1.0197 = $11.44/ton.
If the summed amount found in 3.E is less than $500, then pay the minimum amount of $500, with a check made payable to the 'Clean Air Special Fund - COV.'
If the summed amount found in 3.E is greater than $500, then pay the fee amounts found in 3.B & 3.D with two separate checks made payable to the 'Clean Air Special Fund - COV' & 'Clean Air Special Fund - NON,' respectively.

CA-IR-298
DOCKET NO. 2008-0083
ATTACHMENT 2
PAGE 3 OF 5

Permit No.:	0239-01-C
Date Rec'd:	

FORM F-2
SUPPLEMENT A
2009 ANNUAL FEE SUMMARY FOR COVERED SOURCES
(FOR AIR POLLUTANTS EMITTED DURING CALENDAR YEAR 2008)

INPUT DATA IN YELLOW COLORED CELLS

1. FACILITY INFORMATION (Signature box to be signed by Responsible Official)

A. Facility Name:	HECO - Waiau Power Plant	B. Location:	475 Kamehameha Hwy.	C. Island:	Oahu
D. Responsible Official:	Thomas C. Simmons	E. Title:	VP, Power Supply	F. Telephone No.:	543-4535
G. Signature:		Date:			

Based on the information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete

2. CALCULATED EMISSIONS (Report emissions to the nearest tenth of a ton)

Equipment: Unit No. or Activity No.	Air Pollutant Emissions (tons/yr)												
	Other Regulated Air Pollutants Including Hazardous Air Pollutants (please specify)												
	TSP	PM_{10}	$PM_{2.5}$	SO_2	CO	NOx	VOC	Pb	HAPs	NH_3			
7	109.6	83.6	66.6	806.1	66.6	426.2	10.1	0.0	2.4	--			
8	129.0	98.4	78.4	948.4	78.4	501.4	11.9	0.0	2.9	--			
9	0.9	0.9	0.9	3.9	0.3	69.2	0.0	0.0	0.1	--			
10	0.9	0.9	0.9	4.0	0.3	69.6	0.0	0.0	0.1	--			
Supplement _____													
Total Report Emissions	240.4	183.8	146.8	1762.4	145.6	1066.4	22.0	0.0	5.5	--			

CA-IR-298
DOCKET NO. 2008-0083
ATTACHMENT 2
PAGE 4 OF 5

Permit No.:	0238-01-C
Date Rec'd:	

FORM F-1

2009 ANNUAL FEE SUMMARY FOR COVERED SOURCES

(FOR AIR POLLUTANTS EMITTED DURING CALENDAR YEAR 2008)

INPUT DATA IN YELLOW COLORED CELLS

1. FACILITY INFORMATION (Signature box to be signed by Responsible Official)

A. Facility Name:	HECO - Honolulu Generating Station	B. Location:	170 Ala Moana Blvd.	C. Island:	Oahu
D. Mailing Address:	P.O. Box 2750	E. City:	Honolulu F. State: HI	G. Zip Code:	96840
H. Contact Person:	Michael DeCaprio	I. Title:	Senior Environmental Scientist	J. Telephone No.:	(808) 543-4535
K. Responsible Official:	Thomas C. Simmons	L. Title:	VP, Power Supply	M. Telephone No.:	(808) 543-4301
N. Signature:		Date:			

Based on the information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete

2. CALCULATED EMISSIONS [Report emissions to the nearest tenth of a ton (Line 2.B.) and total annual emis. (Line 2.C.) subject to fees without the fraction(s) of a ton]

Equipment: Unit No. or Activity No.	Air Pollutant Emissions (tons/yr)												
	Other Regulated Air Pollutants Including Hazardous Air Pollutants (please specify)												Annual Total
	TSP	PM_{10}	$PM_{2.5}$	SO_2	CO	NOx	VOC	Pb	HAPs	NH_3			
8	17.9	13.7	10.9	132.8	10.9	102.8	1.7	0.0	0.4	--			
9	31.8	24.2	19.3	235.2	19.4	182.1	2.9	0.0	0.7	--			
A. Supplement (if appl.) _____													
B. Total Report Emissions	49.7	37.9	30.2	368	30.3	284.9	4.6	0.0	1.1	--			
C. Total Emissions Subject to Fees	49			368		284	4						D. 705

3 ANNUAL FEE CALCULATION (Use the total annual emissions subject to fees calculated in Block 2.D.)

		Total Annual Emissions Subject to Fees (enter 2.D. value below)		Multiply	2008 $/TON	Multiply	CPI Index Adjustmnt (2.0% incr. '06 to '07)	Equal		Total
Fee payable to:	"Clean Air Special Fund - COV"	A.	705	x	46.03	x	1.0197	=	B.	$33,090.44
	"Clean Air Special Fund - NON"	C.	705	x	11.22	x	1.0197	=	D.	$8,065.93
							Total	=	E.	$41,156.37

Note: 2009 $/ton charge payable to Clean Air Special Fund - COV = $46.03 x 1.0197 = $46.94/ton.
2009 $/ton charge payable to Clean Air Special Fund - NON = $11.22 x 1.0197 = $11.44/ton.
If the summed amount found in 3.E is less than $500, then pay the minimum amount of $500, with a check made payable to the 'Clean Air Special Fund - COV.'
If the summed amount found in 3.E is greater than $500, then pay the fee amounts found in 3.B & 3.D with two separate checks made payable to the 'Clean Air Special Fund - COV' & 'Clean Air Special Fund - NON,' respectively.

CA-IR-298
DOCKET NO. 2008-0083
ATTACHMENT 2
PAGE 5 OF 5

Hawaiian Electric Company, Inc.
2009 Rate Case
Distributed Generator Emission Fee paid, by site

		Distributed Generator Site					
Operating Year	Fees Payable	Ewa Nui Substation	Iwilei Tank Farm	Helemano Substation	Kalaeloa Poleyard	CEIP	Total
2004	2005	0	0	0	0	0	0
2005	2006	$252	$252	$252	0	0	$756
2006	2007	$500	$500	$500	$210	$294	$2,004
2007	2008	$500	$500	$500	$500	$500	$2,500
2008	2009	$500	$500	$500	$500	$500	$2,500

Notes: 1) Minimum site fee is $500.
2) Fees less than $500 indicate proration for partial year of operation.

CA-IR-299

Ref: HECO Response to CA-IR-194; T-7 Update, page 44 (Existing Generation Standby/Layup).

At page 44 of his Update, Mr. Giovanni references "other projects [that] include projects to enable the cold layup (i.e., long term de activation) of generating units…" Please provide the following information:

a. Identify the existing HECO units that are most likely to be candidates for potential consideration for cold layup.
b. Explain how commercial operation of CIP Unit CT-1 and/or the additional of large amount of renewable contract capacity is expected to impact the utilization of existing HECO non reheat steam generating units and the potential for cold layup of one or more existing units.
c. Describe whether biofuel conversion is not being considered for certain existing HECO units because of the expectation that the age, condition, operational considerations or future anticipated need for the unit causes such conversion to be uneconomical.
d. For which of its existing generating units is HECO presently able to defer large new capital additions, comprehensive overhauls or expensive preventative maintenance projects in anticipation of potential cold layup in the future?
e. Provide complete copies of all studies, reports, analyses, workpapers, maintenance schedules and other documents associated with your responses to parts (a) through (d) of this information request.

HECO Response:

a. Waiau 3 and Waiau 4 are the two HECO generating units that are the most likely candidates for cold layup.

b. As discussed in HECO T-7, page 13, "As generating reserve margins increase on the HECO generating system, as they will with the addition of CIP CT-1, the duty for HECO's cycling and peaking units are expected to trend lower. This assumes that the reliability of the generating system will be sustained at today's levels, and that major long-term forced outages are infrequent." HECO is presently conducting studies to evaluate the impact and likely duty cycles of its firm capacity generating units with the addition of large amounts of renewable variable generation being added to the HECO grid. On a preliminary basis, the expectation is that the non-reheat units may trend to lower capacity factors but the number or startups and load ramping of these units will likely increase.

c. HECO is not considering conversion to biofuels, but instead, adding biofuel firing capability to its existing capabilities (without compromising the fossil fuel firing capability). At this point in time no unit has been ruled out as a potential candidate for adding biofuel firing capability. The Kahe 3 Biofuel Cofiring Project is intended to produce a technical basis for evaluating the potential for adding biofuel firing capability to other HECO generating units.

d. HECO is presently deferring large new capital additions and comprehensive overhauls on Waiau 3 and Waiau 4 in anticipation of potential cold layup in the future.

e. Over the past few months, the HECO Power Supply Engineering Department has researched the following naval propulsion and EPRI long-term lay-up studies and guidelines to determine the technical elements of retirement versus cold layup.

1. *Cycling, Startup, Shutdown, and Layup Fossil Plant Cycle Chemistry Guidelines for Operators and Chemists*, September 2008, EPRI Report provided as Attachment 1.
2. *EPRI Guidelines Long-Term Layup of Fossil Plants CS-5112*, April 1987 provided as Attachment 2.
3. *EPRI Proceedings: Fossil Plant Layup and Reactivation Conference*, October 1992, EPRI TR-101250 provided as Attachment 3.
4. *Demilitarization of Naval Excess Assets*, Department of the Navy, March 1994 provided as Attachment 4.

Attachments 1-3 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. Also, the information provided in Attachments 1-3 is copyrighted. The copies are being provided under the "fair use" exception to the copyright laws. Any copies made of the requested information are subject to the copyright laws.

The product of this initial investigation is a preliminary spreadsheet labeled "W34CDLUplan," and provided as Attachment 5 to this response, which outlines all the mechanical and electrical activities that need to occur for either cold layup or retirement of Waiau 3 and/or Waiau 4. W34CDLUplan and other summary information, provided as Attachment 6 (Waiau 3 & 4 Mechanical Preservation Plan) and Attachment 7 (Waiau 3 & 4 Presentation to O&M) to this response, were issued to HECO Power Supply engineering, operations, and maintenance personnel for review. Review comments have been requested to be submitted to Power Supply Engineering Department on or before March 27, 2009.

Attachment 6 describes a preliminary work order number (PEWON) HP002828 to capture labor expenses related to the mechanical preservation of Waiau 3 and 4 for long-term reserve standby. Work is now being charged to a new O&M expense work order number, HP002843. No expenses were charged to HP002828. Also, charges to HP002843 are unforecast and are not included in the 2009 test year Production O&M expense estimates.

In conjunction with this review, Power Supply Engineering Department is in the process of drafting a Request for Proposal ("RFP") for consultants to provide a more in-depth study of the cold layup versus retirement alternatives for Waiau 3 and 4. This RFP will contain a detailed work scope that describes HECO's goals for this effort and the Company's specific requirements for the study. Comments from the Power Supply O&M Department will be incorporated into the RFP. Target issuance of the RFP is April 2009, and the target for completion of the consultant's study is July 2009. The results of this study will then be used by the HECO Generation Planning Division to evaluate retirement and cold layup options.

Attachments 1-3 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. Electronic copies of the attachments are being provided.

DEPARTMENT OF THE NAVY
Office of the Chief of Naval Operations
Washington, DC 20350-2000

OPNAVINST 4520.1
SUP 4111A
15 March 1994

OPNAV INSTRUCTION 4520.1

From: Chief of Naval Operations
To: All Ships and Stations (less Marine Corps field addressees not having Navy personnel attached)

Subj: DEMILITARIZATION (DEMIL) OF NAVY EXCESS ASSETS

Ref:
(a) DODD 4140.1 of 4 Jan 93, Subj: DoD Materiel Management Policy (NOTAL)
(b) DOD 4160.21-M-1 of Oct 91, Subj: Defense Demilitarization Manual (NOTAL)
(c) DOD 4160.21-M of Mar 90, Subj: Defense Reutilization and Marketing Manual (NOTAL)
(d) International Traffic In Arms Regulations (ITAR) (22 CFR 120-130) of Nov 89 (NOTAL)

Encl:
(1) U.S. Munitions List/Navy Ammunition Cogs Comparison
(2) Definitions
(3) Criteria for Use of Local Stock Number (LSN)

1. Purpose. To provide Navy policy, procedures and responsibilities for the DEMIL Program as it applies to any Navy excess and surplus material.

2. Scope. This instruction supplements existing Department of Defense (DoD) policy contained in references (a), (b) and (c). Additional policy regarding the screening and DEMIL of excess Navy conventional ammunition (Cog symbols, OT, 2D, 2E, 2T, 4E, 4T, 6T, 8E, 8S, 8T, and 8U) is contained in SPCCINST 8010.12D (NOTAL) and OPNAVINST 8026.2 (NOTAL). Enclosure (1) is a comparison chart that provides the scope of items to which this instruction pertains.

3. Background

a. The Arms Export Control Act of 1976 was enacted to identify deficiencies in controlling specified technology, both military and commercial, from reaching unauthorized users. Under this Act, controls were established for the import and export of Defense articles. In addition, it called for the publication of a U.S. Munitions List (ML). DoD is responsible for the final disposition of items owned, procured by or under the control of DoD. This Act, its attendant regulations, reference (d) and other regulations make up the foundation of the DEMIL and Trade Security Controls Programs.

b. DEMIL codes have been developed and incorporated in stock management systems such as the Conventional Ammunition Integrated Management System (CAIMS), the Defense Logistics Information System (DLIS), Military Standard Requisitioning and Issue Procedures (MILSTRIP), Uniform Inventory Control Point (UICP) and Uniform Automated Data Processing System (UADPS) Programs.

c. A DEMIL code is a mandatory entry on all disposal related MILSTRIP documents. Reference (b) contains the complete list of DEMIL codes with explanations.

4. Definitions. Enclosure (2) contains definitions that apply to this instruction.

5. Policy

a. It is DoD policy to identify and apply appropriate controls, worldwide, over material to prevent its unauthorized use. Items are designated as requiring DEMIL because they have, directly or indirectly, a significant military utility or capacity and shall be controlled and/or demilitarized to the extent necessary to eliminate its functional or military capabilities. This determination is made by the Office of the Secretary of Defense (OSD) based on the item relationship to articles on the U.S. Munitions List (under Part 121 of 22 Code of Federal Regulations) or the Commerce Control List (under Part 799 of 15 CFR) or by DoD Service designation.

b. Once a disposal decision is made, reutilization and specialized sales of the property will always precede demilitarization. Reutilization and specialized sales include the application of the DEMIL- required asset against:

(1) All DoD requirements

(2) Other Federal Agency requirements

(3) Authorized donee requirements

(4) Specifically authorized foreign and domestic sales

c. For DEMIL code "P" items, reutilization screening will precede demilitarization and declassification. This is accomplished by providing the paperwork to the Defense Reutilization and Marketing Office (DRMO) without physically transferring the item to the DRMO. If there is no reutilization, declassification and DEMIL will take place prior to the physical turn-in of the item to the DRMO.

6. Responsibility

a. Commander, Naval Supply Systems Command (COMNAVSUPSYSCOM) will:

(1) Provide technical assistance to the Defense Logistics Agency (DLA) in developing and maintaining the Defense DEMIL Program and references (b) and (c).

(2) Represent the Navy on special groups/committees established for improving and maintaining DoD policy and procedures for the identification and control of critical and sensitive Munitions List Items (MLI) and Strategic List Items (SLI) that are owned, procured by or under the control of DoD.

(3) Perpetuate overall DEMIL Program policy and procedures for the Navy.

b. All Echelon 2 commands will ensure compliance by subordinate activities with the provisions of references (b) and (c), this instruction and the applicable CAIMS Program guidance for the accomplishment of the Navy DEMIL Program.

c. Hardware systems commands (HSCs), program offices and Inventory Control Points (ICPs) will:

(1) Designate a DEMIL Program coordinator who will act as a command focal point. The coordinator will keep subordinate commands and internal codes up-to-date with current DoD and Navy DEMIL policy and procedures through the dissemination of DEMIL information as it becomes available from NAVSUP.

(2) Ensure that complete information regarding the cost-effective and efficient DEMIL processes for all newly provisioned and specifically requested existing Navy-managed systems is secured from the prime contractor, program office, provisioner or other appropriate knowledgeable source. This information should include, as a minimum, the following: photographs, drawings, schematics, detailed DEMIL instructions, identify any hazardous condition that could result as a by-product of a DEMIL operation, points of contact to answer technical questions, etc.

(3) Provide the Defense Logistics Agency (DLA) with the above information in a timely and complete manner. This information updates a new DLA-maintained data system (DoD Demilitarization & Trade Security Control Bulletin Board) which will assist the appropriate activity in the DEMIL of an item. The information can be accessed from DLA-MMSLD via the DoD DEMIL bulletin board system or by phone at DSN 284–4216 or commercial (703) 274–4216.

(4) By reference (b), ensure that program offices, provisioners and contractors include a variation on data item description DI–SAFT–80403 as a mandatory Contract Data Requirement List (CDRL) (DD 1423) on all new contracts. This does not preclude the use of other CDRLs, Federal Acquisition Regulations (FAR), Defense Federal Acquisition Regulations Supplement (DFARS), or the Naval Acquisition Procedures Supplement (NAPS) clause, as appropriate, in requesting the required information from a contractor/manufacturer. The intent is to tap into the knowledge the contractor/manufacturer has obtained in the development/manufacturing of the item. This information will help the Government in making an accurate DEMIL code assignment at the time of the initial cataloging effort.

(5) Ensure that a DEMIL code "N" is not assigned to any Navy-managed item at the initial cataloging effort.

(6) Ensure that a DEMIL code is assigned to every item for which the Navy has management responsibility and, ensure this code is recorded in the Federal Catalog System.

(7) Ensure that a DEMIL code is not assigned to an item merely to preclude the use, reuse or reprocurement of defective material or items determined to be unsafe for use.

(8) Ensure that formal DEMIL training is provided to key personnel involved in the decision making process for DEMIL code assignment. This includes, as a minimum, attendance at the Defense Demilitarization Program Course offered by the Army Management Logistic College, Fort Lee, Virginia.

(9) Ensure that position descriptions for personnel involved in the DEMIL coding process reflect their responsibilities under this program.

(10) Ensure that valid DEMIL code challenges are forwarded, within 2 days of receipt, to the appropriate technical advisor at the ICP, HSC or Engineering Support Office for review.

d. HSCs and program, offices will, in addition to the above, for items they do not directly manage but are the sponsors/responsible for, provide the appropriate ICPs with DEMIL code change information resulting from a challenge, item review or change in DEMIL policy. This information should be forwarded to the DEMIL focal point at the ICP (Code 036 at the Naval Aviation Supply Office, Code 057 at the Navy Ships Parts Control Center) within 5 days of the change.

e. ICPs will, in addition to the above:

(1) Verify DEMIL code recommendation when an item is forwarded for initial catalog request and reject catalog requests from HSCs/program offices when a DEMIL code recommendation does not accompany the request.

(2) Ensure that system programs do not have a default when no DEMIL code entry is provided.

(3) Assign a proper, compatible Controlled Inventory Item Code (CIIC) based on the DEMIL code assigned.

(4) Input data to Defense Logistics Services Center (DLSC) Total Item Record (TIR) to record the DEMIL code assignment to each National Stock Numbered (NSN) item managed. This also applies to DEMIL code changes made to the original code.

(5) Ensure that any item managed at the ICP with a DEMIL code "F" has available, on file, the complete special requirements that the "F" DEMIL code so designates.

(6) Within 120 days of this instruction, provide COMNAVSUPSYSCOM (Code 41) with the internal procedures that will be followed in documenting the special requirements the DEMIL code "F" designates. Also provide COMNAVSUPSYSCOM a copy of internal procedures to be used in responding to a request for additional information from the field based on a DEMIL code "F."

f. Navy activities will:

(1) Challenge DEMIL code assignment back to the cognizant item manager when, based on operational knowledge, an incorrect code appears to have been assigned.

(2) Ensure that proper DEMIL action has occurred for those MLIs designated as requiring DEMIL by the turn-in (generating) activity (i.e., DEMIL codes F, G, N and P).

(3) Ensure that proper DEMIL action has occurred for MLIs prior to release for exchange, loan, trade or donation.

(4) Seek assistance from the DRMO for an alternate DEMIL method when DEMIL is to be performed by the generating activity and that capability is not available at the generating activity.

(5) Perpetuate the assigned DEMIL code on all disposal turn-in documents (DD 1348-1).

(6) Ensure the proper NSN is used on all turn-in documents (DD 1348-1). Use of a LSN on a disposal turn-in document for the FSGs listed in enclosure (3) is not acceptable. Exception criteria is also contained in enclosure (3).

7. Action. HSCs and ICPs shall provide implementing instructions to COMNAVSUPSYSCOM (Code 41) within 180 days of the date of this instruction.

8. Reports and Forms

a. The reporting requirements contained in this instruction are exempt from reports control by SECNAVINST 5214.2B.

b. DD 1423 (6-90), Contract Data Requirement List, S/N 0102-LF-010-5400, is available from the Naval Supply System per NAVSUP P-2002D.

R. R. SAREERAM
Director, Supply Programs Policy

Distribution:
SNDL Parts 1 and 2

SECNAV/OPNAV Directives Control Office
Washington Navy Yard Building 200
901 M Street SE
Washington DC 20374-5074 (25 copies)

Naval Supply Systems Command (SUP 4111A)
1931 Jefferson Davis Highway
Arlington VA 22241-5360 (25 copies)

Chief of Naval Operations
(Code N09B34)
2000 Navy Pentagon
Washington DC 20350-2000 (150 copies)

Stocked:
Naval Aviation Supply Office
ASO Code 103
5801 Tabor Avenue
Philadelphia PA 19120-5099 (500 copies)

U.S. ML/Navy Ammo Cog Comparison

U.S. MUNITIONS LIST CATEGORY	AMMUNITION COGS MANAGED BY NAVY
I - FIREARMS	OT - EXPENDABLE ORDNANCE (CMC)
II - ARTILLERY/PROJECTORS	2D - TOMAHAWK CRUISE MISSILE (CMPO)
III - AMMUNITION	2E - CONVENTIONAL AIR AMMUNITION (NAVAIR) - SPCC
IV - LAUNCH VEHICLES, GUIDED MISSILES, BALLISTIC MISSILES, ROCKETS, TORPEDOES, BOMBS AND MINES	2T - CONVENTIONAL AMMUNITION (NAVSEA) - SPCC
V - EXPLOSIVES, PROPELLANTS AND INCENDIARY AGENTS	4E - AIR LAUNCHED GUIDED MISSILES (NAVAIR) - SPCC
VI - VESSELS OF WAR AND SPECIAL NAVAL EQUIPMENT	4T - TORPEDOES, COMPONENTS AND ASROC MATERIAL (NAVSEA) - SPCC
VII - TANKS AND MILITARY VEHICLES	6T - UNDERWATER MINES AND COMPONENTS (NAVSEA) - NMWA
VIII - AIRCRAFT, SPACECRAFT AND ASSOCIATED EQUIPMENT	8E - AIR LAUNCHED MISSILE MATERIAL (NAVAIR)
IX - MILITARY TRAINING EQUIPMENT	8S - SUBROC (NAVSEA)
X - PROTECTIVE PERSONNEL EQUIPMENT	8T - SURFACE LAUNCHED GUIDED MISSILES & COMPONENTS (NAVSEA)
XI - MILITARY AND SPACE ELECTRONICS	8U - SONOBUOYS (NAVAIR) - SPCC
XII - FIRE CONTROL, RANGE FINDER, OPTICAL & GUIDANCE AND CONTROL EQUIPMENT	
XIII - AUXILIARY MILITARY EQUIPMENT	
XIV - TOXICOLOGICAL AGENTS & EQUIPMENT & RADIOLOGICAL EQUIPMENT	
XV - (RESERVED)	
XVI - NUCLEAR WEAPONS DESIGN AND TEST EQUIPMENT	
XVII - CLASSIFIED ARTICLES NOT OTHERWISE ENUMERATED	
XVIII- TECHNICAL DATA	
XIX - DEFENSE SERVICES	
XX - SUBMERSIBLE VESSELS, OCEANOGRAPHICS AND ASSOCIATED EQUIPMENT	
XXI - MISCELLANEOUS ARTICLES	

Enclosure (1)

Definitions

The following definitions are applicable to the DoD DEMIL Program and this instruction.

Ammunition: A device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in connection with defense or offense including demolitions. Certain ammunition can be used for training, ceremonial, or nonoperational purposes.

Ammunition COGs: Those items managed under CAIMS. DEMIL procedures are further directed by the Naval Weapon Station Crane, in accordance with the provisions of references (a) through (c) and SPCCINST 8010.12D (NOTAL) and OPNAVINST 8026.2 (NOTAL). The following COGs are under CAIMS:

0T - EXPENDABLE ORDNANCE (CMC)
2D - TOMAHAWK CRUISE MISSILE (CMPO)
2E - CONVENTIONAL AIR AMMUNITION (NAVAIR)-SPCC
2T - CONVENTIONAL AMMUNITION (NAVSEA)-SPCC
4E - AIR LAUNCHED GUIDED MISSILES (NAVAIR)-SPCC
4T - TORPEDOES, COMPONENTS AND ASROC MATERIAL (NAVSEA)-SPCC
6T - UNDERWATER MINES AND COMPONENTS (NAVSEA)-NMWA
8E - AIR LAUNCHED MISSILE MATERIAL (NAVAIR)
8S - SUBROC (NAVSEA)
8T - SURFACE LAUNCHED GUIDED MISSILES AND COMPONENTS (NAVSEA)
8U - SONOBUOYS (NAVAIR)-SPCC

The above COGs are carried under Categories III and IV (except 8U which are Category II) of the U.S. ML (see definition below.

Classified Item: An item in the Federal Supply System which must be protected from unauthorized disclosure in the interest of national defense. Items of this nature are assigned a security classification. Applicable standards of handling, storage, and dissemination shall be applied.

Combat Material: Consists of items of property designated as arms, ammunition, and implements of war listed in the U.S. ML.

Conventional Ammunition: Consists of all items in Federal Supply Group 13, with the exception of a portion of Federal Supply Classes 1336, 1337, 1338, 1340, 1350, 1351, 1355, 1356, 1360, 1361, 1385 and 1386. Further, the term also includes a portion of FSG 14, FSCs 1410 and 1425.

Defense Reutilization and Marketing Office (DRMO): The DLA organizational entity having accountability for and control over disposable property.

Demilitarization (DEMIL): The act of destroying the military offensive or defensive advantages inherent in certain types of equipment or material. The term includes mutilation, scrapping, melting, burning, or alteration designed to prevent the further use of the equipment and material for its originally intended military or lethal purpose and applies equally to material in unserviceable or serviceable condition that has been screened through the ICP and declared surplus or foreign excess. In accordance with existing limitations (regulations/treaties), dumping at sea is also a means of performing DEMIL.

Disposal: The process of reutilizing, transferring, donating, selling, destroying, or other ultimate disposition of personal property.

Excess Personal Property: Any personal property under the control of any Federal agency which is not required for its needs and discharge of its responsibilities. This property will be reported to the DRMO for reutilization screening by other DoD activities.

Munitions List Items (MLI): Any item contained in the U.S. Munitions List, 22 CFR 121.

Personal Property: Any property of any kind or interest except real property and records of the Federal Government.

Scrap: Material that has no value except for its basic material content.

Strategic List: List of items subject to security trade controls published by the Department of Commerce.

Strategic List Items (SLI): Items assigned a code letter "A" or "B" following the Export Commodity Control Number (ECCN) on the Commerce Control List (CCL), section 799.1 of the Export Administration Regulations. These items are controlled for reasons which include national security, nuclear nonproliferation, crime control, technology transfer, and scarcity of materials.

Definitions

The following definitions are applicable to the DoD DEMIL Program and this instruction.

Ammunition: A device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in connection with defense or offense including demolitions. Certain ammunition can be used for training, ceremonial, or nonoperational purposes.

Ammunition COGs: Those items managed under CAIMS. DEMIL procedures are further directed by the Naval Weapon Station Crane, in accordance with the provisions of references (a) through (c) and SPCCINST 8010.12D (NOTAL) and OPNAVINST 8026.2 (NOTAL). The following COGs are under CAIMS:

0T - EXPENDABLE ORDNANCE (CMC)
2D - TOMAHAWK CRUISE MISSILE (CMPO)
2E - CONVENTIONAL AIR AMMUNITION (NAVAIR)-SPCC
2T - *CONVENTIONAL AMMUNITION (NAVSEA)-SPCC*
4E - AIR LAUNCHED GUIDED MISSILES (NAVAIR)-SPCC
4T - TORPEDOES, COMPONENTS AND ASROC MATERIAL (NAVSEA)-SPCC
6T - UNDERWATER MINES AND COMPONENTS (NAVSEA)-NMWA
8E - AIR LAUNCHED MISSILE MATERIAL (NAVAIR)
8S - SUBROC (NAVSEA)
8T - SURFACE LAUNCHED GUIDED MISSILES AND COMPONENTS (NAVSEA)
8U - SONOBUOYS (NAVAIR)-SPCC

The above COGs are carried under Categories III and IV (except 8U which are Category II) of the U.S. ML (see definition below.

Classified Item: An item in the Federal Supply System which must be protected from unauthorized disclosure in the interest of national defense. Items of this nature are assigned a security classification. Applicable standards of handling, storage, and dissemination shall be applied.

Combat Material: Consists of items of property designated as arms, ammunition, and implements of war listed in the U.S. ML.

Conventional Ammunition: Consists of all items in Federal Supply Group 13, with the exception of a portion of Federal Supply Classes 1336, 1337, 1338, 1340, 1350, 1351, 1355, 1356, 1360, 1361, 1385 and 1386. Further, the term also includes a portion of FSG 14, FSCs 1410 and 1425.

Defense Reutilization and Marketing Office (DRMO): The DLA organizational entity having accountability for and control over disposable property.

Demilitarization (DEMIL): The act of destroying the military offensive or defensive advantages inherent in certain types of equipment or material. The term includes mutilation, scrapping, melting, burning, or alteration designed to prevent the further use of the equipment and material for its originally intended military or lethal purpose and applies equally to material in unserviceable or serviceable condition that has been screened through the ICP and declared surplus or foreign excess. In accordance with existing limitations (regulations/treaties), dumping at sea is also a means of performing DEMIL.

Disposal: The process of reutilizing, transferring, donating, selling, destroying, or other ultimate disposition of personal property.

Excess Personal Property: Any personal property under the control of any Federal agency which is not required for its needs and discharge of its responsibilities. This property will be reported to the DRMO for reutilization screening by other DoD activities.

Munitions List Items (MLI): Any item contained in the U.S. Munitions List, 22 CFR 121.

Personal Property: Any property of any kind or interest except real property and records of the Federal Government.

Scrap: Material that has no value except for its basic material content.

Strategic List: List of items subject to security trade controls published by the Department of Commerce.

Strategic List Items (SLI): Items assigned a code letter "A" or "B" following the Export Commodity Control Number (ECCN) on the Commerce Control List (CCL), section 799.1 of the Export Administration Regulations. These items are controlled for reasons which include national security, nuclear nonproliferation, crime control, technology transfer, and scarcity of materials.

Trade Security Controls (TSC): Policy and procedures designed to prevent the sale or shipment of U.S. Government material in overseas locales to persons, organizations, or countries whose interests are unfriendly or hostile to those of the U.S. Such controls are also applicable to other selected locales as may be designated by the Deputy Under Secretary of Defense for Trade Security Policy.

U.S. MUNITIONS LIST (ML): The following are the categories of the U.S. ML summarized here for quick reference. Detailed information on the types of items contained in these categories, is contained in Appendix A1 of reference (b).

CATEGORY I - FIREARMS
II - ARTILLERY/PROJECTORS
III - AMMUNITION
IV - LAUNCH VEHICLES, GUIDED MISSILES, BALLISTIC MISSILES, ROCKETS, TORPEDOES, BOMBS AND MINES
V - EXPLOSIVES, PROPELLANTS AND INCENDIARY AGENTS
VI - VESSELS OF WAR AND SPECIAL NAVAL EQUIPMENT
VII - TANKS AND MILITARY VEHICLES
VIII - AIRCRAFT, SPACECRAFT AND ASSOCIATED EQUIPMENT
IX - MILITARY TRAINING EQUIPMENT
X - PROTECTIVE PERSONNEL EQUIPMENT
XI - MILITARY AND SPACE ELECTRONICS
XII - FIRE CONTROL, RANGE FINDER, OPTICAL & GUIDANCE AND CONTROL EQUIPMENT
XIII - AUXILIARY MILITARY EQUIPMENT
XIV - TOXICOLOGICAL AGENTS & EQUIPMENT & RADIOLOGICAL EQUIPMENT
XV (RESERVED)
XVI - NUCLEAR WEAPONS DESIGN AND TEST EQUIPMENT
XVII - CLASSIFIED ARTICLES NOT OTHERWISE ENUMERATED
XVIII- TECHNICAL DATA
XIX - DEFENSE SERVICES
XX - SUBMERSIBLE VESSELS, OCEANOGRAPHICS AND ASSOCIATED EQUIPMENT
XXI - MISCELLANEOUS ARTICLES

Usable Property: Commercial and military type property other than scrap and waste.

Enclosure (2)

Criteria for Use of Local Stock Number (LSN)

1. The following specific Federal Supply Groups (FSG) and classes (FSC) of items will not be turned-in with an LSN unless they meet the exception criteria contained in paragraph 2 below: all FSCs in FSG 10, 11, 12, 13, and 14. In addition, FSC 1560, 1670, 1710, 1720, 1810, 1820, 1830, 1840, 2305, 2330, 2350, 2840, 2845, 3690, 4230, 4921, 4923, 4925, 4927, 4931, 4933, 4935, 4960, 5810, 5811, 5821, 5825, 5826, 5840, 5841, 5845, 5850, 5855, 5860, 5865, 5985, 6615, 6920, 6930, 6940, 8470, and 8475.

2. An LSN may only be assigned when the item has not been assigned a formal NSN, is considered as lost, abandoned, unclaimed, confiscated privately-owned personal property, captured enemy material or for reasons of special processing by the generating activity (e.g., incomplete end item such as chemical defense equipment kits after removal of the hazardous constituents). If the item meets the criteria for an LSN and the FSC is shown above, the turn-in documentation will include the appropriate FSC, the valid part number and manufacturer's name, nomenclature which accurately describes the item, the end item application, and a clear text statement defining the reason for the LSN assignment. In addition, a clear text statement must be included to define the DEMIL requirements. Chapter II of reference (b) has the appropriate clear text statement which must be included.

	Waiau 3 & 4				
		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
Prelim. Eng.	Preliminary Engineering	1. Design dehumidification system. 2. Size and procure dehumidifiers and associated equipment. 3. Provide power supply for dehumidifiers.	Identify alternative D/H zone boundaries and system access points	1. Determine spare parts needed and purchase parts. 2. Write reactivation procedures. 3. Document reactivation and start up procedures.	1. Determine procedures to drain and dispose of hazardous materials. 2. Disassemble and remove hazardous equipment.

		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
D/H Zone 1: Water/Steam Cycles	Condenser Steam Side & Hotwell	Connect D/H machine to hotwell through condensate pump suction line or inspection manway.	1. Maintain D/H equipment. 2. Respond to D/H system alarm/failure.	1. Disconnect and seal off D/H inlet line. 2. Inspect for corrosion.	Abandon in place.
	Turbine LP, IP, and HP	1. Block open turbine valves and control valves. 2. Open extraction and non-return valves. 3. Enable turbine to be put on turning gear periodically.	1. Annual inspection for corrosion and deterioration. 2. Monthly -- circulate lube oil and operate turning gear.	Realign valves for start up.	Abandon in place.
	Main Steam Stop and Control Valve Internals	Open all valves.		Realign valves for start up.	Abandon in place.
	Main Steam Lines	Open all valves.		Realign valves for start up.	Abandon in place.
	Boiler Drum	Check seals for leaks--repair if necessary.		1. Inspect for corrosion. 2. Internal inspection by boiler inspector. 3. Hydro test.	Abandon in place.
	Boiler Superheater, Economizer and Waterwall Tubes	Drain and dry system.	Annual inspection for corrosion and deterioration.	1. Inspect for corrosion. 2. Hydro test.	1. Drain system. 2. Abandon in place.
	Feedwater Lines	1. Open all valves. 2. Remove check valve guts to allow D/H circuit for drying.		1. Inspect for corrosion. 2. Reinstall check valve internals. 3. Realign valves for start up.	Abandon in place.
	All Feedwater heaters Both Tube and Shell Side	Align valves and drains.		1. Inspect for corrosion. 2. Realign valves for start up.	Abandon in place.
	Boiler Feed Pumps and Drives (Motor or Turbine)	1. Drain system. 2. Install a supply line from steam/waterside of D/H machine that connects to vents on the boiler feed pump motors. 3. Install a return line connecting the last BFP motor to the return of the D/H machine. 4. Seal motors from ambient air. 5. Existing motor heaters will be left in service. 6. Install magnetic temperature gauges.	1. Rotate motors monthly. 2. Check motor space heaters and temperature gauges.	Megger pump motor windings to test for proper insulation resistance.	1. Drain system. 2. Abandon in place.
	Heater Drain Tanks, Pump, and Motor	1. Remove all water. 2. Close vents and drains. 3. Block open check valves. 4. Install space heaters as required.	1. Rotate motors monthly. 2. Check motor space heaters.	1. Megger pump motor windings to test for proper insulation resistance. 2. Realign valves for start up.	1. Drain system. 2. Abandon in place.
	Deaerator	Not in service. Shut off piping to/from deaerator.			Abandon in place.
	Steam Seal Lines	Open all valves.		Realign valves for start up.	Abandon in place.
	Condensate Pumps	1. Drain system. 2. Block off connection between suction line of condensate pump and condenser hotwell. 3. Existing motor heaters will be left in service.	1. Rotate motors monthly. 2. Check motor space heaters.	1. Megger pump motor windings to test for proper insulation resistance. 2. Remove D/H connection and reconnect condensate pump to condenser hotwell.	1. Drain system. 2. Abandon in place.
	Boiler Drain Header and Blowdown Tank	1. Align valves. 2. Close off open drains.		Realign valves for start up. Open drains.	Abandon in place.

		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
D/H Zone 2: Furnace Air/Gas Cycle	Forced & Induced Draft Fans and Motors	1. Seal off intake to FD fan. 2. Seal off discharge from ID fan to stack. 3. Install motor space heaters as required. 4. Connect D/H equipment to system.	1. Maintain D/H equipment. 2. Respond to D/H system alarm/failure.	1. Disconnect D/H equipment. 2. Open FD fan intake. 3. Open ID fan discharge. 4. Reconnect motors and prepare motors for start up.	Abandon in place.
	Ductwork and Breeching	Open all dampers.		Realign dampers for start up.	Abandon in place.
	Air Preheater	1. Thorough air preheater wash. 2. Perform neutralization rinse on all surfaces.	Operate periodically.		Abandon in place.
	Superheater, Economizer Tube Gas Side				Abandon in place.
	Furnace and Waterwall Tubes	1. Thorough furnace wash. 2. Perform neutralization rinse on all surfaces. 3. Dry fire boiler with ignitors.		Inspection by boiler inspector.	Abandon in place.
	Reboiler System	Drain.			1. Drain system. 2. Abandon in place.

		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
D/H Zone 3: Generator & Exciter	Generator	1. Degas generator and retrofit with a re-circulated dehumidified air system. A high efficiency particulate filter should be used to filter the dry air before it enters the generator. 2. Generator Brushgear, Commutators and Slip-rings will be removed, cleaned, and stored within a dry environment. 3. Iso-Phase Buss Duct will be circulated with dry air from the generator. The buss duct will be pressurized to the main transformer and Potential Transformer compartment.	1. Monitor internal temperature and relative humidity. 2. Avoid localized hot spots as temperatures above 190°F may damage insulation. 3. Periodic megger readings should be taken to determine the electrical condition of the stator and field. 4. Maintain D/H equipment. 5. Respond to D/H system alarm/failure.	1. Remove D/H equipment. 2. Inspect and reinstall the brushgear, commutators, slip-rings, and brushes. 3. Inspect rotor, bearings, couplings, and generator seals. 4. Take electrical resistance readings on the stator and rotor windings. 5. Apply hydrogen gas to the generator.	1. Degas generator. 2. Abandon in place.
	Exciter	1. The static excitation system cabinets are already equipped with small 120 VAC space heaters. Additional space heaters will be installed within the excitation cubicles as needed. 2. Purchase and stock critical replacement parts per manufacturers recommendation.	1. Monitor internal temperature and relative humidity. 2. Routinely check equipment for corrosion. 3. Periodically power-up the exciter to confirm proper operation. 4. Periodically verify mechanical operation of the field breaker	1. Take electrical resistance readings for all high voltage connections and field cabling. 2. Perform Megger and turns-ratio tests on the Power Current and Power Potential transformers. 3. Provide manufacturer field support for equipment checkout and startup.	1. Disconnect excitation system. 2. Disassemble and store exciter hardware for use as spare parts.
	Generator Field	The generator field will be maintained as part of the main generator body.	1. Monitor internal temperature and relative humidity. 2. Avoid localized hot spots as temperatures above 190°F may damage insulation.	(See Generator Section)	Abandon in place.
	Hydrogen Coolers	Part of generator D/H circuit.			1. Adequately flush gas lines. 2. Disconnect and remove all compressed gas cylinders.
	Exciter Cooling System	1. Waiau 3 and 4 are no longer equipped with rotating exciters, but the stub shaft and bearing section within the exciter enclosure will need to remain corrosion free. 2. Circulate dehumidified air from the generator through the exciter enclosure.	Monitor internal temperature and relative humidity.	Inspect stub shaft, bearing, and seals for corrosion.	1. Remove collector rings and associated brush gear. 2. Additional equipment will be abandoned in place.

		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
D/H Zone 4: Circulating Water	Circulating Water Pumps	1. Remove pumps from pits. 2. Clean, cradle, and preserve pumps. 3. Remove motors and wire space heaters.	1. Maintain D/H equipment. 2. Respond to D/H system alarm/failure.	1. Have cutlass bearings and packing on hand. 2. Megger motor windings to test for proper insulation resistance. 3. Reinstall pumps and test for start up.	Abandon in place.
	Circulating Water System	1. Remove CWP motors and wire space heaters. 2. Remove CWPs--clean, cradle, and apply preservative. 3. Existing motor heaters will be left in service.	Routinely bump test motors	1. Megger pump motor windings to test for proper insulation resistance. 2. Reinstall pumps and test for start up.	Abandon in place.
	Condenser	1. Isolate and drain seawater. 2. High pressure wash tubes and waterboxes with fresh water. 3. Connect D/H equipment through CWP discharge piping. 4. Block open CWP discharge check valves.	Maintain D/H equipment.	1. Disconnect D/H equipment. 2. Unblock check valves.	1. Drain system. 2. Abandon in place.
	Travel Screens	Remove, clean, stow.		Reinstall traveling screens.	Abandon in place.
	Cathodic Protection System	Deenergize.		1. Inspect anodes and wiring connections 2. Restart.	Abandon in place.

		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
Controls	Control Room	1. The Control Room will be left in service. 2. All computer interfaces will be powered down. 3. Controls/Switches will be tagged out as required. 4. Critical spare parts will be identified and purchased prior to shutdown.	The boiler control board, protective relay panel, and associated hardware will be periodically checked for corrosion.	1. Calibrate and test all relays, meters, and associated control hardware. 2. Perform continuity checks on all critical wiring. 3. Power-up operator interfaces.	1. Potential spare equipment/hardware will be removed and stored. 2. All other components will be abandoned in place.
	Distributed Control System	1. Shutdown DCS cabinets, operator control consoles, and associated server equipment. 2. The existing A/C system will remain active. 3. Inventory and procure critical spare parts. Store in an appropriate environment. 4. Download and store the current configuration files.	1. Maintain proper operation of the A/C system. Caution: With DCS normally shutdown, there will be a lower heat load. The A/C may cycle frequently, with the result that moisture in the air will not be removed. Inspect for corrosion at potential condensation sites. 2. Periodically power-up the DCS cabinets to verify system operation.	1. Replace faulty hardware from spare parts supply. 2. Provide manufacturer field support for equipment checkout and startup.	1. Potential spare equipment/hardware will be removed and stored. 2. All other components will be abandoned in place.
	Instrumentation	1. Field instrumentation will be left "As-Is". 2. Where applicable field instruments will be disconnected, removed, and stored in a dry environment. 3. Record and document all "as-found" calibration settings.	None	1. Verify all instrumentation and control loops to be within calibration. 2. Verify all trip settings are within the proper tolerances. 3. Calibrate and test all relays and breakers. 4. Check for leaks on all instrumentation - including fittings, valves, and diaphrams.	1. Potential spare equipment/hardware will be removed and stored. 2. All other components will be abandoned in place.

		Cold Dry Lay-Up Procedures			Retirement Procedures
	Equipment	Lay-Up	Maintenance	Reactivation	Deactivation
Miscellaneous Equipment	Service & Instrument Air System	Remain In Service. Cross connect to other units.			Abandon in place.
	Station Batteries	Remain In Service	1. Monitor system for field grounds and battery failures. 2. Hop gravities. 3. Maintain level of electrolyte.	None	If these cannot be reused at another unit they will be disposed of as hazardous material.
	Switchyard and Auxiliary Switchgear	1. The 2300 and 440 switchgear will remain in service, as will the 440 VAC Motor Control Center (MCC). Power will be supplied through the startup transformer via the phase shift transformer. 2. All breakers not required are to be left in the racked-out and tagged position. 3. The contactors and operating mechanisms are to be sprayed with an appropriate preservative. 4. Doors on those breaker compartments that will not be used regularly should be sealed with special tape. 5. Space heaters will be added as appropriate.	1. Routinely check equipment for corrosion. 2. Periodically exercise the mechanical portion of each breaker.	1. Take electrical resistance readings on all cables which have been out of service. 2. Inspect equipment for corrosion and verify proper operation of all breakers.	1. Potential spare equipment/hardware will be removed and stored. 2. All other components will be abandoned in place.
	High Voltage Transformers (Main/Aux.)	1. Connect each HV bushing independently to earth ground in order to safeguard the transformer against lightning strikes. 2. The transformer will be degassed and capped with nitrogen.	1. Transformer oil should be routinely sampled to check for acidity and water content with particular reference to bacterial growth.	1. Test the insulation resistance and turns ratio for each HV transformer. 2. Unground HV bushings.	If these cannot be reused at another unit, or maintained as spares they will be disposed of as hazardous material.
	Miscellaneous Motors	Install space heaters as required.	Routinely bump test select motors.	Megger pump motor windings to test for proper insulation resistance.	Abandon in place.
	Distribution Panels/Electrical Enclosures	1. All unused electrical enclosures will be fitted with Vapor Corrosion Inhibitors (VCI). 2. Cover and seal all enclosure openings.	1. Replace VCI capsules every 20-24 months. 2. When replacing capsules enclosures should be inspected for deterioration.	1. Remove enclosure seals and inspect panels for corrosion. 2. Thoroughly blow out VCI using dry air.	Abandon in place.
	Switchyard and Auxiliary Switchgear	Remain In Service.			Abandon in place.
	Service Water System	1. Remove SWP motors and wire space heaters. 2. Remove SWPs--clean, cradle, and apply preservative. 3. Install motor space heaters.	Routinely bump test motors	1. Megger pump motor windings to test for proper insulation resistance. 2. Reinstall pumps and test for start up.	1. Drain system. 2. Abandon in place.
	Safety and Relief Valves	Clearly mark normal relieving pressure on each valve.			Abandon in place.
	Auxiliary Cooling Water System	Chemically treat.	Periodically circulate.		Abandon in place.
	Drives and Dampers	Protect drives--consider herculite enclosures with VCIs.	Periodically stroke dampers.		Abandon in place.
	Control Valves	Protect equipment--consider herculite enclosures with VCIs.			Abandon in place.
	Soot blowers	Protect equipment--consider herculite enclosures with VCIs.			Abandon in place.
	Gland water, head tanks	Drain. Ganged D/H?			1. Drain system. 2. Abandon in place.
	Fuel oil and propane systems	Isolate and tag out.			1. Isolate system from fuel oil supply. 2. Drain pipes and equipment. 3. Abandon equipment.
	Boiler Water Chemical Feed System	Drain and deactivate.			1. Drain and deactivate system. 2. Abandon in place.
	Fire Protection System	Remain In Service.	Maintain system.		Remain In Service.

COLD DRY LAY-UP (CDLU)

WAIAU UNITS 3 & 4

FOR LONG-TERM RESERVE STANDBY

MECHANICAL PRESERVATION

- Preliminary engineering, charge time to HP002828.
- Design criteria, and scope definition.
- Develop dehumidification plan for HECO's major assets, identify "D/H" zones, and issue D/H drawings showing flowpaths and basic modifications needed.
- Specify and purchase dehumidification machines and humidity monitoring instruments.
- Provide power supply for new machinery dehumidifiers.
- Shut down unit. Drain boiler, feed and condensate systems. Thorough furnace and air heater wash. Neutralization rinse. Dry-fire the boiler with ignitors. Inspection and document results.
- Perform retrofit to implement and seal steam-side and fire-side D/H zones.
- Degas generator and retrofit dehumidifier.
- Retrofit D/H monitoring instruments/recorders.
- Line up system. Light off dehumidifiers.
- Fuel oil and propane systems—isolate and tag out.
- Lube oil systems—leave operable. Periodically circulate and run turning gear.
- Circulating water systems—remove CWP motors; wire space heaters. Remove CWPs; clean, cradle, preservative. D/H condenser through CWP piping, with jumper ducts retrofitted to waterbox access doors as needed.
- Auxiliary cooling water system—chem treatment, and periodically circulate.

- Service water—same/similar as CWP.
- Reboiler system—drain, D/H.
- Boiler water chemical feed system—drain and deactivate.
- Service air and instrument air—cross connect to the other units, continue to operate systems.
- Equipment exterior protection (drives, control valves, sootblowers)—consider herculite enclosures w/VCIs.
- Gland water, head tanks—drain, ganged D/H?
- Inspect/coat chimney interior, up to ID fans. Seal exit?
- Develop and implement a preventative maintenance plan.
- Document the lay-up efforts, and develop reactivation inspection/test plans and restart procedures.

Waiau 3 & 4 Study

Decommissioning vs. Long-Term Layup

by Power Supply Engineering Department

Objectives

- Present research to-date on plant layup and decommissioning
- Initial plan provided to Generation Planning Department
- Detailed input needed from System Owners, Subject Matter Experts (SMEs), O&M, and Environmental in order to complete study and develop a finalized plan

Background Information

- Hawaii Clean Energy Initiative (HCEI)
  - *"Waiau 3 and/or 4 Retirement (after CT-2 or Hawaiian Electric—Military DG on line)"*
    - HCEI Definition of *Retirement*: either decommissioning or reserve standby
    - HECO Definition of *Reserve Standby*: unit on long-term layup with the ability to be reactivated in 6-8 weeks
- Compare Decommissioning vs. Long-Term Layup
  - Scope
  - Procedures Required
  - Cost Estimates

Decommissioning

- Complete decommissioning
  - Abandon equipment in place
  - Similar to the state of Waiau 1 & 2
  - Disconnect or remove hazardous materials and equipment
  - Identify and store "like" equipment for use as spares
  - No provisions to reuse existing space

Long-Term Layup

- Scope includes procedures for Layup, Maintenance, and Reactivation
  - Protect equipment from corrosion, mildew, etc.
  - Ability to restore equipment to working condition with short turnaround time
- Protect equipment at minimal cost

Long-Term Layup

- HECO is not the first utility with a requirement to layup a power plant
- Our approach will build on the experiences from others
- Common for laying up large ships for drydock or reserve status

Types of Long-Term Layup

- Long-Term Layup Options: [2]
  - Wet Layup—fill equipment with demineralized water that includes a corrosion protectant
    - Pros: Positive protection method
    - Cons: High ongoing maintenance requirement
  - Protective Coatings
    - Pros: Protects well against corrosion, marine growth
    - Cons: Requires extensive preparation and removal efforts
  - Dry Layup—Nitrogen Blanketing
    - Pros: Good for protecting air tight vessels for short periods of time
    - Cons: Extensive maintenance and operational requirements
  - Cold Dry Layup – Dehumidifier
    - Pros: Ability to perform routine maintenance and inspections during layup
      More effective and more cost efficient than other options
    - Cons: Requires modifications to the unit to connect D/H equipment
      Requires routine monitoring of D/H equipment

What is Cold Dry Layup?

- Drain water from mechanical systems
- Continuous mechanical dehumidification equipment ties in through temporary connections and jumpers
- Lube oil systems remain "as-is" to allow periodic circulation and jacking gear operation
- Degas generator and install space heaters on exciter
- Control room remains in service

Cold Dry Layup Summary

- Determine dehumidification (D/H) zones:
  - Water/Steam Cycle
  - Furnace Air/Gas
  - Generator/Exciter
  - Circulating Water
- Prepare systems for layup (connect D/H)
- Install local temperature and relative humidity monitoring points
- Maintain a relative humidity below 30% at any given temperature
- Develop a maintenance and inspection schedule for D/H zones and miscellaneous equipment
- Install space heaters and introduce desiccant where required
- Identify critical spare parts required for reactivation
- Document a reactivation procedure

Example D/H Loop: Water/Steamside Cycle [2]

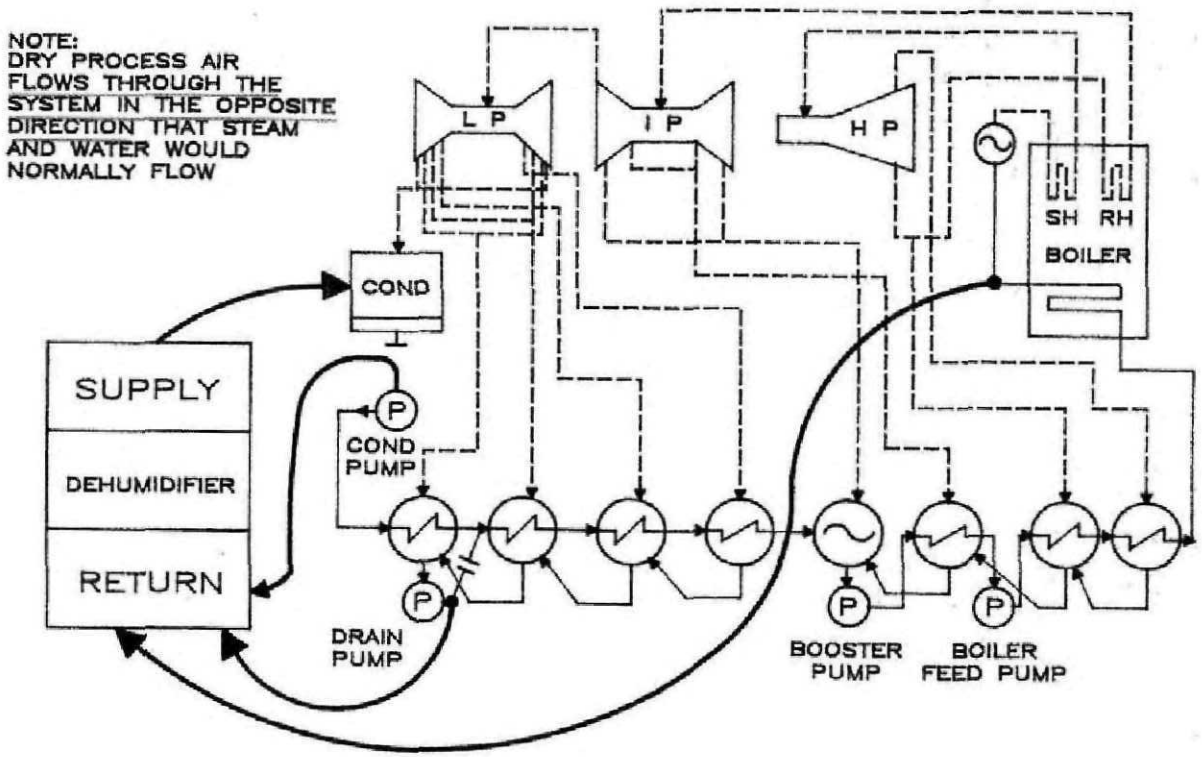
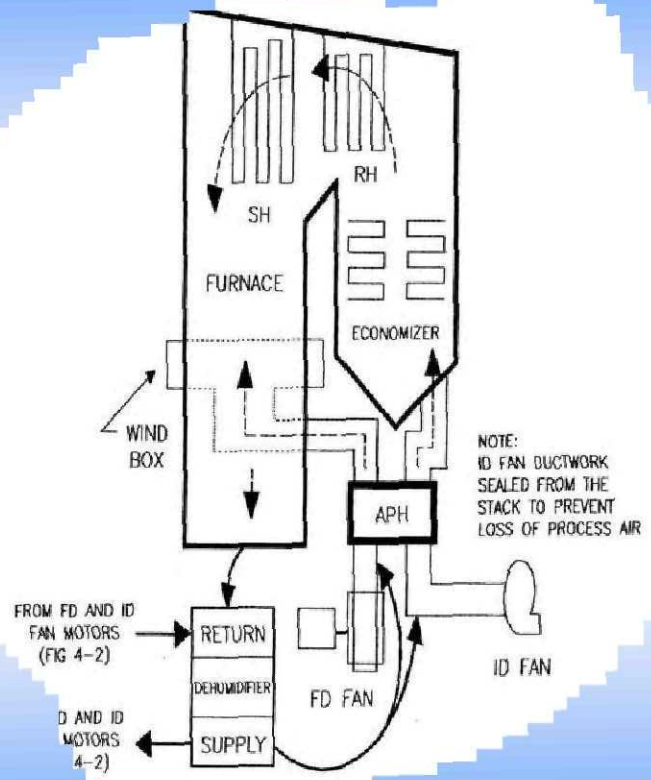


Figure 4-1. Water Steamside Cycle Dehumidification

Example D/H Loop: Furnace Air/Gas Cycle [2]



Example D/H Loop: Generator/Exciter Cycle [2]

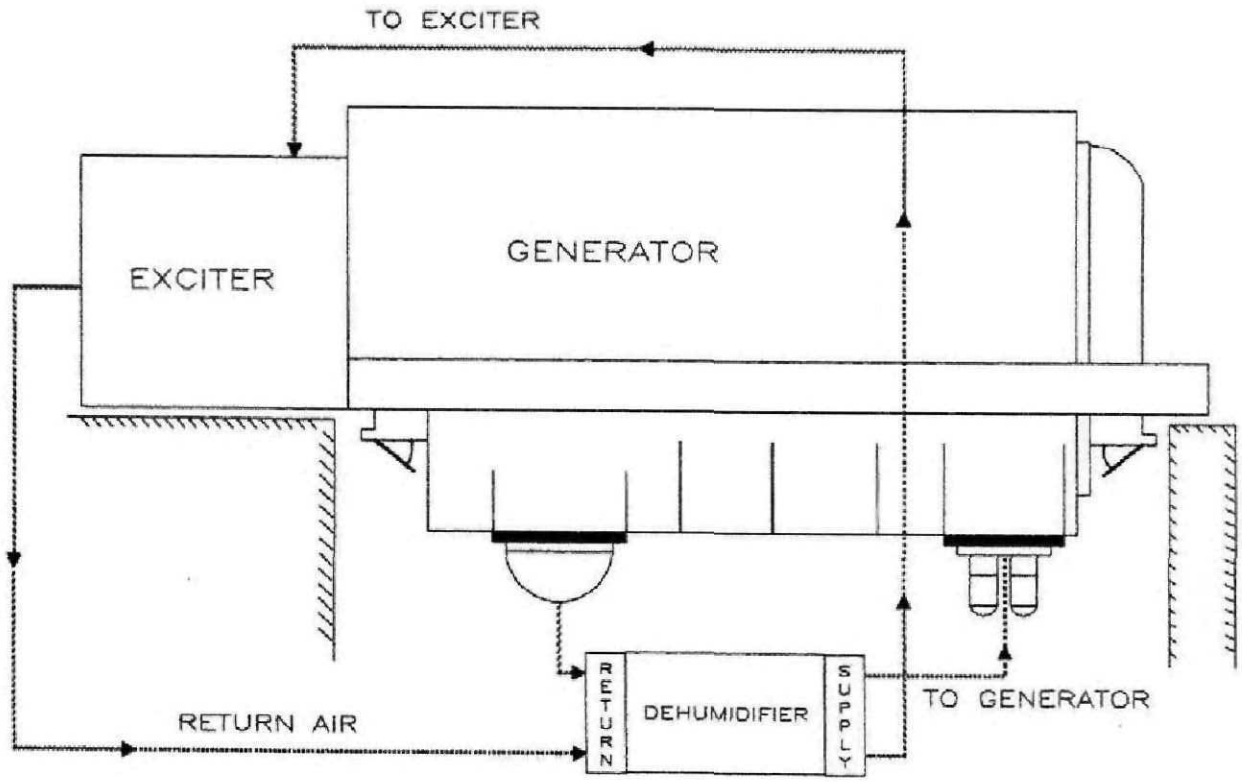
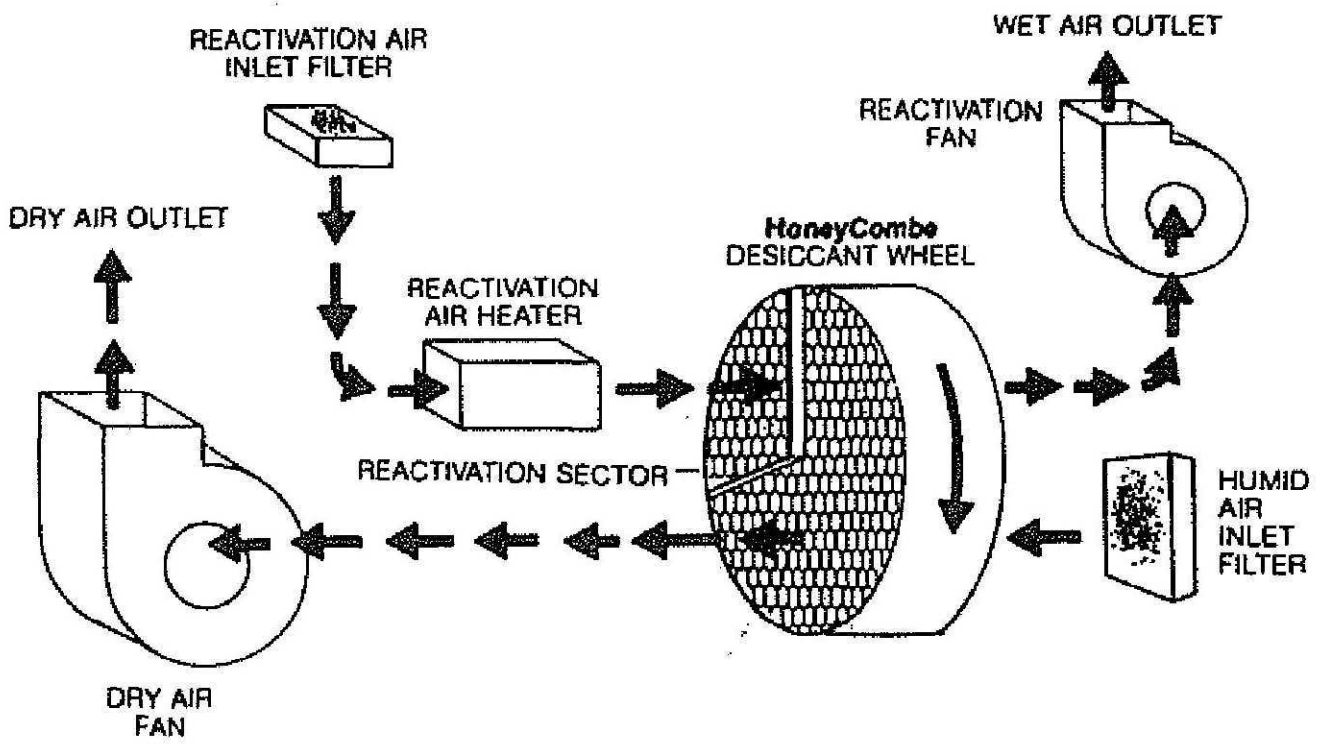


Figure 4-5. Generator/Exciter Dehumidification Connection

D/H System [2]

Illustration 1
The Rotary Honeycombe Principal



Next Steps

- Work with Waiau O&M, System Owners, SMEs to refine the list of identified equipment and requirements for long term layup
- Coordinate a follow-up meeting to review the Waiau 3 and 4 layup procedures
- Issue an RFQ to engineering consulting firms for assistance developing cost estimates, layup/reactivation procedures, and maintenance schedules

References

[1] Encor-America Inc. for EPRI, "Proceedings: Fossil Plant Layup and Reactivation Conference," EPRI Oct. 1992.

[2] Florida Power & Light Company for EPRI, "Guidelines: Long-Term Layup of Fossil Plants," EPRI April 1987.

[3] "Naval Ships' Technical Manual Chapter 050 Readiness and Care of Inactive Ships," Naval Sea Systems Command 1 May 2005.

W3 and 4 Cold Dry Layup/Decommissioning Plan (by PSED)

CA-IR-300

Ref: HECO 715, (Work Order Backlog Reports).

Please provide, for each available month subsequent to May 2008, a complete copy of the Backlog Report.

HECO Response:

Please refer to Attachment 1 to this response for the Work Order Backlog Reports from June through December 2008. The decrease from 3,812 for October 2008, to 3,356 for November of 2008 was primarily due to an updating of the work order backlog at Waiau Station for completed work orders but for which the records had not been previously updated on a timely basis.

In the June 2008 time frame, efforts were initiated to revise the Work Order Backlog Reports in order to provide more meaningful information for management purposes. This effort is ongoing, however, beginning with the June 2008 Backlog Report, tabulations of the following have been deleted: "Oldest Days", "Average Days", and "Completed PMs."

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report June 2008

Backlog = Uncompleted work orders, scheduled and unscheduled, work groups
PPKAM, PPKAMMT, PPWAM, PPWAMMT, PPHOM, PPHOMMT
All information in this report is from Ellipse ad hoc, except as noted.

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E	4	27		31
H	174	388	24	586
M	976	1322	178	2476
L	141	259	45	445
	30	95	143	268
Grand Total	1325	2091	390	3806

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	511	816	56	1383
Electrician	71	176	19	266
Machinist	136	181	39	356
Technician	503	444	82	1029
	104	474	194	772
Grand Total	1325	2091	390	3806

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	4	7		11
H	94	51	3	148
M	137	81	6	224
L	6	9		15
	1	6	14	21
Grand Total	242	154	23	419

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	5	5		10
H	103	39		142
M	84	61	1	146
L	7	14		21
		2	7	9
Grand Total	199	121	8	328

Work Order Gain/(Fall Back)	**(43)**	**(33)**	**(15)**	**(91)**

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report July 2008

Backlog = Uncompleted work orders, scheduled and unscheduled, work groups
PPKAM, PPKAMMT, PPWAM, PPWAMMT, PPHOM, PPHOMMT
All information in this report is from Ellipse ad hoc, except as noted.

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E	2	20		22
H	192	412	24	628
M	1000	1316	180	2496
L	146	259	45	450
	27	97	164	288
Grand Total	1367	2104	413	3884

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	524	823	64	1411
Electrician	81	175	21	277
Machinist	135	188	41	364
Technician	528	432	90	1050
	99	486	197	782
Grand Total	1367	2104	413	3884

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	3	3		6
H	88	53		141
M	114	108	1	223
L	6	4		10
	1	4	21	26
Grand Total	212	172	22	406

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	(blank)	Grand Total
E	3	2		5
H	69	17		86
M	89	82		171
L	6	2		8
		1		1
(blank)				
Grand Total	167	104		271
Work Order Gain/(Fall Back)	**(45)**	**(68)**	**(22)**	**(135)**

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report August 2008

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

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E		22		22
H	154	442	25	621
M	866	1385	183	2434
L	131	259	45	435
	37	110	175	322
Grand Total	1188	2218	428	3834

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	453	883	72	1408
Electrician	75	162	22	259
Machinist	121	183	42	346
Technician	431	471	87	989
	108	519	205	832
Grand Total	1188	2218	428	3834

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	1	3		4
H	51	50	1	102
M	84	135	2	221
L	5	5		10
	3	8	27	38
Grand Total	144	201	30	375

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
H	45	6	2	53
M	169	31	1	201
L	15	3		18
		1	15	16
Grand Total	229	41	18	288

Work Order Gain/(Fall Back)	**85**	**(160)**	**(12)**	**(87)**

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report September 2008

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

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E		22		22
H	181	424	27	632
M	890	1388	182	2460
L	132	269	45	446
	33	101	188	322
Grand Total	1236	2204	442	3882

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	472	854	85	1411
Electrician	84	155	20	259
Machinist	148	189	37	374
Technician	422	478	88	988
	110	528	212	850
Grand Total	1236	2204	442	3882

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E		5		5
H	70	34	2	106
M	119	98		217
L	13	16		29
			30	30
Grand Total	202	153	32	387

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	1	2		3
H	29	11		40
M	31	22		53
L	3	2		5
			3	3
Grand Total	64	37	3	104

Work Order Gain/(Fall Back)	**(138)**	**(116)**	**(29)**	**(283)**

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report October 2008

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

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E		24		24
H	145	442	26	613
M	812	1423	180	2415
L	127	270	46	443
	28	96	193	317
Grand Total	1112	2255	445	3812

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	436	884	91	1411
Electrician	80	166	20	266
Machinist	120	175	39	334
Technician	372	505	74	951
	104	525	221	850
Grand Total	1112	2255	445	3812

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	1	3		4
H	68	32		100
M	85	87	5	177
L	6	6	1	13
		3	21	24
Grand Total	160	131	27	318

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	KAHE	WAIAU	HONOLULU	Grand Total
E	1	1		2
H	101	11	1	113
M	166	38	7	211
L	9	5		14
		1	16	17
Grand Total	277	56	24	357

Work Order Gain/(Fall Back)	**117**	**(75)**	**(3)**	**39**

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report November 2008

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

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E	2	10		12
H	198	261	26	485
M	838	1075	185	2098
L	132	247	46	425
	33	94	209	336
Grand Total	1203	1687	466	3356

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	468	613	95	1176
Electrician	91	146	20	257
Machinist	137	146	42	325
Technician	396	310	82	788
	111	472	227	810
Grand Total	1203	1687	466	3356

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	HONOLULU	KAHE	WAIAU	Grand Total
	16		11	27
E		3	3	6
H		80	26	106
L		5	10	15
M	5	50	114	169
Grand Total	21	138	164	323

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	HONOLULU	KAHE	WAIAU	Grand Total
E			3	3
H		28	41	69
M		17	156	173
L		1	14	15
			2	2
(blank)				
Grand Total		46	216	262
Work Order Gain/(Fall Back)	**(21)**	**(92)**	**52**	**(61)**

HAWAIIAN ELECTRIC COMPANY, INC.
2009 Test Year

Backlog Report December 2008

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

WORK ORDER COUNT SUMMARY by Station				
Count of wo	STATION			
PLAN_PRIO	KAHE	WAIAU	HONOLULU	Grand Total
E	3	12		15
H	202	247	24	473
M	818	1063	160	2041
L	130	246	43	419
	30	112	226	368
Grand Total	1183	1680	453	3316

WORK ORDER COUNT SUMMARY by Craft				
Count of wo	STATION			
CRAFT	KAHE	WAIAU	HONOLULU	Grand Total
Boiler	468	608	104	1180
Electrician	89	136	23	248
Machinist	124	149	40	313
Technician	400	286	87	773
	102	501	199	802
Grand Total	1183	1680	453	3316

WORK ORDERS RAISED				
Count of wo	STATION			
PLAN_PRIORITY	HONOLULU	KAHE	WAIAU	Grand Total
	29	2	26	57
E		10	5	15
H	1	100	63	164
L		6	4	10
M	3	77	142	222
Grand Total	33	195	240	468

WORK ORDERS COMPLETED				
Count of wo	STATION			
PLAN_PRIORITY	HONOLULU	KAHE	WAIAU	Grand Total
E		8	1	9
H		57	38	95
M	11	46	98	155
L		3	4	7
	3			3
Grand Total	14	114	141	269

Work Order Gain/(Fall Back)	**(19)**	**(81)**	**(99)**	**(199)**

CA-IR-301

Ref: HECO 718, (2009 Overhaul Schedule).

Please provide a complete copy of the currently effective management-approved 2009 planned maintenance schedule.

HECO Response:

Please refer to Attachment 1 for a copy of the current and approved 2009 Planned Maintenance Schedule.

An HEI Company

POWER SUPPLY OPERATION & MAINTENANCE
2009 PLANNED MAINTENANCE SCHEDULE

Peaks as of: 9/23/2008
Revision date: 1/20/2009

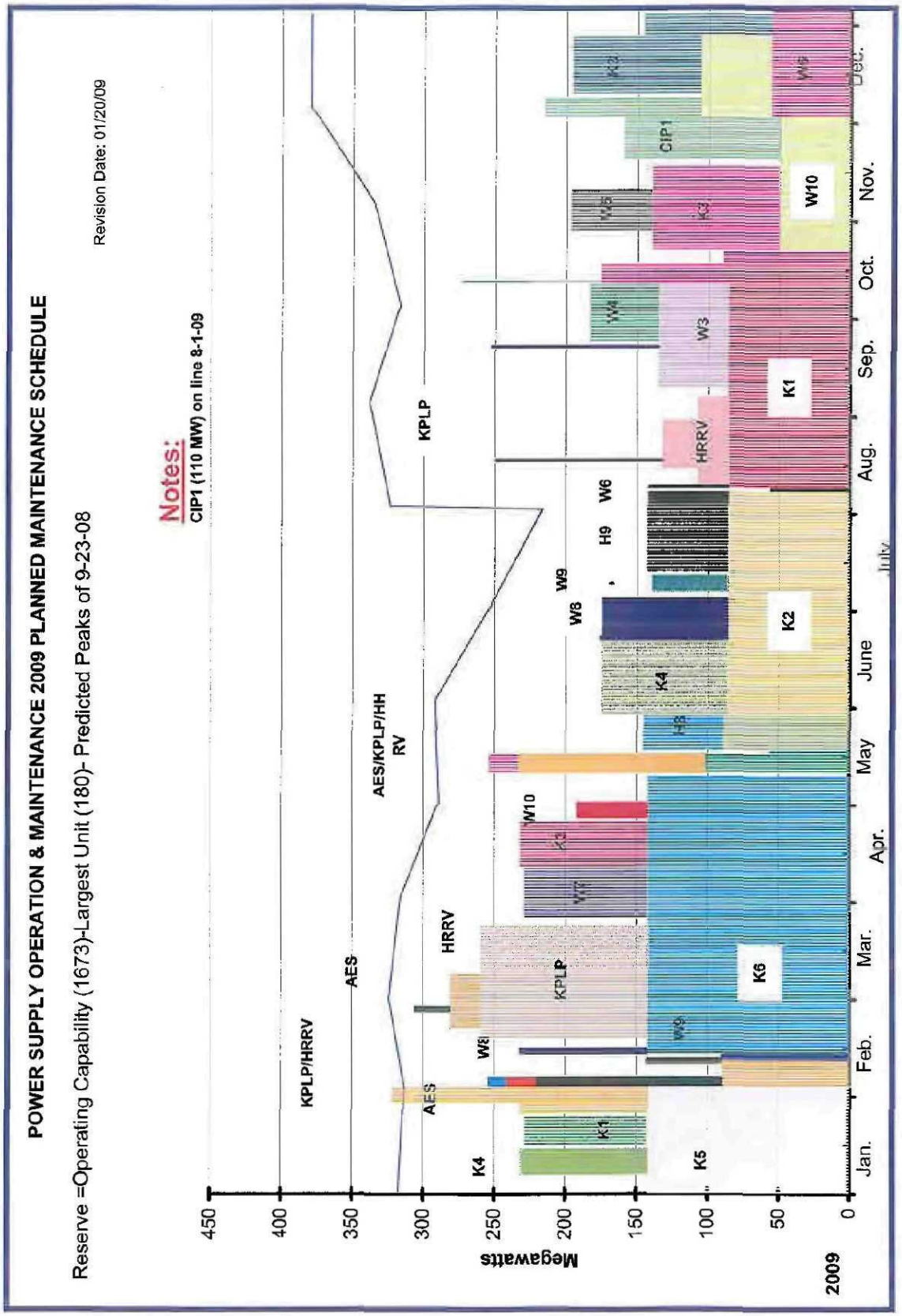
Comments:
Revised 6-3-08
Revised 6-12-08
Revised 6-20-08
Approved 6-20-08
Revised 9-8-08
Revised 9-15-08
Revised 9-24-08
Revised 10-02-08
Revised 10-6-08
Revised 10-8-08
Approved 10-8-08
Revised 1-16-09
Revised 1-20-09

Note: OCB 170, 131 early '09; AES "A" bus de-eng 2/12/09 to 2/14/09(1 hr clbk)

UNIT	DATE				Duration	
	Brk Op	Start	Bkr Cl	Firm	(Wks.Days)	REMARKS
K5	10/17/2008	10/18/2008	2/1/2009	2/2/2009	15.3	Con't(PO from 2008)
K4	1/7/2009	1/7/2009	1/14/2009	1/14/2009	1.1	MO-a(APH Wash, VLC-23 internals)
K1	1/16/2009	1/17/2009	1/23/2009	1/24/2009	1.1	MO(blr ww tbe sample for '09 PO, pre-oh inspections)
AES-	1/26/2009		1/28/2009		0.3	-90 MW (AES Schedule)
AES	1/29/2009		2/2/2009		0.5	-180 MW(5 da),(AES-KPLP 138-kV,3 da,dd end stl H-frme strc,st 1/29)
AES-	2/3/2009		2/10/2009		1.1	-90 MW (AES Sch))
KPLP--	2/3/2009		2/5/2009		0.3	-131 MW(AES-CEIP #1 out of service for stl pole conc fdn work)
HRRV-	2/3/2009		2/5/2009		0.3	-21 MW(AES-CEIP #1 out of service for stl pole conc fdn work)
AES----	2/3/2009		2/5/2009		0.3	-12 MW(AES-CEIP #1 out of service for stl pole conc fdn work)
W9	2/10/2009		2/11/2009		0.2	MO(Aux xfmer conductor bars/micarta spacers)
W8	2/11/2009	2/11/2009	2/13/2009	2/14/2009	0.3	MO(Trb IV springs, fault recorder terminations)
K6	2/13/2009	2/14/2009	5/7/2009	5/9/2009	12.0	PO-(Annun, HP/IP/LP, BCC, Blr PH/Vestb Dmprs, UPS Pnl, VR,Gen)
KPLP-	2/18/2009		3/24/2009		5.0	-118 MW (CT2 "C" Inspection)
HRRV-	2/21/2009		3/9/2009		2.3	-21 MW (4/28/09 to 5/2/09 full capacity-Air Permit)
AES---	2/26/2009		2/27/2009		0.2	-25 MW(AES-KPLP 138kV line term existing & tap into new)MW export lmted
W7	3/27/2009	3/28/2009	4/10/2009	4/11/2009	2.1	MO(APH HE baskets, LP trb seals, blr exp jt, fault recorder term,FDF LS mtr)
K3	4/12/2009	4/13/2009	4/24/2009	4/25/2009	1.6	MO(APH Wash, biofuel pre-outage inspection)
W10	4/27/2009		5/1/2009		0.5	MO(Videoprobe, aux xfmer cables to cab)
HRRV-	5/11/2009		5/16/2009		0.6	-21 MW (AES-CEIP #1 138-kV limitation for NEW AES-CEIP#2 line)
AES--	5/11/2009		5/16/2009		0.6	-102 MW (AES-CEIP-#1 138-kV limitation for NEW AES-CEIP #2 line)
KPLP--	5/11/2009		5/16/2009		0.6	-131 MW (AES-CEIP #1 138-kV limitation for NEW AES-CEIP #2 line)
H8	5/17/2009	5/18/2009	5/27/2009	5/28/2009	1.4	MO(APH Wash)
K4	5/18/2009	5/18/2009	6/19/2009	6/20/2009	4.5	MO(Blr permit exp 10/12/09, OCB 171/172)
K2	5/29/2009	5/30/2009	7/31/2009	8/5/2009	9.1	PO(Exc/VR,Op Cons, SB Ctls,Gen, bcc,OCB 132/133)
W8	6/21/2009	6/22/2009	7/2/2009	7/3/2009	1.5	MO-(APH Wash, CW Tunnel Coating Inspec)
W9	7/6/2009		7/10/2009		0.5	MO(Videoprobe, aux xfmer cables to cab)
H9	7/12/2009	7/13/2009	7/31/2009	8/1/2009	2.6	MO-Blr Inspection, permit exp 1/8/10
W6	8/2/2009	8/3/2009	8/7/2009	8/7/2009	0.6	MO(blr ww tbe sample for '08 PO, pre-oh inspections)
K1	8/7/2009	8/8/2009	10/9/2009	10/14/2009	9.1	PO-(BCC,FWHs,Gen,Annun,Exc,SB Ctls, UPS Panel)
HRRV-	8/8/2009		8/12/2009		0.5	-21 MW (HPower Schedule)
HRRV	8/13/2009		8/27/2009		2.1	-46 MW (HPower Schedule)
HRRV-	8/28/2009		9/3/2009		1.0	-21 MW (HPower Schedule)
KPLP-	8/15/2009		8/15/2009		0.1	-118 MW (CT1 A)
W3	9/7/2009	9/7/2009	10/9/2009	10/9/2009	4.5	MO(APH Wsh, OCB4499, Blr Insp per exp 2/13/10, Phase Shift Xfmer w/W4)
KPLP-	9/19/2009		9/19/2009		0.1	-118 MW (CT2 A)
W4	9/21/2009	9/21/2009	10/9/2009	10/9/2009	2.5	MO(APH Wash, Phase Shift Xfmer w/W3)
K3	10/9/2009	10/10/2009	11/6/2009	11/13/2009	4.1	MO (APH Wash, Biofuel Co-firing Project,+ 1 wk testing, PCT install (cap))
W10	10/19/2009		12/18/2009	12/23/2009	8.5	PO(CI, Air Inlet Filtration, VR?)
W5	10/25/2009	10/26/2009	11/6/2009	11/6/2009	1.6	MO(APH Wash)
CIP1	11/16/2009		12/4/2009		2.5	MO(CI)
W6	11/29/2009	11/30/2009	2/26/2010	3/5/2010	12.6	PO(VR, HP/LP/Gen, APH Rotor, Cond Re-tube, BCC,UPS Panel, FWH62)
K3	12/6/2009	12/7/2009	12/22/2009	12/30/2009	2.3	MO(Biofuel Co-firing Project-blr interior/gas path inspection)

Dan Giovanni
Power Supply O&M Manager

1/20/09
Date


POWER SUPPLY OPERATION & MAINTENANCE 2009 PLANNED MAINTENANCE SCHEDULE
Reserve =Operating Capability (1673)-Largest Unit (180)- Predicted Peaks of 9-23-08
Revision Date: 01/20/09
Notes:
CIP1 (110 MW) on line 8-1-09
Megawatts
2009
450
400
350
300
250
200
150
100
50
0
Jan.
Feb.
Mar.
Apr.
May
June
July
Aug.
Sep.
Oct.
Nov.
Dec.
KPLP/HRRV
AES
AES/KPLP/HH
RV
HRRV
KPLP
K4
K1
K5
W8
W9
K6
W7
K3
W10
H8
K4
W8
W9
H9
W6
K2
HRRV
K1
W3
W4
W5
K3
CIP1
W10
K2
W6

CA-IR-302

Ref: HECO 724, (Operating Division Labor Hours).

Please provide an updated HECO-724 replacing the column (D) 2008 Budget data with calendar 2008 actual data.

HECO Response:

HECO-724 has been updated with actual calendar year 2008 overtime and straight time productive hours, by responsibility area ("RA"), for the Power Supply O&M Department-Operating Division, through Payroll Recap Report run date 12/23/08, and is provided as Attachment 1 to this response.

Hawaiian Electric Company, Inc.
2009 Test Year
Production O&M - Operating Division
Overtime/Straight Time Hours
(Updated HECO-724, including 2008 Actual labor hours.)

Line			(A) 2005 Act	(B) 2006 Act	(C) 2007 Act	(D) 2008 Act	(E) 2009 Budget
	Payroll Recap Report Run Date		12/28/05	12/27/06	12/26/07	12/23/08	
	Overtime Hours						
1	PIK	Kahe	17,067	17,989	15,184	12,840	15,560
2	PIH	Honolulu	6,426	6,204	7,560	6,883	6,273
3	PIW	Waiau	23,427	22,633	19,970	18,147	14,765
4	PIO	Admin	1	0	0	0	456
5	PIY	CIP CT1					1,497
6	**Operation OT**		**46,921**	**46,826**	**42,714**	**37,870**	**38,551**
	Straight Time Productive Hours						
7	PIK	Kahe	102,191	98,635	105,476	108,140	106,522
8	PIH	Honolulu	39,775	43,967	43,582	45,055	46,424
9	PIW	Waiau	108,257	106,106	112,669	115,206	115,548
10	PIO	Admin	5,580	3,652	3,477	1,521	3,608
11	PIY	CIP CT1					12,704
12	**Operation ST**		**255,803**	**252,360**	**265,204**	**269,922**	**284,806**
13	**OT/ST**		**18.3%**	**18.6%**	**16.1%**	**14.0%**	**13.5%**
14	**ST + OT**		**302,724**	**299,186**	**307,918**	**307,792**	**323,357**

NOTES:

1) Columns (A) and (B), Lines 1-13: 2005 and 2006 Actuals agree with HECO's response to CA-IR-72, Attachment 2, Docket No. 2006-0386.
2) Line 13, OT/ST = Operation OT / (Operation ST).
3) Hours include capital, clearing, billable and O&M hours.

CA-IR-303

Ref: HECO 729, (Maintenance Division Labor Hours).

Please provide an updated HECO-729 replacing the column (D) 2008 Budget data with calendar 2008 actual data.

HECO Response:

HECO-729 has been updated with actual calendar year 2008 overtime and straight time productive hours, by responsibility area ("RA"), for the Power Supply O&M Department-Maintenance Division, through Payroll Recap Report run date 12/23/08, and is provided as Attachment 1 to this response.

Hawaiian Electric Company, Inc.
2009 Test Year
Production O&M - Maintenance Division
Overtime/Straight Time Hours
(Update to HECO-729, including 2008 Actual labor hours.)

Line			(A) 2005 Act	(B) 2006 Act	(C) 2007 Act	(D) 2008 Act	(E) 2009 Budget
	Payroll Recap						
	Report Run Date		12/28/05	12/27/06	12/26/07	12/23/08	
	Overtime Hours						
1	PIL	Kahe	12,938	13,347	19,036	19,016	13,020
2	PIN	Honolulu	1,346	1,426	2,001	2,219	1,759
3	PIX	Waiau	14,782	15,276	13,372	12,964	13,762
4	PIT	Travel	31,633	36,387	41,679	45,046	30,371
5	PIM	Admin	0	0	0	0	847
6	PIZ	CIP CT1					2,277
7	**Maintenance OT**		**60,699**	**66,436**	**76,088**	**79,244**	**62,036**
	Straight Time Productive Hours						
8	PIL	Kahe	47,666	46,135	47,512	47,201	57,897
9	PIN	Honolulu	14,244	15,064	17,672	18,447	20,957
10	PIX	Waiau	44,495	46,070	50,596	51,354	57,426
11	PIT	Travel	114,026	120,711	125,468	136,174	156,522
12	PIM	Admin	3,490	3,625	3,531	3,714	3,664
13	PIZ	CIP CT1					14,136
14	**Maintenance ST**		**223,921**	**231,605**	**244,779**	**256,888**	**310,602**
15	**OT/ST**		**27.1%**	**28.7%**	**31.1%**	**30.8%**	**20.0%**
16	**ST + OT**		**284,620**	**298,041**	**320,867**	**336,133**	**372,638**

NOTES:

1) Column (A) and (B), Lines 1-15: 2005 and 2006 Actuals agree with HECO's response to CA-IR-74, Attachment 6, Docket No. 2006-0386.
2) Line 15, OT/ST = Maintenance OT / Maintenance ST.
3) Hours include capital, clearing, billable and O&M hours.
4) Totals may not add exactly due to rounding.

CA-IR-304

Ref: HECO 728, (Maintenance Division Labor and Supplemental Labor Costs).

Please provide an updated HECO-728 replacing the column (H) 2008 Budget data with calendar 2008 actual data.

HECO Response:

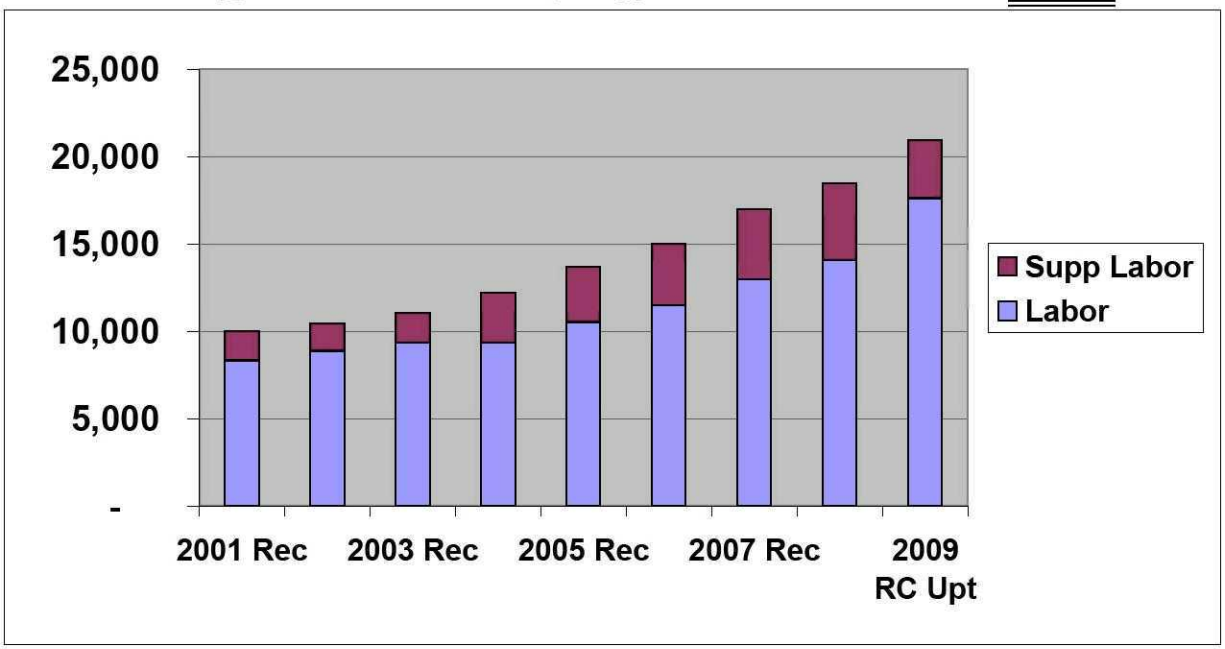
See Attachment 1 to this response for HECO-728 which has been updated for recorded calendar year 2008 labor and outside services supplemental labor expenses for the Maintenance Division of the Power Supply O&M department. The sum of the 2008 budgeted Maintenance Labor and budgeted Supplemental Labor amounts is $18,154,000. The sum of the 2008 recorded Maintenance Labor and recorded Supplemental Labor amounts is $18,451,000, or higher by $297,000. The comparative test year 2009 estimate remained unchanged from direct testimony. No adjustments to the test year 2009 labor and supplemental labor expenses for the Maintenance Division were proposed in the HECO T-7 Rate Case Update that was filed with the Commission, Consumer Advocate and Department of Defense on December 12, 2008.

Hawaiian Electric Company, Inc.
2009 Test Year
Production O&M Expense - Maintenance Division
Labor & Outside Service Supplemental Labor
($ Thousands)

	(A) 2001 Rec	(B) 2002 Rec	(C) 2003 Rec	(D) 2004 Rec	(E) 2005 Rec	(F) 2006 Rec	(G) 2007 Rec	(H) 2008 Rec	(I) 2009 RC Upt
Labor	8,329	8,867	9,353	9,329	10,519	11,474	12,979	14,070	17,610
Supp Labor	1,675	1,605	1,685	2,894	3,159	3,517	4,023	4,381	3,327
Labor + Supp Labor	10,004	10,472	11,038	12,223	13,678	14,991	17,002	18,451	20,937

	(J) 2007 TY	(K) 2008 Bud
Labor	15,219	15,491
Supplemental Labor	2,176	2,663
Labor + Supp Labor	17,395	18,154

2007 Recorded Supplemental Labor - 2007 TY Supplemental Labor = 1,847
2008 Recorded Supplemental Labor - 2008 Budget Supplemental Labor = 1,718



Source: Col (A) to (F) and Col (J), Docket No. 2006-0386, CA-IR-74, Attachment 10.
Col (G), (I), & (K), HECO-WP-710.
Col (H), HECO Financials - Pillar recorded costs.

CA-IR-304

Ref: HECO 728, (Maintenance Division Labor and Supplemental Labor Costs)

Please provide an updated HECO-728 replacing the column (H) 2008 Budget data with calendar 2008 actual data.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-305

Ref: HECO 738, (Training Costs).

Please provide an updated HECO-738 replacing the column containing 2008 Budget data with calendar 2008 actual data.

HECO Response:

HECO-738 has been updated to include recorded cost data for 2008 training that were incurred by the Power Supply process area and charged to ABM Activities 785 to 789 and 797, and is provided as Attachment 1 to this response. See HECO's response to CA-IR-85 for ABM descriptions. The training costs include charges to clearing. Also, it is important to note that the cost information in this response, as well as HECO-738 and the response to CA-IR-85, are limited to responsibility areas ("RAs") prefixed by "PI" (i.e., PIA, PIB, PIC, etc.).

As shown in Attachment 1 to this response, the total training costs in the 2009 test year of $5,073,000 are $1,954,000 higher than the corresponding amounts recorded in 2008. These costs are provided in greater detail in Attachment 2 to this response. The majority of the increase of $1,954,000 is comprised of two components: (1) Labor costs of $1,071,000; and (2) Overheads (labor-related) of $644,000, which total $1,715,000. The labor costs by individual RAs are provided in Attachment 3 to this response, and discussed in greater detail below.

1. Operating Division RAs: PIH, PIK, PIO, and PIW: The actual 2008 labor cost was $826,000 and the corresponding 2009 test year estimate is $1,409,000. HECO expects the training expense for PIH, PIK, PIO, and PIW will be higher in 2009 for several reasons, including: (a) In addition to the entry level vacancies that occur due to typical turnover of personnel, there are several qualified operators from Kahe, Waiau, and Honolulu Power

Plants that transferred to CIP CT-1, thus creating the need to provide training for six new Operator Trainees as well as for the consequential movements of Operators within their respective line of progression; and (b) Due to promotions, retirements, and transfers. There are currently five vacancies for Shift Supervisor at Waiau and Honolulu Power Plants, when there were none in 2008. If the replacement Shift Supervisor is taken from the Operator staff, the consequential movement of Operators will create added training within the line of progression. As the Shift Supervisor training period is expected to take 12 to 14 months, these additional Shift Supervisors will lead to a significant increase in Shift Supervisor training costs far greater than that recorded in 2008.

2. Maintenance Division RAs: PIL, PIM, PIN, PIT and PIX: The actual 2008 labor cost was $310,000 and the corresponding 2009 test year estimate is $552,000. HECO expects the training effort for RAs: PIL, PIT and PIX to be higher in 2009 primarily due to implementation of the Control Technician Training Program starting in mid-2009. The Control Technician Training Program will consist of three years of training with a minimum of 6,000 hours of on-the-job training per trainee. The program is expected to have nine trainees.

3. Training RA: PID: The actual 2008 labor cost was $132,000 and the corresponding 2009 test year estimate is $234,000. RA: PID labor expenses are expected to be higher in 2009 due to the addition of a Training Division Administrative Assistant and two additional Senior Technical Trainer positions. The Training Division Administrative Assistant position was filled in November 2008. The two additional Senior Technical Trainer positions were posted in December 2008, interviews have been completed, and the

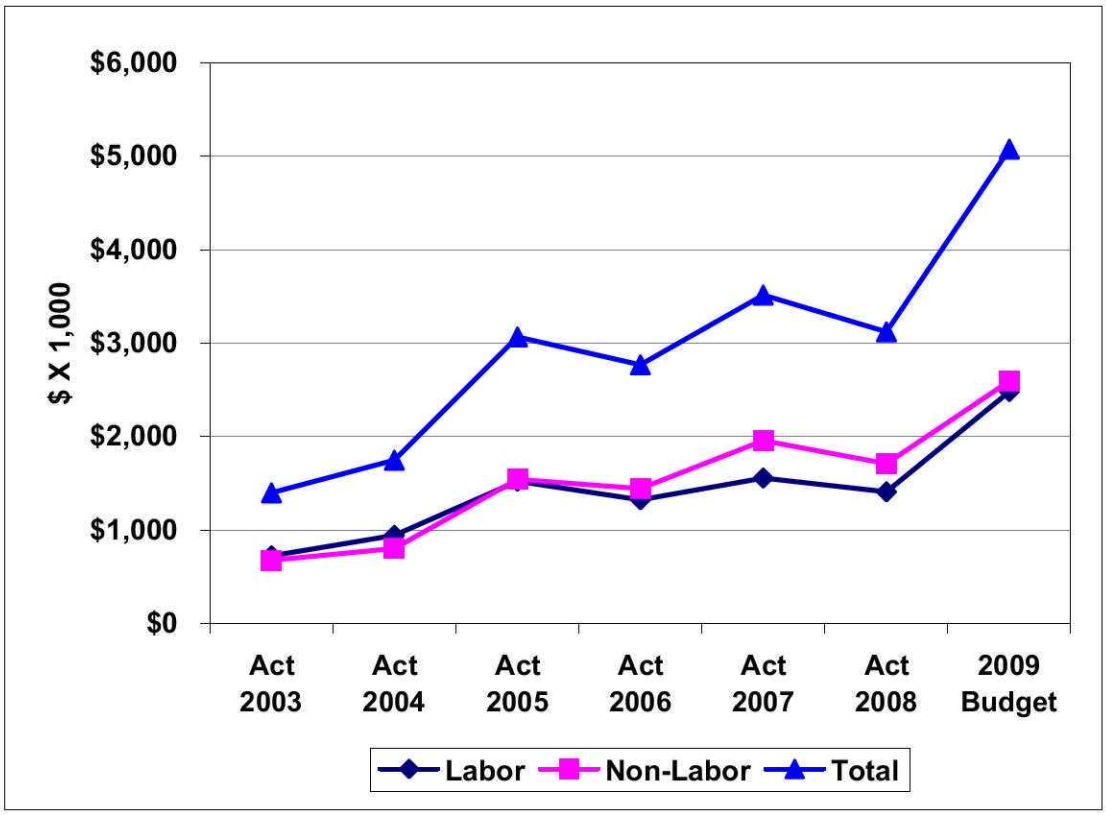
vacancies are expected to be filled in the near future. In the interim, the Training Division is utilizing contractors to help address the training needs otherwise addressed by Senior Technical Trainers.

4. New RA: PIY and PIZ: The actual 2008 labor cost was zero and the corresponding 2009 test year estimate is $94,000. These new RAs are an increase in training expenses with no prior historical spend level.

Hawaiian Electric Company, Inc.
2009 Test Year

Training Cost (Labor and Non-Labor)
($ Thousands) - ABM Activities 785 - 789, 797
For PI_ RA's

	(A) Act 2003	(B) Act 2004	(C) Act 2005	(D) Act 2006	(E) Act 2007	(F) Act 2008	(G) 2009 Budget	(H=G-F) 2009Bud - Act 2008
Labor	$724	$944	$1,521	$1,324	$1,555	$1,408	$2,479	$1,071
Non-Labor	$676	$804	$1,543	$1,442	$1,958	$1,711	$2,594	$883
Total	$1,400	$1,748	$3,064	$2,766	$3,513	$3,119	$5,073	$1,954



Source: 2003-2007 Actual and 2009 Budget, see CA-IR-85, Attachment 4.
2008 Actual, see CA-IR-305, Attachment 2.

Hawaiian Electric Company, Inc.
2009 Test Year

Training Cost (Labor and Non-Labor)
($ Thousands) - ABM Activities 785 - 789, 797
For PI_ RA's

	(A) Act 2003	(B) Act 2004	(C) Act 2005	(D) Act 2006	(E) Act 2007	(F) Act 2008	(G) 2009 Budget	(H=G-F) 2009Bud - Act 2008
Labor	$724	$944	$1,521	$1,324	$1,555	$1,408	$2,479	$1,071
Material	$7	$11	$6	$8	$14	$12	$0	($12)
O/S Services	$107	$123	$223	$132	$201	$224	$403	$179
Other	$0	$17	$2	$1	$14	$5	$77	$72
Overheads	$561	$653	$1,312	$1,302	$1,728	$1,469	$2,114	$644
Transportation	$0	$0	$0	$0	$0	$0	$0	($0)
Total	$1,400	$1,748	$3,064	$2,766	$3,513	$3,119	$5,073	$1,954

Hawaiian Electric Company, Inc.
2009 Test Year

Training Labor Cost Breakdown by RA
($ Thousands) - ABM Activities 785 - 789, 797
For PI_ RA's

*RA #	(A) Sum of 2007 Actual $	(B) Sum of 2008 Actual $	(C) Sum of 2009 Budget $	(D) =(C)-(B)
PIA	$ 3,081	$ 200	$ 12,058	$ 11,858
PIB	$ 13,037	$ 3,859	$ 48,377	$ 44,518
PIC	$ 3,739	$ 843	$ -	$ (843)
PID	$ 111,675	$ 131,579	$ 234,304	$ 102,725
PIF	$ 1,209	$ 398	$ -	$ (398)
PIH	$ 116,589	$ 104,672	$ 159,148	$ 54,476
PIJ	$ 315	$ 1,146	$ -	$ (1,146)
PIK	$ 382,857	$ 253,082	$ 555,018	$ 301,936
PIL	$ 59,847	$ 47,940	$ 104,375	$ 56,435
PIM	$ 5,435	$ 3,578	$ 7,477	$ 3,899
PIN	$ 26,433	$ 31,309	$ 46,178	$ 14,869
PIO	$ 4,892	$ 84	$ 6,901	$ 6,817
PIP	$ 86,119	$ 130,615	$ 129,903	$ (712)
PIQ	$ -	$ 3,076	$ -	$ (3,076)
PIT	$ 101,583	$ 153,640	$ 280,745	$ 127,105
PIW	$ 577,578	$ 468,445	$ 687,673	$ 219,228
PIX	$ 60,980	$ 73,397	$ 112,805	$ 39,408
PIY	$ -	$ -	$ 39,716	$ 39,716
PIZ	$ -	$ -	$ 53,913	$ 53,913
Total	$ 1,555,369	$ 1,407,863	$ 2,478,591	$ 1,070,728

Sum of Operating Divisions: PIH, PIK, PIO, PIW

$ 1,081,916	$ 826,283	$ 1,408,740	$ 582,457

Sum of Maintenance Divisions: PIL, PIM, PIN, PIT, PIX

$ 254,278	$ 309,864	$ 551,580	$ 241,716

Sum of New RA's PIY and PIZ

$ -	$ -	$ 93,629	$ 93,629

CA-IR-305

Ref: HECO 738, (Training Costs).

Please provide an updated HECO-738 replacing the column containing 2008 Budget data with calendar 2008 actual data.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-306

Ref: HECO 739, (Operations Non-Labor Expense Comparisons).

Please provide an updated HECO-739, inserting an additional column containing calendar 2008 actual data and calculated changes in the 2009 estimates relative to 2008 actual amounts.

HECO Response:

See Attachment 1 for HECO-739 which has been updated for recorded calendar year 2008 Other Production Operations non-labor expenses.

To derive the calculated changes in the 2009 estimates relative to 2008 actual amounts, the data shown in the "Base Case 2009 TY Estimate" column have also been updated to reflect HECO T-7 2009 TY Rate Case Update Production Operations non-labor expense as shown on Attachment 1, page 1 of the update filing. The HECO T-7 Rate Case Updates were filed with the Commission, the Consumer Advocate, and the Department of Defense on December 12, 2008. Attachment 1, page 1, to this response reflects comparison of the 2009 Base Case Test Year Estimate Update, without Sales Reduction and with Wind Studies, to 2008 actual amounts. Attachment 1, page 2, to this response reflects comparison of the 2009 Base Case Test Year Estimate Update, without Sales Reduction and without Wind Studies, to 2008 actual amounts.

Hawaiian Electric Company, Inc.
2009 TEST YEAR

OTHER PRODUCTION OPERATIONS NON-LABOR EXPENSE
2009 BASE CASE TEST YEAR ESTIMATE UPDATE VS. 2008 ACTUAL
(Without Sales Reduction and With Wind Studies)
($ Thousands)

		(A)	(B)	(C)	(D)	(E)
				BASE CASE	[(C) - (B)]	
		2007	2008	2009 TY		
	EXPENSE	ACTUAL	ACTUAL	EST (Upt) (1)	CHANGE	%
1	Material	$ 2,042	$ 2,244	$ 2,624	$ 380	17
2	Transportation	$ 181	$ 163	$ 222	$ 59	36
3	On-Cost	$ 2,851	$ 2,510	$ 2,337	$ (173)	(7)
4	Outside Srvcs/Other	$ 9,339	$ 10,839	$ 14,530	$ 3,691	34
5	JBTOTAL	$ 14,413	$ 15,756	$ 19,713	$ 3,957	25
6	Adj & Normalizations	$ -	$ -	$ (13)	$ (13)	
7	TOTAL	$ 14,413	$ 15,756	$ 19,700	$ 3,944	25

Note (1) - Base Case 2009 TY Estimate is updated to include CIP CT-1 and HCEI Implementation Studies costs. See Rate Case Update HECO T-7, Attachment 14, pg 4, Col. C.

Line 3 - Line 3 - Non-labor On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.

Hawaiian Electric Company, Inc.
2009 TEST YEAR

OTHER PRODUCTION OPERATIONS NON-LABOR EXPENSE
2009 BASE CASE TEST YEAR ESTIMATE UPDATE VS. 2008 ACTUAL
(Without Sales Reduction and Without Wind Studies)
($ Thousands)

		(A)	(B)	(C)	(D)	(E)
				BASE CASE	[(C) - (B)]	
		2007	2008	2009 TY		
	EXPENSE	ACTUAL	ACTUAL	EST (Upt) (1)	CHANGE	%
1	Material	$ 2,042	$ 2,244	$ 2,624	$ 380	17
2	Transportation	$ 181	$ 163	$ 222	$ 59	36
3	On-Cost	$ 2,851	$ 2,510	$ 2,337	$ (173)	(7)
4	Outside Srvcs/Other	$ 9,339	$ 10,839	$ 12,310	$ 1,471	14
5	JBTOTAL	$ 14,413	$ 15,756	$ 17,493	$ 1,737	11
6	Adj & Normalizations	$ -	$ -	$ (13)	$ (13)	
7	TOTAL	$ 14,413	$ 15,756	$ 17,480	$ 1,724	11

Note (1) - Base Case 2009 TY Estimate is updated to include CIP CT-1 and does not include HCEI Implementation Studies costs. See Rate Case Update HECO T-7, Attachment 14, pg 4, Col. E.

Line 3 - Line 3 - Non-labor On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.

CA-IR-306

Ref: HECO 739, (Operations Non-Labor Expense Comparisons).

Please provide an updated HECO-739, inserting an additional column containing calendar 2008 actual data and calculated changes in the 2009 estimates relative to 2008 actual amounts.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-307

Ref: HECO 742, (Maintenance Expense Comparisons).

Please provide an updated HECO-742 replacing the column (F) 2008 Budget data with calendar 2008 actual data.

HECO Response:

See Attachment 1 for HECO-742 which has been updated with recorded calendar year 2008 Other Production Maintenance labor and non-labor expenses.

In addition, the "Base Case 2009 TY Est" amounts in column (G) have been updated to reflect the HECO T-7 Rate Case Update to the Base Case 2009 TY estimates for Other Production Maintenance expense as shown on Attachment 1, page 1 of the update filing. The HECO T-7 Rate Case Updates were filed with the Commission, the Consumer Advocate, and the Department of Defense on December 12, 2008. Attachment 1, page 1, to this response reflects comparison of the 2009 Base Case Test Year Estimate Update, without Sales Reduction and with Wind Studies, to 2008 actual amounts. Attachment 1, page 2, to this response reflects comparison of the 2009 Base Case Test Year Estimate Update, without Sales Reduction and without Wind Studies, to 2008 actual amounts.

Hawaiian Electric Company, Inc.
2009 Test Year

OTHER PRODUCTION MAINTENANCE EXPENSE
(Without Sales Reduction and With Wind Studies)
($ Thousands)

Line		RECORDED						BASE CASE 2009 TY EST (Upt) (1)	2008 vs 2009	
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H=G-F)	(I=H/F)
		2003	2004	2005	2006	2007	2008	2009	$	%
1	Labor	$9,353	$9,329	$10,519	$11,474	$12,979	$14,070	$17,610	$3,540	25%
2	Non-Labor	$15,526	$20,841	$24,151	$26,431	$28,021	$32,521	$30,428	($2,093)	-6%
3	TOTAL	$24,879	$30,170	$34,670	$37,905	$41,000	$46,591	$48,038	$1,447	3%
	% Change		21%	15%	9%	8%	14%	3%		

Note (1): Base Case 2009 TY Estimate as updated, includes CIP CT-1 cost. Agrees with Rate Case Update, HECO T-7, Attachment 14, pg 4, Col. C.

Source: Columns A to E: HECO-WP-101, S1 Report, page 1.
Column F: HECO Financials - Pillar recorded costs.
Column G: Agrees with Rate Case Update, HECO T-7, Attachment 1.

Figures may not total exactly due to rounding.

Hawaiian Electric Company, Inc.
2009 Test Year

OTHER PRODUCTION MAINTENANCE EXPENSE
(Without Sales Reduction and Without Wind Studies)
($ Thousands)

Line		RECORDED						BASE CASE 2009 TY EST (Upt) (1)	2008 vs 2009	
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H=G-F)	(I=H/F)
		2003	2004	2005	2006	2007	2008	2009	$	%
1	Labor	$9,353	$9,329	$10,519	$11,474	$12,979	$14,070	$17,610	$3,540	25%
2	Non-Labor	$15,526	$20,841	$24,151	$26,431	$28,021	$32,521	$30,428	($2,093)	-6%
3	TOTAL	$24,879	$30,170	$34,670	$37,905	$41,000	$46,591	$48,038	$1,447	3%
	% Change		21%	15%	9%	8%	14%	3%		

Note (1): Base Case 2009 TY Estimate as updated, includes CIP CT-1 cost. Agrees with Rate Case Update, HECO T-7, Attachment 14, pg 4, Col. E.

Source: Columns A to E: HECO-WP-101, S1 Report, page 1.
Column F: HECO Financials - Pillar recorded costs.
Column G: Agrees with Rate Case Update, HECO T-7, Attachment 1.

Figures may not total exactly due to rounding.

CA-IR-307

Ref: HECO 742, (Maintenance Expense Comparisons).

Please provide an updated HECO-742 replacing the column (F) 2008 Budget data with calendar 2008 actual data.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-308

Ref: HECO 743, (Maintenance Non-Labor Expense Comparisons).

Please provide an updated HECO-743, inserting an additional column containing calendar 2008 actual data and calculated changes in the 2009 estimates relative to such 2008 actual amounts.

HECO Response:

See Attachment 1 to this response for updated HECO-743 which has been revised for recorded calendar year 2008 Other Production Maintenance non-labor expenses and calculated changes in the 2009 test year estimates relative to 2008 actual amounts. In HECO-743, and described in HECO T-7, page 100, beginning at line 15, HECO described the impact of "unbudgeted supplemental labor used to make up for staffing shortfall." The unbudgeted supplemental labor used to make up for staffing shortfall is identified in CA-IR-304, Attachment 1 and is $1,847,000 in 2007 and $1,718,000 in 2008. Attachment 1, page 2, to this response is provided to reflect the impact of this unbudgeted amount.

Also, to derive the calculated changes in the 2009 estimates relative to 2008 actual amounts, the data shown in the 2009 TY Estimate columns have been updated to reflect HECO T-7 Rate Case Update adjustments filed with the Commission, Consumer Advocate, and the Department of Defense on December 12, 2008. Unlike with Production Operations expense, there is no change in Production Maintenance non-labor expense for the scenarios of without Sales Reductions and with Wind Studies or without Sales Reductions and without Wind Studies.

Hawaiian Electric Company, Inc.
2009 TEST YEAR

OTHER PRODUCTION MAINTENANCE NON-LABOR EXPENSE
2008 ACTUAL VS. 2009 TEST YEAR Updated
($ Thousands)

	EXPENSE	(A) 2007 ACTUAL	(B) 2008 ACTUAL	(C) BASE CASE 2009 TY EST (Upt)	(D) [(C)-(B)] CHANGE	(E) %
1	Material	$ 9,785	$ 11,528	$ 8,871	$ (2,657)	(23)
2	Outside Srvcs/Other	$ 15,134	$ 17,705	$ 18,412	$ 707	4
3	Transportation	$ 364	$ 313	$ 413	$ 100	32
4	On-Cost	$ 2,738	$ 2,975	$ 2,744	$ (231)	(8)
5	SUBTOTAL	$ 28,021	$ 32,521	$ 30,440	$ (2,081)	(6)
6	Adj & Normalization	$ -	$ -	$ (12)	$ (12)	
7	TOTAL	$ 28,021	$ 32,521	$ 30,428	$ (2,093)	(6)

Col (C) - Base Case 2009 TY Estimate as updated, includes CIP CT-1 and HCEI Implementation Studies cost. See Rate Case Update, HECO T-7, Attachment 14, pg 4, Col. C.
There is no change in the amounts for the scenarios of without Sales Reductions and with Wind Studies vs. without Sales Reductions and without Wind Studies.

Row 4 - Non-labor On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.

Hawaiian Electric Company, Inc.
2009 TEST YEAR

OTHER PRODUCTION MAINTENANCE NON-LABOR EXPENSE
2008 ACTUAL VS. 2009 TEST YEAR Updated
($ Thousands)
ADJUSTED FOR OUTSIDE SERVICE / OTHER EXPENSE
USED FOR SUPPLEMENTAL LABOR
NO ADJUSTMENT FOR ON-COST

	EXPENSE	(A) 2007 ACTUAL	(B) 2008 ACTUAL	(C) BASE CASE 2009 TY EST (Upt)	(D) [(C)-(B)] CHANGE	(E) %
1	Material	$ 9,785	$ 11,528	$ 8,871	$ (2,657)	(23)
2	Outside Srvcs/Other	$ 13,287	$ 15,987	$ 18,412	$ 2,425	15
3	Transportation	$ 364	$ 313	$ 413	$ 100	32
4	On-Cost	$ 2,738	$ 2,975	$ 2,744	$ (231)	(8)
5	SUBTOTAL	$ 26,174	$ 30,803	$ 30,440	$ (363)	(1)
6	Adj & Normalization	$ -	$ -	$ (12)	$ (12)	
7	TOTAL	$ 26,174	$ 30,803	$ 30,428	$ (375)	(1)

Col (C) - Base Case 2009 TY Estimate as updated, includes CIP CT-1 and HCEI Implementation Studies cost. See Rate Case Update, HECO T-7, Attachment 14, pg 4, Col. C.
There is no change in the amounts for the scenarios of without Sales Reductions and with Wind Studies vs. without Sales Reductions and without Wind Studies.
Col (A) - Row (2): = $15,134,000 (from page 1) - $1,847,000 from CA-IR-304, Attachment 1.
Col (B) - Row (2): = $17,705,000 (from page 1) - $1,718,000 from CA-IR-304, Attachment 1.
Row 4 - Non-labor On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.

CA-IR-308

Ref: HECO 743, (Maintenance Non-Labor Expense Comparisons).

Please provide an updated HECO-743, inserting an additional column containing calendar 2008 actual data and calculated changes in the 2009 estimates relative to such 2008 actual amounts.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-309

Ref: HECO 744, (Maintenance Non-labor Expense Comparisons).

Please provide an updated HECO-744 replacing the column (F) 2008 Budget data with calendar 2008 actual data.

HECO Response:

See Attachment 1 to this response for updated HECO-744 which has been revised with recorded calendar year 2008 Other Production Maintenance non-labor expenses. In HECO-744, and described in HECO T-7, beginning at page 100, HECO described the impact of "unbudgeted supplemental labor used to make up for staffing shortfall." The unbudgeted supplemental labor used to make up for staffing shortfall is identified in CA-IR-304, Attachment 1 and is $1,847,000 in 2007 and $1,718,000 in 2008. Attachment 1, page 2, to this response is provided to reflect the impact of this unbudgeted amount.

Also, to derive the calculated changes in the 2009 test year estimates relative to 2008 actual amounts, the data shown in the 2009 Rate Case Update estimate columns have been updated to reflect HECO T-7 Rate Case Update adjustments filed with the Commission, Consumer Advocate, and the Department of Defense on December 12, 2008. Unlike with Production Operations expense, there is no change in Production Maintenance non-labor expense for the scenarios of without Sales Reductions and with Wind Studies or without Sales Reductions and without Wind Studies.

Hawaiian Electric Company, Inc.
2009 Test Year
Other Production Maintenance Non-Labor Expense ($ Thousands)
(Without Sales Reduction and Without Wind Studies)

Line		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H=G-E)	(I)
		2003 Rec	2004 Rec	2005 Rec	2006 Rec	2007 Rec	2008 Rec	2009 RC Update	Change	%
1	Material	6,849	8,571	9,120	10,110	9,785	11,528	8,871	(2,657)	(23)
2	Outside Services/Other	7,537	10,744	12,442	13,621	15,134	17,705	18,412	707	4
3	Subtotal	14,386	19,315	21,562	23,731	24,919	29,233	27,283	(1,950)	(7)
4	Line 3 - % Increase		34.3%	11.6%	10.1%	5.0%	17.3%	-6.7%		
5	Transportation	215	271	311	342	364	313	413	100	32
6	On-Cost	925	1,255	2,278	2,358	2,738	2,975	2,744	(231)	(8)
7	Subtotal Non-Labor	15,526	20,841	24,151	26,431	28,021	32,521	30,440	(2,081)	(6)
8	Adj & Normalization					---	---	(12)	(12)	
9	TOTAL NON-LABOR					28,021	32,521	30,428	(2,093)	(6)
								Base Case Updated		

Notes: Line 4 - Line 3 - % Increase = [(year/previous year) - 1] X 100.
Line 6: Non-labor On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.
Line 9 TOTAL, Col (E): Agrees with HECO-742
Line 9 TOTAL, Col (G): Agrees with Rate Case Update, HECO T-7, Attachment 14, pg 4, Col. E.
There is no change in the amounts for the scenarios of without Sales Reductions and with Wind Studies vs. without Sales Reductions and without Wind Studies.

Hawaiian Electric Company, Inc.
2009 Test Year
Other Production Maintenance Non-Labor Expense ($ Thousands)
(Without Sales Reduction and With Wind Studies)

2007 REC and 2008 REC ADJUSTED FOR OUTSIDE SERVICE/OTHER EXPENSE USED FOR SUPPLEMENTAL LABOR. NO ADJUSTMENT FOR ON-COST

Line		(A) 2003 Rec	(B) 2004 Rec	(C) 2005 Rec	(D) 2006 Rec	(E) 2007 Rec	(F) 2008 Rec	(G) 2009 Bud Updated	(H=G-E) Change	(I) %
1	Material	6,849	8,571	9,120	10,110	9,785	11,528	8,871	(2,657)	(23)
2	Outside Services/Other	7,537	10,744	12,442	13,621	13,287	15,987	18,412	2,425	15
3	Subtotal	14,386	19,315	21,562	23,731	23,072	27,515	27,283	(232)	(1)
4	Line 3 - % Increase		34.3%	11.6%	10.1%	-2.8%	19.3%	-0.8%		
5	Transportation	215	271	311	342	364	313	413	100	32
6	On-Cost	925	1,255	2,278	2,358	2,738	2,975	2,744	(231)	(8)
7	Subtotal Non-Labor	15,526	20,841	24,151	26,431	26,174	30,803	30,440	(363)	(1)
8	Adj & Normalization					---	---	(12)	(12)	
9	TOTAL NON-LABOR					26,174	30,803	30,428	(375)	(1)
								Base Case Updated		

Notes: Col (E) - Line (2): = $15,134,000 (from page 1) - $1,847,000 from CA-IR-304, Attachment 1.
Col (F) - Line (2): = $17,705,000 (from page 1) - $1,718,000 from CA-IR-304, Attachment 1.
Line 4: Line 3 - % Increase = [(year/previous year) - 1] X 100.
Line 6: Non-labor On-Cost includes Energy Delivery On-Cost and Power Supply On-Cost.
Line 9 TOTAL, Col (G): Agrees with Rate Case Update, HECO T-7, Attachment 14, pg 4, Col. C.
There is no change in the amounts for the scenarios of without Sales Reductions and with Wind Studies vs. without Sales Reductions and without Wind Studies.

CA-IR-309

Ref: HECO 744, (Maintenance Non-labor Expense Comparisons).

Please provide an updated HECO-744 replacing the column (F) 2008 Budget data with calendar 2008 actual data.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-310

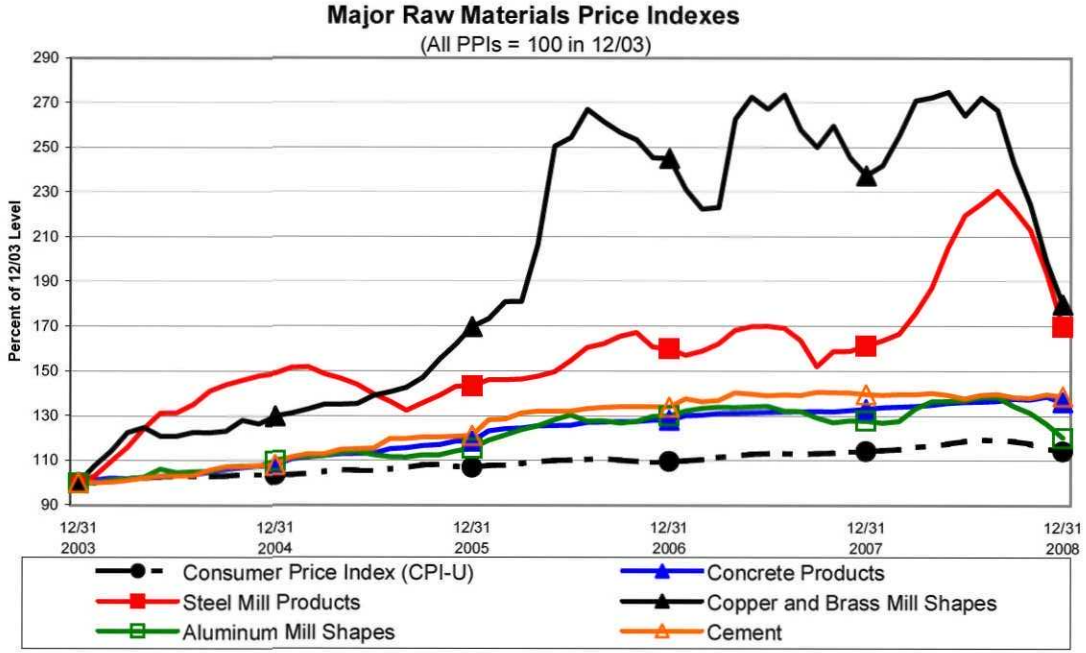
Ref: HECO 745, (Raw Material Price Indices).

Please provide an updated HECO-745 adding data through December 2008.

HECO Response:

HECO-745, updated to include December 2008 data, is provided as Attachment 1 to this response. The data for the period September 2008 to December 2008 is marked as "preliminary" by the U.S. Department of Labor and subject to revision four months after original publication.

Hawaiian Electric Company, Inc.
2009 Test Year
Major Raw Materials Price Indexes
100 = December 2003
HECO-745, updated for May 2008 to December 2008 (data extracted on 01/26/09)



Source: U.S. Department of Labor - Bureau of Labor Statistics - Consumer Price Index & Series Report.
Sept. 2008 - Dec. 2008 is preliminary - All indexes are subject to revision four months after original publication.

Increase from Dec 2003 to Dec 2008	
Consumer Price Index (CPI-U)	+ 14.1%
Concrete Products	+ 36.1%
Steel Mill Products	+ 69.8%
Copper and Brass Mill Shapes	+ 79.8%
Aluminum Mill Shapes	+ 20.2%
Cement	+ 38.7%

Hawaiian Electric Company, Inc.
2009 Test year
Major Raw Materials Price Indexes
100 = December 2003
HECO-745, updated for May 2008 to December 2008 (data extracted on 01/26/09)

	12/31 2003	1/31 2004	2/29 2004	3/31 2004	4/30 2004	5/31 2004	6/30 2004	7/31 2004	8/31 2004	9/30 2004	10/31 2004	11/30 2004	12/31 2004	1/31 2005	2/28 2005	3/31 2005	4/30 2005	5/31 2005
Consumer Price Index (CPI-U)	100	101	101	102	102	103	103	103	103	103	104	104	103	104	104	105	106	106
Concrete Products	100	101	102	102	102	103	103	104	105	106	107	107	108	111	111	112	113	113
Steel Mill Products	100	103	109	116	124	131	131	135	141	144	146	148	149	151	152	149	147	144
Copper and Brass Mill Shapes	100	108	114	122	125	121	121	123	122	123	128	126	130	131	133	135	135	135
Aluminum Mill Shapes	100	100	101	102	103	106	105	105	105	107	107	108	110	111	112	112	113	114
Cement	100	100	100	101	102	103	103	103	106	107	107	108	108	111	113	113	115	115

	6/30 2005	7/31 2005	8/31 2005	9/30 2005	10/31 2005	11/30 2005	12/31 2005	1/31 2006	2/28 2006	3/31 2006	4/30 2006	5/31 2006	6/30 2006	7/31 2006	8/31 2006	9/30 2006	10/31 2006	11/30 2006
Consumer Price Index (CPI-U)	106	106	107	108	108	107	107	108	108	108	109	110	110	110	111	110	110	109
Concrete Products	113	115	116	117	117	119	119	123	124	124	125	126	126	127	127	127	127	128
Steel Mill Products	140	136	132	136	139	143	143	146	146	146	148	150	155	161	162	165	167	161
Copper and Brass Mill Shapes	139	141	143	147	155	162	170	173	181	181	207	251	254	267	261	257	253	245
Aluminum Mill Shapes	112	112	111	112	112	114	115	119	121	124	125	128	130	128	128	127	127	130
Cement	115	120	120	120	120	121	121	128	128	131	132	132	132	133	134	134	134	134

	12/31 2006	1/31 2007	2/28 2007	3/31 2007	4/30 2007	5/31 2007	6/30 2007	7/31 2007	8/31 2007	9/30 2007	10/31 2007	11/30 2007	12/31 2007	1/31 2008	2/29 2008	3/31 2008	4/30 2008
Consumer Price Index (CPI-U)	110	110	110	111	112	113	113	113	113	113	113	114	114	115	115	116	117
Concrete Products	128	130	130	131	131	131	132	132	132	132	132	132	133	134	134	134	135
Steel Mill Products	160	157	159	162	168	170	170	169	164	152	159	159	161	164	167	176	187
Copper and Brass Mill Shapes	245	231	222	223	263	273	267	274	258	250	260	246	238	242	255	271	272
Aluminum Mill Shapes	130	132	133	134	134	134	134	132	132	129	127	128	128	127	128	133	136
Cement	134	138	136	137	140	140	139	139	139	141	140	140	140	139	140	140	140

Hawaiian Electric Company, Inc.
2009 Test year
Major Raw Materials Price Indexes
100 = December 2003
HECO-745, updated for May 2008 to December 2008 (data extracted on 01/26/09)

	5/31 2008	6/30 2008	7/31 2008	8/31 2008	(P) 9/30 2008	(P) 10/31 2008	(P) 11/30 2008	(P) 12/31 2008
Consumer Price Index (CPI-U)	118	119	119	119	119	118	115	114
Concrete Products	136	136	136	137	138	137	139	136
Steel Mill Products	205	220	225	231	222	213	194	170
Copper and Brass Mill Shapes	275	264	272	267	243	225	199	180
Aluminum Mill Shapes	137	137	138	138	134	131	126	120
Cement	139	138	139	140	138	138	140	139

(P) = Preliminary

CA-IR-311

Ref: HECO 746, (Power Supply Goods Price Indices).

Please provide an updated HECO-746 adding 2008 average cost and % change data.

HECO Response:

HECO-746, updated to include "2008 average cost" and "% change data", is provided as Attachment 1 to this response. The overall cost increase from 2004 to 2008 was 40.6%, compared to an increase of 34.5% from 2004 to 2007, as was presented in HECO-746.

Power Supply Goods Pricing Survey (2004-2008)

Item	Stock Code	Description	2004 (avg cost)	2005 (avg cost)	% Increase (2004-2005)	2006 (avg cost)	% Increase (2005-2006)	2007 (avg cost)	% Increase (2006-2007)	2008 (avg cost)	% Increase (2007-2008)	% INCREASE (2004 thru 2008)	Comments
1	161281	GAUGE, PRESSURE, 2-1/2", 0-100#,	$29.37	$30.74	4.66%	$31.50	2.47%	$33.82	7.37%	$40.46	19.63%	37.8%	
2	208207	PLATE, SIZE: 1/4" X 4'0" X 8'0".	$419.00	$419.00	0.00%	$598.93	42.94%	$595.42	-0.59%	$672.40	12.93%	60.5%	No purchases in 2005, used 2004 costing.
3	220608	CONE, SPRING, #4	$17.00	$19.00	11.76%	$21.44	12.84%	$28.06	30.88%	$34.90	24.38%	105.3%	
4	222323	GASKET, COMPRESSED, SHEET, SIZE: 1/16"	$203.22	$203.22	0.00%	$203.22	0.00%	$206.00	1.37%	$206.00	0.00%	1.4%	
5	222349	GASKET, COMPRESSED, SHEET, SIZE: 3/32"	$215.64	$215.77	0.06%	$215.64	-0.06%	$228.00	5.73%	$228.00	0.00%	5.7%	
6	223909	ROCBOARD, PARTEK, 2 X 24 X 48", 8"	$78.00	$81.44	4.41%	$91.75	12.66%	$99.76	8.73%	$111.84	12.11%	43.4%	
7	223966	VI-CRYL, MASTIC COATING, BLACK, 5 GAL,	$65.60	$67.27	2.55%	$68.94	2.48%	$72.35	4.95%	$76.20	5.32%	16.2%	
8	223982	ECONOCAST 27 (FORMELY LR CAST 27)	$29.17	$35.85	22.90%	$35.30	-1.53%	$37.00	4.82%	$41.65	12.56%	42.8%	
9	224022	INSULATION, KAOWOOL, 2", 4# DENSITY,	$186.11	$222.48	19.54%	$239.78	7.78%	$246.37	2.75%	$271.47	10.19%	45.9%	
10	224527	CLOTH, FIBERGLASS, BLACK	$605.81	$654.13	7.98%	$654.59	0.07%	$660.01	0.83%	$679.82	3.00%	12.2%	
11	224543	BLANKET, STANDARD INSULATING, 30" METEX,	$332.87	$320.67	-3.67%	$336.02	4.79%	$390.87	16.32%	$409.65	4.80%	23.1%	
12	224709	PIPE, CARBON STEEL, 1", SCH. 80	$2.91	$3.64	25.09%	$5.21	43.13%	$5.43	4.22%	$4.74	-12.78%	62.7%	
13	224881	PIPE, CARBON STEEL, 1", SCH. 160	$5.41	$6.60	22.00%	$16.37	148.03%	$16.37	0.00%	$13.50	-17.53%	149.5%	
14	226167	ELBOW, SOCKET WELD, 90 DEG., SIZE: 3/4"	$2.38	$2.66	11.76%	$3.29	23.68%	$5.08	54.41%	$5.08	0.00%	113.4%	No purchases in year 2008, used 2007 costing
15	226241	ELBOW, SOCKET WELD, 90 DEG., SIZE: 2"	$10.66	$11.09	4.03%	$13.38	20.65%	$15.12	13.00%	$16.42	8.58%	54.0%	
16	226365	TEE, SOCKET WELD, 3000#, SIZE: 2"	$15.73	$15.18	-3.50%	$20.29	33.66%	$20.91	3.06%	$20.90	-0.05%	32.9%	
17	231522	PIPE, GALV, SCH40, 1-1/2", SEAMLESS, 21	$4.27	$6.82	59.72%	$7.59	11.29%	$7.99	5.27%	$8.62	7.84%	101.8%	
18	243683	TUBING, 3/8 O.D. X .049, TYPE 316,	$2.23	$2.26	1.35%	$2.83	25.22%	$3.41	20.49%	$3.45	1.17%	54.7%	
19	243725	TUBING, 1/2" O.D. X .065, TYPE 316,	$4.19	$3.79	-9.55%	$4.43	16.89%	$5.09	14.90%	$5.39	5.89%	28.6%	
20	245209	ELBOW, MALE, 3/8" TUBE, SS-600-2-4	$11.69	$12.26	4.88%	$13.30	8.48%	$13.45	1.13%	$13.64	1.41%	16.7%	
21	246181	CONNECTOR, MALE, 1/2", SS-810-1-6,	$10.17	$10.74	5.60%	$11.63	8.29%	$11.73	0.86%	$11.93	1.71%	17.3%	
22	246363	UNION, TUBE, HEX, 1/4", SS-400-6	$7.60	$7.98	5.00%	$8.65	8.40%	$8.75	1.16%	$9.40	7.47%	23.7%	
23	246389	UNION, TUBE, HEX, 1/2", SS-810-6	$16.25	$17.54	7.94%	$18.53	5.64%	$18.62	0.49%	$18.89	1.45%	16.2%	
24	247742	GAS, COMPRESSED, CARBON DIOXIDE CO2	$27.14	$27.12	-0.07%	$30.55	12.65%	$32.56	6.58%	$38.09	16.97%	40.3%	
25	259487	BRUSH, GENERATOR SHAFT	$507.00	$525.00	3.55%	$611.45	16.47%	$690.00	12.85%	$690.00	0.00%	36.1%	
26	262262	CONDULET, LB TYPE, SIZE: 1-1/2", IRON	$24.13	$25.60	6.09%	$27.89	8.95%	$30.97	11.04%	$32.44	4.75%	34.4%	
27	262263	CONDULET, LB TYPE, SIZE: 2", IRON ALLOY,	$37.46	$40.38	7.79%	$46.47	15.08%	$51.11	9.98%	$57.82	13.13%	54.4%	
28	263007	CHANNEL, GALVANIZED, 3-1/4" X 1 5/8"	$4.67	$5.67	21.41%	$5.94	4.76%	$5.94	0.00%	$4.70	-20.88%	0.6%	
29	264846	OIL, TURBINE, CHEVRON, GST OIL ISO32, 55-GAL DRUM	$6.27	$6.50	3.67%	$7.78	19.69%	$8.64	11.05%	$10.54	21.97%	68.1%	
30	265702	SHEET, OIL SORBENT, GRADE 200	$40.00	$40.01	0.02%	$44.55	11.35%	$44.45	-0.22%	$49.00	10.24%	22.5%	
31	268301	CLEANER, CHEMICAL, VERSOL 2665	$561.00	$616.00	9.80%	$751.38	21.98%	$737.00	-1.91%	$808.50	9.70%	44.1%	
32	268466	BORON NITRITE, POWDER, 100 LB DRUM	$492.99	$524.05	6.30%	$567.71	8.33%	$604.60	6.50%	$698.00	15.45%	41.6%	
33	268664	AMMONIA, AQUA-26 DEG. BE, 55 GAL DRUM	$340.52	$340.52	0.00%	$398.82	17.12%	$435.75	9.26%	$460.00	5.57%	35.1%	
34	270785	VALVE, REGULATING, W/GRAFOIL PACKING.	$161.40	$169.50	5.02%	$172.66	1.86%	$182.45	5.67%	$182.45	0.00%	13.0%	
35	272880	VALVE, GLOBE, 1/2", 800#, 5500W, 910 DEG	$48.00	$48.00	0.00%	$60.61	26.27%	$63.93	5.48%	$63.96	0.05%	33.3%	
36	272948	VALVE, GLOBE, 3/4", 800#, 5500W,	$53.86	$58.10	7.87%	$61.39	5.66%	$62.60	1.97%	$62.60	0.00%	16.2%	No purchases in year 2008, used 2007 costing
37	273169	VALVE, GLOBE, 1", 1500#, 7130W,	$467.50	$492.00	5.24%	$512.00	4.07%	$532.00	3.91%	$551.00	3.57%	17.9%	
38	273409	VALVE, GLOBE, 2", 1500#, 7130W,	$1,210.00	$1,281.00	5.87%	$1,332.00	3.98%	$1,332.00	0.00%	$1,433.00	7.58%	18.4%	
39	273920	VALVE, GATE, BRONZE, 2", 200# WOG	$44.41	$47.95	7.97%	$55.26	15.25%	$57.70	4.42%	$60.44	4.76%	36.1%	
40	297200	TUBE, BOILER, CARBON STEEL	$5.50	$7.10	29.09%	$9.30	30.99%	$10.40	11.83%	$10.90	4.81%	98.2%	
41	303883	TUBE, LANCE, ASSEMBLY, (K1&2) 25'2" LONG	$2,330.00	$2,672.50	14.70%	$2,741.00	2.56%	$2,853.00	4.09%	$3,077.67	7.87%	32.1%	
42	308908	VALVE, MOTOR CONTROL, COMPLETE, AC-040-P	$373.65	$389.16	4.15%	$408.62	5.00%	$435.18	6.50%	$435.18	0.00%	16.5%	
43	332841	GASKET, COVER TO BARREL, REF.#744	$973.50	$973.50	0.00%	$1,084.40	11.39%	$1,239.00	14.26%	$1,336.00	7.83%	37.2%	
44	333062	SLEEVE, TAKEOFF, REF.#621	$1,750.50	$2,049.75	17.10%	$2,219.50	8.28%	$2,469.00	11.24%	$2,619.50	6.10%	49.6%	
45	364786	BACK PLATE FOR ATOMIZER	$304.00	$372.00	22.37%	$372.00	0.00%	$389.00	4.57%	$398.00	2.31%	30.9%	
46	611137	COOLANT, ULTRA, FOR INGERSOLL RAND	$245.00	$273.52	11.64%	$287.11	4.97%	$290.91	1.32%	$331.93	14.10%	35.5%	
47	613893	DRUM, OPEN TOP, METAL, SIZE: 55 GALLON	$71.80	$70.50	-1.81%	$77.93	10.54%	$80.22	2.94%	$86.85	8.26%	21.0%	
48	614619	GAS, COMPRESSED, HYDROGEN, 18 CYLINDERS PER RACK	$945.24	$937.51	-0.82%	$990.42	5.64%	$1,036.79	4.68%	$1,036.79	0.00%	9.7%	
49	618678	TESTER, DISSOLVED, 02	$34.66	$40.50	16.85%	$41.29	1.95%	$66.00	59.84%	$66.00	0.00%	90.4%	
50	624197	HUB, INSULATED, WEATHER TYPE, 1"	$4.10	$4.66	13.66%	$5.20	11.59%	$5.01	-3.65%	$5.31	5.99%	29.5%	
		Average Price Increase (%)			**8.4%**		**14.5%**		**8.1%**		**5.2%**	**40.6%**	

Note: Data obtained from HECO Ellipse system, actual purchase prices averaged over each year. 2008 prices updated 1/15/09.

CA-IR-312

Ref: HECO 748 through HECO-752, (Production O&M Expense Comparisons).

Please provide updated Exhibits HECO-748, HECO-749, HECO 750, HECO-751 and HECO-752 replacing the 2008 Budget data with calendar 2008 actual data and revising the graphs accordingly.

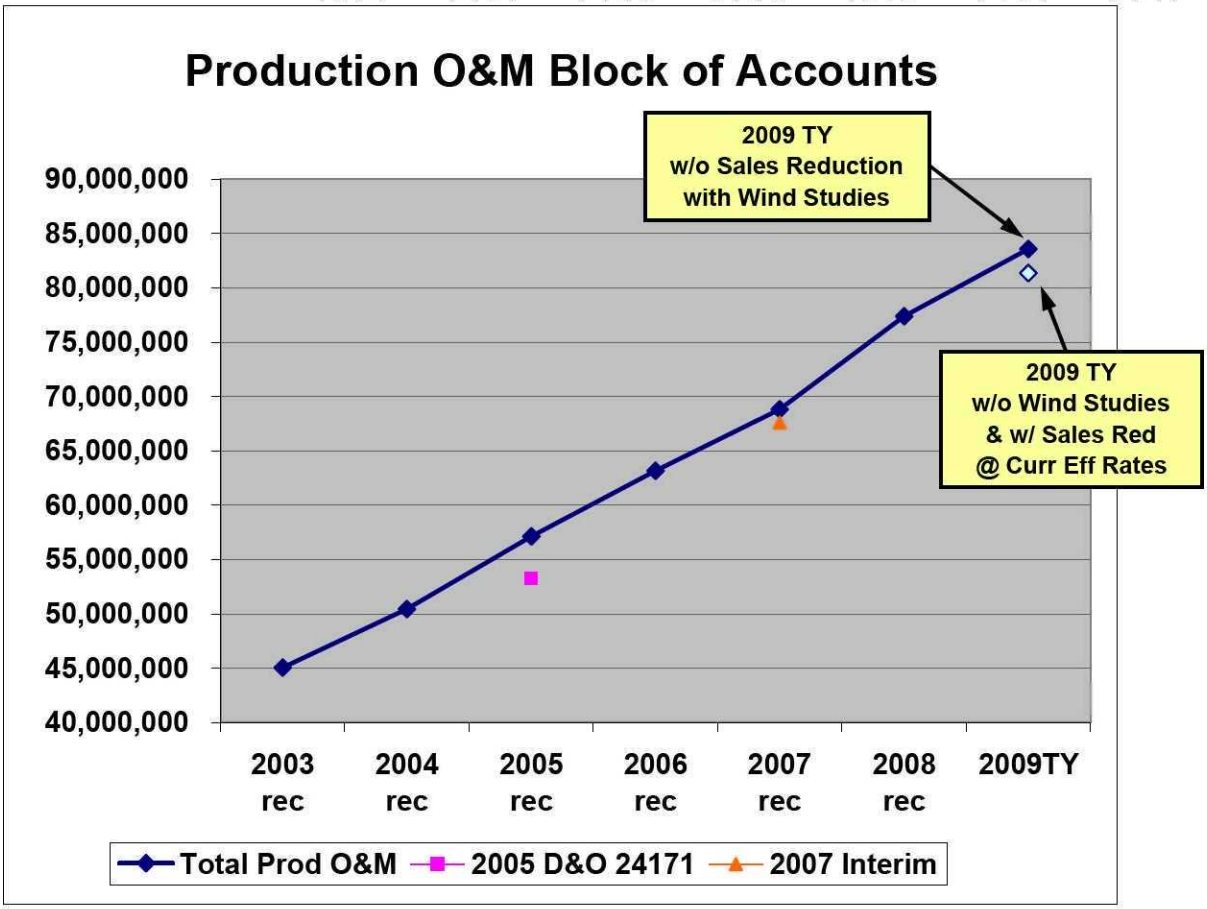
HECO Response:

See Attachments 1, 2, 3, 4 and 5 for updated HECO-748, HECO-749, HECO-750, HECO-751 and HECO-752, respectively. The Attachments have been updated with recorded calendar year 2008 labor and non-labor expenses incurred in Production Operations and Maintenance block of accounts.

Also, for comparative purposes, the 2009 budget information on HECO-748 through HECO-752 have been updated to reflect HECO T-7 rate case update adjustments filed with the Commission, the Consumer Advocate and the Department of Defense on December 12, 2008.

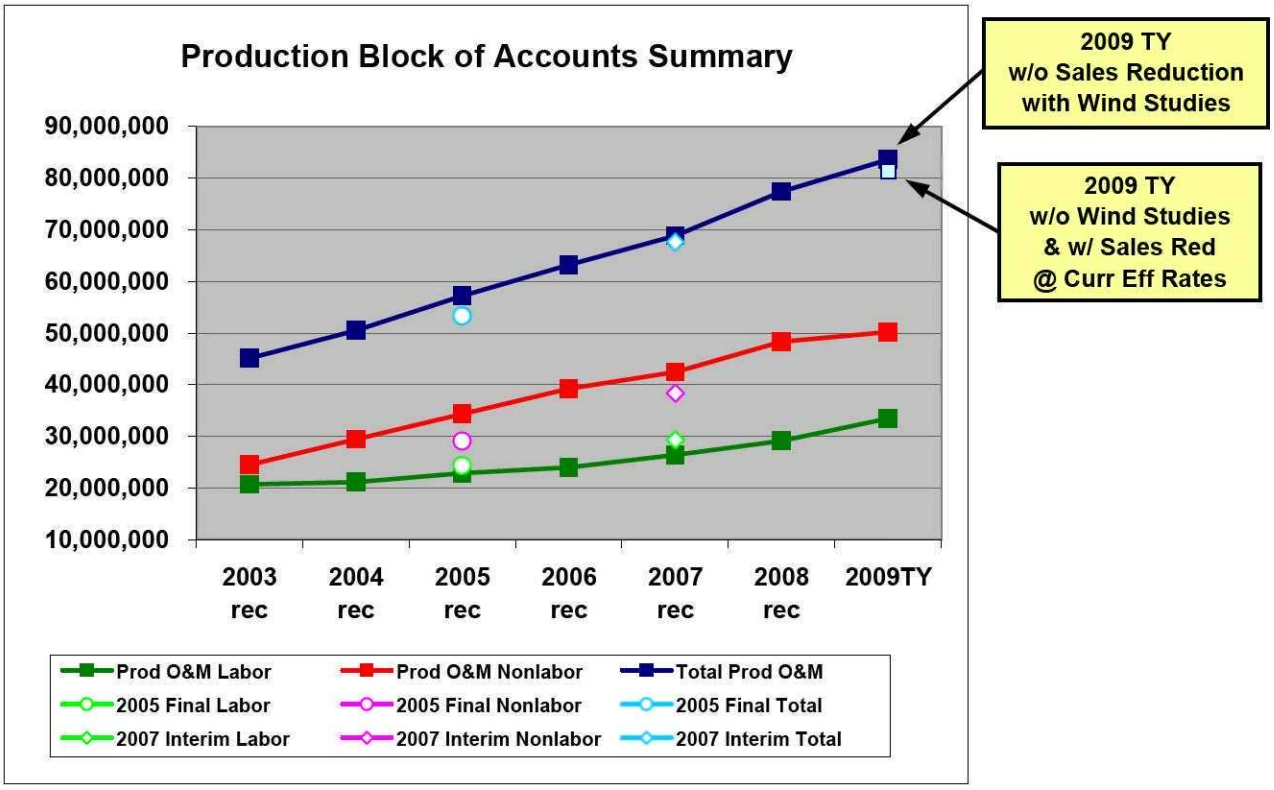
Hawaiian Electric Company, Inc.
2009 Test Year
Production Operations & Maintenance Block of Accounts Summary

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
							w/o Sales Reduction w/ Wind Studies	w/o Wind Studies & Sales Red @ Curr Eff Rates
	2003 rec	2004 rec	2005 rec	2006 rec	2007 rec	2008 rec	2009TY	2009TY
Total Prod O&M	45,052,229	50,456,766	57,128,521	63,168,373	68,807,023	77,367,734	83,567,000	81,347,000
2005 D&O 24171			53,269,000					
2007 Interim					67,597,000			
Delta		5,404,536	6,671,755	6,039,852	5,638,651	8,560,711	6,199,266	(3,979,266)
		=(B)-(A)	=(C)-(B)	=(D)-(C)	=(E)-(D)	=(F)-(E)	=(G)-(F)	=(H)-(F)



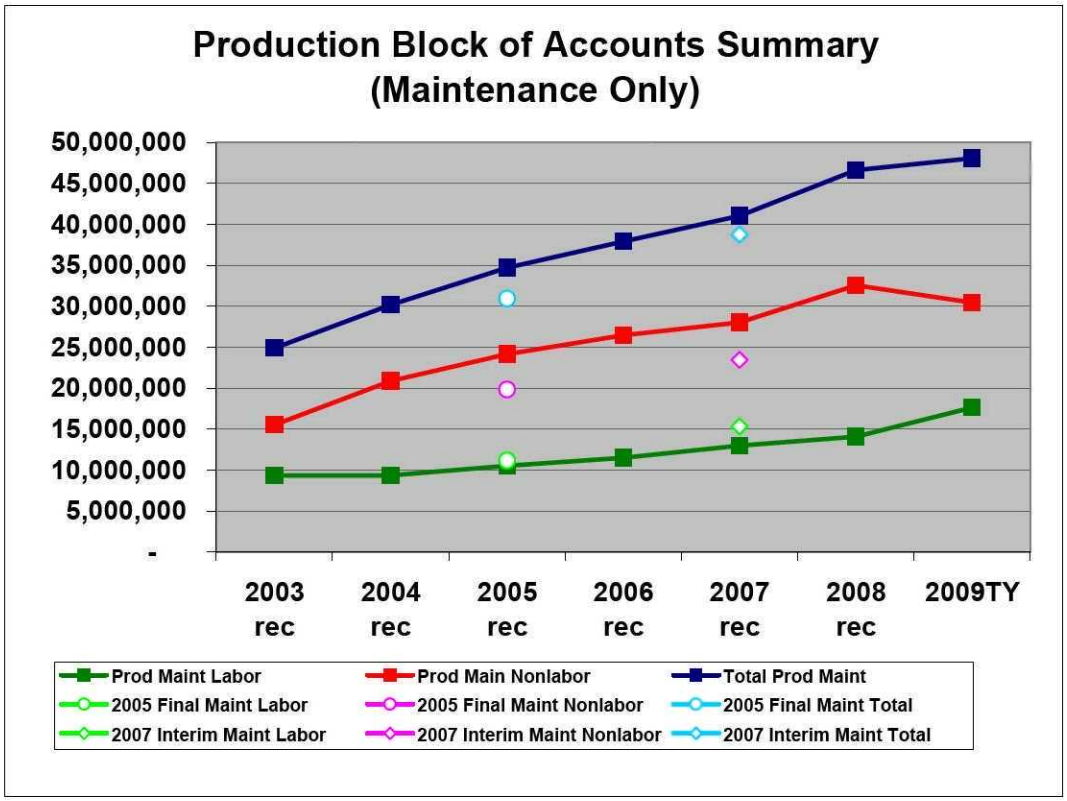
Hawaiian Electric Company, Inc.
2009 Test Year
Production Operations & Maintenance Block of Accounts Summary
Labor & Non-Labor

Category	2003 rec	2004 rec	2005 rec	2006 rec	2007 rec	2008 rec	w/o Sales Reduction w/ Wind Studies 2009TY	w/o Wind Studies & Sales Red @ Curr Eff Rates 2009TY
Prod O&M Labor	20,631,097	21,071,401	22,822,772	23,973,151	26,373,151	29,089,638	33,439,000	33,439,000
Prod O&M Nonlabor	24,421,132	29,385,364	34,305,749	39,195,222	42,433,872	48,278,097	50,128,000	47,908,000
Total Prod O&M	45,052,229	50,456,766	57,128,521	63,168,373	68,807,023	77,367,735	83,567,000	81,347,000
2005 Final Labor			24,243,000					
2005 Final Nonlabor			29,026,000					
2005 Final Total			53,269,000					
2007 Interim Labor					29,267,000			
2007 Interim Nonlabor					38,330,000			
2007 Interim Total					67,597,000			



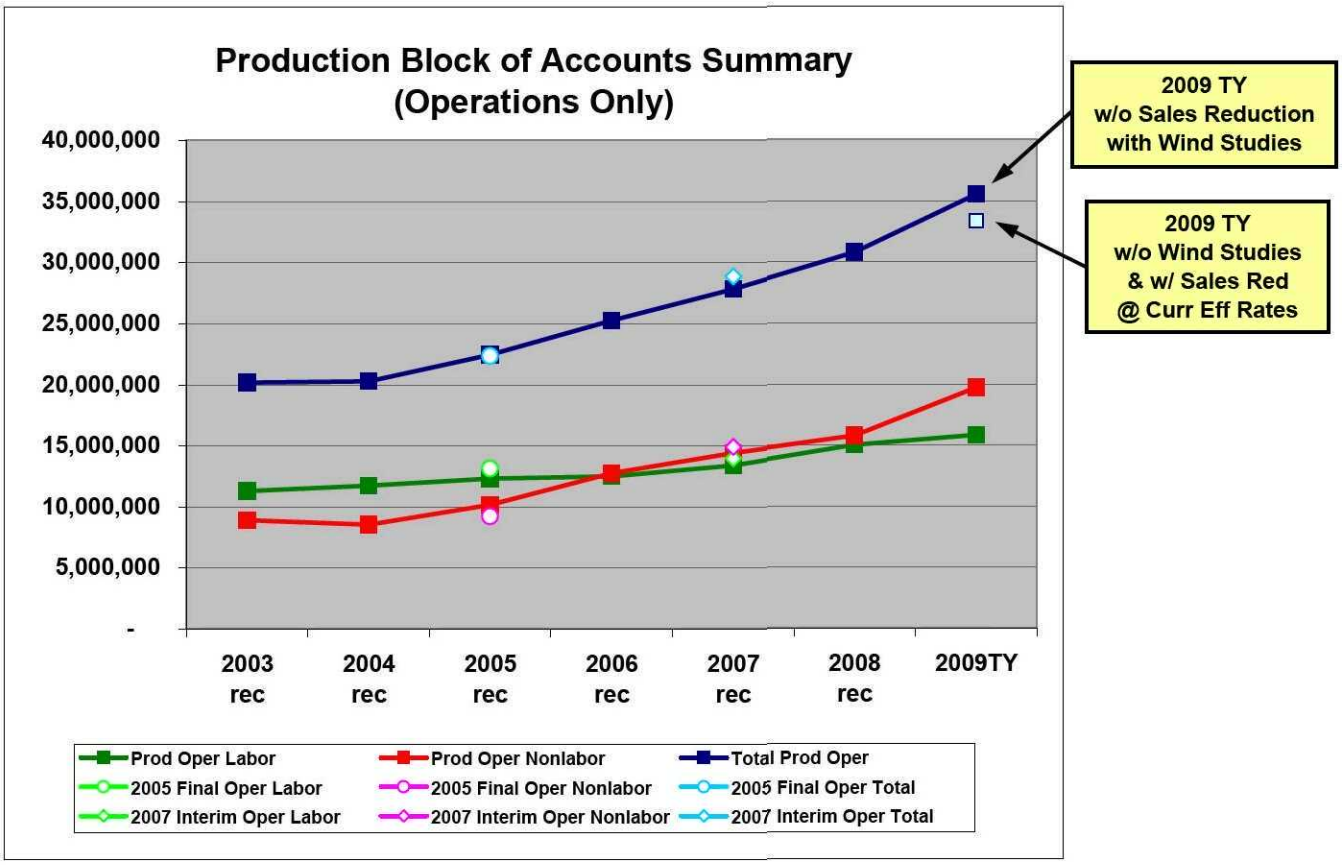
Hawaiian Electric Company, Inc.
2009 Test Year
Production Operations & Maintenance Block of Accounts Summary
Maintenance Only

Category	2003 rec	2004 rec	2005 rec	2006 rec	2007 rec	2008 rec	w/o Sales Reduction w/ Wind Studies 2009TY	w/o Wind Studies & Sales Red @ Curr Eff Rates 2009TY
Prod Maint Labor	9,353,292	9,329,252	10,519,104	11,473,794	12,979,073	14,069,056	17,610,000	17,610,000
Prod Main Nonlabor	15,525,712	20,841,197	24,151,421	26,430,729	28,020,949	32,521,267	30,428,000	30,428,000
Total Prod Maint	24,879,004	30,170,449	34,670,524	37,904,523	41,000,022	46,590,323	48,038,000	48,038,000
2005 Final Maint Labor			11,115,000					
2005 Final Maint Nonlabor			19,797,000					
2005 Final Maint Total			30,912,000					
2007 Interim Maint Labor					15,308,000			
2007 Interim Maint Nonlabor					23,430,000			
2007 Interim Maint Total					38,738,000			



Hawaiian Electric Company, Inc.
2009 Test Year
Production Operations & Maintenance Block of Accounts Summary
Operations Only

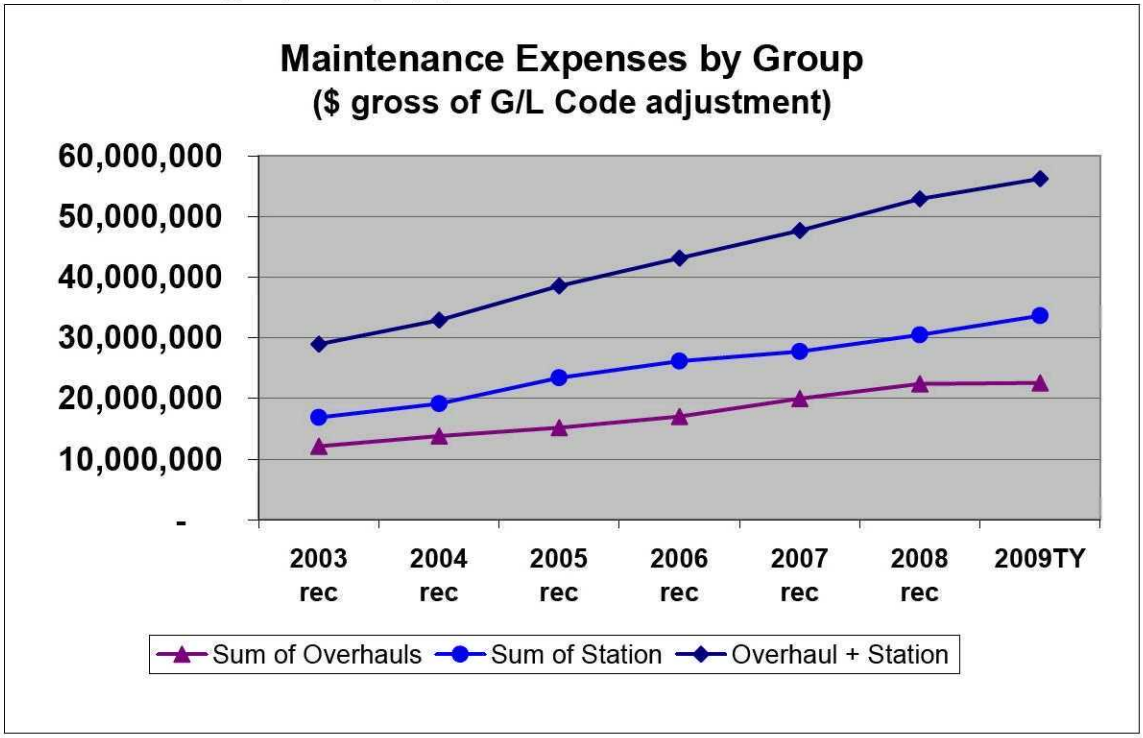
Category	2003 rec	2004 rec	2005 rec	2006 rec	2007 rec	2008 rec	w/o Sales Reduction w/ Wind Studies 2009TY	w/o Wind Studies & Sales Red @ Curr Eff Rates 2009TY
Prod Oper Labor	11,277,806	11,742,149	12,303,668	12,499,357	13,394,078	15,020,582	15,829,000	15,829,000
Prod Oper Nonlabor	8,895,419	8,544,168	10,154,328	12,764,493	14,412,923	15,756,830	19,700,000	17,480,000
Total Prod Oper	20,173,225	20,286,317	22,457,996	25,263,849	27,807,001	30,777,412	35,529,000	33,309,000
2005 Final Oper Labor			13,128,000					
2005 Final Oper Nonlabor			9,229,000					
2005 Final Oper Total			22,357,000					
2007 Interim Oper Labor					13,959,000			
2007 Interim Oper Nonlabor					14,900,000			
2007 Interim Oper Total					28,859,000			



Hawaiian Electric Company, Inc.
2009 Test Year
Production Operations & Maintenance Block of Accounts Summary
Overhaul vs. Station Maintenance Expense

Category	2003 rec	2004 rec	2005 rec	2006 rec	2007 rec	2008 rec	w/o Sales Reduction w/ Wind Studies 2009TY	w/o Wind Studies & Sales Red @ Curr Eff Rates 2009TY
Cycling Unit Overhauls	8,622,435	3,890,848	2,581,823	5,593,776	2,770,098	11,223,758	2,824,691	2,824,691
Reheat 90 Overhauls	3,104,874	4,691,231	5,489,297	6,689,281	17,201,911	4,628,717	10,432,956	10,432,956
Reheat 140 Overhauls	368,394	4,222,084	3,639,176	18,882	(32,971)	6,536,266	6,820,148	6,820,148
Combustion Turbine	-	981,918	3,458,956	4,695,909	3,067	-	2,467,721	2,467,721
Sum of Overhauls	**12,095,703**	**13,786,081**	**15,169,252**	**16,997,848**	**19,942,105**	**22,388,741**	**22,545,516**	**22,545,516**
% Increase		**14.0%**	**10.0%**	**12.1%**	**17.3%**	**12.3%**	**0.7%**	
Other Project	35,314	51,492	715,719	1,773,780	1,459,412	4,062,063	5,249,588	5,249,588
All Other Maint Exp	16,789,240	19,038,027	22,663,363	24,362,270	26,262,605	26,401,258	28,385,625	28,385,625
Sum of Station	**16,824,554**	**19,089,519**	**23,379,082**	**26,136,050**	**27,722,017**	**30,463,321**	**33,635,213**	**33,635,213**
% Increase		**13.5%**	**22.5%**	**11.8%**	**6.1%**	**9.9%**	**10.4%**	
Overhaul + Station	**28,920,257**	**32,875,600**	**38,548,334**	**43,133,898**	**47,664,122**	**52,852,062**	**56,180,729**	**56,180,729**
% Increase		**13.7%**	**17.3%**	**11.9%**	**10.5%**	**10.9%**	**6.3%**	
G/L Code Adjustment	(4,041,253)	(2,705,151)	(3,877,810)	(5,229,375)	(6,664,100)	(6,261,740)	(8,142,729)	(8,142,729)
TOTAL	**24,879,004**	**30,170,449**	**34,670,525**	**37,904,523**	**41,000,022**	**46,590,323**	**48,038,000**	**48,038,000**

Note: "% Increase" = [(year/previous year)-1] X 100



CA-IR-312

Ref: HECO 748 through HECO-752, (Production O&M Expense Comparisons).

Please provide updated Exhibits HECO-748, HECO-749, HECO 750, HECO-751 and HECO-752 replacing the 2008 Budget data with calendar 2008 actual data and revising the graphs accordingly.

HECO Response:

The calendar year 2008 actual data is not available at this time. The preliminary calendar year 2008 actual data will be made available in early February 2009. The preliminary information will be submitted under protective order as the October, November, and December 2008 information is confidential until the information is publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information provided will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

CA-IR-313

Ref: HECO-WP-812 & response to CA-IR-107 (T&D M&S).

Please update the response to part (a) of CA-IR-107 to include monthly reports of stores receipts, issues and adjustments for the months of August through December 2008.

HECO Response:

The Monthly reports are attached as requested for the months of August through December 2008.

Attachment 1:

Receipts, issues, and adjustments by each warehouse location.

Attachment 2:

Month-ending aggregate inventory values, issues, receipts, and adjustments.

The recorded 2008 calendar information is submitted under protective order as the October, November, and December 2008 information is confidential until publicly disclosed in the financial statements submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. The information will not be considered final until the Company issues its financial statements to the SEC. Should any of the preliminary information change, the Company will provide the revisions as soon as practicable.

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

Attachment 1 contains confidential information and is provided subject to

the Protective Order filed on November 21, 2008 in this proceeding.

Hawaiian Electric Company, Inc.
2009 Test Year

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

CA-IR-313
DOCKET NO. 2008-0083
ATTACHMENT 2
PAGE 1 OF 1

HECO INVENTORY REPORT

MONTH END	ENDING INVENTORY $			ISSUES $			RECEIPTS $			INVENTORY ADJUSTMENT $		
	T&D MAT'L	POWER SUPPLY	TOTAL	T&D MAT'L	POWER SUPPLY	TOTAL	T&D MAT'L	POWER SUPPLY	TOTAL	T&D MAT'L	POWER SUPPLY	T&D P/S TOTAL
Jan-07	6,166,038	6,764,579	12,930,617	754,695	559,135	1,313,830	566,348	470,486	1,036,834	-6,151	4,099	-2,052
Feb-07	6,570,022	6,988,990	13,559,012	725,860	279,950	1,005,810	1,091,017	501,315	1,592,332	38,827	3,047	41,874
Mar-07	6,689,649	7,041,363	13,731,012	774,685	483,257	1,257,942	898,040	536,200	1,434,240	-3,728	-570	-4,298
Apr-07	6,524,230	7,262,982	13,787,212	727,822	395,017	1,122,839	571,078	631,041	1,202,119	-8,675	-14,404	-23,079
May-07	6,326,484	7,136,730	13,463,214	1,481,214	656,677	2,137,891	1,244,222	531,266	1,775,488	39,247	-736	38,511
Jun-07	6,574,450	7,196,026	13,770,476	686,073	459,359	1,145,432	944,443	520,600	1,465,043	-10,403	-1,944	-12,347
Jul-07	6,581,090	6,952,801	13,533,891	630,126	581,329	1,211,455	616,457	334,354	950,811	20,966	3,749	24,715
Aug-07	6,716,063	7,298,054	14,014,117	758,566	517,722	1,276,288	908,788	872,154	1,780,942	-15,324	-9,179	-24,503
Sep-07	6,809,383	7,487,454	14,296,837	643,912	346,914	990,826	732,885	532,149	1,265,034	4,586	3,926	8,512
Oct-07	7,213,799	7,754,143	14,967,942	593,308	288,129	881,437	978,350	560,663	1,539,013	19,374	-5,844	13,530
Nov-07	7,161,019	7,882,944	15,043,963	850,411	297,752	1,148,163	776,543	440,339	1,216,882	21,088	-13,786	7,302
Dec-07	6,851,537	8,267,514	15,119,051	1,179,474	231,040	1,410,514	839,122	621,283	1,460,405	30,868	-5,673	25,195
Jan-08	7,151,888	8,226,424	15,378,312	561,736	642,479	1,204,215	882,195	600,642	1,482,837	-20,107	745	-19,362
Feb-08	7,296,480	8,229,574	15,526,054	574,619	491,294	1,065,913	707,905	490,385	1,198,290	11,305	4,056	15,361
Mar-08	7,532,358	8,222,902	15,755,260	700,253	371,803	1,072,056	919,884	374,907	1,294,791	15,247	-9,775	5,472
Apr-08	7,592,180	8,216,717	15,808,897	629,113	429,855	1,058,968	653,851	426,759	1,080,610	35,084	-3,089	31,995
May-08	7,672,074	8,118,612	15,790,686	664,354	512,162	1,176,516	713,551	410,098	1,123,649	30,697	3,958	34,655
Jun-08	7,787,694	8,310,223	16,097,917	531,395	385,960	917,355	636,278	574,469	1,210,747	10,736	3,101	13,837
Jul-08	7,736,512	8,587,694	16,324,206	762,087	414,575	1,176,662	695,822	703,676	1,399,498	15,083	-11,630	3,453
Aug-08	8,177,880	8,245,838	16,423,718	679,906	773,496	1,453,402	1,066,829	430,296	1,497,125	53,437	1,344	54,781
Sep-08	8,478,263	8,202,609	16,680,872	684,097	340,428	1,024,525	961,054	302,571	1,263,625	23,422	-5,365	18,057

CA-IR-314

Ref: HECO T-8 Update, Attachment 1, & responses to CA-IR-1 and CA-IR-220 (T&D Overdemand Labor Hours).

Attachments 1 and 2 of the response to CA-IR-220 represent the T&D resource leveling reports before and after the transfer of labor "overdemand" to outside services. Attachment 1 of the HECO T-8 Update summarizes, by labor class, the supply and demand hours with the difference representing "overdemand." Referring to Update Attachment 1, the total T&D "supply" hours are 315,288 and "demand" hours are 382,988, resulting in 67,700 "overdemand" hours that are distributed between overtime (47,293) and contractors (20,410). The response to CA-IR-1 contains various documentation sources underlying the 2009 T&D labor forecast, including labor input sheets. Please provide the following:

a. Please confirm that the "supply" hours can be derived by multiplying the number of forecast employees by labor class times 2,088 hours in a year. If this cannot be confirmed, please explain.

b. Please confirm that the "overdemand" hours represent the difference between the "supply" hours and the "demand" hours. If this cannot be confirmed, please explain.

c. Please confirm that Attachment 1 of the HECO T-8 Rate Case Update summarizes the T&D "supply," "demand" and "overdemand" hours by labor class. If this cannot be confirmed, please explain.

d. Referring to Update Attachment 1 and the response to CA IR-1, it remains unclear how the Company quantified and determined the level of "demand" hours for each labor class – from which "overdemand" results. For each of the following labor classes, please provide the assumptions underlying the 2009 forecast work requirements and show how such work requirements were translated into labor "demand" for 2009:

    1. Sys Op – R_INSCRW : 16,172 demand hours.

    2. Sys Op – R_SUBCRW: 78,799 demand hours.

    3. C&M – OHCREW: 292,833 demand hours.

[Note: Please provide a further breakdown of the above demand hours, as necessary, to show the translation or correlation of work requirements into demand hours or to cross-tie elements of the above demand hours to discrete work requirements data previously supplied in response to CA-IR-1.]

<u>HECO Response:</u>

a. HECO confirms that the "supply" hours for the Labor Classes in the System Operation Department and the Construction and Maintenance Department shown on Attachment 1 of

the HECO T-8 Update are the product of the total number of employees for those Labor Classes forecasted for the 2009 Test Year in the direct testimony of Mr. Robert Young, HECO T-8, times 2,088 hours.

b. HECO confirms that the "overdemand" hours is the difference between the supply hours and the resource demand hours.

c. HECO confirms that Attachment 1 to the HECO T-8 Rate Case Update summarizes the T&D "supply," "demand" and "overdemand" hours for each of the Labor Classes shown on Attachment 1. Because Attachment 1 is limited to overdemand hours that were transferred to outside services, T&D "supply," "demand" and "overdemand" hours that were not transferred to outside services are not shown on Attachment 1.

d. See responses to subparts below.

1. Sys Op – R_INSCRW: 16,172 demand hours. Please refer to CA-IR-220 Attachment 1 pages 174 to 179 for the figures in this response. Referring to page 179 the overdemand of -3,644 hours is shown for this labor class which is also shown in Attachment 3 of CA-IR-220. The total work demand for this labor class is -14,548 as shown on page 178 of Attachment 1 to which was added the non-productive hours of -1,624 shown on page 174 of Attachment 1. The resulting demand is 16,172 hours which is the amount shown in Attachment 3 of CA-IR-220. The elements that detail the work demands are show in Attachment 1 of CA-IR-220 pages 174 to 179 and HECO's response to CA-IR-1, Attachment 9E pages 1-5.

2. Sys OP – R_SUBCRW: 78,799 demand hours. Please refer to CA-IR-220 Attachment 1 pages 205 to 212 for the figures in this response. Referring to page 212 the overdemand of -11,983 hours is shown for this labor class which is also shown in

Attachment 3 of CA-IR-220. The total work demand for this labor class is -69,391 as shown on page 212 of Attachment 1 to which was added the non-productive hours of -9,408 hours shown on page 206 of Attachment 1. The resulting demand is 78,799 hours which is the amount shown in Attachment 3 of CA-IR-220. The elements that detail the work demands are show in Attachment 1 of CA-IR-220 pages 205 to 212 and HECO's response to CA-IR-1, Attachment 9G and CA-IR-94, Attachment 1, pages 2, 3 and 7.

3. C&M OHCREW: 292,833 demand hours. Please refer to CA-IR-220 Attachment 1 pages 124, 125, 132, 140 to 147. The table below provides the hours demanded and page references that total to the 292,833 hours.

C&M RA	Demand (Hours)	CA-IR-220 Attachment 1 page reference
DH	-3,028	124
DJ	-1,196	125
DP	-233	132
DS	-255,641	147
DS (non prod)	-32,735	140
Total	292,833	CA-IR-220 Attachment 3.

The elements that detail the work demands are show in Attachment 1 of CA-IR-220, pages 124, 125, 132, and 140 to 147 and HECO's response to CA-IR-1, Attachment 5A, pages 16 to 98 and CA-IR-94, Attachment 1, pages 1, 2, 5 and 6.

CA-IR-315

Ref: HECO T-9 Update, Page 2 (Increase in Bill Inquiries)

Please provide the following information regarding the increase in bill inquiries ("BI") referenced by Mr. Yamamoto:

a. Annual comparative statistics regarding the number of BI by category, for the periods 2006, 2007 and 2008, with monthly data for 2008.

b. Explain whether HECO anticipates BI activity to decline with lower ECAC billed charges and provide copies of the information relied upon in support of this explanation.

HECO Response:

a. Please refer to Attachment 1 for the comparative statistics regarding the number of BI by category, for the periods 2006, 2007 and 2008, with monthly data for 2008.

b. HECO anticipates some types of billing inquiry activities to decline with the lower ECAC billed charges as reflected in Attachment 1. However, the outlook of field related work as a whole, which includes billing inquiries, field collections, and off-cycle meter reads, is for a continued increase in backlogged work due to the poor economy. As shown in Table 1 and Attachment 2, HECO experienced a 7% increase for 2007 and a 29% increase for 2008 in the average number of monthly outstanding field work.

Category	2006	2007	2008
Collection	1091	952	1147
% Chg		-13%	20%
Off-Cycle Reads	991	1184	1420
% Chg		19%	20%
Unlock/Lock	585	722	1069
% Chg		23%	48%
Billing Inquiries	158	158	243
% Chg		0%	54%
Total	2825	3016	3879
Annual % Change		7%	29%

Table 1 Average Monthly Outstanding Backlog

HECO believes the primary causes of the backlog are the following:

1) the increase in billing inquiry workload caused by higher ECAC billing charges, and

2) a shift in work focus from off-cycle meter read activities, such as those used for preparing closing bills, to field collections. As reflected in Table 2 and Attachment 2, this shift in work focus resulted in HECO field service staff completing 29% more collection orders in 2008 than in 2007. Consequently, off-cycle reads and meter locks and unlocks decreased by 25% and 9% in 2008 from 2007.

Category	2006	2007	2008
Collection	26312	27811	35832
% Chg		6%	29%
Off-Cycle Reads	60603	51438	38615
% Chg		-15%	-25%
Unlock/Lock	26809	22189	20171
% Chg		-17%	-9%
Billing Inquiries	4503	3958	4010
% Chg		-12%	1%
Total	118227	105396	98628
Annual % Change		-11%	-6%

Table 2 Completed Field Related Work Statistics

This shift in work focus was necessary to address the increase in collection orders (see Table 3 and Attachment 3) caused by the poor economy driving delinquencies higher.

	2006	2007	2008
Collection Orders	49255	46367	60068
Annual Change		-6%	30%

Table 3 Collection Orders Generated by Year

In summary, while increases in certain BI activities are dependent on the ECAC billing charges, the poor economy is a contributing cause of increased field related work loads. HECO anticipates the amount of the backlogged field work to continue and possibly increase in 2009 as long as the poor economic conditions exist. The two additional meter readers who will supplement field personnel by performing off-cycle reads will allow field service representative and senior field investigator staff to focus on higher level field related work such as billing inquiries, meter locks and unlocks, and field collections.

Hawaiian Electric Company
Bill Inquiries Generated by Category

Notes	Category	2006	2007	2008
(1)	Address Check	372	725	784
(2)	High Bill Inquiry	989	984	1460
(3)	Power Inspection	94	318	415
(4)	Pull Switch	72	130	81
(5)	Rate Check	87	68	78
(6)	Stop	2552	1554	2457
(7)	Swap	159	123	95
	Total	4325	3902	5370
	Annual Change		-10%	38%

Year	Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2008	Address Check	13	27	85	26	53	93	39	275	20	15	10	128	784
2008	HBI	146	170	106	107	82	109	137	153	192	105	75	78	1460
2008	Power Inspection	30	9	8	84	67	106	55	17	19	6	4	10	415
2008	Pull switch	6	8	8	4	19	2	1	2	10	8	7	6	81
2008	Rate Check	5	12	5	1	6	7	8	9	9	8	2	6	78
2008	Stop	61	63	91	101	190	119	145	188	140	939	223	197	2457
2008	Swap	11	7	19	9	8	6	5	5	10	6	2	7	95
	Total	272	296	322	332	425	442	390	649	400	1087	323	432	5370

Notes

(1) Address Check: An order to verify the service address for the premise.

(2) High Bill Inquiry: An order to investigate a customer's claim of a high electric bill.

(3) Power Inspection: An order to verify that only authorized equipment used for cooking, heating and cooling is connected to meters billed with rate schedule H.

(4) Pull Switch: An order to verify what equipment, customer, premise, is connected to the meter.

(5) Rate Check: An order to investigate and verify the correct rate schedule for the premise.

(6) Stop: An order to investigate a possible stopped, slow, or defective meter.

(7) Swap: An order to investigate two or more meters that are possibly being billed to the wrong customer.

Data Source: S:\CustomerService\CS Field Services Division\Senior Database\2008 Senior Data Base\Senior Investigator Database 2008 R2.mdb

Hawaiian Electric Company
Customer Field Services Work

Completed Work Statistics

Notes	Category	2006	2007	2008
(1)	Collection	26312	27811	35832
	% Chg		6%	29%
(2)	Off-Cycle Reads	60603	51438	38615
	% Chg		-15%	-25%
(3)	Unlock/Lock	26809	22189	20171
	% Chg		-17%	-9%
(4)	Billing Inquiries	4503	3958	4010
	% Chg		-12%	1%
	Total	118227	105396	98628
	Annual % Change		-11%	-6%

Year	Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec (5)	Total
2008	Collection	2900	2439	2227	3601	2841	2546	3751	2968	3554	3304	2715	2986	35832
2008	Off-Cycle Reads	2453	2652	2446	2426	3114	3100	4228	3488	4465	3945	3080	3218	38615
2008	Unlock/Lock	1777	1584	1543	1466	1977	1526	2219	1520	1609	2091	1178	1681	20171
2008	Billing Inquiries	275	180	270	306	333	401	419	589	262	435	206	334	4010
	Total	7405	6855	6486	7799	8265	7573	10617	8565	9890	9775	7179	8219	98628

Monthly Average Outstanding Work

Notes	Category	2006	2007	2008
(1)	Collection	1091	952	1147
	% Chg		-13%	20%
(2)	Off-Cycle Reads	991	1184	1420
	% Chg		19%	20%
(3)	Unlock/Lock	585	722	1069
	% Chg		23%	48%
(4)	Billing Inquiries	158	158	243
	% Chg		0%	54%
	Total	2825	3016	3879
	Annual % Change		7%	29%

Year	Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mo Avg
2008	Collection	1447	848	1209	1007	886	1089	914	932	1097	1119	1533	1679	1147
2008	Off-Cycle Reads	1230	1006	983	1133	959	1547	1705	1696	1760	1232	1520	2272	1420
2008	Unlock/Lock	868	876	853	903	853	1187	1198	1206	1258	1071	1180	1378	1069
2008	Billing Inquiries	102	153	154	213	142	248	206	309	191	737	216	248	243
	Total	3647	2883	3200	3256	2841	4070	4023	4143	4305	4160	4449	5577	3879

Notes

(1) Collection: An order for the Field Collector to collect payment.

(2) Off-Cycle Reads: An order for an off-cycle read for billing validation, computing final bills, or responding to a customer's request.

(3) Unlock / Lock: An order to unlock or lock the meter.

(4) Billing Inquiries: Includes Address Check, HBI, Power Inspection, Pull Switch, Rate Check, Stop, Swap orders.

(5) Completed work for December 2008 is estimated based on the monthly average for the Jan - Nov period.

Hawaiian Electric Company
Collection Orders Generated

	2006	2007	2008
Collection Orders	49255	46367	60068
Annual Change		-6%	30%

Actual

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2008	5010	4018	5236	4474	5360	4340	4603	4688	5076	5267	5271	6725	60068

CA-IR-316

Ref: HECO T-9 Update, page 3 (Credit Check Costs).

Please provide:

a. Transaction volume statistics for credit checks in each of the years 2006, 2007 and 2008, with monthly data for 2008.
b. Supporting documentation for the 54,000 transaction volume projected for 2009.
c. Documentation supporting the $1.43 plus $0.11 FACTA surcharge proposed for 2009.

HECO Response:

a. Please refer to the table below for the monthly transaction volume for the connect check plus tool, previously referred to as "additional credit checks" on HECO T-9, page 2, from its inception at HECO on October 24, 2008 through the last invoice period ending December 26, 2008.

Connect Check Plus Transactions	
Period	Volume
10/24 – 10/31/08	804
11/01 – 11/28/08	2,566
11/29 – 12/26/08	2,535

Connect check plus is a new customized identification verification tool provided by Experian and used by HECO to detect fraud and minimize risk exposure at the time of a service request. This tool allows the Customer Service Representative to make immediate and informed service decisions while the applicant is on the phone. Connect check plus was employed by HECO on October 24, 2008 to comply with the Final Rules of the Fair and Accurate Credit Transactions Act (FACTA) in preventing identify theft. No historical transaction volume statistics exists prior to October 2008.

b. Please refer to Attachment 1 for supporting documentation for the 54,000 transaction volume projected for connect check plus for 2009. This figure represents the number of new or changed service transactions for 2007 as reported in the 2007 Hawaiian Electric Transaction Satisfaction Survey. At the time of this forecast, volume data was not available by type of transaction (new customer, existing customer, and former customer) and the new FACTA policy and procedures outlining when a connect check plus would be required was not finalized. It was determined that this was the best transaction volume statistics available at the time.

c. Please refer to Attachment 2 for the work authorization between Experian, the connect check plus vendor, and HECO documenting the tiered pricing volume and FACTA surcharge used to forecast the 2009 connect check plus expense. The contract between HECO and Experian is confidential and is submitted under protective order in this proceeding.

Weights For 2007 HECO Transaction Survey Data

Survey Questions 1 and 10-44

quarter	transaction	sample	population	weight
1	new or changed service	302	12,996	43.033113
	service trouble or problem	100	3,416	34.160000
	billing concern	28	86	3.071429
	total	430	16,498	
2	new or changed service	301	13,711	45.551495
	service trouble or problem	100	1,750	17.500000
	billing concern	39	91	2.333333
	total	440	15,552	
3	new or changed service	300	14,539	48.463333
	service trouble or problem	100	2,019	20.190000
	billing concern	79	198	2.506329
	total	479	16,756	
4	new or changed service	302	12,709	42.082781
	service trouble or problem	106	6,319	59.613208
	billing concern	100	255	2.550000
	total	508	19,283	

Long Form Survey Questions 2-9

quarter	transaction	sample	population	weight
1	new or changed service	50	12,996	259.920000
	service trouble or problem	50	3,416	68.320000
	billing concern	28	86	3.071429
	total	128	16,498	
2	new or changed service	50	13,711	274.220000
	service trouble or problem	50	1,750	35.000000
	billing concern	39	91	2.333333
	total	139	15,552	
3	new or changed service	50	14,539	290.780000
	service trouble or problem	55	2,019	36.709091
	billing concern	71	198	2.788732
	total	176	16,756	
4	new or changed service	51	12,709	249.196078
	service trouble or problem	51	6,319	123.901961
	billing concern	50	255	5.100000
	total	152	19,283	

total for 2007	transaction	sample	population
	new or changed service	1,205	53,955
	service trouble or problem	406	13,504
	billing concern	246	630
	total	1,857	68,089

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

Attachment 2 contains confidential information and is provided subject to

the Protective Order filed on November 21, 2008 in this proceeding.

CA-IR-317

Ref: HECO T-9 Update, Attachment 2, page 3 (CIS Programming Increase).

Please provide:

a. Supporting studies, analyses, workpapers, projections and other information relied upon by HECO to determine that an additional $104,000 (over the initially estimated $198,000) will be needed for senior business analysts to support post go live CIS programming.
b. Explain the tasks to be undertaken by such consultants after completion of the CIS system, and
c. Provide documentation supportive of the revised cost amounts being proposed.

HECO Response:

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

CA-IR-318

Ref: HECO T-9 Update, pages 1 & 2 (Six Temporary Meter Readers).

Please provide the following information regarding the proposed $353,000 for temporary meter readers from a staffing agency:

a. A copy of staffing agency contracts and related correspondence regarding the added contract personnel.
b. Provide monthly hours and rates associated with each of the six positions being proposed.
c. Describe and quantify the "increase in testing and project support requirements recently identified by the Customer Information System ("CIS") team.
d. If more CIS testing and project support is now required, causing a shift of HECO meter readers toward CIS project completion, why is there not an offsetting transfer of HECO labor costs to the CIS deferral account to mitigate the expense of contract meter readers performing the normal duties of Company employees?
e. Provide the most detailed available current plan and schedule for CIS project staffing and completion, indicating the monthly charges in 2009 now anticipated for Company labor and non-labor costs charged between the CIS deferral account and operating expense accounts (by RA and activity).
f. Provide revised pages for the HECO response to CA-IR-1 and CA-IR-2 as necessary to reflect current CIS project staffing and completion plans.

<u>HECO Response:</u>

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

d. See response to part a. above.

e. See response to part a. above.

f. See response to part a. above.

CA-IR-319

Ref: HECO T-9 Supplemental Update Filing (Uncollectibles).

Please provide a detailed itemized description of each individual account write-off within the "NET WRITE-OFFS" column of Updated HECO-WP-905, page 2, in calendar 2006, 2007 or 2008 that related to a bankruptcy filing or individual account non-payment exceeding $50,000.

HECO Response:

Please refer to Attachment 1 of this response for a description of each individual account write-off within the "net write-offs" column of updated HECO-WP-905, page 2, in calendar year 2006, 2007, and 2008 that related to a bankruptcy filing or individual account non-payment exceeding $50,000. Included in this attachment is preliminary information for December 2008. Final customer data is not available for this period at this time.

Recorded net write-off information for October and November 2008 and preliminary December 2008 is submitted under protective order as the information is confidential, until such information is publicly disclosed in financial statement submitted to the Securities and Exchange Commission ("SEC"), which is scheduled for late February 2009. December 2008 information is preliminary, and not considered final until the Company's auditors completes its review of the company's financial statements. If the preliminary December 2008 information is revised, such information will be provided as soon as practicable. The recent customer write-off amounts provided in Attachment 1 are also preliminary and/or considered customer confidential information and are submitted under protective order.

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

NET WRITE-OFFS		Bankruptcy or non-payment write-off > $50,000	Description
Mo/Yr	12 Months Ending		
Jan-06	476,683		
Feb-06	526,614		
Mar-06	537,946		
Apr-06	607,739		
May-06	670,901		
Jun-06	774,884		
Jul-06	805,193		
Aug-06	764,398		
Sep-06	834,697		
Oct-06	917,004	50,146	Kahuku Shrimp - Non-Payment Write-Off
Nov-06	978,511		
Dec-06	999,378		
Jan-07	981,265		
Feb-07	936,020		
Mar-07	1,368,528	424,664	Kahuku Hospital - Chapter 11 Bankruptcy
Apr-07	1,311,603		
May-07	1,250,936		
Jun-07	1,214,436		
Jul-07	1,224,528		
Aug-07	1,243,159		
Sep-07	1,178,164		
Oct-07	1,133,862		
Nov-07	1,103,643		
Dec-07	1,067,804		
Jan-08	1,054,175		
Feb-08	1,073,685		
Mar-08	674,604		
Apr-08	835,916	101,290	Aloha Airlines - Chapter 7 Bankruptcy
May-08	855,503		
Jun-08	934,869		
Jul-08	924,586		
Aug-08	1,005,825		Aloha Airlines - Chapter 7 Bankruptcy
Sep-08	1,493,402		Hawaii Medical Center - Chapter 11 Bankruptcy
Oct-08			
Nov-08			Pomare LTD (Hilo Hattie) - Chapter 11 Bankruptcy
Dec-08			Expected Write-Offs Aloha Airlines - Post bankruptcy petition Circuit City - Chapter 11 Bankruptcy Hawaiian Telcom - Chapter 11 Bankruptcy

CA-IR-320

Ref: HECO Response to CA-IR-148 (Customer Service Metrics).

Please confirm that the data provided represents the only service metrics tracked by Mr. Yamamoto and the Customer Service Department and provide trend tracking summaries of changes in this information for all available periods of 2008. If any additional statistical performance data is routinely tracked in the normal course of business by Mr. Yamamoto or the Customer Service Department, please provide trend tracking summaries of such data as well for all available periods of 2008.

HECO Response:

The metrics provided in CA-IR-148 are the statistical performance data that is routinely tracked in the normal course of business. In addition to the metrics discussed in HECO's response to CA-IR-148, the Customer Assistance Center compiles a Monthly Cumulative Report of Telephone Calls. Below and attached are data for the latest available periods of 2008 for these metrics.

1. Attachment 1 provides the Customer Transaction Survey for all available periods of 2008.

2. The monthly Meter Reading Accuracy Rate updated to year-end 2008 is shown below.

YEAR	MONTH	READINGS PROCESSED	TOTAL METER COUNT	BILLED ERRORS	OTHER ERRORS	TOTAL ERRORS	ERROR %
2008	Jan	294,132	302,176	2	390	392	0.13%
	Feb	306,223	302,156	3	610	613	0.20%
	Mar	303,368	302,250	3	648	651	0.21%
	Apr	303,063	302,345	2	550	552	0.18%
	May	302,978	302,345	1	457	458	0.15%
	Jun	302,863	302,809	1	444	445	0.15%
	July	302,665	302,904	1	450	451	0.15%
	Aug	302,045	302,970	1	597	598	0.20%
	Sept	304,072	303,057	0	739	739	0.24%
	Oct	315,842	303,036	1	667	668	0.21%
	Nov	279,497	303,036	1	587	588	0.21%
	Dec	313,877	303,394			0	0.00%
TOTAL		3,630,625	3,632,478	16	6,139	6,155	0.17%

3. The Customer Assistance Call Center performance metric weekly report started in late May 2008 and is provided in Attachment 2. The Monthly Cumulative Report of Telephone Calls is shown on Attachment 3.

The call center results have been affected by several factors:

- The poor economy and the price of oil – the number of high bill inquiries have increased in the latter part of 2008 due to the price of fuel and the poor economy as well as the number of suspension notices, payment arrangements not kept, and disconnection notices for non-payment. For calls related to these notices, payment of at least the past due amount or half the total bill is required before reconnection and, because customers are already behind in payment, such calls may take longer to resolve – as long as 20-30 minutes on the telephone with one Company representative. Even with the lower price of fuel and lower bills, the economy is continuing to affect the call center results.
- Fair and Accurate Credit Transaction Act ("FACTA") requirements – new statutory requirements for preventing identity theft recently enacted in October 2008 call for additional identity verification for every new customer order for service taken. This takes additional time to process as further information needs to be ascertained (e.g., name change if married or divorced or verifying the correct spelling of the name) thereby increasing the call handling times. In addition, according to FACTA requirements, commercial starts are also time-consuming because service representatives are required to validate businesses via business or tax license registration websites.
- Electronic mail inquiries – when customers are not able to call into the customer center, they contact the Company via e-mails to the Company's website. The number of emails

more than doubled in the last quarter of 2008 from about 1,070 e-mails a month in the first nine months of 2008 to approximately 2,276 e-mails a month in the last quarter of 2008. This increased workload required at least two customer service representatives to answer emails, diverting them away from handling calls.

In an effort to mitigate the impact of the above on answer times at the Customer Assistance Call Center, the Company implemented Virtual Hold Callback Queuing Technology on January 21, 2009. This system offers customers the option to be called back without losing their place in the queue, or they can hold for a Customer Service Representative. Customers are also given the estimated wait time before making a selection. Since implementing this system, Virtual Hold is proving to be a valuable tool in improving the Company's service for its customers. The percent of calls waiting in queue and customer hold times have decreased and service levels (i.e., percent of calls answered within 30 seconds) have improved from the end of 2008 which is provided in Attachment 2 of this response. Below are the results for the weeks in February 2009.

Statistic Measured	Goal	Call Center's Performance (2/2)	Call Center's Performance (2/3)	Call Center's Performance (2/4)	Call Center's Performance (2/5)	Call Center's Performance (2/6)
Service Level	80% Or Greater	23%	26%	31%	34%	34%
Lost Calls	Less Than 5%	32.6%	22.3%	17.5%	14.8%	12.4%
Avg. Speed Of Answer	Less Than 45 Seconds	354 Seconds	306 Seconds	216 Seconds	205 Seconds	163 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.1 Minutes	4.8 Minutes	4.7 Minutes	5.2 Minutes	4.9 Minutes
Call Count	Planned Equal To Actual	2475 Versus 2628	2150 Versus 2293	2200 Versus 2255	2075 Versus 1960	2245 Versus 1953

Statistic Measured	Goal	Call Center's Performance (2/9)	Call Center's Performance (2/10)	Call Center's Performance (2/11)	Call Center's Performance (2/12)	Call Center's Performance (2/13)
Service Level	80% Or Greater	21%	27%	31%	69%	62%
Lost Calls	Less Than 5%	33.9%	22.8%	15.9%	2.6%	3.5%
Avg. Speed Of Answer	Less Than 45 Seconds	367 Seconds	267 Seconds	202 Seconds	32 Seconds	41 Seconds
Avg. Call Handle Time	4.5 Minutes Or Less	4.7 Minutes	4.6 Minutes	4.7 Minutes	4.2 Minutes	3.9 Minutes
Call Count	Planned Equal To Actual	2475 Versus 2414	2250 Versus 2096	2200 Versus 2099	2000 Versus 1786	2245 Versus 2064

Statistic Measured	Goal	Call Center's Performance (2/16)	Call Center's Performance (2/17)	Call Center's Performance (2/18)	Call Center's Performance (2/19) *	Call Center's Performance (2/20) **
Service Level	80% Or Greater	**Holiday**	25%	24%	29%	18%
Lost Calls	Less Than 5%		28.6%	29.8%	20.2%	32.2%
Avg. Speed Of Answer	Less Than 45 Seconds		411 Seconds	411 Seconds	277 Seconds	385 Seconds
Avg. Call Handle Time	4.5 Minutes Or Less		4.4 Minutes	4.8 Minutes	5.1 Minutes	4.9 Minutes
Call Count	Planned Equal To Actual		2250 Versus 2518	2200 Versus 2251	2000 Versus 1970	2096 Versus 2031

Statistic Measured	Goal	Call Center's Performance (2/23)	Call Center's Performance (2/24)	Call Center's Performance (2/25)	Call Center's Performance (2/26)	Call Center's Performance (2/27)
Service Level	80% Or Greater	22%	28%	33%	30%	33%
Lost Calls	Less Than 5%	29.7%	16.2%	12.9%	18.0%	16.7%
Avg. Speed Of Answer	Less Than 45 Seconds	299 Seconds	239 Seconds	168 Seconds	188 Seconds	207 Seconds
Avg. Call Handle Time	4.5 Minutes Or Less	5.0 Minutes	5.0 Minutes	5.0 Minutes	4.8 Minutes	4.7 Minutes
Call Count	Planned Equal To Actual	2400 Versus 2276	2300 Versus 1909	2100 Versus 1778	2000 Versus 1920	2096 Versus 1926

Further review is also underway to address the business requirements of the Customer Assistance Call Center.

4. The monthly Same Day Payment Processing updated to year-end 2008 is shown below.

HAWAIIAN ELECTRIC COMPANY, INC.

Customer Service Dept. - Payment Processing & Support Center

Schedule D. Same Day Processing

Same Day Processing Calculations

Mail $ - $Amount Held Over	=	$ 147,485,305	= 95%
Mail $		$ 155,419,695	

Monthly Totals

	Same Day %	Goal %
Jan '08	100%	99%
Feb '08	99%	99%
Mar '08	99%	99%
Apr '08	99%	99%
May '08	99%	99%
June '08	100%	99%
July '08	99%	99%
Aug '08	96%	99%
Sep '08	94%	99%
Oct '08	95%	99%
Nov '08	97%	99%
Dec '08	95%	99%

Date of Holdover		Amt Held Over	Explanation (All holdovers processed the next business day)
Mon	12/01/08	$ 1,860,973	16 Trays & training new transport operator
Mon	12/08/08	$ 702,036	16 Trays & training new transport operator
Mon	12/15/08	$ 1,499,394	15.5 Trays & 1 machine down in opex
Mon	12/22/08	$ 3,871,987	15.5 Trays & 1 machine down in opex
		$ 7,934,389	

markettrends PACIFIC
Clarity when it counts

1136 Union Mall, Suite 405 Honolulu, HI 96813 TEL: (808) 532-0733 FAX: (808) 532-0744
EMAIL: info@markettrendspacific.com www.markettrendspacific.com

2008 HAWAIIAN ELECTRIC TRANSACTION SATISFACTION SURVEY

Quarter 3 Report

December 2008

Quarter 3 2008 Results of HECO's Transaction Satisfaction Survey
December 4, 2008

Background and Methodology

Hawaiian Electric Company (HECO) has conducted the Transaction Satisfaction Survey among the following groups since 1994: Customers who have called the utility to start, stop, or change their electric service from one location to another (the TRAN sample); customers who have called the utility and initiated a billing field investigation (the HBI sample); and customers who have called the utility to report trouble, such as an electrical outage, with their service (the TRBL sample). Maui Electric Company (MECO) and the Hawaii Electric Light Company (HELCO) began this survey in 1999.

An analysis of the Customer Service Access System records during the sample period for this survey indicates that of the 17,832 transactions, 14,383 were for starting, stopping, or changing service; 309 were billing field investigations; and 3,140 were trouble calls.

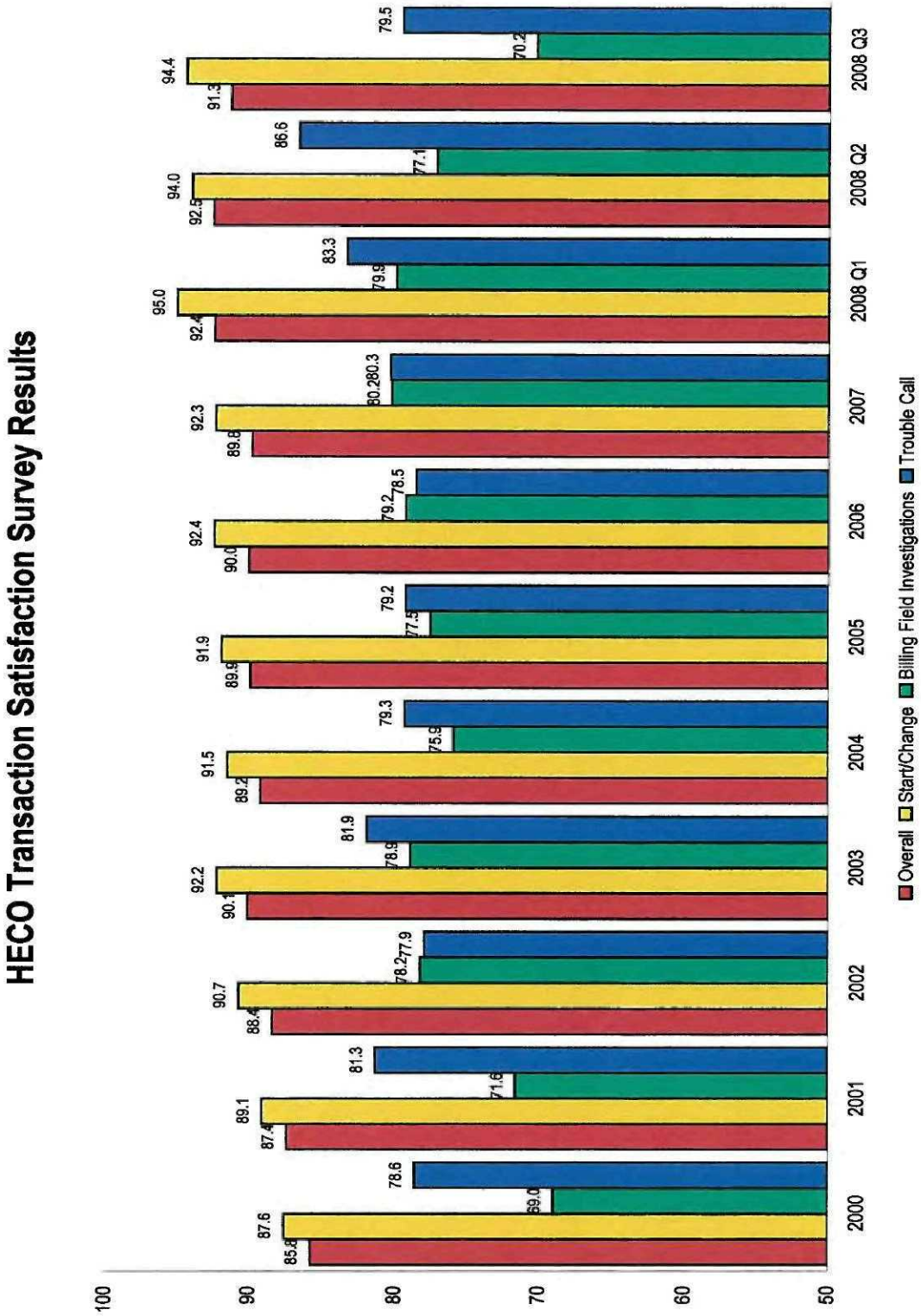
Interviewing for the third quarter of HECO's 2008 Transaction Satisfaction Survey took place from July 12 through November 11, 2008, and included 300 customers who called to start, stop, or change the location of service, 100 customers who called to ask about their bill, and 100 who called to report trouble with their service, for a total of 500 interviews.

Findings

The results of the survey for Quarter 3 2008 are summarized in the following tables and charts. The results are weighted.

HECO's overall satisfaction rating decreased 1.2 points to 91.3% in comparison with Quarter 2 2008. Contributing to this was a drop of 7.1 points in the satisfaction of customers who reported having trouble with their service and a decrease of 6.9 points in the satisfaction of customers requesting billing field investigations, offsetting a gain of 0.4 points in the satisfaction rating from customers wanting new or changed service. The rating exceeded the highest quarter 3 rating in the history of the Hawaiian Electric Transaction Satisfaction Survey for the satisfaction of customers requesting new or changed service.

In comparison with 2007 year to date (Quarter 3 2007) HECO's overall satisfaction for Quarter 3 year to date increased 1.6 points to 92.0%. An increase of 3.8 points in the satisfaction of customers having trouble with their service and a 2.0 point rise in the satisfaction of customers requesting new or changed service offset a decrease of 9.7 points in the rating of those requesting billing field investigations.


HECO Transaction Satisfaction Survey Results
100
90
80
70
60
50
2000
2001
2002
2003
2004
2005
2006
2007
2008 Q1
2008 Q2
2008 Q3
Overall
Start/Change
Billing Field Investigations
Trouble Call

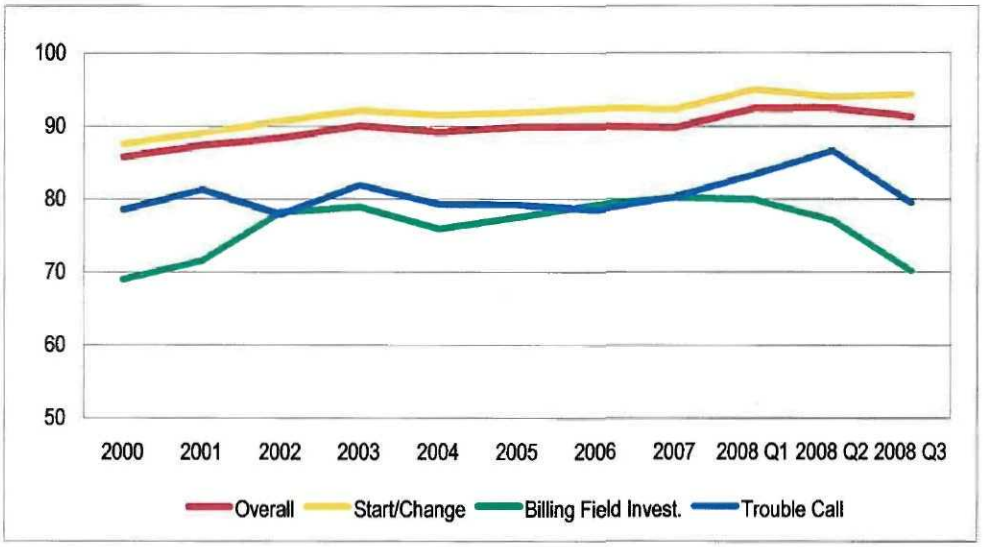
Satisfaction with Service on Request *

	2008 Q2	2008 Q3	Change	2008 YTD	2007 YTD	Change
Overall	92.5	91.3	-1.2	92.0	90.4	1.6
Start/Change	94.0	94.4	0.4	94.4	92.4	2.0
Billing Field Investigations	77.1	70.2	-6.9	75.2	84.9	-9.7
Trouble Call	86.6	79.5	-7.1	83.0	79.2	3.8

* For 2002 and later, this is Q27, rating of the service received on the request or inquiry

Summary of Satisfaction

	2000	2001	2002	2003	2004	2005	2006	2007	2008 Q1	2008 Q2	2008 Q3
Overall	85.8	87.4	88.4	90.1	89.2	89.9	90.0	89.8	92.4	92.5	91.3
Start/Change	87.6	89.1	90.7	92.2	91.5	91.9	92.4	92.3	95.0	94.0	94.4
Billing Field Invest.	69.0	71.6	78.2	78.9	75.9	77.5	79.2	80.2	79.9	77.1	70.2
Trouble Call	78.6	81.3	77.9	81.9	79.3	79.2	78.5	80.3	83.3	86.6	79.5



Rating of Representative Handling of Request

	2008 Q2	2008 Q3	Change	2008 YTD	2007 YTD	Change
Overall	92.2	91.8	-0.4	91.8	90.7	1.1
Start/Change	93.5	94.1	0.6	93.8	92.1	1.7
Billing Field Investigations	79.0	75.8	-3.2	78.1	85.1	-7.0
Trouble Call	86.9	83.0	-3.9	84.1	82.8	1.3

Rating of Representative Attitude

	2008 Q2	2008 Q3	Change	2008 YTD	2007 YTD	Change
Overall	92.9	93.5	0.6	93.2	92.7	0.5
Start/Change	93.8	95.4	1.6	94.8	93.8	1.0
Billing Field Investigations	80.9	79.8	-1.1	82.1	87.7	-5.6
Trouble Call	89.5	86.5	-3.0	86.9	86.5	0.4

Representative Performance Ratings

	2008 Q2	2008 Q3	Change	2008 YTD	2007 YTD	Change
Knowledge to answer all your questions						
Overall	93.0	92.9	-0.1	92.8	92.3	0.5
Start/Change	94.9	95.3	0.4	95.2	93.5	1.7
Billing Field Investigations	76.0	77.1	1.1	78.3	85.8	-7.5
Trouble Call	84.8	83.2	-1.6	83.4	85.2	-1.8
Willingness to work with you to satisfy needs						
Overall	92.5	93.2	0.7	92.7	92.4	0.3
Start/Change	93.8	95.6	1.8	94.9	93.7	1.2
Billing Field Investigations	77.4	76.4	-1.0	78.6	85.9	-7.3
Trouble Call	87.1	83.9	-3.2	84.4	84.9	-0.5
Taking enough time to handle your request						
Overall	93.7	93.2	-0.5	93.3	93.0	0.3
Start/Change	94.9	95.5	0.6	95.4	94.1	1.3
Billing Field Investigations	78.7	79.6	0.9	80.6	86.4	-5.8
Trouble Call	89.1	83.7	-5.4	85.2	86.2	-1.0

Statistic Measured	Goal	Call Center's Performance (5/26)	Call Center's Performance (5/27)	Call Center's Performance (5/28)	Call Center's Performance (5/29)	Call Center's Performance (5/30)
Service Level	80% Or Greater	(Holiday)	18%	67%	58%	28%
Lost Calls	Less Than 5%	(Holiday)	12.6%	4.7%	5.6%	12.1%
Avg. Speed Of Answer	Less Than 45 Seconds	(Holiday)	170 Seconds	51 Seconds	73 Seconds	152 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	(Holiday)	4.0 Minutes	3.8 Minutes	3.9 Minutes	3.8 Minutes
Call Count	Planned Equal To Actual	(Holiday)	1760 Versus 2412	1685 Versus 1806	1800 Versus 1796	1715 Versus 2112

Hi Gang –

Here are the statistics from last week....

Thanks -

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (6/2)	Call Center's Performance (6/3)	Call Center's Performance (6/4)	Call Center's Performance (6/5)	Call Center's Performance (6/6)
Service Level	80% Or Greater	17%	78%	63%	63%	82%
Lost Calls	Less Than 5%	14.8%	2.3%	4.1%	3.8%	1.7%
Avg. Speed Of Answer	Less Than 45 Seconds	171 Seconds	28 Seconds	53 Seconds	47 Seconds	23 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.1 Minutes	3.9 Minutes	3.9 Minutes	4.0 Minutes	3.6 Minutes
Call Count	Planned Equal To Actual	2380 Versus 2509	1820 Versus 1770	1850 Versus 1762	1780 Versus 1720	1715 Versus 1629

Hi Gang –

Here are the statistics for last week…

You guys did an absolutely awesome job on Friday with a Service Level of 82%!!!

Please keep up the great work, and know that it is truly appreciated ☺☺☺

Thanks -

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (6/9)	Call Center's Performance (6/10)	Call Center's Performance (6/11)	Call Center's Performance (6/12)	Call Center's Performance (6/13)
Service Level	80% Or Greater	55%	67%	Holiday	35%	44%
Lost Calls	Less Than 5%	4.7%	3.8%	Holiday	7.7%	6.7%
Avg. Speed Of Answer	Less Than 45 Seconds	48 Seconds	37 Seconds	Holiday	124 Seconds	81 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	3.8 Minutes	4.1 Minutes	Holiday	3.8 Minutes	3.8 Minutes
Call Count	Planned Equal To Actual	2300 Versus 2198	1820 Versus 1869	Holiday	1780 Versus 2494	1850 Versus 2044

Hi Gang –

Here are the statistics from last week…

Thanks ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (6/16)	Call Center's Performance (6/17)	Call Center's Performance (6/18)	Call Center's Performance (6/19)	Call Center's Performance (6/20)
Service Level	80% Or Greater	55%	57%	71%	64%	66%
Lost Calls	Less Than 5%	4.3%	7.6%	4.1%	4.6%	3.8%
Avg. Speed Of Answer	Less Than 45 Seconds	60 Seconds	68 Seconds	47 Seconds	50 Seconds	37 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	3.6 Minutes	3.9 Minutes	3.8 Minutes	4.3 Minutes	3.7 Minutes
Call Count	Planned Equal To Actual	2370 Versus 2541	1830 Versus 1907	1800 Versus 1749	1740 Versus 1688	1975 Versus 1912

Hi Gang –

Here are the statistics from last week…

Thanks ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (6/23)	Call Center's Performance (6/24)	Call Center's Performance (6/25	Call Center's Performance (6/26)	Call Center's Performance (6/27)
Service Level	80% Or Greater	26%	43%	34%	38%	50%
Lost Calls	Less Than 5%	9.5%	7.8%	10.5%	6.9%	6.3%
Avg. Speed Of Answer	Less Than 45 Seconds	112 Seconds	96 Seconds	138 Seconds	79 Seconds	69 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.0 Minutes	4.3 Minutes	4.3 Minutes	4.6 Minutes	4.2 Minutes
Call Count	Planned Equal To Actual	2490 Versus 2423	1960 Versus 2002	1820 Versus 1869	1790 Versus 1881	1975 Versus 1804

Hi Gang –

Here are the statistics from last week…

Thanks ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (6/30)	Call Center's Performance (7/1)	Call Center's Performance (7/2)	Call Center's Performance (7/3)	Call Center's Performance (7/4)
Service Level	80% Or Greater	16%	24%	29%	61%	HOLIDAY
Lost Calls	Less Than 5%	12.7%	13.0%	9.2%	5.0%	HOLIDAY
Avg. Speed Of Answer	Less Than 45 Seconds	167 Seconds	168 Seconds	115 Seconds	52 Seconds	HAPPY 4th OF JULY!
Avg. Call Handle Time	3.5 Minutes Or Less	4.0 Minutes	4.2 Minutes	4.1 Minutes	3.5 Minutes	HOLIDAY
Call Count	Planned Equal To Actual	2490 Versus 2620	2125 Versus 2239	1820 Versus 2047	1790 Versus 2070	HOLIDAY

Hi Gang –

Here are the statistics from last week…

I hope everyone had a wonderful 4th of July!!!

Thanks ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (7/7)	Call Center's Performance (7/8)	Call Center's Performance (7/9)	Call Center's Performance (7/10)	Call Center's Performance (7/11)
Service Level	80% Or Greater	11%	20%	26%	51%	34%
Lost Calls	Less Than 5%	16.5%	16.7%	11.3%	6.7%	10.4%
Avg. Speed Of Answer	Less Than 45 Seconds	236 Seconds	203 Seconds	127 Seconds	78 Seconds	103 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.0 Minutes	4.0 Minutes	4.2 Minutes	4.2 Minutes	3.9 Minutes
Call Count	Planned Equal To Actual	2550 Versus 2554	2125 Versus 2406	1875 Versus 2197	1970 Versus 1969	1975 Versus 1973

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (7/14)	Call Center's Performance (7/15)	Call Center's Performance (7/16)	Call Center's Performance (7/17)	Call Center's Performance (7/18)
Service Level	80% Or Greater	19%	28%	39%	33%	20%
Lost Calls	Less Than 5%	14%	9.2%	6.5%	12%	13.8%
Avg. Speed Of Answer	Less Than 45 Seconds	163 Seconds	121 Seconds	79 Seconds	128 Seconds	178 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	3.1 Minutes	3.9 Minutes	3.9 Minutes	4.4 Minutes	4.0 Minutes
Call Count	Planned Equal To Actual	2550 Versus 3535	2010 Versus 2403	1875 Versus 2213	1950 Versus 1916	1975 Versus 2145

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (7/21)	Call Center's Performance (7/22)	Call Center's Performance (7/23)	Call Center's Performance (7/24)	Call Center's Performance (7/25)
Service Level	80% Or Greater	32%	29%	37%	40%	42%
Lost Calls	Less Than 5%	8.4%	14.6%	10.2%	8.4%	7.9%
Avg. Speed Of Answer	Less Than 45 Seconds	118 Seconds	145 Seconds	119 Seconds	110 Seconds	104 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.0 Minutes	4.0 Minutes	4.3 Minutes	4.5 Minutes	4.3 Minutes
Call Count	Planned Equal To Actual	2550 Versus 2550	2010 Versus 2278	1875 Versus 1977	1950 Versus 1770	1975 Versus 1755

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (7/28)	Call Center's Performance (7/29)	Call Center's Performance (7/30)	Call Center's Performance (7/31)	Call Center's Performance (8/1)
Service Level	80% Or Greater	14%	45%	32%	22%	21%
Lost Calls	Less Than 5%	20.5%	6.3%	8.5%	14.5%	12.8%
Avg. Speed Of Answer	Less Than 45 Seconds	236 Seconds	84 Seconds	121 Seconds	191 Seconds	172 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.6 Minutes	4.3 Minutes	4.3 Minutes	4.1 Minutes	4.4 Minutes
Call Count	Planned Equal To Actual	2550 Versus 2347	2340 Versus 1964	1875 Versus 1926	1846 Versus 2052	1950 Versus 2154

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (8/4)	Call Center's Performance (8/5)	Call Center's Performance (8/6/)	Call Center's Performance (8/7/)	Call Center's Performance (8/8/)
Service Level	80% Or Greater	29%	44%	52%	32%	30%
Lost Calls	Less Than 5%	9.8%	6.8%	4.6%	13.8%	10.7%
Avg. Speed Of Answer	Less Than 45 Seconds	125 Seconds	85 Seconds	69 Seconds	150 Seconds	127 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.2 Minutes	4.5 Minutes	4.5 Minutes	4.6 Minutes	4.5 Minutes
Call Count	Planned Equal To Actual	2550 Versus 2380	2050 Versus 2091	1910 Versus 1912	2010 Versus 1983	1950 Versus 1956

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (8/11)	Call Center's Performance (8/12)	Call Center's Performance (8/13)	Call Center's Performance (8/14)	Call Center's Performance (8/15)
Service Level	80% Or Greater	17%	9%	39%	57%	ENJOY
Lost Calls	Less Than 5%	13.1%	20%	7.4%	4.3%	YOUR
Avg. Speed Of Answer	Less Than 45 Seconds	151 Seconds	232 Seconds	95 Seconds	51 Seconds	LONG
Avg. Call Handle Time	3.5 Minutes Or Less	4.1 Minutes	4.2 Minutes	4.1 Minutes	3.8 Minutes	HOLIDAY
Call Count	Planned Equal To Actual	2360 Versus 2480	2050 Versus 2202	2000 Versus 2240	2010 Versus 2024	WEEKEND!!!

Hi Gang –

Here are the statistics from last week…

You did an awesome job on Thursday!!!

Keep up the great work ☺☺☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (8/18)	Call Center's Performance (8/19)	Call Center's Performance (8/20)	Call Center's Performance (8/21)	Call Center's Performance (8/22)
Service Level	80% Or Greater	9%	33%	58%	75%	46%
Lost Calls	Less Than 5%	13.2%	6.3%	4.4%	7.0%	11.8%
Avg. Speed Of Answer	Less Than 45 Seconds	216 Seconds	81 Seconds	57 Seconds	34 Seconds	81 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.0 Minutes	4.3 Minutes	4.0 Minutes	4.1 Minutes	4.3 Minutes
Call Count	Planned Equal To Actual	2450 Versus 2823	2225 Versus 2253	2000 Versus 2158	1834 Versus 1950	1970 Versus 2102

Hi Gang –

Here are the numbers from last week.

Have a great day!!!

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (8/25)	Call Center's Performance (8/26)	Call Center's Performance (8/27)	Call Center's Performance (8/28)	Call Center's Performance (8/29)
Service Level	80% Or Greater	29%	29%	45%	38%	20%
Lost Calls	Less Than 5%	13.3%	10.3%	4.9%	6.9%	10.0%
Avg. Speed Of Answer	Less Than 45 Seconds	103 Seconds	134 Seconds	72 Seconds	103 Seconds	139 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.1 Minutes	4.3 Minutes	4.5 Minutes	4.7 Minutes	4.2 Minutes
Call Count	Planned Equal To Actual	2450 Versus 2635	2225 Versus 2110	2050 Versus 1913	1950 Versus 1829	2030 Versus 2236

Hi Gang –

Here are the statistics from last week…

I hope everyone was able to enjoy a wonderful Labor Day weekend!!!

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (9/1)	Call Center's Performance (9/2)	Call Center's Performance (9/3)	Call Center's Performance (9/4)	Call Center's Performance (9/5)
Service Level	80% Or Greater	LABOR	10%	9%	14%	8%
Lost Calls	Less Than 5%	DAY	20.2%	17.3%	17.5%	20.7%
Avg. Speed Of Answer	Less Than 45 Seconds	HOLIDAY	301 Seconds	268 Seconds	208 Seconds	279 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	OFFICE	4.5 Minutes	4.9 Minutes	4.5 Minutes	4.8 Minutes
Call Count	Planned Equal To Actual	CLOSED!!!	2157 Versus 2428	1979 Versus 2325	1907 Versus 2071	1969 Versus 2098

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (9/8)	Call Center's Performance (9/9)	Call Center's Performance (9/10)	Call Center's Performance (9/11)	Call Center's Performance (9/12)
Service Level	80% Or Greater	8%	11%	9%	7%	6%
Lost Calls	Less Than 5%	16.5%	13.7%	26.8%	19.4%	23.5%
Avg. Speed Of Answer	Less Than 45 Seconds	247 Seconds	196 Seconds	274 Seconds	287 Seconds	338 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.8 Minutes	4.7 Minutes	5.0 Minutes	5.2 Minutes	4.9 Minutes
Call Count	Planned Equal To Actual	2486 Versus 2393	2074 Versus 2250	1979 Versus 2415	1907 Versus 2199	2049 Versus 2234

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (9/15)	Call Center's Performance (9/16)	Call Center's Performance (9/17)	Call Center's Performance (9/18)	Call Center's Performance (9/19)
Service Level	80% Or Greater	12%	9%	11%	7%	9%
Lost Calls	Less Than 5%	17.4%	16%	21.2%	20.2%	25.3%
Avg. Speed Of Answer	Less Than 45 Seconds	287 Seconds	262 Seconds	286 Seconds	284 Seconds	336 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.5 Minutes	4.5 Minutes	4.7 Minutes	5.2 Minutes	4.9 Minutes
Call Count	Planned Equal To Actual	2505 Versus 2455	2189 Versus 2394	2227 Versus 2283	2103 Versus 2203	2138 Versus 2111

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (9/22)	Call Center's Performance (9/23)	Call Center's Performance (9/24)	Call Center's Performance (9/25)	Call Center's Performance (9/26)
Service Level	80% Or Greater	8%	9%	7%	9%	12%
Lost Calls	Less Than 5%	20.4%	21.2%	30.3%	22.5%	21.9%
Avg. Speed Of Answer	Less Than 45 Seconds	320 Seconds	284 Seconds	375 Seconds	293 Seconds	264 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.7 Minutes	4.9 Minutes	5.6 Minutes	5.0 Minutes	4.8 Minutes
Call Count	Planned Equal To Actual	2505 Versus 2310	2189 Versus 2280	2227 Versus 2120	2103 Versus 2079	2151 Versus 2212

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (9/29)	Call Center's Performance (9/30)	Call Center's Performance (10/1)	Call Center's Performance (10/2)	Call Center's Performance (10/3)
Service Level	80% Or Greater	8%	8%	10%	6%	8%
Lost Calls	Less Than 5%	23.9%	27.6%	27.3%	23.3%	29.8%
Avg. Speed Of Answer	Less Than 45 Seconds	337 Seconds	399 Seconds	439 Seconds	318 Seconds	398 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.1 Minutes	5.0 Minutes	5.2 Minutes	5.2 Minutes	5.1 Minutes
Call Count	Planned Equal To Actual	2505 Versus 2306	2201 Versus 2148	2115 Versus 2152	2114 Versus 2228	2166 Versus 2133

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (10/6)	Call Center's Performance (10/7)	Call Center's Performance (10/8)	Call Center's Performance (10/9)	Call Center's Performance (10/10)
Service Level	80% Or Greater	8%	9%	13%	7%	9%
Lost Calls	Less Than 5%	23.6%	26.8%	25.4%	24.9%	22.3%
Avg. Speed Of Answer	Less Than 45 Seconds	342 Seconds	374 Seconds	358 Seconds	378 Seconds	343 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.9 Minutes	5.1 Minutes	4.5 Minutes	5.3 Minutes	4.8 Minutes
Call Count	Planned Equal To Actual	2273 Versus 2326	2110 Versus 2083	2105 Versus 2274	2116 Versus 2003	2166 Versus 2099

Hi Gang –

Here are the statistics from last week…

Hope everyone enjoyed the long holiday weekend ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (10/13)	Call Center's Performance (10/14)	Call Center's Performance (10/15)	Call Center's Performance (10/16)	Call Center's Performance (10/17)
Service Level	80% Or Greater	HOLIDAY	12%	12%	%	9%
Lost Calls	Less Than 5%	CUSTOMER	20.1%	39.7%	%	29.1%
Avg. Speed Of Answer	Less Than 45 Seconds	ASSISTANCE	383 Seconds	355 Seconds	Seconds	532 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	CENTER	4.3 Minutes	4.3 Minutes	Minutes	4.6 Minutes
Call Count	Planned Equal To Actual	CLOSED!!!	2230 Versus 2382	2130 Versus 3290	Versus	2000 Versus 1855

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (10/20)	Call Center's Performance (10/21)	Call Center's Performance (10/22)	Call Center's Performance (10/23)	Call Center's Performance (10/24)
Service Level	80% Or Greater	8%	9%	11%	7%	14%
Lost Calls	Less Than 5%	27.8%	29.6%	21.2%	21.2%	18.3%
Avg. Speed Of Answer	Less Than 45 Seconds	437 Seconds	508 Seconds	353 Seconds	295 Seconds	250 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.0 Minutes	5.0 Minutes	5.1 Minutes	4.9 Minutes	4.8 Minutes
Call Count	Planned Equal To Actual	2304 Versus 2101	2180 Versus 1972	2105 Versus 2119	2050 Versus 2050	2000 Versus 2005

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (10/27)	Call Center's Performance (10/28)	Call Center's Performance (10/29)	Call Center's Performance (10/30)	Call Center's Performance (10/31)
Service Level	80% Or Greater	8%	8%	7%	8%	11%
Lost Calls	Less Than 5%	22.2%	24.3%	26.6%	25.8%	23.6%
Avg. Speed Of Answer	Less Than 45 Seconds	354 Seconds	362 Seconds	374 Seconds	362 Seconds	360 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.4 Minutes	5.8 Minutes	5.5 Minutes	5.5 Minutes	5.0 Minutes
Call Count	Planned Equal To Actual	2100 Versus 2090	2180 Versus 1961	2105 Versus 2010	2050 Versus 1889	2000 Versus 1976

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

Statistic Measured	Goal	Call Center's Performance (11/3)	Call Center's Performance (11/4)	Call Center's Performance (11/5)	Call Center's Performance (11/6)	Call Center's Performance (11/7)
Service Level	80% Or Greater	10%	Call	12%	10%	10%
Lost Calls	Less Than 5%	23.3%	Center	31.9%	28.7%	30.9%
Avg. Speed Of Answer	Less Than 45 Seconds	383 Seconds	Closed	561 Seconds	492 Seconds	524 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.0 Minutes	Election	5.6 Minutes	5.4 Minutes	5.5 Minutes
Call Count	Planned Equal To Actual	2180 Versus 2172	Day!!!	2170 Versus 2043	2050 Versus 2043	2010 Versus 1931

Hi Gang –

Here are the statistics from last week…

Have a great day ☺

Jodi Carlson
Hawaiian Electric Company
Customer Assistance Center Supervisor
Phone: (808) 543-7830
Fax: (808) 543-7799
Email: jodi.carlson@heco.com

From: Goto, Vicki
Sent: Monday, November 17, 2008 10:46 AM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (11/10/08 to 11/14/08)
FYI

Statistic Measured	Goal	Call Center's Performance (11/10)	Call Center's Performance (11/11)	Call Center's Performance (11/12)	Call Center's Performance (11/13)	Call Center's Performance (11/14)
Service Level	80% Or Greater	13%	Call	11%	12%	13%
Lost Calls	Less Than 5%	22.9%	Center	30.6%	25.4%	27.4%
Avg. Speed Of Answer	Less Than 45 Seconds	380 Seconds	Closed	527 Seconds	462 Seconds	564 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.8 Minutes	Veteran's	5.6 Minutes	4.9 Minutes	5.0 Minutes
Call Count	Planned Equal To Actual	2180 Versus 2202	Day	2180 Versus 1971	2050 Versus 2094	2010 Versus 1957

Vicki Goto
Customer Assistance Center
Phone: (808) 543-7831 Fax: (808) 203-1831
Email: v.goto@heco.com

From: Goto, Vicki
Sent: Monday, November 24, 2008 10:48 AM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (11/17/08 to 11/21/08)
FYI

Statistic Measured	Goal	Call Center's Performance (11/17)	Call Center's Performance (11/18)	Call Center's Performance (11/19)	Call Center's Performance (11/20)	Call Center's Performance (11/21)
Service Level	80% Or Greater	14%	11%	9%	10%	12%
Lost Calls	Less Than 5%	24.8%	25.7%	28.9%	28.7%	24.7%
Avg. Speed Of Answer	Less Than 45 Seconds	450 Seconds	497 Seconds	475 Seconds	481 Seconds	407 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.6 Minutes	4.9 Minutes	5.2 Minutes	5.3 Minutes	5.1 Minutes
Call Count	Planned Equal To Actual	2200 Versus 2198	2180 Versus 1997	2180 Versus 2038	2090 Versus 1994	2000 Versus 2139

Vicki Goto
Customer Assistance Center
Phone: (808) 543-7831 Fax: (808) 203-1831
Email: v.goto@heco.com

From: Goto, Vicki
Sent: Wednesday, December 03, 2008 8:33 AM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (11/24/08 to 11/28/08)

Statistic Measured	Goal	Call Center's Performance (11/24)	Call Center's Performance (11/25)	Call Center's Performance (11/26)	Call Center's Performance (11/27)	Call Center's Performance (11/28)
Service Level	80% Or Greater	13%	10%	11%	Thanksgiving	11%
Lost Calls	Less Than 5%	30.4%	29.7%	27.1%	Holiday	28.0%
Avg. Speed Of Answer	Less Than 45 Seconds	522 Seconds	538 Seconds	450 Seconds		407 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.4 Minutes	5.8 Minutes	5.4 Minutes		5.1 Minutes
Call Count	Planned Equal To Actual	2200 Versus 2044	2000 Versus 1910	2050 Versus 1998		2000 Versus 1932

Vicki Goto
Customer Assistance Center
Phone: (808) 543-7831 Fax: (808) 203-1831
Email: v.goto@heco.com

From: Goto, Vicki
Sent: Tuesday, December 09, 2008 9:17 AM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (12/1/08 to 12/5/08)
** Note: Phone trunks were increased from 32 to 40 on Wednesday, Dec. 3rd.

Statistic Measured	Goal	Call Center's Performance (12/1)	Call Center's Performance (12/2)	Call Center's Performance (12/3) **	Call Center's Performance (12/4)	Call Center's Performance (12/5)
Service Level	80% Or Greater	11%	11%	9%	11%	9%
Lost Calls	Less Than 5%	28.7%	26.3%	37.3%	32.1%	34.4%
Avg. Speed Of Answer	Less Than 45 Seconds	507 Seconds	482 Seconds	584 Seconds	503 Seconds	568 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.5 Minutes	5.1 Minutes	5.3 Minutes	5.6 Minutes	5.0 Minutes
Call Count	Planned Equal To Actual	2100 Versus 2063	2075 Versus 2045	2150 Versus 2242	2090 Versus 2252	1950 Versus 2211

Vicki Goto
Customer Assistance Center
Phone: (808) 543-7831 Fax: (808) 203-1831
Email: v.goto@heco.com

From: Goto, Vicki
Sent: Friday, December 19, 2008 8:27 AM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (12/8/08 to 12/12/08)

Statistic Measured	Goal	Call Center's Performance (12/8)	Call Center's Performance (12/9)	Call Center's Performance (12/10)	Call Center's Performance (12/11)	Call Center's Performance (12/12)
Service Level	80% Or Greater	11%	7%	10%	24%	14%
Lost Calls	Less Than 5%	32.1%	32.7%	32.7%	27.5%	30.7%
Avg. Speed Of Answer	Less Than 45 Seconds	545 Seconds	522 Seconds	517 Seconds	310 Seconds	447 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	5.7 Minutes	5.3 Minutes	4.9 Minutes	3.8 Minutes	4.4 Minutes
Call Count	Planned Equal To Actual	2180 Versus 2301	2000 Versus 2300	2150 Versus 2395	2200 Versus 3306	2100 Versus 2567

Vicki Goto
Customer Assistance Center
Phone: (808) 543-7831 Fax: (808) 203-1831
Email: v.goto@heco.com

From: Goto, Vicki
Sent: Monday, December 22, 2008 3:45 PM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (12/15/08 - 12/19/08)

Statistic Measured	Goal	Call Center's Performance (12/15)	Call Center's Performance (12/16)	Call Center's Performance (12/17)	Call Center's Performance (12/18)	Call Center's Performance (12/19)
Service Level	80% Or Greater	11%	11%	9%	6%	9%
Lost Calls	Less Than 5%	32.0%	33.3%	29.2%	33.3%	33.6%
Avg. Speed Of Answer	Less Than 45 Seconds	535 Seconds	584 Seconds	440 Seconds	544 Seconds	554 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.4 Minutes	4.6 Minutes	4.9 Minutes	5.0 Minutes	4.7 Minutes
Call Count	Planned Equal To Actual	2180 Versus 2475	2200 Versus 2326	2350 Versus 2462	2200 Versus 2118	2210 Versus 2201

Vicki Goto
Customer Assistance Center
Phone: (808) 543-7831 Fax: (808) 203-1831
Email: v.goto@heco.com

From: Goto, Vicki
Sent: Monday, January 12, 2009 8:30 AM
To: Chock, Sylvia
Cc: Carlson, Jodi
Subject: Call Center Stats (12/22/08 - 12/26/08) (12/29/08 - 1/2/09) (1/5/09 - 1/9/09)

Statistic Measured	Goal	Call Center's Performance (12/22)	Call Center's Performance (12/23)	Call Center's Performance (12/24)	Call Center's Performance (12/25)	Call Center's Performance (12/26)
Service Level	80% Or Greater	7%	11%	44%	Closed	11%
Lost Calls	Less Than 5%	35.0%	27.4%	8.5%		26.6%
Avg. Speed Of Answer	Less Than 45 Seconds	526 Seconds	413 Seconds	108 Seconds		387 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.7 Minutes	4.6 Minutes	4.3 Minutes		4.6 Minutes
Call Count	Planned Equal To Actual	2390 Versus 2374	2200 Versus 2173	1040 Versus 705		2150 Versus 2062

Statistic Measured	Goal	Call Center's Performance (12/29)	Call Center's Performance (12/30)	Call Center's Performance (12/31)	Call Center's Performance (1/1)	Call Center's Performance (1/2)
Service Level	80% Or Greater	10%	10%	12%	Closed	9%
Lost Calls	Less Than 5%	37.3%	38.8%	20.9%		31.1%
Avg. Speed Of Answer	Less Than 45 Seconds	582 Seconds	685 Seconds	312 Seconds		556 Seconds
Avg. Call Handle Time	3.5 Minutes Or Less	4.7 Minutes	5.1 Minutes	4.4 Minutes		4.5 Minutes
Call Count	Planned Equal To Actual	2390 Versus 2396	2250 Versus 2132	1139 Versus 931		2150 Versus 2307

MONTHLY CUMULATIVE REPORT OF TELEPHONE CALLS - 2008

MONTH/YR	CALLS RECEIVED	CALLS ANSWERED	CALLS LOST	LOST CALL %	SERVICE LEVEL	QUARTERLY/YTD ***LOST CALL % PROG RPT***	
January '08	43,963	36,379	7,584	17.25%	22		
January '07	40,388	34,303	6,085	15.07%	25		
diff. over '07	3,575	2,076	1,499	2.18%	(3)		
% change over '07	8.9%	6.1%	24.6%	14.5%	-12.0%		
February '08	38,157	32,308	5,849	15.33%	26		
February '07	32,097	27,899	4,198	13.08%	35		
diff. over '07	6,060	4,409	1,651	2.25%	(9)		
% change over '07	18.9%	15.8%	39.3%	17.2%	-25.7%		
March '08	37,671	32,231	5,440	14.44%	26	1ST QTR PROGRESS	
March '07	33,841	30,471	3,370	9.96%	50		
diff. over '07	3,830	1,760	2,070	4.48%	(24)	Jan - Mar '08	15.8%
% change over '07	11.3%	5.8%	61.4%	45.0%	-48.0%	Jan - Mar '07	12.8%
April '08	39,175	36,180	2,995	7.65%	53		
April '07	32,358	28,635	3,723	11.51%	47		
diff. over '07	6,817	7,545	(728)	-3.86%	6		
% change over '07	21.1%	26.3%	-19.6%		12.8%		
May '08	40,294	36,946	3,348	8.31%	52		
May '07	35,423	31,862	3,561	10.05%	53		
diff. over '07	4,871	5,084	(213)	-1.74%	(1)		
% change over '07	13.8%	16.0%	-6.0%		-1.9%		
June '08	40,391	37,678	2,713	6.72%	51	2ND QTR PROGRESS	
June '07	36,617	29,572	7,045	19.24%	25		
diff. over '07	3,774	8,106	(4,332)	-12.52%	26	Apr - Jun '08	7.6%
% change over '07	10.3%	27.4%	-61.5%		104.0%	Apr - Jun '07	13.7%
July '08	48,286	42,808	5,478	11.34%	31	YTD PROGRESS	
July '07	40,284	32,310	7,974	19.79%	19		
diff. over '07	8,002	10,498	(2,496)	-8.45%	12	Jan - Jun '08	11.7%
% change over '07	19.9%	32.5%	-31.3%		63.2%	Jan - Jun '07	13.3%
August '08	43,315	39,077	4,238	9.78%	36		
August '07	43,130	33,894	9,236	21.41%	17		
diff. over '07	185	5,183	(4,998)	-11.63%	19		
% change over '07	0.4%	15.3%	-54.1%		111.8%		
September '08	47,328	37,372	9,956	21.04%	9	3RD QTR PROGRESS	
September '07	38,262	29,531	8,731	22.82%	14		
diff. over '07	9,066	7,841	1,225	-1.78%	(5)	Jul - Sep '08	14.2%
% change over '07	23.7%	26.6%	14.0%		-35.7%	Jul - Sep '07	21.3%
October '08	47,023	34,900	12,123	25.78%	9	YTD PROGRESS	
October '07	41,343	34,625	6,718	16.25%	32		
diff. over '07	5,680	275	5,405	9.53%	(23)	Jan - Sep '08	12.6%
% change over '07	13.7%	0.8%	80.5%		-71.9%	Jan - Sep '07	16.2%
November '08	34,670	25,132	9,538	27.51%	11		
November '07	39,534	33,738	5,796	14.66%	35		
diff. over '07	(4,864)	(8,606)	3,742	12.85%	(24)		
% change over '07	-12.3%	-25.5%	64.6%		-68.6%		
December '08	48,094	32,988	15,106	31.41%	12	4TH QTR PROGRESS	
December '07	46,297	35,211	11,086	23.95%	31		
diff. over '07	1,797	(2,223)	4,020	7.46%	(19)	Oct - Dec '08	28.3%
% change over '07	3.9%	-6.3%	36.3%		-61.3%	Oct - Dec '07	18.6%
YTD TOTAL - '08	508,367	423,999	84,368	16.60%	28		
YTD TOTAL - '07	459,574	382,051	77,523	16.87%	32		
diff. over '07	48,793	41,948	6,845	-0.27%	(4)		
% change over '07	10.6%	11.0%	8.8%		-11.7%		

CA-IR-321

Ref: CIS Project Problems.

Please provide the following information regarding the selection of the Peace/First Data CIS system that was made by HECO:

a. Which large electric utilities are believed by HECO to be using the current version of Peace CIS software that was selected by HECO, versus earlier versions of the Peace CIS software?
b. List and describe the CIS software vendors from which HECO solicited and received proposals.
c. What vendor/consultant finalists other than Peace made presentations to HECO.
d. Explain the process employed by HECO to evaluate the Peace CIS version it selected and is developing and provide complete copies of all due diligence work product relied upon by HECO in accepting the risks of deployment of the newest Peace software version.
e. Provide copies of all studies, analyses, workpapers, reports and other documents prepared by or for HECO that were relied upon by HECO to rank and evaluate CIS software development proposals that were received by HECO.
f. Describe the reasons why HECO selected the newest Peace software version over alternative vendors/products that were available.
g. State whether the Peace software version selected by HECO is fully capable of meeting all identified future HECO business needs, including Advanced Metering Infrastructure and other new initiatives.
h. Identify each known HECO billing system business requirement that cannot reasonably be met with the Peace/First Data CIS system that is under development and explain the Company's plans for upgrading to another version of Peace/First Data software or some other vendor(s) product.

<u>HECO Response:</u>

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

d. See response to part a. above.

e. See response to part a. above.

f. See response to part a. above.

g. See response to part a. above.

h. See response to part a. above.

CA-IR-322

Ref: HECO Responses to CA-IR-109, 111 and 146 (CIS Project Invoices and Contracts).

Please provide the following information:

a. Update the dated summary of all amounts billed to HECO to date by Peace/First Data for the Peace CIS software and related services, indicating which of such amounts have been paid by HECO and which amounts have been withheld, as originally requested in CA-IR-111 part (d).
b. Complete copies of the Peace CIS-related invoices rendered since the inception of the project.
c. Provide copies of all correspondence (to the extent not already provided in response to CA-IR-146, Attachments 5 through 26) associated with Peace billings between HECO and Peace during 2007 and 2008, including but not limited to notifications of amounts withheld, amounts disputed or amounts associated with any claims asserted by HECO.
d. Describe the current status of CIS project commercial arrangements with Peace, including a discussion of negotiated payment terms, change orders, progress payments as well as all planned activities to resolve any pending disputes between HECO and Peace.
e. State HECO's position regarding the current CIS Project completion status, as measured by the Milestones set forth in Confidential Attachment 1 to CA-IR-109 at pages 146 and 147.

<u>HECO Response:</u>

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

d. See response to part a. above.

e. See response to part a. above.

CA-IR-323

Ref: HECO T-9, pages 18 to 25 (Status of CIS, Bill Print, IVR, IWR).

Please provide the following information regarding the CIS Project:

a. A detailed updated discussion of the "current status of the CIS project at HECO", including a description of all continuing problems and issues that may impact completion of the project on schedule and within budget.
b. Provide the Company's current best estimate of the CIS go live date and a description of the contingencies that may impact realization of that date.
c. Provide updated HECO-907, HECO-908, HECO-WP-908 and other revised schedules, as applicable, associated with your response to part (b) of this information request.
d. Explain whether and how the timing and amounts of projected test year expenses for Bill Print, IVR and IWR will be impacted by any revisions to the scheduled go-live planning for the CIS project.
e. Provide complete copies of all reports prepared by Peace for HECO executives that identify CIS project critical path items and that were submitted since June 30, 2008 (as discussed in interviews on December 19, 2008).
f. Provide complete copies of the CIS project monthly status reports that are provided to Darren Yamamoto for each month of 2008 (as discussed in interviews on December 19, 2008).
g. Provide a complete copy of the most recent available contractor monthly detailed CIS project work plan (as discussed in interviews on December 19, 2008).
h. Provide complete copies of all studies, reports, analyses, workpapers, projections, management presentations and other documents supportive of your response to parts (a) through (d) of this information request.

<u>HECO Response:</u>

a. Currently, the CIS Project is in the construction and testing phase of the project. As noted in HECO's response to part b below, at this time the Companies believe that it is likely that the CIS will not be placed into service in 2009. As a result, as noted in part c below, most of the 2009 test year costs for the CIS project are being removed from the test year (e.g., CIS expenses, capital costs, unamortized system development costs, etc.). In addition, as discussed in part d below, due to the expected timing of the CIS project being placed in-service, the costs in the 2009 test year for bill print, IVR, and IWR are being removed.

Several key activities remain to be completed. These include:

- development of software by Peace;
- redevelopment of incomplete or unacceptable software by Peace;
- integration testing of the CIS software;
- correction of defects identified during integration testing;
- training of HECO employees to use the CIS; and
- cutover of the CIS into production.

First, although most of the software has been delivered, software related to bill print, IVR, IWR, Revenue Reporting, Unbilled Revenue Calculation, MVRS (Meter Reading), General Ledger and Field Service Management (Wishbone) remain to be developed and/or redeveloped.

Second, integration testing has not been completed as planned due to two primary factors – the above noted absent software components, and the number of defects found and the time needed to correct these defects. HECO has tested the software that has been completed thus far, and "tested around" the software components that remain under development. Until all software is available, integration testing cannot be completed.

Third, HECO has identified more than 5,300 CIS defects, of which Peace has corrected more than 3,600 of these defects. However, the time required to provide resolutions has ranged from one day to more than one year. The number of outstanding defects and the length of time required to correct them forces HECO to "test around" the defects. This has delayed the completion of testing and the training of HECO users, which must take place after integration testing is completed and further postpones the in-service date of CIS.

b. In December 2008, the Companies' best estimate of the go-live date for the CIS was May 31, 2009. At this time the Companies believe that this date is no longer attainable and the go-live date will be outside of the 2009 test year. The Companies are in the process of reviewing their options with respect to the CIS project.

c. The impacts of the delay of the implementation of CIS on the 2009 test year is summarized in Attachment 1 of this response. Revised exhibits HECO-907 and HECO-908 are provided in support of Attachment 1 as Attachments 1A and 2 of this response, respectively. Attachment 1A reflects the test year project costs (P0000571) that are removed from the test year (including the amortization of the deferred expenses), except for reclassified on-costs of $306,102 and payroll taxes of $41,642 which is taken out of taxes other than income taxes. The net impact of the payroll taxes is shown on Attachment 1 and the calculation is shown on Attachment 4. Additional reductions for productive and non-productive labor expenses are reflected for employees (see Attachment 1B) that will continue to work on the CIS project until the end of the year and defer their labor expenses. In the test year, it was assumed that these employees would resume their "normal" customer service activities after May 31, 2009, and would reflect their labor costs as on-going expenses. Thus, an additional reduction of $609,410, including the associated labor on-costs (see Attachment 1B) is reflected as an impact of the delay.

Test year expenses for the implementation of the new bill print, IVR, and IWR systems are also impacted due to the delay of the implementation of the CIS and are reflected as Non-Project expenses. As noted on Attachment 1, the majority of the reduction of expenses of $1,353,565, is described in Attachment 2, revised HECO-908. Attachment 2 also reflects the need for HECO to purchase Standard Register forms (additional expense of

$60,468) with the continuation of its current billing system. Also, ITS costs are reduced by a net amount of $458,094 for the removal of the consultant cost for the new system and the offset of the continuation of the legacy systems (see Attachment 3), resulting in a total net reduction of $1,751,191 for nonproject expenses in the test year due to the delay of implementing CIS.

The add back of expenses as reflected in Attachment 4 are related to the project labor expenses, including on-costs, associated with training which are shown in Attachment 1A. The add back to labor expense was the result of a review by the individual departments to determine if their budgets required adjustment due to the elimination of the CIS training hours. The amount that has been added back includes associated on-costs and can be found on Attachment 1. Attachment 4 shows the details by Department, RA, labor class, codeblock and NARUC account including the calculation for the estimated payroll taxes associated with these transferred hours.

Rate base impacts are also summarized in Attachment 1 of this response. These include the removal of the capital project costs of $30,948 (a reduction in average rate base of $15,474), the unamortized system development costs of $22,783,000 (a reduction in average rate base of $11,391,500), and associated average accumulated deferred income taxes of $1,849,642. This amounts to a net reduction of the average test year rate base of $9,557,332. Support for these amounts is provided in Attachments 1A and 5 and in HECO-1117 from Ms. Patsy Nanbu's rate case update.

d. Please see "Non-Project Expenses" on Attachment 1 which summarizes the net test year expense impact for bill print, IVR, and IWR due to the delay in the implementation of the CIS. A more detailed description is provided above in response to part c.

e. No reports have been prepared by Peace for HECO executives that identify CIS project critical path items. However, effective January 2009, a Hansen Technologies[1] Project Manager began submitting reports to HECO executives regarding progress of the CIS project. Please refer to Attachment 6 for copies of these reports. Hansen has initially deemed these reports confidential. As a result, the reports contained in Attachment 6 are provided subject to the Amended Protective Order approved and filed on November 21, 2008, in this proceeding. HECO will continue to discuss these reports with Hansen and if Hansen subsequently determines that these reports are not confidential, HECO will re-file the reports not subject to the protective order.

The Company is not providing any correspondence that is the subject of the Proposals Negotiation Non-Disclosure Agreement (NDA) that was executed on August 8, 2008, by HECO and Peace, as described in the Company's response to CA-IR-109. Some of the correspondence from Peace that is the subject of the NDA addresses CIS critical path items.

f. Please refer to Attachment 8 which contains the 2008 status reports that were prepared by HECO's project manager. These status reports are prepared periodically and not necessarily on a monthly basis. The HECO project manager is responsible for the day-to-day direction of project activities as well as documentation and communication of the status of those activities. These reports generally include the status of major activities, describe issues that require executive assistance or resolution, and the overall state of the project. These reports contain confidential information and are provided pursuant to the Amended Protective Order approved and filed on November 21, 2008, in this proceeding. If the information provided in these status reports were to be publicly disclosed, such disclosure

[1] Hansen Technologies acquired Peace in 2008.

could negatively impact HECO's position in the on-going discussions between HECO and Peace concerning the CIS project.

g. The most recent available CIS project schedule, noting a June 2009 go-live date, is attached (Attachment 7) (a CIS project schedule with a later go-live date was subsequently developed). This plan is in contrast to that contained within the extant HECO-Peace contract which specifies a go-live in February 2008 (see the Company's response to CA-IR-109, Attachment 2, pages 856-859). The current plan and schedule is used to manage and track the activities, tasks, and assignments that are underway. It is the primary document used to govern the project activities. All HECO and Peace staff members and management refer to this plan and report the status of work against the plan.

A weekly meeting is held with Peace and HECO management staff, the purpose of which is to review the plan. As tasks are completed, schedules revised or assignments changed, the workplan is updated by the management staff then provided to personnel involved in the project.

h. HECO respectfully objects to providing "complete copies of all studies, reports, analyses, workpapers, projections, management presentations and other documents supportive your of responses to parts (a) through (d) of this information request." Some of that analysis and evaluation is protected by the attorney-client privilege. To the extent the request seeks information that reflects the mental impressions, conclusions, opinions, or legal theories of HECO's attorneys and HECO, the information requested is also protected from disclosure by the attorney work product doctrine.

HECO also objects to the request, as unduly burdensome, onerous and overly broad to the extent that it requests "complete copies of all studies, reports, analyses, workpapers,

projections, management presentations and other documents supportive of your response to parts (a) through (d) of this information request".

HECO further objects to disclosing documents that reveal internal deliberations regarding the progress, status, or contingencies with the new CIS system. Requiring that this information be subject to review by parties in a regulatory proceeding would have a "chilling" effect on the self-analysis process. Subjecting such sensitive internal deliberations to review in a regulatory proceeding would inhibit robust and candid internal dialogue of this nature in the future.

This information request fails to balance the need for the information against HECO's need to manage. By analogy, for example, the Federal Freedom of Information Act ("FFIA"), codified at 5 U.S.C. §552, and the Uniform Information Practices Act (Modified), codified at H.R.S. Ch. 92F, contain broad disclosure requirements based on the public's interest in open government. However, the broad policy in favor of disclosure still allows for exceptions that are intended to permit the efficient and effective functioning of government by protecting the internal deliberative process. *See generally, Pennsylvania Public Utility Commission v. West Penn Power Company*, 73 PA PUC 122 (July 20, 1990), West Law Slip Op ("deliberative process privilege" recognized by the Pennsylvania Public Utility Commission with respect to its own internal staff reports).

HECO would also object to disclosure of such documents even under a protective order. The value of these documents will be diminished if HECO is required to provide the documents, even if the documents were provided pursuant to a protective order.

Summary of Changes to the HECO 2009 Test Year Due to the Delay in the Customer Information System ("CIS") In-Service Date

PROJECT EXPENSES:	
1 Reversal of Project Expenses - See Attach. 1A -Revised HECO-907 (line 29)	($1,506,519)
Reversal of Amortization - See Attach.1A - Revised HECO-907 (line 30)	($976,941)
2 Expense reduction due to employees remaining on the CIS development team for the months of June through December (recorded to Deferred Expenses)	
See Attachment 1B - Productive Expense	($293,288)
See Attachment 1B - Non-Productive Expense	($42,990)
See Attachment 1B - Emp Benefit	($93,116)
Total Project Expenses	**($2,912,854)**
NON-PROJECT EXPENSES (Including new Bill Print, IVR, IWR systems/processes):	
1 Reversal of Post Go-Live Non-Project expenses	
See Attachment 2, (line 14a,"Post Go-Live Adj." column)	($1,353,565)
2 Additional expenses for Standard Register Forms	
See Attachment 2 (line 10a, "Post Go-Live Adj." column)	$60,468
3 Net Reduction of ITS Costs	
See Attachment 3	($458,094)
Total Non-Project Expenses	**($1,751,191)**
ADD BACK FOR LABOR EXPENSES:	
1 See Attachment 4 - Productive Expense	$280,658
See Attachment 4 - Non-Productive Expense	$41,559
See Attachment 4 - All other On-Cost	$287,193
Total add back to test year	**$609,410**
TOTAL NET CHANGE TO TEST YEAR EXPENSES	**($4,054,635)**
TOTAL NET CHANGE TO TAXES OTHER THAN INCOME TAXES	**($18,375)**
See Attachment 4; Payroll Tax changes associated with labor in O&M expenses.	
AVERAGE RATE BASE ITEMS:	
1 Removal of Capital Costs (P000571) - ($30,948)	($15,474)
See Attachment 1A - Revised HECO-907 (line 27)	
2 Removal of Unamortized System Development Costs ($22,783,000)	
See HECO-1117 from Rate Case Update	($11,391,500)
3 Removal of ADIT associated with the CIS project in the test year	$1,849,642
See Attachment 5	
TOTAL NET CHANGE TO TEST YEAR AVERAGE RATE BASE	**($9,557,332)**

Customer Information Service ("CIS")
2009 Test Year

Line No.	NARUC Account	PROJECT	Account Description	Line Item Description	2009 TY YEAR	Non-Proj Reclass: Direct Labor	Non-Proj Reclass: Payroll Tax	Non-Proj Reclass: Administrative Overhead	Project Costs Removal	REVISED 2009 TY YEAR
					Revised 10/17/08					Revised 02/24/09
			POWER PRODUCTION OPERATION							
1	506	P0000571	Miscellaneous Steam Power Expenses	Training	$ 8,790	$ 6,410	$ 367	$ 2,013	$ -	$ -
			DISTRIBUTION EXPENSE OPERATION							
2	581	P0000571	Load Dispatching	Training	$ 103,096	$ 84,583	$ 3,358	$ 15,155	$ -	$ 0
3	587	P0000571	Customer Installations Expenses	Training	$ 127,887	$ 109,691	$ 2,923	$ 15,274	$ -	$ -
4	587	P0000571	Customer Installations Expenses	Reclassed On-Costs	$ 232,418	$ -	$ -	$ -	$ -	$ 232,418
5	588	P0000571	Miscellaneous Distribution Expenses	Training	$ 62,358	$ 51,029	$ 1,975	$ 9,354	$ -	$ -
6			**Subtotal Distribution Exp. Operation**		**$ 525,759**	**$ 245,302**	**$ 8,257**	**$ 39,782**	**$ -**	**$ 232,418**
			CUSTOMER ACCOUNTS EXPENSE							
7	903	P0000571	Customer Records & Collection Expense	Training/Post Go-Live	$ 579,142	$ 409,580	$ 26,179	$ 143,382	$ -	$ 0
8	903	P0000571	Customer Records & Collection Expense	Outside Services	$ 517,464	$ -	$ -	$ -	$ 517,464	$ -
9	903	P0000571	Customer Records & Collection Expense	Software	$ 2,774	$ -	$ -	$ -	$ 2,774	$ -
10	903	P0000571	Customer Records & Collection Expense	Reclassed On-Costs	$ 49,336	$ -	$ -	$ -	$ -	$ 49,336
11			**Subtotal Proj. P0000571 Cust Acct Exp**		**$ 1,148,716**	**$ 409,580**	**$ 26,179**	**$ 143,382**	**$ 520,238**	**$ 49,336**
12	903	NPCZZZZZ	Subtotal NonProj Cust Acct Exp	Amortization of Deferred Expenses	$ 976,941	$ -	$ -	$ -	$ 976,941	$ -
13			**Total Proj & NonProj Cust Accts Exp**		**$ 2,125,657**	**$ 409,580**	**$ 26,179**	**$ 143,382**	**$ 1,497,179**	**$ 49,336**
			CUSTOMER SERVICE EXP. OPERATION							
14	910	P0000571	Customer Assistance Expenses	Training	$ 67,440	$ 46,973	$ 3,417	$ 17,050	$ -	$ -
15	910	P0000571	Customer Assistance Expenses	Reclassed On-Costs	$ 1,270	$ -	$ -	$ -	$ -	$ 1,270
16			**Subtotal Cust. Service Exp. Operation**		**$ 68,710**	**$ 46,973**	**$ 3,417**	**$ 17,050**	**$ -**	**$ 1,270**
			ADMINISTRATIVE & GENERAL EXP.							
17	920	P0000571	Administrative & General Expenses	Training	$ 41,006	$ 41,006	$ -	$ -	$ -	$ -
18	921	P0000571	Office Supplies & Expenses	Training	$ 24,783	$ 5,400	$ 3,399	$ 15,984	$ -	$ 0
19	921	P0000571	Office Supplies & Expenses	Reclassed On-Costs	$ 23,078	$ -	$ -	$ -	$ -	$ 23,078
20	921	P0000571	Office Supplies & Expenses	Software	$ 12,283	$ -	$ -	$ -	$ 12,283	$ -
21	921	P0000571	Office Supplies & Expenses	Outside Services	$ 679	$ -	$ -	$ -	$ 679	$ -
22	925	P0000571	Injuries & Damages	Training	$ 459	$ 318	$ 23	$ 118	$ -	$ -
23			**Subtotal Admin. & Gen. Expenses**		**$ 102,288**	**$ 46,723**	**$ 3,422**	**$ 16,102**	**$ 12,962**	**$ 23,078**
24		P0000571	Total NARUC Project Expense		$1,854,263	$754,989	$41,642	$218,330	$533,201	$ 306,102
25		NPCZZZZZ	Total NARUC Amortization Expense		$976,941	$0	$0	$0	$976,941	$ -
26			**Total NARUC Project & Amortize.** Exp.		**$2,831,204**	**$754,989**	**$41,642**	**$218,330**	**$1,510,142**	**$306,102**
27		P000571	Capital	Upgrade in computer / server storage capacity	$30,948	$0	$0	$0	$30,948	$ -
28			**Total TY 2009: CIS Exp., Capital & Amortization Exp.**		**$2,862,152**	**$754,989**	**$41,642**	**$218,330**	**$1,541,090**	**$306,102**

	Summary of Test Year Reductions	
29	**O&M Expense**	**$1,506,519**
30	**Amotization**	**$976,941**
	Payroll Taxes - net amt. $18,375	**$41,642 (See Attachment 4 for calculation of net reduction of $18,375)**
	Capital	**$30,948**
	Total	**$2,556,050**
	Reclassed uncost not reduced	$306,102
	cross check to total on line 28	$2,862,152

Note: Test Year $ include oncosts $ for expense elements: 404 Energy Delivery, 405 Power Supply, 406 Corp Admin., 421 Non-productive wages, 422 employee benefits, 423

LABOR REDUCTION CUST. SVC. DEPT. 2009 TY
PRODUCTIVE EXPENSE ONLY

NARUC Acct	RA	LbrCls	Hrly Rate	Description	Test Year 2009 Prod. Expense Hrs	Test Year 2009 Prod. Expense $	NON Prod Hrs	NON Prod $5.00 * Prod Hrs	$10.83 * Prod Hrs. Emp Benefit
					Jun-Dec	Jun-Dec	Jun-Dec	Jun-Dec	
903	PCB	_I	$25.35	Translator	877	$22,232	144	$4,385	$9,498
		_TCS	$34.50	Supv	1024	$35,328	208	$5,120	$11,090
					Jun-Dec	Jun-Dec	Jun-Dec	Jun-Dec	
903	PCP	_TCS	$34.50	Supv	540.5	$18,647	76	$2,703	$5,854
					Jul-Dec	Jul-Dec	Jul-Dec	Jul-Dec	
903	PCD	_I	$25.35	L.F.Cr.Anal	800	$20,280	96	$4,000	$8,664
					Aug-Dec	Aug-Dec	Aug-Dec	Aug-Dec	
903	PCG	_TCS	$34.50	W.O. Supv	373.5	$12,886	62.5	$1,868	$4,045
					Aug-Dec	Aug-Dec	Aug-Dec	Aug-Dec	
903	PCF	_TC	$34.70	Admin	766	$26,580	636	$3,830	$8,296
					Jul-Dec	Jul-Dec	Jul-Dec	Jul-Dec	
903	PCF	_TC	$34.70	Analy.	1090	$37,823	124	$5,450	$11,805
					Jun-Dec	Jun-Dec	Jun-Dec	Jun-Dec	
902	PCM	_TCS	$34.50	W.O. Supv	403	$13,904	142	$2,015	$4,364
					Aug-Dec	Aug-Dec	Aug-Dec	Aug-Dec	
903	PCS	_FS	$44.29	Director	744	$32,952	128	$3,720	$8,058
		_TCS	$34.50	Bus.Admin	768	$26,496	104	$3,840	$8,317
		_TCS	$34.50	Sys. Admin	768	$26,496	104	$3,840	$8,317
					Jun-Dec	Jun-Dec	Jun-Dec	Jun-Dec	
903	PCS	_FS	$44.29	Director	444	$19,665	208	$2,220	$4,809
					Total Reductions				
902	Account Total				403	$13,904	142	$2,015	
903	Account Total				8195	$279,384	1890.5	$40,975	
				Total	**8,598.0**	**$293,288**	**2,032.5**	**$42,990**	$93,116

NOTE: Payroll Taxes and Corp Admin Expenses associated with the above hours will remain in test year (analogous to "Reclass Oncosts" in Attachment 1A).

CIS
NARUC ACCOUNT 903 ONLY - All areas of the Company
PROJECT & POST GO-LIVE NON PROJECT
2009 Test Year

Line No.	NARUC Account	Account Description	Line Item Description	DIRECT * Labor Amount Exp. Ele. 150 & 421	DIRECT * Non Labor Amount Exp. Ele. 501 & 462	DIRECT * Total NARUC	Rate Case Upd Dec'08	Post Go-Live Adj.	REVISED 2009 TY
1		**PROJECT P0000571 EXPENSES**							
2	903	Customer Records & Collection Expense	Training	$265,113	$0	$265,113			
3	903	Customer Records & Collection Expense	Post Go-Live Deployment	$99,123	$520,238	$619,361			
4		**sub total P0000571 Direct Expenses**		**$364,236**	**$520,238**	**$884,474**	**See CA-IR-323,Atth.1, & reconcilation below**		
5		**NON-PROJECT EXPENSES NPCZZZZZ**	**POST GO-LIVE PROJECT**						
6	903	**Customer Records & Collection Expense**	**Amortization**		**$976,941**	**$976,941**	**$0**	**-$976,941**	**$0**
7	903	Customer Records & Collection Expense	Maintenance of CIS system		$438,000	$438,000	$0	-$438,000	$0
8	903	Customer Records & Collection Expense	Report Design & Development		$172,534	$172,534	$0	-$172,534	$0
9	903	Customer Records & Collection Expense	Consultant Services for new functionalities		$198,042	$198,042	$103,892	-$301,934	$0
10	903	Customer Records & Collection Expense	Outsourcing of bill printing functions		$321,657	$321,657	$0	-$321,657	$0
10a	903	Customer Records & Collection Expense	Stnd Register Forms				$0	$60,468	$60,468
11	903	Customer Records & Collection Expense	Outsourcing of IVR		$88,314	$88,314	$0	-$88,314	$0
12	903	Customer Records & Collection Expense	Outsourcing of IWR		$31,126	$31,126	$0	-$31,126	$0
13		sub total NPC Non Proj. Exp.	Post Go-Live Project	**$0**	**$2,226,614**	**$2,226,614**	**$103,892**	**-$2,270,038**	$60,468
14	**903**	**Total Labor & Non Labor**	**Project & Non Proj CIS**	**$364,236**	**$2,746,852**	**$ 3,111,088**			
14a		**TOTAL REDUCTION FOR TEST YEAR**						**-$1,353,565**	

Reconciliation of Account 903, HECO-908 to Account 903 HECO-907 "CIS"

14b		**sub total P0000571 Direct Expenses**		**$364,236**	**$520,238**	**$884,474**	See line 4 aobve
15	903	PROJECT P0000571 CIS Customer Records & Collection Expense	Exp. Elements On-costs/direct labor			$214,906	
16	903	PROJECT P0000571 CIS Customer Records & Collection Expense	Exp. Elements Reclassed On-costs 404,406			$49,336	
17		sub total On-Cost (direct & reclassed)	sub total			**$264,242**	
17a	903	sub total P0000571 Direct Exp & On-Costs				**$1,148,716**	
17b	903	Amotization				**$976,941**	
18	903	Total Proj., line 4, + Non Proj, Line 6 Amortization & Line 17 On-Cost direct & reclassed.	See HECO-907, Revised 9/17/08, Line 13 as cross reference			**$2,125,657**	

Note: Costs for Direct Labor (incl. non prod. wages) & Direct Non Labor (excl. on-costs).
Reconciliation includes on-costs to cross reference to revised HECO-907.

Impact of CIS Implementation Deferral on 2009 ITS Costs

	A	B	C	D	E	F=A-D-E
Item	Impact to Clearing Account	Description	Docket No. 2008-0083 Reference	HELCO share	MECO share	HECO portion
1	(728,000)	Eliminate Development Services Outsourced CIS Application support - 5 FTES for June through December	HECO-WP-1115, Page 85 (Item 6@$1,248,000 - Item 7@$520,000 in Adjustment section)	-	-	(728,000)
2	81,800	Add Development Services Outsourced Legacy CIS Application support - TYC Consulting resources - June through December based on 2007 annual expenditures.	HECO-WP-1115, Page 85 (Item 8 in Adjustment section)	15,951	11,861	53,988
3	145,000	Add Mainframe Software Maintenance - one additional quarter in 2009 based on 2007 annual expenditures.	HECO-WP-1115, Page 145 (Item 1 in Adjustment section)	26,245	20,010	98,745
4	44,500	Add Mainframe Hardware Maintenance - one additional quarter in 2009 based on 2007 annual expenditures.	HECO-WP-1115, Page 47 (Item 4 in Adjustment section)	8,055	6,141	30,305
5	(30,000)	Remove Mainframe disposal costs anticipated in 2009	HECO-WP-1115, Page 47 (Item 5 in Adjustment section)	-	-	(30,000)
6	80,000	Add Outsourced Mainframe operation support for the August to December period - $16,000 per month x 5 months.	HECO-WP-1115, Page 153 (Item 2 in Adjustment section shows $16K per month rate for Jan - Jul)	14,480	11,040	54,480
7	9,107	Add Mail room Inserter equipment maintenance for continued on-site bill insertion function	Response to CA-IR-330, page 2 of 2: $1,301 per month x 7 months (June - Dec)	1,648	1,257	6,202
8	280	Add Mail room Inserter Supplies for continued on-site bill insertion function	Response to CA-IR-330, page 2 of 2: $40 per month x 7 months (June - Dec)	51	39	191
9	63,945	Add Printer Lease Expense for continued on-site bill printing function	Response to CA-IR-330, page 2 of 2: $9,135 per month x 7 months (June - Dec)	11,574	8,824	43,547
10	16,589	Add Bell and Howell transformer maintenance expense	HECO-WP-1115, Page 143 (Item 2 in Adjustment section)	3,003	2,289	11,297
11	1,692	Add Hostfront maintenance expense	HECO-WP-1115, Page 143 (Item 3 in Adjustment section)	306	233	1,152
	(315,087)	Net Impact of CIS Implementation deferral		81,312	61,695	(458,094)

NARUC distribution of Net Impact

	NARUC Account	Adjustment amount
	500020	(4,977)
	501020	(1,750)
	501410	(356)
	502010	(5,278)
	502020	(6,864)
	502030	(9,545)
	505030	(684)
	506010	(2,434)
	506020	(14,522)
	512030	(1,039)
	513030	(629)
	514020	(21,386)
	514030	(3,309)
	549	(1,778)
	561	(55)
	562	(191)
	563	(164)
	566	(7,138)
	570	(109)
	571	(246)
	572	-
	581	(9,599)
	582	(273)
	583	(246)
	584	(273)
	586	(4,348)
	588	(41,187)
	592	(137)
	593	(410)
	594	(410)
	598	(5,059)
	901	(58,307)
	902	(2,051)
	903	(9,216)
	910	(16,464)
	921	(212,560)
	924	(2,133)
	925	(8,040)
	926000	(547)
	926010	(2,106)
	9302	(2,270)
Total		(458,094)

Explanation of Impact Assessment

The deferral of the CIS implementation date will have the following impacts on ITS costs shown in Page 1 - Column A:

1) Removal of the planned post implementation support costs for the newly implemented CIS (item 1)

2) Removal of planned mainframe disposal costs in 2009 (item 5)

3) Addition of CIS legacy system support costs through the remainder of the year (items 2-4 and 6-11). These amounts were not included in the 2009 test year estimates in anticipation of discontinuing the legacy system. The workpaper references shown in Column C provide support for these estimates, which are based on prior year costs.

These ITS cost impacts will affect the charges to the ITS Clearing Account which gets distributed to HELCO (Page 1 - Column D), MECO (Page 1 - Column E) and various HECO NARUC O&M expense accounts (Page 2).

1) The impact is allocated to HELCO and MECO based on the number of system users in each company.

2) The impact of the line item 1 "Eliminate Development Services Outsourced CIS Application support" and the line item 5 "Remove Mainframe disposal costs anticipated in 2009" aren't allocated to HELCO and MECO because they weren't allocated to HELCO and MECO in the development of the 2009 HECO test year expenses. (Note that when the CIS is implemented, such costs would be allocated to HELCO and MECO.)

3) As described in HECO-WP-1115, pages 6-14, charges to the ITS clearing account are allocated to various accounts (O&M expense, capital, deferred accounts, non-ITS clearing accounts, etc.) based on functional area code blocks of users of the ITS services. A portion of the charges to the non-ITS clearing accounts would then be cleared to an O&M expense. For simplicity purposes, the distribution of the <$458,094> net impact to HECO due to deferral of the implementation date of the new CIS, is assumed to be allocated to only the O&M expense accounts, based on the distribution of the ITS charges to O&M expense shown on HECO-WP-1115, pages 1-5 in Docket No. 2008-0083. To determine only the portion of the net impact to O&M expenses would require determining the amount of the net impact to the non-ITS clearing accounts that would ultimately be included in an O&M expense and determining the expense account on a manual basis. This simplification process would overstate the net impact (reduction) to O&M expense.

4) HECO-WP-1115 shows total ITS Costs of $12,402,777 distributed among the NARUC accounts shown on Page 2 above.

	Department	*RA #	*Labor Class #	Trans Hrs	Codeblock	Naruc Acct	EE150		Corp Adm	NPW	Ben	Payroll	PS	ED	CID
1	Energy Delivery	P2V	__EXEC	0	N/A										
2	Government & Community	P3V	__I	8	P3V753PHENENPAVP3ZZ	920	202.80		31.76	40.00	86.64	16.81	0.00	0.00	0.00
3	Government & Community	P3V	__TC	24	P3V753PHENENPAVP3ZZ	920	832.80		95.28	120.00	259.92	69.04	0.00	0.00	0.00
4	General Accounting	PAA	__TC	8		920	277.60		31.76	40.00	86.64	23.01	0.00	0.00	0.00
5	General Accounting	PAC	__TC	8		920	277.60		31.76	40.00	86.64	23.01	0.00	0.00	0.00
6	General Accounting	PAD	__BUOC	8		920	214.80		31.76	40.00	86.64	17.81	0.00	0.00	0.00
7	Energy Delivery Engineeri	PBA	__BUOCB	8	PBA307OAHNENPBZZZZZ	566	197.76		31.76	40.00	86.64	16.39	0.00	304.32	0.00
8	Energy Delivery Engineeri	PBA	__E-B	16	PBA307OAHNENPBZZZZZ	566	915.20		63.52	80.00	173.28	75.87	0.00	608.64	0.00
9	Energy Delivery Engineeri	PBE	B_TNDENG	272	PBE408OAHNENPBZZZZZ	588	9,783.84		1,079.84	1,360.00	2,945.76	811.08	0.00	10,346.88	0.00
10	Energy Delivery Engineeri	PBE	__BUOCB	16	PBE408OAHNENPBZZZZZ	588	395.52		63.52	80.00	173.28	32.79	0.00	608.64	0.00
11	Energy Delivery Engineeri	PBE	__FS-B	16	PBE408OAHNENPBZZZZZ	588	711.20		63.52	80.00	173.28	58.96	0.00	608.64	0.00
12	Energy Delivery Engineeri	PBP	B_PRJSUP	32	PBP307OAHNENPBZZZZZ	566	1,115.84		127.04	160.00	346.56	92.50	0.00	1,217.28	0.00
13	Energy Delivery Engineeri	PBP	B_PRJMGT	320	PBP408OAHNENPBZZZZZ	588	13,574.40		1,270.40	1,600.00	3,465.60	1,125.32	0.00	12,172.80	0.00
14	Energy Delivery Engineeri	PBP	B_PRJMGT	320	PBP307OAHNENPBZZZZZ	566	13,574.40		1,270.40	1,600.00	3,465.60	1,125.32	0.00	12,172.80	0.00
15	Energy Delivery Engineeri	PBP	B_PRJSUP	32	PBP408OAHNENPBZZZZZ	588	1,115.84		127.04	160.00	346.56	92.50	0.00	1,217.28	0.00
16	Energy Delivery Engineeri	PBP	B_PRJSUP	32	PBP307OAHNENPBZZZZZ	566	1,115.84		127.04	160.00	346.56	92.50	0.00	1,217.28	0.00
17	Energy Delivery Engineeri	PBZ	B_TECENG	112	PBZ408OAHNENPBZZZZZ	588	4,698.40		444.64	560.00	1,212.96	389.50	0.00	4,260.48	0.00
18	Energy Delivery Engineeri	PBZ	__BUOCB	16	PBZ408OAHNENPBZZZZZ	588	395.52		63.52	80.00	173.28	32.79	0.00	608.64	0.00
19	Customer Service	PCA	__E	0	N/A										
20	Customer Service	PCA	__I	0	N/A										
21	Customer Service	PCA	__TC	0	N/A										
22	Customer Service	PCB	__BUOC	280	PCB611OAHNENPCZZZZZ	903	7,518.00		1,111.60	1,400.00	3,032.40	623.24	0.00	0.00	0.00
23	Customer Service	PCB	__TCS		N/A										
24	Customer Service	PCB	__I		N/A										
25	Customer Service	PCD	__I		N/A										
26	Customer Service	PCD	__I		N/A										
27	Customer Service	PCD	__FS	28	PCD618OAHNENPCZZZZZ	903	1,240.12		111.16	140.00	303.24	102.81	0.00	0.00	0.00
28	Customer Service	PCD	__I	44	PCD618OAHNENPCZZZZZ	903	1,115.40		174.68	220.00	476.52	92.47	0.00	0.00	0.00
29	Customer Service	PCF	__TC		N/A										
30	Customer Service	PCF	__TC		N/A										
31	Customer Service	PCF	__TC		N/A										
32	Customer Service	PCS	__TC		N/A										
33	Customer Service	PCF	__FS	16	PCF600OAHNENPCZZZZZ	903	708.64		63.52	80.00	173.28	58.75	0.00	0.00	0.00
34	Customer Service	PCF	__I	36	PCF618OAHNENPCZZZZZ	903	912.60		142.92	180.00	389.88	75.65	0.00	0.00	0.00
35	Customer Service	PCF	__TC	0	N/A										
36	Customer Service	PCG	__TCS		N/A										
37	Customer Service	PCG	__TCS		N/A										
38	Customer Service	PCG	__BUOC	576	PCF619OAHNENPCZZZZZ	903	15,465.60		2,286.72	2,880.00	6,238.08	1,282.10	0.00	0.00	0.00
39	Customer Service	PCG	__TC	24	PCG600OAHNENPCZZZZZ	903	832.80		95.28	120.00	259.92	69.04	0.00	0.00	0.00
40	Customer Service	PCG	__TCS	32	PCG600OAHNENPCZZZZZ	903	1,104.00		127.04	160.00	346.56	91.52	0.00	0.00	0.00
41	Customer Service	PCH	__BUOC	976	PCH600OAHNENPCZZZZZ	903	26,205.60		3,874.72	4,880.00	10,570.08	2,172.44	0.00	0.00	0.00
42	Customer Service	PCH	__TCS	24	PCH600OAHNENPCZZZZZ	903	828.00		95.28	120.00	259.92	68.64	0.00	0.00	0.00
43	Customer Service	PCM	__TCS		N/A										
44	Customer Service	PCM	__BUOC	508	PCM610OAHNENPCZZZZZ	902	13,639.80		2,016.76	2,540.00	5,501.64	1,130.74	0.00	0.00	0.00
45	Customer Service	PCM	__TCS	24	PCM610OAHNENPCZZZZZ	902	828.00		95.28	120.00	259.92	68.64	0.00	0.00	0.00
46	Customer Service	PCP	__BUOC	500	PCP616OAHNENPCZZZZZ	903	13,425.00		1,985.00	2,500.00	5,415.00	1,112.93	0.00	0.00	0.00
47	Customer Service	PCP	__TCS		N/A										
48	Customer Service	PCP	__BUOC		N/A										
49	Customer Service	PCS	__BUOC	20	PCS600OAHNENPCZZZZZ	903	537.00		79.40	100.00	216.60	44.52	0.00	0.00	0.00
50	Customer Service	PCS	__FS		N/A										
51	Customer Service	PCS	__TC		N/A										
52	Customer Service	PCS	__TCS		N/A										
53	Customer Service	PCS	__FS		N/A										
54	Customer Service	PCS	__TCS		N/A										
55	Customer Service	PCS	__FS		N/A										
56	Customer Service	PCS	__FS		N/A										
57	Customer Service	PCS	__TC	0	N/A										

	Department	*RA #	*Labor Class #	Trans Hrs	Codeblock	Naruc Acct	EE150		Corp Adm	NPW	Ben	Payroll	PS	ED	CID
64		PDM	__TCS-ED	0	N/A										
58	C & M	PDA	__TC-ED	16	PDA320OAHNENPDZZZZZ	566	540.16		63.52	80.00	173.28	44.78	0.00	608.64	0.00
59	C & M	PDC	__BUOCED	96	PDC420OAHNENPDZZZZZ	598	2,424.00		381.12	480.00	1,039.68	200.95	0.00	3,651.84	0.00
60	C & M	PDD	__TC-ED	16	PDD320OAHNENPDZZZZZ	566	540.16		63.52	80.00	173.28	44.78	0.00	608.64	0.00
61	C & M	PDF	D_PTM	48	PDF420OAHNENPDZZZZZ	598	2,072.16		190.56	240.00	519.84	171.78	0.00	1,825.92	0.00
62	C & M	PDF	D_PTM	16	PDF420OAHNENPDZZZZZ	598	690.72		63.52	80.00	173.28	57.26	0.00	608.64	0.00
63	C & M	PDH	__TCS-ED	32	PDH320OAHNENPDZZZZZ	566	1,260.16		127.04	160.00	346.56	104.47	0.00	1,217.28	0.00
65	C & M	PDP	__TC-ED	16	PDP320OAHNENPDZZZZZ	566	540.16		63.52	80.00	173.28	44.78	0.00	608.64	0.00
67	C & M	PDP	__TC-ED	48	PDP320OAHNENPDZZZZZ	566	1,620.48		190.56	240.00	519.84	134.34	0.00	1,825.92	0.00
68	C & M	PDP	__TC-ED	16	PDP320OAHNENPDZZZZZ	566	540.16		63.52	80.00	173.28	44.78	0.00	608.64	0.00
66	C & M	PDP	__FS-ED	16	PDP420OAHNENPDZZZZZ	598	844.16		63.52	80.00	173.28	69.98	0.00	608.64	0.00
73	C & M	PDS	__TCS-ED	64	PDS320OAHNENPDZZZZZ	566	2,520.32		254.08	320.00	693.12	208.93	0.00	2,434.56	0.00
74	C & M	PDS	D_UGCREW	16	PDS320OAHNENPDZZZZZ	566	674.88		63.52	80.00	173.28	55.95	0.00	608.64	0.00
72	C & M	PDS	__FS-ED	16	PDS420OAHNENPDZZZZZ	598	844.16		63.52	80.00	173.28	69.98	0.00	608.64	0.00
75	C & M	PDS	__FS-ED	16	PDS420OAHNENPDZZZZZ	598	844.16		63.52	80.00	173.28	69.98	0.00	608.64	0.00
69	C & M	PDS	D_OHCREW	64	PDS420OAHNENPDZZZZZ	598	2,523.52		254.08	320.00	693.12	209.20	0.00	2,434.56	0.00
70	C & M	PDS	D_OHCREW	16	PDS420OAHNENPDZZZZZ	598	630.88		63.52	80.00	173.28	52.30	0.00	608.64	0.00
71	C & M	PDS	D_OHCREW	48	PDS420OAHNENPDZZZZZ	598	1,892.64		190.56	240.00	519.84	156.90	0.00	1,825.92	0.00
76	C & M	PDU	__TCS-ED	32	PDU320OAHNENPDZZZZZ	566	1,260.16		127.04	160.00	346.56	104.47	0.00	1,217.28	0.00
77	Workforce Staffing	PFD	__TC		N/A										
78	Workforce Staffing	PFD	__TC		N/A										
79	Safety, Security & Facilitie	PFS	__TC	0	N/A										
80	Power Supply Services	PIC	__I-I	0	N/A										
81	Power Supply Services	PIC	__TC-I	0	N/A										
82	Power Supply Operations	PIP	I_PPENGR	0	N/A										
83	Power Supply Operations	PIW	__BUTCI	0	N/A										
84	Environmental	PJA	__E	16	PJA720PHENENPJZZZZZ	920	961.76		63.52	80.00	173.28	79.73	0.00	0.00	0.00
85	Environmental	PJB	J_AIRSCI	16	PJB747PHENENPJZZZZZ	920	654.40		63.52	80.00	173.28	54.25	0.00	0.00	0.00
86	Environmental	PJC	J_CHEMST	48	PJC720PHENENPJZZZZZ	920	1,628.16		190.56	240.00	519.84	134.97	0.00	0.00	0.00
87	Environmental	PJW	J_WHMSCI	80	PJW877PHENENPJZZZZZ	920	3,126.40		317.60	400.00	866.40	259.18	0.00	0.00	0.00
88	Risk Management	PKI	__BUOC		N/A										
89	Risk Management	PKI	__I		N/A										
90	Risk Management	PKI	__TC		N/A										
91	Legal	PNC	__F	48	PNC844PHENENPNCZZZZ	920	2,361.12		190.56	240.00	519.84	195.74	0.00	0.00	0.00
92	Legal	PNC	__I	48	PNC844PHENENPNCZZZZ	920	1,216.80		190.56	240.00	519.84	100.87	0.00	0.00	0.00
93	Legal	PNL	__TC	96	PNL928PHENENPNLZZZZ	920	3,331.20		381.12	480.00	1,039.68	276.16	0.00	0.00	0.00
94	Regulatory Affairs	PNP	__FS	0	N/A										
95	Regulatory Affairs	PNP	__I	24	PNP738PHENENPNPZZZZ	920	608.40		95.28	120.00	259.92	50.44	0.00	0.00	0.00
96	Regulatory Affairs	PNP	__TC	0	N/A										
97	Corporate Communication	PQC	__TC	0	N/A										
98	Education & Consumer Aff	PQE	__BUOC	0	N/A										
99	Education & Consumer Aff	PQE	__TC	0	N/A										
100	System Operation	PRA	__BUOCED	96	PRA700OAHNCNPRZZZZZ	184060	1,302.42		204.78	257.90	558.62	107.97	0.00	1,962.13	0
101	System Operation	PRA	__TCS-ED	32	PRA700OAHNCNPRZZZZZ	184060	677.08		68.26	85.97	186.21	56.13	0.00	654.04	0
102	System Operation	PRD	R_OPEDIS	288	PRD377OAHNENPRZZZZZ, 144 hrs PRD376 OAH NENPRZZZZ, 144 hrs	581/561	12,836.16		1,143.36	1,440.00	3,119.04	1,064.12	0.00	10,955.52	0.00
103	System Operation	PRD	R_OPESTF	96	PRD377OAHNENPRZZZZZ, 48 hrs PRD376 OAH NENPRZZZZ, 48 hrs	581/561	4,256.64		381.12	480.00	1,039.68	352.88	0.00	3,651.84	0.00
104	System Operation	PRD	R_OPESUP	192	PRD375OAHNENPRZZZZZ, 27 hrs PRD376OAHNENPRZZZZZ, 83 hrs PRD377 OAH NENPRZZZZ, 82 hrs	030/581,	8,430.72		762.24	960.00	2,079.36	698.91	0.00	7,303.68	0.00
105	System Operation	PRE	R_ENGMAP	0	N/A										
106	System Operation	PRE	R_ENGSRE	0	N/A										
107	System Operation	PRE	R_ENGSTF	0	N/A										

	Department	*RA #	*Labor Class #	Trans Hrs	Codeblock	Naruc Acct	EE150	Corp Adm	NPW	Ben	Payroll	PS	ED	CID
108	System Operation	PRE	R_ENGSUP	0	N/A									
109	System Operation	PRR	R_RELENG	0	N/A									
110	System Operation	PRS	R_SUBENG	0	N/A									
111	Energy Services	PSA	__E	32	PSA-713-PHE-NS-NPSZZZZZ	909	1,923.52	127.04	160.00	346.56	159.46	0.00	0.00	0.00
112	Energy Services	PSD	__BUOC	32	PSD-713-PHE-NE-NPSZZZZZ	910	859.20	127.04	160.00	346.56	71.23	0.00	0.00	0.00
113	Energy Services	PSD	__FS	32	PSD-713-PHE-NE-NPSZZZZZ	910	1,417.28	127.04	160.00	346.56	117.49	0.00	0.00	0.00
114	Energy Services	PSD	__TC	128	PSD-713-PHE-NE-NPSZZZZZ	910	4,441.60	508.16	640.00	1,386.24	368.21	0.00	0.00	0.00
115	Customer Solutions	PSM	__TC	128	PSM710PHENENPSZZZZZ (50%) PSM711P2ENENPSZZZZZ (50%)	920	4,441.60	508.16	640.00	1,386.24	368.21	0.00	0.00	0.00
116	Customer Solutions	PSM	__FS	32	PSM100PHENENPSZZZZZ (50%) PSM711PHENENPSZZZZZ (50%)	910	1,417.28	127.04	160.00	346.56	117.49	0.00	0.00	0.00
117	Customer Solutions	PSM	__TC	160	PSM711PHENENPSZZZZZ (60%) PSM100PHENENPSZZZZZ (20%) PSM701PHENENPSZZZZZ (20%)	910	5,552.00	635.20	800.00	1,732.80	460.26	0.00	0.00	0.00
118	Customer Solutions	PSN	__FS	32	PSN102PHENENPSZZZZZ (55%) PSN112PHENENPSZZZZZ (45%)	910	1,417.28	127.04	160.00	346.56	117.49	0.00	0.00	0.00
119	Customer Solutions	PSN	__I	32	PSN102PHENENPSZZZZZ (55%) PSN112PHENENPSZZZZZ (45%)	910	811.20	127.04	160.00	346.56	67.25	0.00	0.00	0.00
120	Customer Solutions	PSN	__TC	256	PSN102PHENENPSZZZZZ (55%) PSN112PHENENPSZZZZZ (45%)	910	8,883.20	1,016.32	1,280.00	2,772.48	736.42	0.00	0.00	0.00
121	Energy Services	PSP	__FS	32	PSP-736-PHE-NE-NPSZZZZZ	920	1,417.28	127.04	160.00	346.56	117.49	0.00	0.00	0.00
122	Energy Services	PSP	__TC	128	PSP-736-PHE-NE-NPSZZZZZ	920	4,441.60	508.16	640.00	1,386.24	368.21	0.00	0.00	0.00
123	Customer Solutions	PSR	__BUOC	32	PSR-110-PHE-NE-P0000032	910	859.20	127.04	160.00	346.56	71.23	0.00	0.00	0.00
124	Customer Solutions	PSR	__FS	32	PSR-110-PHE-NE-P0000032	910	1,417.28	127.04	160.00	346.56	117.49	0.00	0.00	0.00
125	Customer Solutions	PSR	__TC	224	PSR-110-PHE-NE-P0000032	910	7,772.80	889.28	1,120.00	2,425.92	644.37	0.00	0.00	0.00
126	Support Services	PVF	__FS	0	N/A									
127	Support Services	PVL	__BUTCED	8	PVM942PHENCNPVZZZZZ150	163	66.61	6.96	8.76	18.97	5.52	0.00	66.65	0.00
128	Support Services	PVM	__BUOC	0	N/A									
129	Support Services	PVM	__BUTC	0	N/A									
130	Support Services	PVM	__FS	8	PVM853WRDNCNPVZZZZZ150	163	77.60	6.96	8.76	18.97	6.43	0.00	0.00	0.00
131	Support Services	PVM	__TC	8	PVM853WRDNCNPVZZZZZ150	163	60.79	6.96	8.76	18.97	5.04	0.00	0.00	0.00
132	Support Services	PVP	__FS	24	PVP840PHENENPVZZZZZ150	920	1,062.96	95.28	120.00	259.92	88.12	0.00	0.00	0.00
133	Customer Installations	PWA	__BUOCW	96	PWA600oahnenpwzzzzz	587	2,578.56	381.12	480.00	1,039.68	213.76	0.00	0.00	9,236.16
134	Customer Installations	PWA	__I-W	24	PWA600oahnenpwzzzzz	587	510.96	95.28	120.00	259.92	42.36	0.00	0.00	2,309.04
135	Customer Installations	PWA	__TCS-W	24	PWA600oahnenpwzzzzz	587	680.16	95.28	120.00	259.92	56.39	0.00	0.00	2,309.04
136	Customer Installations	PWA	__TC-W	48	PWA600oahnenpwzzzzz	587	1,521.60	190.56	240.00	519.84	126.14	0.00	0.00	4,618.08
137	Customer Installations	PWA	__BUOCW	24	PWA600oahnenpwzzzzz	587	644.64	95.28	120.00	259.92	53.44	0.00	0.00	2,309.04
138	Customer Installations	PWP	W_CUENGR	144	PWP600oahnenpwzzzzz	587	5,827.68	571.68	720.00	1,559.52	483.11	0.00	0.00	13,854.24
139	Customer Installations	PWP	__FS-W	24	PWP600oahnenpwzzzzz	587	1,208.88	95.28	120.00	259.92	100.22	0.00	0.00	2,309.04
140	Customer Installations	PWP	W_JRPLNR	120	PWP600oahnenpwzzzzz	587	3,452.40	476.40	600.00	1,299.60	286.20	0.00	0.00	11,545.20
141	Customer Installations	PWP	W_PDSUPV	72	PWP600oahnenpwzzzzz	587	3,047.76	285.84	360.00	779.76	252.66	0.00	0.00	6,927.12
142	Customer Installations	PWP	W_RESHER	48	PWP600oahnenpwzzzzz	587	1,527.84	190.56	240.00	519.84	126.66	0.00	0.00	0.00
143	Customer Installations	PWP	W_CUPLNR	96	PWP600oahnenpwzzzzz	587	3,194.88	381.12	480.00	1,039.68	264.86	0.00	0.00	9,236.16
144	Customer Installations	PWP	W_DEPLNR	72	PWP600oahnenpwzzzzz	587	2,795.76	285.84	360.00	779.76	231.77	0.00	0.00	6,927.12
145	Customer Installations	PWX	__TC	0	n/a Budgeted as OT- delete hours									
146	Customer Installations	PWX	W_MTELEC	192	PWX601oahnenpwzzzzz	586	6,620.16	762.24	960.00	2,079.36	548.81	0.00	0.00	0.00
147	Customer Installations	PWX	W_MTSUPV	24	PWX601oahnenpwzzzzz	586	961.44	95.28	120.00	259.92	79.70	0.00	0.00	0.00
148	System Planning	PYB	Y_GENPLN	0	N/A									
149	Power Supply Engineering	PYC	__BUOCY	16	PYC211WSTNCNPYZZZZZ	184050	330.61	54.78	68.99	149.44	27.41	140.61	0.00	0.00
				8,392			280,657.83	32,997.96	41,559.14	90,017.11	23,266.53	140.61	92,457.22	71,580.24
				0.568872										
	Cust Service Dept.			3,088				Total payroll taxes per CA-IR 323 Atth 1a			41,642.00			
								Payroll Taxes related to labor remaining in expense			23,266.53			
									Reduction in payroll taxes		(18,375.47)			
	Add back of expenses for training labor expenses (less p/r taxes)						**$609,410**							

HAWAIIAN ELECTRIC CO., INC.
CIS PROJECT COSTS
DEFERRED TAXES

	DR / (CR) Def Tax as of 12/31/08	DR / (CR) Def Tax as of 12/31/09	DR / (CR) Average
CIS costs	(857,710)	(2,167,624)	(1,512,667)
AFUDC	(246,963)	(426,987)	(336,975)
Total	(1,104,673)	(2,594,611)	(1,849,642)

In the pre selection / evaluation phase, outside services were expensed for book purposes. For tax purposes, we capitalized the outside services related to the pre selection / evaluation phase. IRS Regs. § 1.263(a)-4 requires the capitalization of amounts paid to create intangible assets.

In the software implementation phase, internal labor and overheads were capitalized for book purposes. For tax purposes, we expensed internal labor and overheads related to the software implementation phase. IRS Regs. §1.263(a)-4(e)(4) provides a simplifying convention that treats employee compensation, overhead and de minimis costs as amounts that do not facilitate the acquisition or creation of an intangible asset, and therefore allows a deduction for tax purposes

Further, CIS was estimated to be placed in service in May 2009. For book purposes, CIS is being amortized over 12 years beginning June 2009. For tax purposes, it is being amortized over 3 years, beginning May 2009 pursuant to IRC Sec.167(f).

HAWAIIAN ELECTRIC CO., INC.
CIS PROJECT COSTS

	(A) Pre Selection/ Evaluation	(B) Software Implementation	Total	32.8947% Deferred Federal	6.0150% Deferred State	Deferred Total	
2003	408,877		408,877	134,499	24,594	159,093	
2004	(95,263)		(95,263)	(31,336)	(5,730)	(37,066)	
2005	430,341		430,341	141,559	25,885	167,444	
2006	148,950		148,950	48,997	8,959	57,956	
2007		(1,370,579)	(1,370,579)	(450,848)	(82,440)	(533,288)	
2008		(1,726,690)	(1,726,690)	(567,989)	(103,860)	(671,849)	
Total	892,905	(3,097,269)	(2,204,364)	(725,118)	(132,592)	(857,710)	Deferred Tax at 12/31/08

Book Basis (C)	23,760,243	
Less: AFUDC	(1,097,379)	
Cumulative book/tax differences	(2,204,364)	
Adjustment to book/tax difference - 2006	(921,399)	filed in amended tax return
Adjustment to book/tax difference - 2008	8,602	to file in 2008 tax return
Tax Basis	19,545,703	

	12 year Book Amortization	3 year Tax Amortization	Difference				
May-09		542,936	(542,936)				
Jun-09	110,767	542,936	(432,169)				
Jul-09	112,478	542,936	(430,458)				
Aug-09	112,601	542,936	(430,335)				
Sep-09	142,190	542,936	(400,746)				
Oct-09	166,301	542,936	(376,635)				
Nov-09	166,301	542,936	(376,635)				
Dec-09	166,301	542,936	(376,635)				
Total 2009	976,939	4,343,488	(3,366,549)	(1,107,416)	(202,498)	(1,309,914)	2009 addition
	(C)						
				(1,832,534)	(335,090)	(2,167,624)	Deferred Tax at 12/31/09
				(1,278,826)	(233,841)	(1,512,667)	Average Deferred Tax for CIS

	AFUDC	32.8947% DEFERRED FED	6.0150% DEFERRED STATE	DEFERRED TOTAL
2008	(634,708)	(208,785)	(38,178)	(246,963)
2009	(462,671)	(152,194)	(27,830)	(180,024)
Total	(1,097,379)	(360,979)	(66,008)	(426,987)
Average Def Tax on AFUDC		(284,882)	(52,093)	(336,975)

Note A> Pre Selection / Evaluation costs - outside services: book expense, tax capitalize
Note B> Software Implementation - internal labor and overheads: book defer, tax expense
Note C> Source: Rate Case Update, HECO T-11, Attachment 8, page 1

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

Attachment 6 contains confidential information and is provided subject to

the Protective Order filed on November 21, 2008 in this proceeding.

CIS Project Consolidated Workplan

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
1	1	Contract Signed	Fri 3/10/06	Fri 3/10/06	Fri 3/10/06			
2	3	**Implementation Project**	**Thu 7/2/09**	**Tue 2/21/06**	**Tue 12/1/09**			
3	**3.157**	**PMO**	**NA**	**Wed 10/1/08**	**Wed 7/22/09**			
4	3.157.1	Project Director Tasks	NA	Wed 10/1/08	Wed 7/22/09			Wayne Uehira
5	3.157.2	Project Manager Tasks	NA	Wed 10/1/08	Wed 7/22/09			Carl Calvo
6	3.157.3	Manage Business Team	NA	Wed 10/1/08	Wed 7/22/09			Robb Tanaka
7	3.157.4	Manage Technical Team	NA	Wed 10/1/08	Wed 7/22/09			Kathy Lagundimao
8	**3.71**	**Develop HECO Reports**	**Wed 9/24/08**	**Mon 3/17/08**	**Tue 3/17/09**			
9	**3.71.36**	**Complete Go-Live reports**	**Mon 4/21/08**	**Mon 3/17/08**	**Mon 10/27/08**		**25**	
10	3.71.36.12	Modify Field Service Work Orders Stored Procedures (develop v	Mon 4/21/08	Tue 5/27/08	Mon 10/20/08			Rajat Datta
11	3.71.36.23	Finish Field Service Work Orders	Thu 7/3/08	Mon 8/18/08	Mon 10/20/08			Mark Ivanovich
12	3.71.36.13	WIP-Hold-Field Mapping Required	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Mark Ivanovich
13	3.71.36.14	WIP-Hold-Info Required	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Mark Ivanovich
14	3.71.36.16	WIP-Hold-Pending GLI Decision	Mon 4/21/08	Fri 9/26/08	Mon 10/27/08	24FS+30 days		**Mark Ivanovich[1,000%],Rajat Datta**
15	3.71.36.16.1	Fix XSD & XML	Thu 9/25/08	Thu 10/9/08	Fri 10/10/08		17FS+3 days	Rajat Datta
16	3.71.36.16.2	Design Technical Specifications for GLI Reports	Fri 10/10/08	Fri 9/26/08	Fri 10/17/08	15		Mark Ivanovich
17	3.71.36.16.3	Coding & Unit Testing of GLI Reports	Mon 10/13/08	Wed 10/15/08	Mon 10/27/08	15FS+3 days	18	Rajat Datta
18	3.71.36.16.4	Implementation of GLI Reports (INTP)	Tue 10/14/08	Wed 10/22/08	Wed 10/22/08	17		Mark Ivanovich
19	3.71.36.17	WIP-Partly Complete - No data for testing	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Rajat Datta
20	3.71.36.18	WIP-Partly Complete - No data for testing-BKI_INTERFACE	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Rajat Datta
21	3.71.36.19	WIP-Partly Complete-Database Mapping problem	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Mark Ivanovich
22	3.71.36.20	WIP-Partly Complete-Info Required	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Mark Ivanovich
23	3.71.36.21	WIP-Partly Complete-Info Required (TEXTDSN)	Mon 4/21/08	Thu 7/24/08	Fri 8/29/08			Mark Ivanovich
24	3.71.36.22	WIP-partly complete-No Data For Testing (mm_event)	Mon 4/21/08	Mon 3/17/08	Mon 4/21/08			Rajat Datta
25	**3.71.37**	**Develop Report Designs - Post go-live**	**Tue 6/3/08**	**Mon 10/20/08**	**Fri 11/21/08**	**9**	**29**	
26	3.71.37.23	Develop specs for PUC D&O report(s)	Fri 5/23/08	Tue 10/28/08	Thu 10/30/08		27	Mark Ivanovich
27	3.71.37.24	Review 2nd tier reports, develop list of to-be-developed reports	Mon 6/9/08	Mon 10/20/08	Tue 11/18/08	26	28	Mark Ivanovich
28	3.71.37.25	Develop Televox and Speedpay extract specs	Thu 6/12/08	Tue 11/18/08	Fri 11/21/08	27		Mark Ivanovich
29	**3.71.38**	**Develop Report Programs - Post Go-Live**	**Wed 9/24/08**	**Fri 11/21/08**	**Tue 3/17/09**	**25**		
30	3.71.38.16	Code report programs	Tue 8/26/08	Fri 11/21/08	Mon 2/16/09		31	Rajat Datta
31	3.71.38.17	Unit Test report programs	Tue 9/23/08	Mon 2/16/09	Mon 3/16/09	30	32	Rajat Datta
32	3.71.38.18	Migrate test report programs to INT	Wed 9/24/08	Mon 3/16/09	Tue 3/17/09	31		Mark Ivanovich
33								
34	**3.141**	**Create and Maintain CIS Solution Environments**	**Fri 5/29/09**	**Fri 4/25/08**	**Fri 5/29/09**			
35	**3.141.10**	**Environment Requirements**	**Fri 5/29/09**	**Fri 4/25/08**	**Fri 5/29/09**			
36	3.141.10.1	Create and maintain environments and content	Fri 5/29/09	Fri 4/25/08	Fri 5/29/09			Annette Tanabe[7%],Tom Nii[7%],Rohn Carlson[7%]
37	3.141.10.2	Diagnose and correct environment incidents	Fri 5/29/09	Fri 4/25/08	Fri 5/29/09			Annette Tanabe[7%],Kadar Tanuwidjaja[1%],Ben Maclean[1%],Dalen Leong[2%],
38	**3.141.9**	**3rd Party Tools**	**Tue 9/2/08**	**Wed 5/7/08**	**Fri 11/14/08**			
39	**3.141.9.1**	**IDARS**	**Mon 7/21/08**	**Wed 5/14/08**	**Thu 11/13/08**			
40	3.141.9.1.6	Install - IDARS	Thu 5/8/08	Wed 5/14/08	Thu 7/24/08		41,53	Annette Tanabe[40%]
41	**3.141.9.1.7**	**Setup - IDARS**	**Mon 7/21/08**	**Wed 5/14/08**	**Thu 11/13/08**	**40**		
42	3.141.9.1.7.1	ID all Peace DP Reports	Mon 5/12/08	Wed 5/14/08	Mon 11/3/08		45	Annette Tanabe[33%]
43	3.141.9.1.7.2	ID all Interface Reports	Mon 5/12/08	Wed 5/28/08	Fri 8/29/08			Todd Miyamoto[33%]
44	3.141.9.1.7.4	ID all Field Service Work Order Tickets	Mon 5/12/08	Wed 5/14/08	Fri 8/29/08			Mark Ivanovich
45	3.141.9.1.7.3	Catalog Reports (DP Reports)	Tue 5/13/08	Mon 11/3/08	Mon 11/10/08	42	46	Annette Tanabe
46	3.141.9.1.7.5	Catalog Reports (BO Reports)	Mon 5/12/08	Mon 11/10/08	Wed 11/12/08	45	47	Annette Tanabe
47	3.141.9.1.7.6	Catalog Reports (Field Service Tickets)	Fri 5/9/08	Wed 11/12/08	Thu 11/13/08	46		Annette Tanabe
48	**3.141.9.2**	**Scheduler**	**Mon 8/18/08**	**Wed 5/7/08**	**Fri 11/14/08**			
49	3.141.9.2.6	Install - Scheduler	Thu 5/8/08	Wed 5/14/08	Fri 6/6/08		53,50	Annette Tanabe[40%],Todd Miyamoto[10%],Ramona Hamasu[10%]
50	3.141.9.2.7	Setup - Scheduler	Mon 8/18/08	Wed 5/7/08	Tue 9/30/08	49		Annette Tanabe[20%]
51	3.141.9.2.8	Develop BO Polling Scripts for Interface 27, 28, 69	Mon 5/19/08	Mon 5/26/08	Fri 11/14/08	31SS+15 days		Ben Maclean
52	**3.141.9.3**	**CA Harvest**	**Tue 9/2/08**	**Wed 6/4/08**	**Tue 9/30/08**			
53	3.141.9.3.4	Install - CA Harvest	Fri 6/20/08	Wed 6/4/08	Wed 7/23/08	40,49	54	Annette Tanabe[33%]
54	3.141.9.3.5	Setup - CA Harvest	Tue 9/2/08	Wed 6/4/08	Tue 9/30/08	53		Annette Tanabe[37%]
55	**3.82**	**Develop Automated Data Conversion Programs**	**Mon 4/21/08**	**Fri 2/1/08**	**Fri 8/22/08**			
56	**3.82.29**	**Execute Conversion Testing**	**Mon 4/21/08**	**Fri 2/1/08**	**Fri 8/22/08**			
57	3.82.29.24	Business Team Collaboration (Testing & Procedures)	Mon 4/21/08	Thu 2/14/08	Mon 4/21/08	58FF		Glenn Maglasang[5%],Stacey Ishihara[5%],Lloyd Shibata[5%],Wendy Oda[5%],S
58	**3.82.29.25**	**Mock conversion three (3)**	**Mon 4/21/08**	**Fri 2/1/08**	**Fri 8/22/08**		**57FF**	

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
59	**3.82.29.25.27**	**Conduct Mock conversion 3**	**Mon 4/21/08**	**Fri 2/1/08**	**Thu 8/21/08**			**Tommy Hull,Alan Toft,Tom Nii**
60	**3.82.29.25.27.31**	**Resolve Technical Issues**	**Mon 4/21/08**	**Fri 2/1/08**	**Tue 4/15/08**			
61	.82.29.25.27.31.51	Reinstatement of Bad Debt	Mon 2/4/08	Fri 2/1/08	Thu 2/14/08			Tom Nii
62	.82.29.25.27.31.54	BI10 - unbilled revenue CR	Thu 3/20/08	Tue 3/18/08	Tue 4/15/08			Tom Nii
63	**3.82.29.25.27.32**	**Resolve Balancing & Controls**	**Wed 4/9/08**	**Tue 3/4/08**	**Mon 4/14/08**			
64	3.82.29.25.27.32.9	Account Balance Problems	Wed 4/9/08	Tue 3/4/08	Mon 4/14/08			Alan Toft[30%],Carlos Palmer[30%],Tommy Hull[20%]
65	**3.82.29.25.27.33**	**Resolve Sev 1 Testing Issues existing as of 2/4**	**Thu 4/10/08**	**Fri 3/14/08**	**Wed 4/23/08**			
66	.82.29.25.27.33.14	Functional Testing Issue Freeze	Fri 3/21/08	Fri 3/21/08	Fri 3/21/08			
67	.82.29.25.27.33.15	Resolve Issue	Thu 4/10/08	Fri 3/14/08	Wed 4/23/08			Lawrence Penrose,Carlos Palmer,Alan Toft,Joanne Peters,Tom Nii
68	**3.82.29.25.27.34**	**Execute Conversion - Mock 3 Final**	**Wed 4/16/08**	**Sat 4/12/08**	**Wed 4/16/08**			
69	**.82.29.25.27.34.16**	**Execute ETL**	**Wed 4/16/08**	**Sat 4/12/08**	**Wed 4/16/08**			
70	.29.25.27.34.16.20	Mock 3p (December Baseline/Full)	Wed 4/16/08	Sat 4/12/08	Wed 4/16/08			
71	3.82.29.25.27.35	Resolve all Conversion Validation Errors	Thu 4/10/08	Mon 2/18/08	Thu 4/24/08			Lawrence Penrose,Carlos Palmer,Alan Toft,Joanne Peters,Tom Nii
72	**3.82.29.25.27.36**	**Data Validation**	**Tue 4/15/08**	**Thu 4/10/08**	**Thu 8/21/08**			
73	.82.29.25.27.36.30	Validate accounts between ACCESS & Peace	Tue 4/15/08	Thu 4/10/08	Thu 8/21/08		74	Joanne Peters[20%]
74	3.82.29.25.28	Final review Mock conversion results	Tue 4/15/08	Sat 4/12/08	Fri 8/22/08	73	75	Tommy Hull,Tom Nii,Alan Toft
75	3.82.29.25.29	HECO has Signed-Off Mock conversion results	Tue 4/15/08	Mon 4/21/08	Fri 8/22/08	74	380	Tommy Hull[0%],Kathy Lagundimao
76								
77	**3.88**	**Design**	**Fri 7/25/08**	**Fri 3/14/08**	**Tue 12/1/09**			
78	**3.88.1**	**System Configuration**	**Wed 5/28/08**	**Mon 4/7/08**	**Fri 8/29/08**		**179,675**	
79	3.88.1.1	Compile Standing Data and HECO Configuration specifications	Fri 4/11/08	Mon 4/7/08	Fri 4/11/08		80	Jonathan Hall,Robb Tanaka
80	3.88.1.3	Review outstanding integration configuration issues (not includi	Thu 4/17/08	Thu 4/17/08	Thu 4/17/08	79	81	Jonathan Hall
81	3.88.1.5	Divide Complete from Incomplete Config Specs	Mon 4/21/08	Fri 4/18/08	Mon 4/21/08	80	82	Jonathan Hall,Robb Tanaka
82	3.88.1.2	Review incomplete specifications against application	Tue 5/27/08	Tue 4/22/08	Mon 8/18/08	81	84	Robb Tanaka,Wendy Oda,Jonathan Hall,Lloyd Shibata,Judy Hirashima,Wendy W
83	3.88.1.8	Review and verify Ellipse account numbers	Fri 5/30/08	Mon 4/28/08	Fri 8/29/08			Jill Reppun[50%],lester nip[80%]
84	3.88.1.7	Signoff of System Configuration	Tue 5/27/08	Mon 8/18/08	Mon 8/18/08	82		
85	3.88.1.9	Support GL Configuration Review	NA	Mon 5/5/08	Fri 5/30/08			Wendy Wingfield[10%],Judy Hirashima[10%],Lloyd Shibata[10%]
86	**3.88.7**	**PTJ and Workflow**	**Mon 7/14/08**	**Wed 5/21/08**	**Wed 9/10/08**			
87	3.88.7.2	Compile Documents of record	Fri 5/30/08	Wed 5/21/08	Thu 5/29/08		89	Jay Prabha,Peggy Yuen
88	**3.88.7.1**	**Align/ Update Test Scripts and PTJ Configuration documen**	**Mon 7/14/08**	**Fri 5/30/08**	**Wed 9/10/08**		**186FS+1 day**	
89	3.88.7.1.317	Payment Processing (PY) Workshops	Mon 6/23/08	Fri 5/30/08	Mon 6/2/08	87	90	Judy Hirashima,Wendy Oda,Linda Fung,Peggy Yuen,Jay Prabha,Robb Tanaka
90	3.88.7.1.311	Senior Investigators (SI) Workshops	Tue 6/10/08	Tue 6/3/08	Thu 6/5/08	89	91	Wendy Oda,Peggy Yuen,Jay Prabha,Robb Tanaka
91	3.88.7.1.309	Field Services (FS) Workshops	Thu 6/5/08	Fri 6/6/08	Mon 6/16/08	90	92	Wendy Oda,Jay Prabha,Peggy Yuen,Robb Tanaka,Kendall Waltjen,Krislynn Elver
92	3.88.7.1.327	Revenue Protection (RP) Workshops	Thu 7/10/08	Tue 6/17/08	Tue 6/17/08	91	93	Wendy Oda,Robb Tanaka,Peggy Yuen,Jay Prabha
93	3.88.7.1.313	Meter Department / Meter Reading (MR) Workshops	Fri 6/13/08	Wed 6/18/08	Fri 6/20/08	92	94	Robb Tanaka,Peggy Yuen,Jay Prabha,Wendy Oda,Kendall Waltjen,Krislynn Elver
94	3.88.7.1.315	Credit (CC) Workshops	Thu 6/19/08	Mon 6/23/08	Wed 6/25/08	93	95	Linda Fung,Wendy Oda,Judy Hirashima,Peggy Yuen,Jay Prabha,Robb Tanaka
95	3.88.7.1.319	Call Center/ OMS/ IWR (CS) Workshops	Fri 6/27/08	Thu 6/26/08	Tue 7/1/08	94	96	Sylvia Chock,Ramona Hamasu,Wendy Oda,Peggy Yuen,Jay Prabha,Robb Tanak
96	3.88.7.1.339	Move In / Move Out Super PTJ Workshops	Wed 7/2/08	Wed 7/2/08	Wed 7/2/08	95	97	Sylvia Chock,Wendy Oda,Robb Tanaka,Peggy Yuen,Jay Prabha
97	3.88.7.1.321	Billing (BI) Workshops	Tue 7/1/08	Thu 7/3/08	Mon 7/7/08	96	98	Lloyd Shibata,Jill Reppun,Peggy Yuen,Jay Prabha,Wendy Oda,Robb Tanaka
98	3.88.7.1.323	DSM (DS) Workshops	Thu 7/3/08	Tue 7/8/08	Wed 7/9/08	97	99	Diane Filibeck,Jonathan Hall,Robb Tanaka,Peggy Yuen,Jay Prabha
99	3.88.7.1.325	Engineering (EN) Workshops	Tue 7/8/08	Thu 7/10/08	Fri 7/11/08	98	100	Wendy Oda,Robb Tanaka,Peggy Yuen,Jay Prabha,Loren Yasuda
100	3.88.7.1.329	Transformers (TF) Workshops	Mon 7/14/08	Mon 7/14/08	Mon 7/14/08	99	101	Wendy Oda,Robb Tanaka,Peggy Yuen,Jay Prabha,Loren Yasuda
101	3.88.7.1.337	Interfaces Workshops	Tue 6/10/08	Tue 7/15/08	Tue 7/15/08	100	102	Jay Prabha[40%],Judy Hirashima[40%],Sylvia Chock[40%],Todd Miyamoto[40%]
102	3.88.7.1.335	Work Queues Workshops	Fri 7/4/08	Wed 7/16/08	Wed 7/23/08	101	03FS+4 days	Robb Tanaka,Peggy Yuen,Jay Prabha
103	3.88.7.1.330	PTJ Workshop Action Items Analyzed / Addressed	Mon 7/14/08	Thu 7/24/08	Wed 9/10/08	102FS+4 days	39FF+2 days	Jay Prabha
104	3.88.7.1.336	Work Queue Documentation Updated	Tue 7/8/08	Tue 7/29/08	Tue 7/29/08	102FS+4 days		Robb Tanaka
105	**3.88.11**	**Wishbone**	**Wed 5/28/08**	**Fri 3/14/08**	**Mon 5/12/08**			
106	**3.88.11.1**	**Review & Validate Mapping Documents**	**Wed 5/28/08**	**Fri 3/14/08**	**Mon 5/12/08**			
107	**3.88.11.1.26**	**Review and Validate Download Specs**	**Fri 4/11/08**	**Mon 4/7/08**	**Tue 4/15/08**			
108	3.88.11.1.26.1	Review Download Mapping	Tue 4/1/08	Mon 4/7/08	Tue 4/15/08		114	Megan Mansfield,Ben Maclean,Jay Prabha,Ramona Hamasu,Wendy Oda,Duncar
109	**3.88.11.1.22**	**Review & Validate & Update Upload Mapping**	**Mon 5/12/08**	**Fri 3/14/08**	**Mon 5/12/08**			
110	3.88.11.1.22.25	Review Upload Data mapping	Tue 3/25/08	Fri 3/14/08	Tue 3/25/08			Megan Mansfield,Ben Maclean[40%],Jay Prabha[30%],Ramona Hamasu[60%],W
111	3.88.11.1.22.26	Document Upload Completion Code test sheets	Mon 5/12/08	Tue 4/15/08	Mon 5/12/08			Wendy Oda[75%]
112	3.88.11.1.22.30	Validation Rules Action Items/ Resolution	Fri 4/11/08	Fri 3/14/08	Fri 4/11/08			Megan Mansfield,Duncan,Ben Maclean,Jay Prabha,Ramona Hamasu,Wendy Oda
113	**3.88.11.1.24**	**HECO Signoff - Down Load Mapping Complete**	**Mon 4/14/08**	**Mon 4/14/08**	**Wed 4/16/08**			
114	3.88.11.1.24.5	Download mapping - signoff	Mon 4/14/08	Mon 4/14/08	Wed 4/16/08	108		Ramona Hamasu
115	**3.88.8**	**GLI**	**Thu 4/17/08**	**Tue 3/25/08**	**Wed 6/18/08**		**201,125**	
116	**3.88.8.1**	**Resolve Outstanding Action Items**	**Thu 4/17/08**	**Tue 3/25/08**	**Wed 6/18/08**			
117	3.88.8.1.50	Mapping of Ellipse File & CR148 Issue	Mon 4/7/08	Mon 4/7/08	Mon 4/7/08		122	Carl Calvo,Tim Carter,Jay Prabha,Wendy Wingfield,Ramona Hamasu

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
118	3.88.8.1.51	XML Report File Issues	Mon 3/31/08	Wed 5/7/08	Wed 6/4/08		122	Carl Calvo,Tim Carter,Jay Prabha,Wendy Wingfield,Ramona Hamasu,Mark Ivano
119	3.88.8.1.52	Documentation of Summarization Access vs Peace	Fri 3/28/08	Tue 3/25/08	Fri 3/28/08			Ellen Walter
120	3.88.8.1.53	Develop Procedures for Release & Upload of Ellipse File	Tue 4/1/08	Tue 5/6/08	Wed 6/18/08			Ramona Hamasu,Lloyd Shibata,Alan Hija
121	3.88.8.1.57	Review Legacy system controls/balancing procedures	Thu 4/17/08	Thu 4/17/08	Thu 4/17/08			Wendy Wingfield[50%],Harry Spanke[50%],Harry Smith[50%],Ramona Hamasu[5
122	3.88.8.1.54	Finalize Changes	Tue 4/8/08	Thu 5/8/08	Thu 5/15/08	117,118	123	Wendy Wingfield,Harry Smith,Harry Spanke
123	3.88.8.1.55	HECO Approval	Tue 4/15/08	Thu 5/8/08	Thu 5/15/08	122	124	Lloyd Shibata
124	3.88.8.1.56	Signoff SDD	Tue 4/15/08	Fri 5/9/08	Thu 5/15/08	123	4FS+30 days	Lloyd Shibata
125	**3.88.9**	**MVRS 18, 19A, 20**	**Mon 4/28/08**	**Thu 4/10/08**	**Wed 6/18/08**	**115**	**128**	
126	3.88.9.4	Update Config in Interface_DB	Mon 4/28/08	Tue 5/6/08	Wed 6/18/08			Ramona Hamasu[50%]
127	3.88.9.5	CR to address Read Dates issue	Wed 4/23/08	Thu 4/10/08	Tue 5/6/08			Ramona Hamasu
128	**3.88.19**	**Interface 69 - OnDemand Printing**	**Mon 5/19/08**	**Tue 4/29/08**	**Wed 6/18/08**	**125**		
129	3.88.19.9	Review IRS requirements (Interface 69)	Wed 4/30/08	Wed 5/7/08	Wed 6/18/08			Jay Prabha,Ramona Hamasu,Mark Ivanovich
130	3.88.19.10	CR191 to add print button	Wed 4/30/08	Wed 6/18/08	Wed 6/18/08			Jenny Whibley
131	3.88.19.11	Analysis on script polling for BO (Interface 69)	Wed 5/14/08	Tue 4/29/08	Wed 6/4/08		1SS+15 days	Mark Ivanovich,Ben Maclean,Ramona Hamasu[20%]
132	**3.88.20**	**Interface 77 - ER Extract To DARS (CR105)**	**Tue 6/3/08**	**Wed 10/29/08**	**Tue 12/1/09**			
133	3.88.20.3	Coding & Unit Testing (Interface 77)	Tue 6/3/08	Wed 10/29/08	Tue 12/1/09			Stuart Harauchi
134	**3.88.21**	**Interface 82 - Upload External Invoices (CR89)**	**Tue 6/10/08**	**Mon 4/14/08**	**Thu 4/17/08**			
135	3.88.21.7	Design	Tue 6/10/08	Mon 4/14/08	Thu 4/17/08			Praneeth
136	3.88.21.10	Spreadsheet Format & Templates	Fri 6/6/08	Mon 4/14/08	Thu 4/17/08		207	Lou Richards
137	**3.88.23**	**Interface 83 - Local Letter Printing**	**Thu 5/29/08**	**Fri 8/22/08**	**Tue 1/13/09**			
138	**3.88.23.1**	**Develop Specifications**	**Thu 5/29/08**	**Fri 8/22/08**	**Tue 1/13/09**			
139	3.88.23.1.1	Analysis and listing of Letter templates (Interface 83)	Fri 4/18/08	Fri 8/22/08	Fri 10/17/08	103FF+2 days	140,141	Robb Tanaka[20%]
140	3.88.23.1.2	Letter type/ data/ ptj configuration (Interface 83)	Thu 5/29/08	Mon 9/15/08	Wed 12/10/08	139		Jay Prabha ,Jonathan Hall
141	3.88.23.1.3	Document Interface 83 IRS	Mon 4/21/08	Wed 12/10/08	Wed 12/10/08	139	142	Peggy Yuen
142	3.88.23.1.4	Review Interface 83 IRS	Tue 4/22/08	Wed 12/10/08	Mon 1/12/09	141	143	Jay Prabha[91%],Kathy Lagundimao[91%]
143	3.88.23.1.5	Interface 83 IRS sign-off	Tue 4/22/08	Mon 1/12/09	Tue 1/13/09	142	210	Kathy Lagundimao
144	**3.88.25**	**Training Materials**	**Fri 7/25/08**	**Mon 3/17/08**	**Thu 2/5/09**			
145	3.88.25.65	Develop initial version of Peace Functional Modules	Mon 4/7/08	Mon 3/17/08	Mon 4/7/08			Rhea Lalla,Beverly Chambers
146	3.88.25.66	Review of Peace Functional Modules by FDU Business Analysts	Fri 4/4/08	Mon 3/17/08	Fri 4/4/08			FDU BA[42%]
147	3.88.25.67	Peace Functional Modules Updated with BA changes	Mon 4/7/08	Tue 4/1/08	Mon 4/7/08			Rhea Lalla,Beverly Chambers
148	3.88.25.68	HECO to provide their Criteria for Acceptance of the Peace Fun	Wed 3/19/08	Wed 3/19/08	Wed 3/19/08		149	Danny Ishii
149	3.88.25.69	Review of Peace Functional Modules by HECO SMEs	Thu 4/17/08	Tue 4/29/08	Thu 7/31/08	148	50SS+7 days	Danny Ishii,Sylvia Chock[20%],Wendy Oda[20%],Judy Hirashima[20%],Lloyd Shi
150	3.88.25.70	Meetings/Discussions with HECO / FDU Trainers / FDU BAs - w	Fri 8/29/08	Thu 5/8/08	Fri 9/26/08	149SS+7 days	151	Rhea Lalla,Beverly Chambers,Danny Ishii,Sylvia Chock[10%],Lloyd Shibata[10%
151	3.88.25.71	Peace Functional Modules Updated with HECO changes	Fri 8/29/08	Mon 9/29/08	Fri 10/3/08	150	152,164	Rhea Lalla,Beverly Chambers
152	3.88.25.72	Final HECO Review and Sign Off on Peace Functional Modules	Fri 9/12/08	Mon 10/6/08	Tue 10/14/08	151	154FS+1 day	Danny Ishii[67%],Sylvia Chock[25%],Lloyd Shibata[25%],Loren Yasuda[25%],We
153	3.88.25.73	HECO develops Procedures with MOSAIC	Thu 10/30/08	Wed 10/15/08	Wed 11/26/08	152FS+1 day	157	Sylvia Chock[50%],Lloyd Shibata[50%],Diane Fillibeck[50%],Judy Hirashima[50%
154	3.88.25.74	Develop Initial version of Instructor Notes for Peace Functional M	Fri 10/3/08	Wed 10/15/08	Tue 12/16/08	152FS+1 day	155	Rhea Lalla,Beverly Chambers
155	3.88.25.75	Review by HECO of Instructor Notes for Peace Functional Modu	Fri 10/10/08	Tue 12/16/08	Tue 12/23/08	154	156	Danny Ishii
156	3.88.25.76	Update Instructor Notes with HECO changes	Fri 10/17/08	Tue 12/23/08	Sun 1/4/09	155	158	Rhea Lalla,Beverly Chambers
157	3.88.25.77	Integrate HECO Procedures into Peace Functional Training Mat	Thu 11/13/08	Wed 11/26/08	Fri 12/12/08	153		Danny Ishii,Randall Shiro,Alvin Reyes,Meredith Alvin
158	3.88.25.78	Final HECO Review and Sign Off of Instructor Notes	Fri 10/24/08	Sun 1/4/09	Fri 1/9/09	156	159	Danny Ishii
159	3.88.25.79	Creation of Data Mining /Data Requirements for T3 Training	Fri 9/26/08	Fri 1/9/09	Thu 1/15/09	158	160	Rhea Lalla,Beverly Chambers
160	3.88.25.80	Documentation of Data Mining/Data Requirements Results for T	Tue 9/30/08	Thu 1/15/09	Sun 1/18/09	159	161	Rhea Lalla,Beverly Chambers
161	3.88.25.81	HECO Training Database Created and Stable	Fri 10/3/08	Sun 1/18/09	Tue 1/20/09	160	162	Danny Ishii[50%],Annette Tanabe[50%]
162	3.88.25.82	HECO Training Database Reviewed and Sanctioned by FDU Tra	Fri 10/3/08	Tue 1/20/09	Thu 1/22/09	161	168,163	Rhea Lalla[50%],Beverly Chambers[50%]
163	3.88.25.83	Creation of SQLs and Execution of Data Mining/Data Requireme	Fri 10/10/08	Thu 1/22/09	Wed 1/28/09	162		FDU TA
164	3.88.25.84	Creation of Activities and Quizzes for Peace Functional Modules	Fri 9/26/08	Mon 10/6/08	Fri 10/24/08	151	165	Rhea Lalla,Beverly Chambers
165	3.88.25.85	Walk thru for Understanding of Activities and Quizzes - by HEC	Fri 10/10/08	Mon 10/27/08	Fri 11/7/08	164	166	Danny Ishii[75%]
166	3.88.25.86	Provide Clarification of Activities and Quizzes, if needed	Fri 10/10/08	Mon 11/10/08	Fri 11/14/08	165	167	Rhea Lalla[25%],Beverly Chambers[25%]
167	3.88.25.87	Final HECO Sign Off of Activities and Quizzes for Peace Functio	Tue 10/28/08	Mon 11/17/08	Fri 11/21/08	166		Danny Ishii
168	3.88.25.88	Backup of Training Database for use in T3 Training Classes	Mon 10/6/08	Thu 1/22/09	Thu 1/29/09	162	169	Danny Ishii
169	3.88.25.89	HECO Sign-Off on completion of FDU Training Materials Packa	Wed 10/29/08	Thu 1/29/09	Fri 1/30/09	168	170,171	Danny Ishii
170	3.88.25.90	FDU to provide one soft copy of T3 Materials	Fri 10/31/08	Fri 1/30/09	Sun 2/1/09	169		Rhea Lalla,Beverly Chambers
171	3.88.25.91	Create requirements and schedule for HECO Technical Analyst	Mon 10/6/08	Fri 1/30/09	Sat 1/31/09	169	S+1 day,172	Rhea Lalla,Beverly Chambers
172	3.88.25.92	FDU & HECO T3 Rehearsal	Fri 11/14/08	Sat 1/31/09	Sun 2/1/09	171		Danny Ishii,Rhea Lalla,Beverly Chambers
173	3.88.25.93	Develop End User Class Calendar	Fri 12/19/08	Sun 2/1/09	Thu 2/5/09	171FS+1 day		Rhea Lalla,Danny Ishii
174								
175	**3.89**	**Construction and Unit Test**	**Mon 9/29/08**	**Mon 3/3/08**	**Tue 6/23/09**			
176	3.89.41	Manage FD Technical Activities	Mon 3/2/09	Fri 9/26/08	Mon 2/23/09			Jay Prabha[20%]

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
177	**3.89.37**	**Onsite Incident and Issue Support**	**Mon 9/29/08**	**Mon 4/21/08**	**Tue 7/29/08**			
178	3.89.37.1	Troubleshooting and Analysis	Fri 10/10/08	Mon 4/21/08	Tue 7/29/08			Kadar Tanuwidjaja[86%],Oleg Vinkovsky[71%],Peter Park[86%],Catherine Zhu[86
179	**3.89.1**	**System Configuration**	**Tue 6/10/08**	**Thu 6/5/08**	**Tue 9/9/08**	**78**		
180	3.89.1.1	Populate CTL configuration data tables	Wed 6/4/08	Tue 9/2/08	Tue 9/9/08		181	Jonathan Hall,Robb Tanaka
181	3.89.1.3	Verify data entry	Fri 6/6/08	Tue 9/9/08	Tue 9/9/08	180		Jonathan Hall,Randall Shiro
182	3.89.1.5	CR163 - Stop Billing workqueue	Tue 6/10/08	Thu 6/5/08	Tue 6/10/08			Jay Prabha
183	**3.89.13**	**PTJ and Workflow**	**Wed 10/15/08**	**Thu 7/31/08**	**Wed 10/1/08**		**640**	
184	**3.89.13.1**	**Rework & Unit Test PTJ's / Workflows**	**Wed 10/15/08**	**Thu 7/31/08**	**Wed 10/1/08**		**641**	
185	3.89.13.1.199	Review PTJ Documents From Business	Mon 8/4/08	Thu 7/31/08	Wed 8/20/08			Jay Prabha[80%]
186	3.89.13.1.185	Field Services / Wishbone PRW / Batch Validations	Thu 8/14/08	Mon 8/11/08	Tue 9/9/08	88FS+1 day	187	Peggy Yuen[125%],Jay Prabha[15%]
187	3.89.13.1.186	Wishbone PTJ / PRW Additional Validations	Tue 8/26/08	Tue 8/26/08	Tue 9/9/08	186	188	Peggy Yuen[125%],Jay Prabha[15%]
188	3.89.13.1.187	Field Investigation	Wed 9/3/08	Tue 9/9/08	Tue 9/16/08	187	189	Peggy Yuen[125%],Jay Prabha[15%]
189	3.89.13.1.188	Call Center / Move In / Move Out / Super PTJ Workflows / (	Thu 9/18/08	Tue 9/16/08	Tue 9/30/08	188		Peggy Yuen[125%],Jay Prabha[15%]
190	3.89.13.1.189	Meter Department / Meter Reading	Thu 8/14/08	Mon 8/11/08	Fri 8/29/08		191	Oleg Vinkovsky[125%],Jay Prabha[15%]
191	3.89.13.1.190	Credit & Collections	Tue 8/19/08	Thu 8/21/08	Fri 9/5/08	190	192	Jay Prabha[15%],Oleg Vinkovsky[125%]
192	3.89.13.1.191	Engineering	Wed 8/27/08	Wed 8/27/08	Tue 9/9/08	191	193	Oleg Vinkovsky[125%],Jay Prabha[15%]
193	3.89.13.1.192	Payments	Fri 8/29/08	Fri 9/12/08	Fri 9/26/08	192	194	Jay Prabha[15%],Oleg Vinkovsky[125%]
194	3.89.13.1.193	DSM	Wed 9/3/08	Tue 9/9/08	Thu 9/11/08	193	195	Oleg Vinkovsky[125%],Jay Prabha[15%]
195	3.89.13.1.194	Billing	Fri 9/5/08	Mon 9/15/08	Wed 10/1/08	194	196	Jay Prabha[15%],Oleg Vinkovsky[125%]
196	3.89.13.1.195	Revenue Protection	Fri 9/12/08	Mon 9/8/08	Thu 9/11/08	195	197	Oleg Vinkovsky[125%],Jay Prabha[15%]
197	3.89.13.1.196	Transformers	Fri 9/19/08	Fri 9/12/08	Thu 9/25/08	196	199	Jay Prabha[15%],Oleg Vinkovsky[125%]
198	**3.89.42**	**Wishbone**	**NA**	**Fri 9/26/08**	**Wed 10/29/08**			
199	3.89.42.1	Wishbone Dispatch UI	Wed 10/8/08	Fri 9/26/08	Tue 10/21/08	197	200	Oleg Vinkovsky[125%]
200	3.89.42.2	Wishbone Dispatch UI String Test	Wed 10/15/08	Wed 10/22/08	Wed 10/29/08	199	647	Oleg Vinkovsky[125%],Peggy Yuen[125%]
201	**3.89.14**	**GLI**	**Tue 6/10/08**	**Thu 6/19/08**	**Fri 8/29/08**	**115**	**657**	
202	**3.89.14.1**	**Base GL Interface**	**Thu 4/24/08**	**Thu 6/19/08**	**Thu 7/10/08**		**658**	
203	3.89.14.1.1	Complete Development	Thu 4/24/08	Thu 6/19/08	Thu 7/10/08			Helen Guo,Developers
204	**3.89.14.3**	**GL Controls**	**Tue 6/10/08**	**Thu 6/19/08**	**Fri 8/29/08**		**667**	
205	3.89.14.3.1	Development	Tue 6/10/08	Thu 6/19/08	Fri 8/29/08			Developer 2,Developer 1,Developer 3
206	**3.89.25**	**Interface 82 - Upload External Invoices (CR89)**	**Fri 7/4/08**	**Mon 3/24/08**	**Tue 6/24/08**			
207	3.89.25.9	Coding & Unit Testing (Interface 82 - Upload Invoices)	Fri 7/4/08	Mon 3/24/08	Tue 6/24/08	136		Praneeth
208	**3.89.32**	**Interface 83 - Local Letter Printing**	**Fri 5/2/08**	**Tue 9/16/08**	**Tue 11/18/08**			
209	**3.89.32.1**	**Development/ Unit Testing**	**Fri 5/2/08**	**Tue 9/16/08**	**Tue 11/18/08**			
210	3.89.32.1.7	Development/ unit test (Interface 83)	Wed 4/30/08	Tue 9/16/08	Tue 11/18/08	143	211	Peggy Yuen[10%]
211	3.89.32.1.9	Release to Integration testing (Interface 83)	Fri 5/2/08	Tue 11/18/08	Tue 11/18/08	210		Kathy Lagundimao
212	**3.89.30**	**Rate Development**	**Thu 7/31/08**	**Mon 3/3/08**	**Thu 5/21/09**		**384**	
213	**3.89.30.48**	**Work Backlog of Incidents**	**Thu 7/31/08**	**Wed 4/30/08**	**Mon 8/11/08**			
214	3.89.30.48.22	Work HECO reported Application Issues for Billing, Unbille	Thu 7/31/08	Wed 4/30/08	Mon 8/11/08			Lou Richards[10%]
215	**3.89.30.49**	**Work New Incidents**	**Fri 8/8/08**	**Mon 6/9/08**	**Fri 8/29/08**			
216	3.89.30.49.1	Net Metering Incidents	Thu 6/12/08	Mon 6/9/08	Fri 8/1/08		219	Lou Richards[10%],Lloyd Shibata[200%]
217	3.89.30.49.3	Receive SP27	Fri 8/1/08	Mon 7/28/08	Mon 7/28/08		218FS+1 day	
218	3.89.30.49.4	Execute Regression Test (SP27 - Net Metering)	Fri 8/8/08	Tue 7/29/08	Fri 8/1/08	217FS+1 day	225,244	Lou Richards
219	3.89.30.49.2	Unbilled Revenue Incidents	Thu 6/19/08	Wed 6/11/08	Fri 8/29/08	216		Lou Richards[9%],Lloyd Shibata[200%]
220	**3.89.30.24**	**Update HECO NEM Rates (E/E1/G/J) price relationship for 2**	**Tue 4/8/08**	**Tue 4/8/08**	**Tue 4/8/08**		**393**	
221	3.89.30.24.4	Build Relationship Matrix	Tue 4/8/08	Tue 4/8/08	Tue 4/8/08		222	Lou Richards
222	3.89.30.24.5	SQL Updates on Tariffs using Matrix	Tue 4/8/08	Tue 4/8/08	Tue 4/8/08	221	223	Kadar Tanuwidjaja
223	3.89.30.24.6	Review Updates Via SQL	Tue 4/8/08	Tue 4/8/08	Tue 4/8/08	222		Lou Richards
224	**3.89.30.25**	**Rate Unit Testing of JNM Trees all jurisdictions (5 in Total)**	**Wed 4/9/08**	**Mon 7/14/08**	**Fri 7/25/08**			
225	3.89.30.25.4	Perform Unit Test	Tue 4/8/08	Mon 7/14/08	Fri 7/25/08	218	226	Mark Kiyozuka
226	3.89.30.25.5	Resolve Unit Test Issues	Wed 4/9/08	Mon 7/14/08	Mon 7/14/08	225	237,227	Lou Richards[200%]
227	3.89.30.25.6	Sign Off on Unit Test	Wed 4/9/08	Fri 7/25/08	Fri 7/25/08	226		Lloyd Shibata
228	**3.89.30.26**	**Proration White Paper-for HECO Pricing Division**	**Tue 4/15/08**	**Mon 4/7/08**	**Tue 4/15/08**			
229	3.89.30.26.4	Complete Draft	Tue 4/8/08	Mon 4/7/08	Tue 4/8/08		230	Ellen Walter,Sergei Groutso
230	3.89.30.26.5	Review Draft	Wed 4/9/08	Wed 4/9/08	Wed 4/9/08	229	232	Lou Richards
231	3.89.30.26.6	Discuss White Paper with HECO Pricing Division and Lloyc	Tue 4/15/08	Tue 4/15/08	Tue 4/15/08			Lou Richards,Lloyd Shibata,Colleen Miller
232	**3.89.30.43**	**Conversion Mapping Assistance (as required)**	**Tue 5/6/08**	**Thu 4/10/08**	**Thu 6/19/08**	**230**	**236**	
233	3.89.30.43.10	Net Metering	Fri 4/18/08	Thu 4/10/08	Thu 6/19/08		234	Lou Richards,Lloyd Shibata,Randall Shiro
234	3.89.30.43.11	Complex Riders	Mon 4/28/08	Wed 4/30/08	Fri 6/13/08	233	235	Lou Richards,Lloyd Shibata
235	3.89.30.43.12	Virtual Meters - Ph 2	Tue 5/6/08	Wed 4/30/08	Fri 6/13/08	234		Lou Richards,Lloyd Shibata

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
236	**3.89.30.27**	**JNM+T Tree For Maui**	**Thu 5/15/08**	**Tue 5/6/08**	**Thu 10/16/08**	**232**	**248**	
237	3.89.30.27.11	Design	Wed 5/7/08	Tue 5/6/08	Fri 5/30/08	226	238	Lou Richards
238	3.89.30.27.12	Desk Check Design	Wed 5/7/08	Fri 5/30/08	Fri 5/30/08	237	239	Lou Richards
239	3.89.30.27.13	Number Tariffs	Thu 5/8/08	Mon 6/9/08	Mon 6/9/08	238	240	Lou Richards
240	3.89.30.27.14	Update rate List	Thu 5/8/08	Mon 6/9/08	Mon 6/9/08	239	241,242	Lou Richards
241	3.89.30.27.15	Update Register Map	Thu 5/8/08	Mon 6/9/08	Mon 6/9/08	240		Lou Richards
242	3.89.30.27.16	Build Tariffs in TMP	Fri 5/9/08	Tue 6/10/08	Tue 6/10/08	240	243	Mark Kiyozuka
243	3.89.30.27.17	Relate tariffs as per Tree Design	Fri 5/9/08	Tue 6/10/08	Tue 6/10/08	242	245	Mark Kiyozuka
244	3.89.30.27.18	Unit Test Rate	Tue 5/13/08	Thu 8/28/08	Wed 10/15/08	218	245	Lou Richards
245	3.89.30.27.19	Resolve Unit Test issues	Wed 5/14/08	Thu 8/28/08	Wed 10/15/08	243,244	246	Lou Richards
246	3.89.30.27.20	Sign Off of Test	Thu 5/15/08	Thu 10/16/08	Thu 10/16/08	245		Lloyd Shibata
247	**3.89.30.29**	**Update Quantity/Price, G/L codes, Descriptions of existing t**	**Fri 5/16/08**	**Mon 8/18/08**	**Thu 8/21/08**			
248	3.89.30.29.3	Identify Tariffs Impacted & provide correct price/quantity,G/	Thu 5/15/08	Mon 8/18/08	Tue 8/19/08	236	249	Lloyd Shibata
249	3.89.30.29.4	Update tariffs in TMP	Fri 5/16/08	Wed 8/20/08	Thu 8/21/08	248	254	Lou Richards,Peter Park
250	**3.89.30.30**	**Rider M&T Tou Meter Charge**	**Tue 6/10/08**	**Thu 3/13/08**	**Fri 8/29/08**			
251	3.89.30.30.11	Create CR	Thu 3/13/08	Thu 3/13/08	Thu 3/13/08			Lou Richards
252	3.89.30.30.12	User Review of CR	Mon 3/17/08	Mon 3/17/08	Mon 3/17/08			Lloyd Shibata
253	3.89.30.30.13	HECO PMO Approval	Fri 4/4/08	Fri 3/28/08	Fri 4/4/08			PMO
254	3.89.30.30.14	Identify Tariff Numbers for 35 Trees	Tue 5/27/08	Fri 6/27/08	Mon 7/7/08	249	255	Lou Richards
255	3.89.30.30.15	Update tariff Trees	Mon 6/2/08	Fri 6/27/08	Mon 7/7/08	254	256,257	Lou Richards
256	3.89.30.30.16	Udate Rate List	Tue 6/3/08	Fri 6/27/08	Mon 7/7/08	255		Lou Richards
257	3.89.30.30.17	Build & Relate new Tariffs as defined on tree	Tue 6/3/08	Fri 6/27/08	Mon 7/7/08	255	258	Mark Kiyozuka
258	3.89.30.30.18	Unit Test Trees as per Minimum Bill Requirement	Tue 6/10/08	Wed 8/6/08	Thu 8/14/08	257	260,285,259	Mark Kiyozuka
259	3.89.30.30.19	Resolve Unit Test Variances - Requires Program trace to a	Fri 6/6/08	Fri 8/15/08	Thu 8/28/08	258	260,276	Lou Richards
260	3.89.30.30.20	Sign Off on Unit Test	Tue 6/10/08	Fri 8/29/08	Fri 8/29/08	258,259		Lloyd Shibata
261	**3.89.30.31**	**Update Revenue Type indicators for HECO & HELCO TOU E**	**Wed 4/9/08**	**Tue 3/18/08**	**Wed 4/9/08**			
262	3.89.30.31.6	Scan TMP data base for any Missing Revenue type indicat	Tue 3/18/08	Tue 3/18/08	Tue 3/18/08			Lou Richards
263	3.89.30.31.7	Update revenue type indictors for Tariffs that have them mi	Tue 3/18/08	Tue 3/18/08	Tue 3/18/08			Kadar Tanuwidjaja
264	3.89.30.31.8	Generate Audit Listing disclosing all Tariffs and their Rever	Fri 4/4/08	Wed 3/26/08	Fri 4/4/08		265	Kadar Tanuwidjaja
265	3.89.30.31.9	Review Audit Listing	Tue 4/8/08	Tue 4/8/08	Tue 4/8/08	264	266	Lloyd Shibata
266	3.89.30.31.10	Update TMP for Discrepancies Noted in Review	Wed 4/9/08	Wed 4/9/08	Wed 4/9/08	265		Kadar Tanuwidjaja
267	**3.89.30.32**	**Define Bill Print Indicator - Use for Bill print roll-up & NEM I**	**Fri 4/11/08**	**Mon 3/24/08**	**Mon 6/2/08**			
268	3.89.30.32.5	Define Codes and Build Rate Map	Tue 3/25/08	Mon 3/24/08	Tue 3/25/08		269	Lou Richards
269	3.89.30.32.6	Review & Sign Off on Map	Tue 4/8/08	Tue 4/29/08	Tue 5/13/08	268	270	Lloyd Shibata
270	3.89.30.32.7	Update Via SQL using Map	Wed 4/9/08	Tue 5/27/08	Tue 5/27/08	269	271	Ben Maclean
271	3.89.30.32.8	Review of SQL Update	Wed 4/9/08	Wed 4/9/08	Mon 6/2/08	270	272	Lou Richards
272	3.89.30.32.9	Review Audit Listing	Thu 4/10/08	Mon 6/2/08	Mon 6/2/08	271	273	Lloyd Shibata
273	3.89.30.32.10	Update TMP for Discrepancies Noted in Review	Fri 4/11/08	Fri 4/11/08	Fri 4/11/08	272		Kadar Tanuwidjaja[50%]
274	**3.89.30.34**	**External Billing Interface Mapping**	**Fri 6/6/08**	**Mon 3/3/08**	**Tue 11/25/08**			
275	3.89.30.34.4	Build Template	Mon 3/3/08	Mon 3/3/08	Mon 3/3/08			Lou Richards[50%]
276	3.89.30.34.5	Populate Template with Example	Fri 6/6/08	Tue 4/15/08	Tue 4/15/08	259	277	Lou Richards
277	3.89.30.34.6	Review and Sign Off on Populated Template	Fri 6/6/08	Wed 4/16/08	Wed 4/16/08	276	278	Lloyd Shibata
278	3.89.30.34.7	Provide User Documentation Relating to External Billing	NA	Mon 11/24/08	Tue 11/25/08	277		Lou Richards
279	**3.89.30.35**	**Read Codes**	**Mon 6/9/08**	**Mon 9/8/08**	**Mon 9/15/08**			
280	3.89.30.35.2	Identify Billable Read Codes, Provide to HECO & Map ACC	Mon 6/9/08	Mon 9/8/08	Mon 9/15/08		282	Jonathan Hall[25%],Lloyd Shibata[10%],Wendy Oda[10%]
281	**3.89.30.36**	**Adjust HECO Rate trees for interim rate increase and pricing**	**Thu 6/19/08**	**Mon 6/23/08**	**Tue 10/21/08**		**375**	
282	3.89.30.36.5	Rider M-T-I Trees	Mon 6/16/08	Mon 7/7/08	Fri 7/11/08	280	283	Lou Richards
283	3.89.30.36.6	Net Metering Trees	Wed 6/18/08	Wed 7/16/08	Tue 10/21/08	282	284	Lou Richards
284	3.89.30.36.7	Schedule F trees	Thu 6/19/08	Mon 6/23/08	Mon 6/23/08	283	290	Lou Richards
285	3.89.30.36.8	All Other trees	Tue 6/17/08	Mon 7/7/08	Fri 7/11/08	258		Mark Kiyozuka
286	**3.89.30.37**	**Roll out Meeting for Register Set up for Complex Rider Acc**	**Tue 4/8/08**	**Mon 4/7/08**	**Tue 4/8/08**			
287	3.89.30.37.3	Pre-meeting to define final register set up	Mon 4/7/08	Mon 4/7/08	Mon 4/7/08		288	Lloyd Shibata,Colleen Miller,Lou Richards
288	3.89.30.37.4	Set Up required for Rider Accounts-Meeting with Operating	Tue 4/8/08	Tue 4/8/08	Tue 4/8/08	287		Lloyd Shibata,Colleen Miller,Lou Richards
289	**3.89.30.38**	**Pricing (Product) Component Clean Up**	**Fri 6/20/08**	**Fri 6/27/08**	**Tue 7/1/08**			
290	3.89.30.38.3	Identification of components built & not used by HECO	Thu 6/19/08	Fri 6/27/08	Fri 6/27/08	284	291	Lou Richards
291	3.89.30.38.4	Deletion of components	Fri 6/20/08	Mon 6/30/08	Tue 7/1/08	290	293	Lou Richards,Kadar Tanuwidjaja
292	**3.89.30.39**	**Documentation for pricing components**	**Wed 7/2/08**	**Fri 8/8/08**	**Wed 11/19/08**			
293	3.89.30.39.2	Develop Documentation	Fri 6/27/08	Fri 8/8/08	Fri 8/8/08	291	4FS+15 days	Sergei Groutso
294	3.89.30.39.3	Finish Documentation	Wed 7/2/08	Mon 11/17/08	Wed 11/19/08	93FS+15 days		Lou Richards

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
295	**3.89.30.40**	**HECO Final D&O (2005 & 2007)**	**Tue 7/22/08**	**Mon 6/16/08**	**Mon 8/4/08**			
296	**3.89.30.40.2**	**Identify Structural Changes to existing Rates**	**Tue 7/22/08**	**Mon 6/16/08**	**Mon 8/4/08**			
297	**3.89.30.40.2.5**	**Schedule J - Mean Ratchet (30 Trees Impacted)**	**Thu 7/3/08**	**Mon 6/16/08**	**Wed 7/16/08**			
298	3.89.30.40.2.5.5	Identify Mean Pricing Component to use - Advise	Tue 7/1/08	Mon 6/16/08	Mon 6/30/08		299,301	Lou Richards
299	3.89.30.40.2.5.6	Update tariff Trees	Wed 7/2/08	Mon 6/16/08	Mon 6/30/08	298		Lou Richards
300	**3.89.30.40.2.5.7**	**Clone New Tariff w/effective date of D&O**	**Thu 7/3/08**	**Mon 6/16/08**	**Tue 7/15/08**			
301	3.89.30.40.2.5.7.5	Clone Tariff (30 Tariffs)	Wed 7/2/08	Mon 6/16/08	Mon 6/30/08	298	302	Mark Kiyozuka
302	3.89.30.40.2.5.7.6	Replace 75% Component w/Mean Compone	Wed 7/2/08	Mon 6/16/08	Mon 6/30/08	301	303,304	Mark Kiyozuka
303	3.89.30.40.2.5.7.7	Unit Test a Sample of rates - (new tariff + C	Thu 7/3/08	Fri 7/11/08	Mon 7/14/08	302	307	Mark Kiyozuka
304	3.89.30.40.2.5.7.8	Resolve Unit Test variances	Thu 7/3/08	Tue 7/15/08	Tue 7/15/08	302	305	Lou Richards
305	3.89.30.40.2.5.8	Sign Off	Thu 7/3/08	Wed 7/16/08	Wed 7/16/08	304		Lloyd Shibata
306	**3.89.30.40.2.6**	**Schedule R,E,E1,RNM,ENM & ENM1 - Tiered Energ**	**Mon 7/7/08**	**Mon 6/16/08**	**Thu 7/31/08**			
307	3.89.30.40.2.6.4	Identify Tariffs that need to be updated	Thu 7/3/08	Mon 6/16/08	Mon 6/30/08	303	309	Mark Kiyozuka
308	**3.89.30.40.2.6.5**	**Clone New Tariff w/effective date of D&O**	**Mon 7/7/08**	**Mon 6/16/08**	**Wed 7/30/08**			
309	3.89.30.40.2.6.5.5	Clone Tariff (12 Tariffs)	Fri 7/4/08	Mon 6/16/08	Mon 6/30/08	307	310	Mark Kiyozuka
310	3.89.30.40.2.6.5.6	Update Steps on Cloned tariffs	Fri 7/4/08	Mon 6/16/08	Mon 6/30/08	309	311,312	Mark Kiyozuka
311	3.89.30.40.2.6.5.7	Unit Test a Sample of rates - (new tariff + C	Mon 7/7/08	Fri 7/11/08	Mon 7/14/08	310	313	Mark Kiyozuka
312	3.89.30.40.2.6.5.8	Resolve Unit Test variances	Mon 7/7/08	Wed 7/30/08	Wed 7/30/08	310	313,315	Lou Richards
313	3.89.30.40.2.6.6	Sign Off	Mon 7/7/08	Thu 7/31/08	Thu 7/31/08	311,312		Lloyd Shibata
314	**3.89.30.40.2.7**	**Schedule F - Customer Charge (7-Trees)**	**Thu 7/10/08**	**Mon 6/16/08**	**Mon 8/4/08**			
315	3.89.30.40.2.7.10	Assess Impact to design & component set up	Mon 7/7/08	Mon 6/16/08	Mon 6/30/08	312	316	Lou Richards
316	3.89.30.40.2.7.11	Identify Tariff numbers	Mon 7/7/08	Mon 6/16/08	Mon 6/30/08	315	317,318	Lou Richards
317	3.89.30.40.2.7.12	Update Tariff tree	Tue 7/8/08	Mon 6/16/08	Mon 6/30/08	316	319	Lou Richards
318	3.89.30.40.2.7.13	Update Rate List	Mon 7/7/08	Mon 6/16/08	Mon 6/30/08	316		Lou Richards
319	3.89.30.40.2.7.14	Build Tariffs	Wed 7/9/08	Mon 6/16/08	Mon 6/30/08	317	320	Mark Kiyozuka
320	3.89.30.40.2.7.15	Relate Tariffs as per revised trees	Wed 7/9/08	Mon 6/16/08	Mon 6/30/08	319	321,322	Mark Kiyozuka
321	3.89.30.40.2.7.16	Unit Test revisions	Thu 7/10/08	Thu 7/10/08	Fri 7/11/08	320	323,325	Mark Kiyozuka
322	3.89.30.40.2.7.17	Resolve unit Test variances	Thu 7/10/08	Fri 8/1/08	Fri 8/1/08	320	323	Lou Richards
323	3.89.30.40.2.7.18	Sign Off	Thu 7/10/08	Mon 8/4/08	Mon 8/4/08	321,322		Lloyd Shibata
324	**3.89.30.40.2.8**	**Schedule U - Demand Charge - Change from On-P**	**Tue 7/22/08**	**Mon 6/16/08**	**Fri 7/18/08**			
325	3.89.30.40.2.8.10	Assess Impact to design & component set up	Tue 7/15/08	Mon 6/16/08	Mon 6/30/08	321	326	Lou Richards
326	3.89.30.40.2.8.11	Identify Tariff numbers	Wed 7/16/08	Mon 6/16/08	Mon 6/30/08	325	327	Lou Richards
327	3.89.30.40.2.8.12	Update Tariff tree	Thu 7/17/08	Mon 6/16/08	Mon 6/30/08	326	328,329	Lou Richards
328	3.89.30.40.2.8.13	Update Rate List	Thu 7/17/08	Mon 6/16/08	Mon 6/30/08	327		Lou Richards
329	3.89.30.40.2.8.14	Build Tariffs	Fri 7/18/08	Mon 6/16/08	Mon 6/30/08	327	330	Mark Kiyozuka
330	3.89.30.40.2.8.15	Relate Tariffs as per revised trees	Fri 7/18/08	Mon 6/16/08	Mon 6/30/08	329	331,332	Mark Kiyozuka
331	3.89.30.40.2.8.16	Unit Test revisions	Mon 7/21/08	Mon 7/14/08	Tue 7/15/08	330	333	Mark Kiyozuka
332	3.89.30.40.2.8.17	Resolve unit Test variances	Mon 7/21/08	Wed 7/16/08	Thu 7/17/08	330	333	Lou Richards
333	3.89.30.40.2.8.18	Sign Off	Tue 7/22/08	Fri 7/18/08	Fri 7/18/08	331,332		Lloyd Shibata
334	**3.89.30.50**	**HELCO Final D&O (2005 & 2007)**	**Tue 7/22/08**	**Mon 1/5/09**	**Tue 1/20/09**			
335	**3.89.30.50.3**	**Identify Structural Changes to existing Rates**	**Tue 7/22/08**	**Mon 1/5/09**	**Tue 1/20/09**			
336	**3.89.30.50.3.9**	**Schedule J - Mean Ratchet (30 Trees Impacted)**	**Thu 7/3/08**	**Mon 1/5/09**	**Wed 1/7/09**			
337	3.89.30.50.3.9.9	Identify Mean Pricing Component to use - Advise	Mon 1/5/09	Mon 1/5/09	Mon 1/5/09		338,340	Lou Richards
338	3.89.30.50.3.9.10	Update tariff Trees	Tue 1/6/09	Mon 1/5/09	Tue 1/6/09	337		Lou Richards
339	**3.89.30.50.3.9.11**	**Clone New Tariff w/effective date of D&O**	**Thu 7/3/08**	**Mon 1/5/09**	**Wed 1/7/09**			
340	3.89.30.50.3.9.11.9	Clone Tariff (30 Tariffs)	Tue 1/6/09	Mon 1/5/09	Tue 1/6/09	337	341	Mark Kiyozuka
341	89.30.50.3.9.11.10	Replace 75% Component w/Mean Compone	Tue 1/6/09	Tue 1/6/09	Tue 1/6/09	340	342,343	Mark Kiyozuka
342	89.30.50.3.9.11.11	Unit Test a Sample of rates - (new tariff + C	Wed 1/7/09	Tue 1/6/09	Wed 1/7/09	341	346	Mark Kiyozuka
343	89.30.50.3.9.11.12	Resolve Unit Test variances	Wed 1/7/09	Tue 1/6/09	Wed 1/7/09	341	344	Lou Richards
344	3.89.30.50.3.9.12	Sign Off	Wed 1/7/09	Wed 1/7/09	Wed 1/7/09	343		Lloyd Shibata
345	**3.89.30.50.3.10**	**Schedule R,E,E1,RNM,ENM & ENM1 - Tiered Energ**	**Mon 7/7/08**	**Wed 1/7/09**	**Fri 1/9/09**			
346	3.89.30.50.3.10.7	Identify Tariffs that need to be updated	Wed 1/7/09	Wed 1/7/09	Wed 1/7/09	342	348	Mark Kiyozuka
347	**3.89.30.50.3.10.8**	**Clone New Tariff w/effective date of D&O**	**Mon 7/7/08**	**Wed 1/7/09**	**Fri 1/9/09**			
348	3.89.30.50.3.10.8.9	Clone Tariff (12 Tariffs)	Thu 1/8/09	Wed 1/7/09	Thu 1/8/09	346	349	Mark Kiyozuka
349	89.30.50.3.10.8.10	Update Steps on Cloned tariffs	Thu 1/8/09	Thu 1/8/09	Thu 1/8/09	348	350,351	Mark Kiyozuka
350	89.30.50.3.10.8.11	Unit Test a Sample of rates - (new tariff + C	Fri 1/9/09	Thu 1/8/09	Fri 1/9/09	349	352	Mark Kiyozuka
351	89.30.50.3.10.8.12	Resolve Unit Test variances	Fri 1/9/09	Thu 1/8/09	Fri 1/9/09	349	352,354	Lou Richards
352	3.89.30.50.3.10.9	Sign Off	Fri 1/9/09	Fri 1/9/09	Fri 1/9/09	350,351		Lloyd Shibata
353	**3.89.30.50.3.11**	**Schedule F - Customer Charge (7-Trees)**	**Thu 7/10/08**	**Fri 1/9/09**	**Tue 1/13/09**			

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
354	3.89.30.50.3.11.19	Assess Impact to design & component set up	Fri 1/9/09	Fri 1/9/09	Fri 1/9/09	351	355	Lou Richards
355	3.89.30.50.3.11.20	Identify Tariff numbers	Fri 1/9/09	Fri 1/9/09	Fri 1/9/09	354	356,357	Lou Richards
356	3.89.30.50.3.11.21	Update Tariff tree	Mon 1/12/09	Fri 1/9/09	Sun 1/11/09	355	358	Lou Richards
357	3.89.30.50.3.11.22	Update Rate List	Fri 1/9/09	Fri 1/9/09	Fri 1/9/09	355		Lou Richards
358	3.89.30.50.3.11.23	Build Tariffs	Mon 1/12/09	Sun 1/11/09	Sun 1/11/09	356	359	Mark Kiyozuka
359	3.89.30.50.3.11.24	Relate Tariffs as per revised trees	Tue 1/13/09	Mon 1/12/09	Mon 1/12/09	358	360,361	Mark Kiyozuka
360	3.89.30.50.3.11.25	Unit Test revisions	Wed 1/14/09	Mon 1/12/09	Tue 1/13/09	359	362,364	Mark Kiyozuka
361	3.89.30.50.3.11.26	Resolve unit Test variances	Tue 1/13/09	Mon 1/12/09	Mon 1/12/09	359	362	Lou Richards
362	3.89.30.50.3.11.27	Sign Off	Wed 1/14/09	Tue 1/13/09	Tue 1/13/09	360,361		Lloyd Shibata
363	**3.89.30.50.3.12**	**TOU G, TOU J & TOU P (HELCO)**	**Tue 7/22/08**	**Tue 1/13/09**	**Tue 1/20/09**			
364	3.89.30.50.3.12.19	Assess Impact to design & component set up	Wed 1/14/09	Tue 1/13/09	Tue 1/13/09	360	365	Lou Richards
365	3.89.30.50.3.12.20	Identify Tariff numbers	Thu 1/15/09	Wed 1/14/09	Wed 1/14/09	364	366	Lou Richards
366	3.89.30.50.3.12.21	Update Tariff tree	Fri 1/16/09	Wed 1/14/09	Thu 1/15/09	365	367,368	Lou Richards
367	3.89.30.50.3.12.22	Update Rate List	Mon 1/19/09	Fri 1/16/09	Fri 1/16/09	366		Lou Richards
368	3.89.30.50.3.12.23	Build Tariffs	Mon 1/19/09	Fri 1/16/09	Fri 1/16/09	366	369	Mark Kiyozuka
369	3.89.30.50.3.12.24	Relate Tariffs as per revised trees	Tue 1/20/09	Sun 1/18/09	Sun 1/18/09	368	370,371	Mark Kiyozuka
370	3.89.30.50.3.12.25	Unit Test revisions	Thu 1/22/09	Mon 1/19/09	Tue 1/20/09	369	372	Mark Kiyozuka
371	3.89.30.50.3.12.26	Resolve unit Test variances	Wed 1/21/09	Mon 1/19/09	Mon 1/19/09	369	372	Lou Richards
372	3.89.30.50.3.12.27	Sign Off	Thu 1/22/09	Tue 1/20/09	Tue 1/20/09	370,371		Lloyd Shibata
373	3.89.30.42	Assist in GLI as required	Thu 4/10/08	Thu 4/17/08	Mon 6/2/08			Lou Richards[25%],Lloyd Shibata[25%]
374	3.89.30.44	General Rates Maintenance	Fri 5/29/09	Mon 6/2/08	Thu 5/21/09			Lloyd Shibata[4%],Mark Kiyozuka[4%]
375	**3.89.30.45**	**Implement CR204**	**Mon 6/23/08**	**Wed 10/22/08**	**Thu 10/23/08**	**281**		
376	3.89.30.45.1	Change Meters	Mon 6/23/08	Wed 10/22/08	Thu 10/23/08			
377	3.89.30.45.2	Change KvArh rates	Mon 6/23/08	Wed 10/22/08	Thu 10/23/08			
378	3.89.30.45.3	Change J3H tariff	Mon 6/23/08	Wed 10/22/08	Thu 10/23/08		379	Mark Kiyozuka
379	3.89.30.46	Implement CR - changes to GNM rate	Tue 2/21/06	Fri 10/24/08	Thu 10/30/08	378		
380	**3.89.33**	**Data Conversion Development - After Mock 3**	**Wed 8/20/08**	**Mon 4/14/08**	**Tue 6/23/09**	**75**		
381	3.89.33.38	Manage Conversion Work	Wed 4/8/09	Mon 6/16/08	Mon 6/8/09			Tommy Hull
382	3.89.33.31	Resolve Integration Test Issues	Wed 8/20/08	Wed 4/23/08	Fri 10/17/08			Tommy Hull[50%],Alan Toft[75%],Joanne Peters,Carlos Palmer[10%],Tom Nii[50%
383	3.89.33.34	Cleanup - Punch List	Wed 8/20/08	Fri 5/9/08	Tue 10/28/08			Alan Toft[20%]
384	3.89.33.37	Verify Tarriffs For Conversion	Thu 8/14/08	Fri 5/22/09	Thu 6/4/09	212		Tommy Hull[40%],Joanne Peters[40%]
385	**3.89.33.32**	**New Development**	**Fri 5/2/08**	**Mon 4/14/08**	**Tue 6/9/09**			
386	**3.89.33.32.23**	**Employee Mailing Address**	**Mon 4/28/08**	**Tue 5/6/08**	**Thu 6/26/08**			
387	3.89.33.32.23.1	Business Decision (Employee Address)	Mon 4/28/08	Tue 5/6/08	Thu 6/26/08		388	Kathy Lagundimao[10%]
388	3.89.33.32.23.53	BI4 - Code & Unit Test (Employee Address)	Wed 3/26/08	Wed 5/21/08	Wed 5/21/08	387		Tom Nii
389	**3.89.33.32.22**	**Key Customers**	**Mon 5/5/08**	**Mon 4/14/08**	**Fri 5/23/08**			
390	3.89.33.32.22.1	BI2 - Business Decision (Key Customer)	Mon 4/14/08	Mon 4/14/08	Fri 5/23/08		391,392	Robb Tanaka
391	3.89.33.32.22.4	BI2 - Code & Unit Test (Key Customer)	Mon 4/21/08	Mon 5/19/08	Wed 5/21/08	390		Tom Nii
392	3.89.33.32.22.3	Code and Unit Test Transform and Load (Key Custom	Mon 5/5/08	Mon 5/19/08	Mon 5/19/08	390		Carlos Palmer[20%]
393	**3.89.33.32.14**	**Net Metering**	**Thu 4/17/08**	**Mon 5/5/08**	**Fri 5/23/08**	**220**		
394	3.89.33.32.14.3	Code and Unit Test Extracts (Net Metering)	Thu 4/17/08	Mon 5/5/08	Mon 5/12/08			Tommy Hull[50%]
395	3.89.33.32.14.4	Code and Unit Test Transform_Load (Net Metering)	Thu 4/17/08	Mon 5/12/08	Fri 5/23/08			Carlos Palmer
396	**3.89.33.32.15**	**Virtual Meters**	**Mon 4/21/08**	**Tue 5/20/08**	**Fri 7/11/08**		**402**	
397	3.89.33.32.15.1	Code and Unit Test Extracts (Virtual Meters)	Mon 4/21/08	Tue 5/20/08	Fri 7/11/08			Tommy Hull[50%]
398	**3.89.33.32.16**	**Co-Tenant**	**Mon 4/28/08**	**Thu 6/12/08**	**Tue 12/30/08**		**408**	
399	3.89.33.32.16.2	Map template (Co-Tenant)	Fri 4/18/08	Thu 6/12/08	Thu 6/12/08			Alan Toft[20%]
400	3.89.33.32.16.1	Code and Unit Test Extracts (Co-Tenant)	Thu 4/24/08	Mon 12/1/08	Tue 12/30/08			Tom Nii[50%]
401	**3.89.33.32.25**	**Config Workshop (263) - ECM Description**	**Mon 6/23/08**	**Mon 7/7/08**	**Wed 9/10/08**		**405**	
402	3.89.33.32.25.2	Analysis (ECM Description)	Wed 6/18/08	Mon 7/7/08	Fri 8/8/08	396	403	Tommy Hull[50%]
403	3.89.33.32.25.1	Code and Unit Test Extracts (ECM Description)	Mon 6/23/08	Tue 7/8/08	Wed 9/10/08	402		Tommy Hull[50%]
404	**3.89.33.32.27**	**Config Workshop (271) - ECM Vendor Types Deleted**	**Mon 6/30/08**	**Mon 7/7/08**	**Wed 9/10/08**			
405	3.89.33.32.27.5	Analysis (ECM Vendor Types)	Wed 6/25/08	Mon 7/7/08	Fri 8/8/08	401	406	Tommy Hull[50%]
406	3.89.33.32.27.6	Code and Unit Test Extracts (ECM Vendor Types)	Mon 6/30/08	Tue 7/8/08	Wed 9/10/08	405		Tommy Hull[50%]
407	**3.89.33.32.17**	**Convert the Tapes**	**Fri 5/2/08**	**Thu 5/1/08**	**Tue 12/16/08**			
408	3.89.33.32.17.4	Obtain a Definitive Answer (Convert the Tapes)	Wed 4/16/08	Wed 10/1/08	Wed 10/1/08	398	409	Alan Toft
409	3.89.33.32.17.1	Revisit and finalize conversion approach (Convert the	Wed 4/30/08	Mon 10/27/08	Mon 10/27/08	408	410	Tommy Hull[50%]
410	3.89.33.32.17.2	Develop design spec (Convert the Tapes)	Thu 5/1/08	Mon 10/27/08	Mon 10/27/08	409	411	Tommy Hull[50%]
411	3.89.33.32.17.3	Code and Unit Test (Convert the Tapes)	Fri 5/2/08	Thu 5/1/08	Fri 5/2/08	410		Tommy Hull
412	3.89.33.32.17.5	E-T-V-L-I (Convert the Tapes)	Thu 12/4/08	Mon 12/1/08	Thu 12/4/08		13SS+2 days	Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
413	3.89.33.32.17.6	Convert the Tapes Conversion Issue Resolution	Tue 12/16/08	Wed 12/3/08	Tue 12/16/08	412SS+2 days		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
414	**3.89.33.32.28**	**CR220 - Bill Print Deposit Conversion Changes**	**NA**	**Wed 12/3/08**	**Wed 12/10/08**			
415	3.89.33.32.28.8	Code and Unit Test (CR220 - Bill Print Deposit)	NA	Wed 12/3/08	Wed 12/10/08			Tom Nii[30%]
416	**3.89.33.32.29**	**Process Engineering Request**	**NA**	**Mon 3/9/09**	**Wed 3/25/09**			
417	3.89.33.32.29.6	Impact Analysis, Code, Unit Test (Process Engineerin	NA	Mon 3/9/09	Wed 3/25/09		419	Tommy Hull
418	**3.89.33.32.30**	**New Rates (after 9/30)**	**NA**	**Thu 3/26/09**	**Tue 4/14/09**			
419	3.89.33.32.30.7	Impact Analysis, Code, Unit Test (New Rates)	NA	Thu 3/26/09	Tue 4/14/09	417		Tommy Hull
420	**3.89.33.32.31**	**SSPP**	**NA**	**Thu 4/30/09**	**Thu 4/30/09**			
421	3.89.33.32.31.4	Impact Analysis (SSPP)	NA	Thu 4/30/09	Thu 4/30/09			Tommy Hull
422	**3.89.33.32.32**	**Revenue Reporting**	**NA**	**Tue 5/26/09**	**Tue 6/9/09**			
423	3.89.33.32.32.6	Impact Analysis, Code, Unit Test (Revenue Reporting)	NA	Tue 5/26/09	Tue 6/9/09			Tommy Hull
424	**3.89.33.33**	**Data Cleansing Effort**	**NA**	**Wed 3/4/09**	**Mon 4/6/09**			
425	**3.89.33.33.17**	**Overpaid Deposits**	**NA**	**Wed 3/4/09**	**Fri 3/20/09**			
426	3.89.33.33.17.7	Solution Design (Overpaid Deposits)	NA	Wed 3/4/09	Fri 3/6/09		430,427	Tommy Hull
427	3.89.33.33.17.8	Solution Coding (Overpaid Deposits)	NA	Mon 3/9/09	Fri 3/13/09	426	428	Tom Nii
428	3.89.33.33.17.9	Implement Solution (Overpaid Deposits)	NA	Mon 3/16/09	Fri 3/20/09	427		Robb Tanaka
429	**3.89.33.33.18**	**Disconnect "How" Code**	**NA**	**Mon 3/9/09**	**Wed 3/25/09**			
430	3.89.33.33.18.7	Solution Design (Disconnect "How" Code)	NA	Mon 3/9/09	Wed 3/11/09	426	431,434	Tommy Hull
431	3.89.33.33.18.8	Solution Coding (Disconnect "How" Code)	NA	Thu 3/12/09	Wed 3/18/09	430	432	Tom Nii
432	3.89.33.33.18.9	Implement Solution (Disconnect "How" Code)	NA	Thu 3/19/09	Wed 3/25/09	431		Robb Tanaka
433	**3.89.33.33.19**	**Old & Not Closed Accounts**	**NA**	**Thu 3/12/09**	**Mon 3/30/09**			
434	3.89.33.33.19.10	Solution Design (Old & Not Closed Accounts)	NA	Thu 3/12/09	Mon 3/16/09	430	435,438	Tommy Hull
435	3.89.33.33.19.11	Solution Coding (Old & Not Closed Accounts)	NA	Tue 3/17/09	Mon 3/23/09	434	436	Tom Nii
436	3.89.33.33.19.12	Implement Solution (Old & Not Closed Accounts)	NA	Tue 3/24/09	Mon 3/30/09	435		Robb Tanaka
437	**3.89.33.33.20**	**OCARS Statuses**	**NA**	**Tue 3/17/09**	**Thu 4/2/09**			
438	3.89.33.33.20.10	Solution Design (OCARS Statuses)	NA	Tue 3/17/09	Thu 3/19/09	434	439,442	Tommy Hull
439	3.89.33.33.20.11	Solution Coding (OCARS Statuses)	NA	Fri 3/20/09	Thu 3/26/09	438	440	Tom Nii
440	3.89.33.33.20.12	Implement Solution (OCARS Statuses)	NA	Fri 3/27/09	Thu 4/2/09	439		Robb Tanaka
441	**3.89.33.33.21**	**Employee / Retiree**	**NA**	**Fri 3/20/09**	**Mon 4/6/09**			
442	3.89.33.33.21.13	Solution Design (Employee / Retiree)	NA	Fri 3/20/09	Tue 3/24/09	438	443	Tommy Hull
443	3.89.33.33.21.14	Solution Coding (Employee / Retiree)	NA	Wed 3/25/09	Mon 3/30/09	442	444	Tom Nii
444	3.89.33.33.21.15	Implement Solution (Employee / Retiree)	NA	Tue 3/31/09	Mon 4/6/09	443		Robb Tanaka
445	**3.89.33.33**	**Provide Test Databases**	**Thu 9/4/08**	**Mon 6/2/08**	**Tue 6/23/09**			
446	**3.89.33.33.37**	**June Conversion**	**Thu 7/10/08**	**Mon 6/2/08**	**Wed 7/2/08**			
447	**3.89.33.33.37.5**	**External Data Conversion**	**Wed 6/11/08**	**Mon 6/2/08**	**Wed 6/11/08**		**453**	
448	3.89.33.33.37.5.1	Street Lights	Wed 6/11/08	Mon 6/2/08	Wed 6/11/08			Jackie Waltjen[21%],Kendall Waltjen[21%],Krislynn Elvenia[21%]
449	3.89.33.33.37.5.2	TOU	Wed 6/11/08	Mon 6/2/08	Wed 6/11/08			Edgar Leung[21%],Kendall Waltjen[21%],Krislynn Elvenia[21%]
450	3.89.33.33.37.5.3	SSPP	Wed 6/11/08	Mon 6/2/08	Wed 6/11/08			Kendall Waltjen[63%]
451	3.89.33.33.37.5.4	Virtual Meters	Wed 6/11/08	Mon 6/2/08	Wed 6/11/08			Edgar Leung[21%],Kendall Waltjen[21%],Krislynn Elvenia[21%]
452	3.89.33.33.37.5.5	Net Metering	Wed 6/11/08	Mon 6/2/08	Wed 6/11/08			Edgar Leung[21%],Kendall Waltjen[21%],Krislynn Elvenia[21%]
453	3.89.33.33.37.11	E-T-V-L-I	Wed 6/18/08	Sun 6/8/08	Thu 6/12/08	447	454	Tommy Hull[37%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
454	3.89.33.33.37.12	June Conversion Issue Resolution	Thu 7/10/08	Thu 6/12/08	Wed 7/2/08	453		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
455	**3.89.33.33.38**	**July Conversion**	**Thu 7/10/08**	**Tue 7/1/08**	**Wed 8/6/08**			
456	**3.89.33.33.38.15**	**External Data Conversion**	**Wed 6/11/08**	**Tue 7/1/08**	**Wed 7/9/08**		**462**	
457	.89.33.33.38.15.11	Street Lights	Wed 6/11/08	Tue 7/1/08	Wed 7/9/08			Jackie Waltjen[28%],Kendall Waltjen[28%],Krislynn Elvenia[28%]
458	.89.33.33.38.15.12	TOU	Wed 6/11/08	Tue 7/1/08	Wed 7/9/08			Edgar Leung[28%],Kendall Waltjen[28%],Krislynn Elvenia[28%]
459	.89.33.33.38.15.13	SSPP	Wed 6/11/08	Tue 7/1/08	Wed 7/9/08			Kendall Waltjen[83%]
460	.89.33.33.38.15.14	Virtual Meters	Wed 6/11/08	Tue 7/1/08	Wed 7/9/08			Edgar Leung[28%],Kendall Waltjen[28%],Krislynn Elvenia[28%]
461	.89.33.33.38.15.15	Net Metering	Wed 6/11/08	Tue 7/1/08	Wed 7/9/08			Edgar Leung[28%],Kendall Waltjen[28%],Krislynn Elvenia[28%]
462	3.89.33.33.38.16	E-T-V-L-I	Wed 6/18/08	Thu 7/10/08	Wed 7/16/08	456	463	Tommy Hull[37%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
463	3.89.33.33.38.17	July Validation Issue Resolution	Thu 7/10/08	Wed 7/16/08	Wed 8/6/08	462		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
464	**3.89.33.33.39**	**August Conversion**	**Wed 8/6/08**	**Fri 8/1/08**	**Mon 9/8/08**			
465	**3.89.33.33.39.16**	**External Data Conversion**	**Thu 7/10/08**	**Fri 8/1/08**	**Fri 8/8/08**			
466	.89.33.33.39.16.11	Street Lights	Thu 7/10/08	Fri 8/1/08	Fri 8/8/08			Jackie Waltjen[19%],Kendall Waltjen[19%],Krislynn Elvenia[19%]
467	.89.33.33.39.16.12	TOU	Thu 7/10/08	Fri 8/1/08	Fri 8/8/08			Edgar Leung[19%],Kendall Waltjen[19%],Krislynn Elvenia[19%]
468	.89.33.33.39.16.13	SSPP	Thu 7/10/08	Fri 8/1/08	Fri 8/8/08			Kendall Waltjen[56%]
469	.89.33.33.39.16.14	Virtual Meters	Thu 7/10/08	Fri 8/1/08	Fri 8/8/08			Edgar Leung[19%],Kendall Waltjen[19%],Krislynn Elvenia[19%]
470	.89.33.33.39.16.15	Net Metering	Thu 7/10/08	Fri 8/1/08	Fri 8/8/08			Edgar Leung[19%],Kendall Waltjen[19%],Krislynn Elvenia[19%]
471	3.89.33.33.39.17	E-T-V-L-I	Wed 7/16/08	Thu 8/21/08	Wed 8/27/08		472	Tommy Hull[37%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
472	3.89.33.33.39.18	August Validation Issue Resolution	Wed 8/6/08	Wed 8/27/08	Mon 9/8/08	471		Tommy Hull[16%],Tom Nii[11%],Alan Toft[17%],Carlos Palmer[11%]
473	**3.89.33.33.40**	**September Conversion**	**Thu 9/4/08**	**Tue 9/9/08**	**Wed 10/8/08**			
474	**3.89.33.33.40.22**	**External Data Conversion**	**Thu 8/7/08**	**Tue 9/9/08**	**Wed 9/17/08**		**480**	
475	.89.33.33.40.22.21	Street Lights (September Conversion)	Thu 8/7/08	Tue 9/9/08	Wed 9/17/08			Jackie Waltjen[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
476	.89.33.33.40.22.22	TOU (September Conversion)	Thu 8/7/08	Tue 9/9/08	Wed 9/17/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
477	.89.33.33.40.22.23	SSPP (September Conversion)	Thu 8/7/08	Tue 9/9/08	Wed 9/17/08			Kendall Waltjen[25%]
478	.89.33.33.40.22.24	Virtual Meters (September Conversion)	Thu 8/7/08	Tue 9/9/08	Wed 9/17/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
479	.89.33.33.40.22.25	Net Metering (September Conversion)	Thu 8/7/08	Tue 9/9/08	Wed 9/17/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
480	3.89.33.33.40.23	E-T-V-L-I (September Conversion)	Wed 8/13/08	Thu 9/18/08	Wed 9/24/08	474	481	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
481	3.89.33.33.40.24	September Validation Issue Resolution	Thu 9/4/08	Mon 9/22/08	Wed 10/8/08	480		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
482	**3.89.33.33.42**	**October Conversion**	**Mon 10/27/08**	**Wed 10/1/08**	**Thu 11/13/08**			
483	**3.89.33.33.42.1**	**External Data Conversion**	**Thu 10/9/08**	**Wed 10/1/08**	**Thu 10/9/08**			
484	3.89.33.33.42.1.1	Street Lights (October Conversion)	Thu 10/9/08	Wed 10/1/08	Thu 10/9/08			Jackie Waltjen[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
485	3.89.33.33.42.1.2	TOU (October Conversion)	Thu 10/9/08	Wed 10/1/08	Thu 10/9/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
486	3.89.33.33.42.1.3	SSPP (October Conversion)	Thu 10/9/08	Wed 10/1/08	Thu 10/9/08			Kendall Waltjen[25%]
487	3.89.33.33.42.1.4	Virtual Meters (October Conversion)	Thu 10/9/08	Wed 10/1/08	Thu 10/9/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
488	3.89.33.33.42.1.5	Net Metering (October Conversion)	Thu 10/9/08	Wed 10/1/08	Thu 10/9/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
489	3.89.33.33.42.7	E-T-V-L-I (October Conversion)	Thu 10/16/08	Thu 10/9/08	Thu 10/16/08		490	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
490	3.89.33.33.42.8	October Validation Issue Resolution	Mon 10/27/08	Thu 10/9/08	Thu 11/13/08	489		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
491	**3.89.33.33.44**	**November Conversion**	**Wed 12/10/08**	**Mon 11/3/08**	**Wed 12/24/08**			
492	**3.89.33.33.44.1**	**External Data Conversion**	**Tue 11/11/08**	**Mon 11/3/08**	**Tue 11/11/08**			
493	3.89.33.33.44.1.1	Street Lights (November Conversion)	Tue 11/11/08	Mon 11/3/08	Tue 11/11/08			Jackie Waltjen[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
494	3.89.33.33.44.1.2	TOU (November Conversion)	Tue 11/11/08	Mon 11/3/08	Tue 11/11/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
495	3.89.33.33.44.1.3	SSPP (November Conversion)	Tue 11/11/08	Mon 11/3/08	Tue 11/11/08			Kendall Waltjen[25%]
496	3.89.33.33.44.1.4	Virtual Meters (November Conversion)	Tue 11/11/08	Mon 11/3/08	Tue 11/11/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
497	3.89.33.33.44.1.5	Net Metering (November Conversion)	Tue 11/11/08	Mon 11/3/08	Tue 11/11/08			Edgar Leung[25%],Kendall Waltjen[25%],Krislynn Elvenia[25%]
498	3.89.33.33.44.7	E-T-V-L-I (November Conversion)	Wed 11/19/08	Tue 11/11/08	Wed 12/24/08		499FS-1 day	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
499	3.89.33.33.44.8	November Validation Issue Resolution	Wed 12/10/08	Wed 11/19/08	Tue 12/9/08	498FS-1 day		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
500	**3.89.33.33.46**	**January Conversion**	**Wed 12/10/08**	**Fri 1/2/09**	**Mon 2/23/09**			
501	**3.89.33.33.46.9**	**External Data Conversion**	**Tue 11/11/08**	**Fri 1/2/09**	**Wed 1/7/09**			
502	3.89.33.33.46.9.6	Street Lights (January Conversion)	Wed 12/10/08	Fri 1/2/09	Wed 1/7/09			Jackie Waltjen[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
503	3.89.33.33.46.9.7	TOU (January Conversion)	Wed 12/10/08	Fri 1/2/09	Wed 1/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
504	3.89.33.33.46.9.8	SSPP (January Conversion)	Wed 12/10/08	Fri 1/2/09	Wed 1/7/09			Kendall Waltjen[20%]
505	3.89.33.33.46.9.9	Virtual Meters (January Conversion)	Wed 12/10/08	Fri 1/2/09	Wed 1/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
506	3.89.33.33.46.9.10	Net Metering (January Conversion)	Wed 12/10/08	Fri 1/2/09	Wed 1/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
507	3.89.33.33.46.10	E-T-V-L-I Run 1 (January Conversion)	Wed 12/17/08	Sun 1/4/09	Fri 1/9/09		510FS-1 day	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
508	3.89.33.33.46.12	E-T-V-L-I Run 2 (January Conversion)	NA	Sun 1/18/09	Mon 2/23/09			Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
509	3.89.33.33.46.13	E-T-V-L-I Run 3 (January Conversion)	NA	Sat 1/31/09	Fri 2/6/09			Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
510	3.89.33.33.46.11	January Validation Issue Resolution	Thu 1/8/09	Sun 1/4/09	Tue 2/10/09	507FS-1 day		Tommy Hull[11%],Tom Nii[11%],Alan Toft[6%],Carlos Palmer[11%]
511	**3.89.33.33.47**	**March Conversion**	**NA**	**Mon 3/2/09**	**Mon 4/6/09**			
512	**3.89.33.33.47.16**	**External Data Conversion**	**NA**	**Mon 3/2/09**	**Fri 3/6/09**			
513	.89.33.33.47.16.11	Street Lights (March Conversion)	NA	Mon 3/2/09	Fri 3/6/09			Jackie Waltjen[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
514	.89.33.33.47.16.12	TOU (March Conversion)	NA	Mon 3/2/09	Fri 3/6/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
515	.89.33.33.47.16.13	SSPP (March Conversion)	NA	Mon 3/2/09	Fri 3/6/09			Kendall Waltjen[20%]
516	.89.33.33.47.16.14	Virtual Meters (March Conversion)	NA	Mon 3/2/09	Fri 3/6/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
517	.89.33.33.47.16.15	Net Metering (March Conversion)	NA	Mon 3/2/09	Fri 3/6/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
518	3.89.33.33.47.17	E-T-V-L-I Run 1 (March Conversion)	NA	Fri 3/6/09	Thu 3/12/09		520SS	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
519	3.89.33.33.47.18	E-T-V-L-I Run 2 (March Conversion)	NA	Mon 3/23/09	Mon 3/30/09			Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
520	3.89.33.33.47.19	March Validation Issue Resolution	NA	Fri 3/6/09	Mon 4/6/09	518SS		Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%],Joa
521	**3.89.33.33.48**	**April Conversion For R3 (Current Production Data)**	**NA**	**Wed 4/1/09**	**Tue 6/23/09**			
522	**3.89.33.33.48.10**	**External Data Conversion**	**NA**	**Wed 4/1/09**	**Tue 4/7/09**			
523	.89.33.33.48.10.16	Street Lights (April Conversion)	NA	Wed 4/1/09	Tue 4/7/09			Jackie Waltjen[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
524	.89.33.33.48.10.17	TOU (April Conversion)	NA	Wed 4/1/09	Tue 4/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
525	.89.33.33.48.10.18	SSPP (April Conversion)	NA	Wed 4/1/09	Tue 4/7/09			Kendall Waltjen[20%]
526	.89.33.33.48.10.19	Virtual Meters (April Conversion)	NA	Wed 4/1/09	Tue 4/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
527	.89.33.33.48.10.20	Net Metering (April Conversion)	NA	Wed 4/1/09	Tue 4/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
528	3.89.33.33.48.11	E-T-V-L-I Run 1 (April Conversion)	NA	Mon 4/20/09	Fri 4/24/09		530SS	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
529	3.89.33.33.48.12	E-T-V-L-I Run 2 (April Conversion)	NA	Mon 4/27/09	Fri 5/1/09			Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
530	3.89.33.33.48.13	April Validation Issue Resolution	NA	Mon 4/20/09	Tue 5/19/09	528SS		Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%],Joa

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
531	**3.89.33.33.48.16**	**May Conversion (Current Production Data)**	**NA**	**Fri 5/1/09**	**Tue 6/23/09**			
532	**.89.33.33.48.16.13**	**External Data Conversion**	**NA**	**Fri 5/1/09**	**Thu 5/7/09**			
533	.33.33.48.16.13.21	Street Lights (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Jackie Waltjen[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
534	.33.33.48.16.13.22	TOU (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
535	.33.33.48.16.13.23	SSPP (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Kendall Waltjen[20%]
536	.33.33.48.16.13.24	Virtual Meters (Mayl Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
537	.33.33.48.16.13.25	Net Metering (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
538	.89.33.33.48.16.14	E-T-V-L-I Run 1 (May Conversion)	NA	Tue 5/26/09	Sat 5/30/09		540SS	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
539	.89.33.33.48.16.15	E-T-V-L-I Run 2 (May Conversion)	NA	Mon 6/1/09	Fri 6/5/09			Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
540	.89.33.33.48.16.16	May Validation Issue Resolution	NA	Tue 5/26/09	Tue 6/23/09	538SS		Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%],Joa
541	**3.89.33.33.49**	**May Conversion (Current Production Data)**	**NA**	**Fri 5/1/09**	**Tue 6/23/09**			
542	**3.89.33.33.49.13**	**External Data Conversion**	**NA**	**Fri 5/1/09**	**Thu 5/7/09**			
543	.89.33.33.49.13.21	Street Lights (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Jackie Waltjen[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
544	.89.33.33.49.13.22	TOU (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
545	.89.33.33.49.13.23	SSPP (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Kendall Waltjen[20%]
546	.89.33.33.49.13.24	Virtual Meters (Mayl Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
547	.89.33.33.49.13.25	Net Metering (May Conversion)	NA	Fri 5/1/09	Thu 5/7/09			Edgar Leung[20%],Kendall Waltjen[20%],Krislynn Elvenia[20%]
548	3.89.33.33.49.14	E-T-V-L-I Run 1 (May Conversion)	NA	Tue 5/26/09	Sat 5/30/09		550SS	Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
549	3.89.33.33.49.15	E-T-V-L-I Run 2 (May Conversion)	NA	Mon 6/1/09	Fri 6/5/09			Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
550	3.89.33.33.49.16	May Validation Issue Resolution	NA	Tue 5/26/09	Tue 6/23/09	548SS		Tommy Hull[39%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%],Joa
551	**3.89.33.33.41**	**Unbilled Revenue Conversion**	**NA**	**Fri 9/5/08**	**Wed 10/8/08**			
552	3.89.33.33.41.2	E-T-V-L-I (Unbilled Revenue)	Thu 9/11/08	Fri 9/5/08	Thu 9/11/08		553	Tommy Hull[20%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
553	3.89.33.33.41.3	Validation Issue Resolution (Unbilled Revenue)	Thu 10/2/08	Fri 9/12/08	Wed 10/8/08	552		Tommy Hull[37%],Tom Nii[37%],Alan Toft[9%],Carlos Palmer[37%]
554	**3.89.43**	**CR209 - PTJ / Workflow**	**Fri 1/9/09**	**Mon 10/6/08**	**Fri 2/13/09**			
555	**3.89.43.7**	**PTJ / Workflow / Work Queue Analysis**	**Fri 1/9/09**	**Tue 10/7/08**	**Wed 2/4/09**			
556	**3.89.43.7.23**	**Work Queues**	**Tue 11/4/08**	**Tue 10/7/08**	**Wed 11/5/08**			
557	3.89.43.7.23.5	Work Queues Analysis: High	Thu 10/23/08	Tue 10/7/08	Thu 10/23/08	567	558	James Carter
558	3.89.43.7.23.6	Work Queues Analysis: Medium	Fri 10/24/08	Thu 10/23/08	Mon 11/3/08	557	559	James Carter
559	3.89.43.7.23.7	Work Queues Analysis: Low	Tue 10/28/08	Tue 11/4/08	Wed 11/5/08	558	572	James Carter
560	**3.89.43.7.24**	**Work Flows**	**Fri 1/9/09**	**Mon 11/17/08**	**Wed 2/4/09**			
561	3.89.43.7.24.6	Work Flows Development: Very High	Mon 11/24/08	Mon 11/17/08	Tue 12/2/08	572	562	James Carter
562	3.89.43.7.24.7	Work Flows Development: High	Thu 12/4/08	Wed 12/3/08	Fri 1/9/09	561	563	James Carter[96%]
563	3.89.43.7.24.8	Work Flows Development: Medium	Fri 1/2/09	Mon 1/12/09	Sun 2/1/09	562	564	James Carter
564	3.89.43.7.24.9	Work Flows Development: Low	Wed 1/7/09	Sun 2/1/09	Wed 2/4/09	563		James Carter
565	**3.89.43.6**	**Development, Automation and Release Mgmt**	**Fri 11/21/08**	**Mon 10/6/08**	**Fri 2/13/09**			
566	**3.89.43.6.29**	**Work Queues**	**Mon 11/10/08**	**Mon 10/6/08**	**Mon 11/24/08**			
567	3.89.43.6.29.6	Work Queues: Import data into ACCESS DB Tool	Thu 10/23/08	Mon 10/6/08	Fri 10/17/08		568,557	James Carter
568	3.89.43.6.29.7	Work Queues: Create ACCESS DB Tool to maintain w	Wed 10/29/08	Mon 10/13/08	Mon 11/10/08	567	570	Rohn Carlson
569	3.89.43.6.29.8	Work Queues: Build/test process to import package ir	Fri 11/7/08	Tue 11/18/08	Mon 11/24/08			Annette Tanabe,Rohn Carlson,James Carter
570	3.89.43.6.29.9	Work Queues: Unit Test import Package	Fri 10/31/08	Mon 11/3/08	Fri 11/7/08	568	571	Rohn Carlson,James Carter
571	3.89.43.6.29.10	Work Queues: Document installation package (config	Mon 11/10/08	Mon 11/3/08	Wed 11/5/08	570		Rohn Carlson,James Carter
572		Work Queues: Build/Unit Test Work Queues	Tue 11/4/08	Mon 11/10/08	Fri 11/14/08	559	561	James Carter
573	**3.89.43.6.30**	**Process Work Flow**	**Fri 11/14/08**	**Mon 1/12/09**	**Fri 2/13/09**			
574	3.89.43.6.30.4	Process Work Flow: Build/test process to import pack	Fri 11/14/08	Thu 1/29/09	Fri 1/30/09		575SS	Rohn Carlson,James Carter
575	3.89.43.6.30.5	Process Work Flow: Unit test import package	Fri 11/14/08	Fri 2/6/09	Fri 2/13/09	574SS	576SS	Annette Tanabe,Rohn Carlson,James Carter
576	3.89.43.6.30.6	Process Work Flow: Document installation package (c	Fri 11/14/08	Fri 2/6/09	Tue 2/10/09	575SS		Rohn Carlson,James Carter
577	3.89.43.6.30.10	Process Work Flow: Build/Unit test work flows	Fri 1/9/09	Mon 1/12/09	Wed 2/4/09		578	James Carter,Rohn Carlson
578	3.89.43.8	Final Change Control Compare Between Harvest and CR209	NA	Thu 2/5/09	Fri 2/6/09	577		James Carter
579	**3.89.46**	**Interface 68 - OPUS Refactor**	**NA**	**Mon 12/22/08**	**Fri 1/2/09**			
580	3.89.46.2	Development / Unit Test (Interface 68 OPUS)	NA	Mon 12/22/08	Fri 1/2/09		581	Ben Maclean[20%],Stuart Harauchi[50%]
581	3.89.46.3	Release to Integration Testing (Interface 68 OPUS)	NA	Fri 1/2/09	Fri 1/2/09	580		
582								
583	**3.107**	**System Test**	**Mon 10/20/08**	**Mon 4/14/08**	**Thu 11/13/08**			
584	**3.107.37**	**Functional Testing Core CIS**	**Mon 8/11/08**	**Mon 4/14/08**	**Mon 11/10/08**			
585	3.107.37.21	Manage Testing Activities	NA	Mon 9/29/08	Mon 10/20/08			Michael Mwamunga
586	3.107.37.7	LLOYD AVAILABLE FOR TESTING ACTIVITIES	Fri 8/29/08	Fri 8/29/08	Fri 8/29/08		608	Lloyd Shibata
587	3.107.37.8	WENDY AVAILABLE FOR TESTING ACTIVITIES	Tue 7/17/07	Fri 8/1/08	Fri 8/1/08			Wendy Oda
588	3.107.37.9	LINDA AVAILABLE FOR TESTING ACTIVITIES	Mon 7/14/08	Thu 7/24/08	Thu 7/24/08			Linda Fung
589	3.107.37.10	JUDY AVAILABLE FOR TESTING ACTIVITIES	Mon 7/14/08	Thu 7/17/08	Thu 7/17/08			Judy Hirashima

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
590	3.107.37.11	DAN AVAILABLE FOR TESTING ACTIVITIES	Mon 7/14/08	Thu 7/24/08	Thu 7/24/08			Dan Hanohano
591	3.107.37.12	SYLVIA AVAILABLE FOR TESTING ACTIVITIES	Mon 7/14/08	Mon 7/14/08	Mon 7/14/08			Sylvia Chock
592	3.107.37.1	Organize/Decompose Test Scripts	Fri 5/9/08	Mon 5/5/08	Fri 5/9/08		593,594	Michael Mwamunga
593	3.107.37.2	Establish Tracking by Test Case	Fri 5/16/08	Mon 5/12/08	Fri 5/16/08	592		Michael Mwamunga
594	3.107.37.3	Establish Tracking by Business Priority	Tue 5/13/08	Mon 5/12/08	Tue 5/13/08	592		Carl Calvo,Harry Smith,Tim Carter,Wayne Uehira
595	**3.107.37.5**	**Clear Backlog of Incidents and Deliver SP**	**Mon 6/9/08**	**Mon 4/14/08**	**Fri 10/24/08**			
596	3.107.37.5.1	Resolve Interface incidents (Functional Testing)	Fri 5/9/08	Mon 4/14/08	Fri 10/24/08			Jenny Whibley,Todd Miyamoto,Brent,Stuart Harauchi
597	3.107.37.5.2	Resolve PTJ incidents (Functional Testing)	Fri 5/2/08	Tue 5/13/08	Tue 6/3/08	88SF		Peggy Yuen
598	3.107.37.5.3	Resolve Core CIS incidents (Functional Testing)	Mon 6/9/08	Mon 4/14/08	Wed 9/17/08			Jenny Whibley
599	3.107.37.5.9	Resolve Conversion incidents (Functional Testing)	Mon 10/27/08	Wed 8/20/08	Fri 10/24/08			Tommy Hull[80%],Tom Nii[80%],Joanne Peters,Alan Toft[80%]
600	3.107.37.13	Retest Backlog of Logged Incidents	Fri 9/12/08	Thu 7/17/08	Fri 10/31/08			Judy Hirashima[25%],Lloyd Shibata[25%],Sylvia Chock[25%],Wendy Oda[25%],L
601	**3.107.37.15**	**Execute Functional Tests**	**Mon 8/11/08**	**Fri 8/8/08**	**Fri 10/24/08**			
602	3.107.37.15.93	Execute Credit & Collections Functional Tests	Wed 8/20/08	Fri 8/8/08	Tue 9/23/08		603	Linda Fung[50%]
603	3.107.37.15.94	Execute Transformers I Functional Tests	Tue 9/2/08	Thu 9/11/08	Tue 9/23/08	602		Linda Fung[50%]
604	3.107.37.15.95	Execute Meter Reading Functional Tests	Mon 8/4/08	Fri 9/19/08	Fri 10/24/08			Dan Hanohano[0%],Darren Wong[50%],Lance Keahi[50%]
605	3.107.37.15.96	Execute Payments Functional Tests	Fri 10/3/08	Fri 8/8/08	Thu 10/23/08			Judy Hirashima[50%],Jennifer Estencion[50%]
606	3.107.37.15.97	Execute Customer Service Functional Tests	Fri 7/18/08	Fri 8/8/08	Fri 10/24/08		607	Sylvia Chock[10%],Amber Ballesteros[50%],Janelle Komatsu[50%]
607	3.107.37.15.98	Execute Trouble Functional Tests	Mon 7/28/08	Mon 10/13/08	Fri 10/24/08	606		Sylvia Chock[10%],Amber Ballesteros[50%],Janelle Komatsu[50%]
608	3.107.37.15.99	Execute Billing I Functional Tests	Thu 8/28/08	Tue 9/2/08	Fri 10/24/08	586		Lloyd Shibata[25%],John Gomes[50%]
609	3.107.37.15.100	Execute Billing II Functional Tests	Thu 9/11/08	Fri 8/8/08	Thu 10/2/08			Mark Kiyozuka[50%]
610	3.107.37.15.101	Execute Field Service Functional Tests	Wed 8/13/08	Fri 10/24/08	Fri 10/24/08			Stacey Ishihara[50%],Susan McGrath[50%]
611	3.107.37.15.102	Execute Engineering Functional Tests	Fri 7/18/08	Fri 8/8/08	Wed 10/15/08		613	Loren Yasuda[111%],Lee Hashimura[50%]
612	3.107.37.15.103	Execute Meter Department Functional Tests	Thu 10/2/08	Fri 8/8/08	Wed 10/22/08			Wendy Oda[25%],Gena Kanahele[50%]
613	3.107.37.15.104	Execute Transformers II Functional Tests	Fri 8/1/08	Mon 9/29/08	Fri 10/24/08	611		Loren Yasuda[50%],Gena Kanahele[50%]
614	3.107.37.15.105	Execute DSM Functional Tests	Mon 8/25/08	Fri 8/8/08	Mon 9/22/08			Diane Fillbeck[76%],Joanne Ide[50%],Dragos Oprescu[50%]
615	3.107.37.15.106	Execute MECO Functional Tests	Mon 9/15/08	Fri 8/8/08	Fri 10/10/08			Krislynn Elvenia[50%]
616	3.107.37.15.107	Execute HELCO Functional Tests	Wed 8/13/08	Fri 8/8/08	Fri 10/24/08			Sandy Satake[50%]
617	**3.107.37.20**	**Ramp up of Integration Testing**	**Wed 11/19/08**	**Tue 4/29/08**	**Mon 11/10/08**			
618	3.107.37.20.57	Capture CB ACCESS Input Files for Unscripted Batch Test	Fri 7/25/08	Tue 4/29/08	Fri 5/2/08			Ramona Hamasu[5%],Todd Miyamoto[5%]
619	3.107.37.20.58	Tie Features to RFP Requirements	Mon 10/6/08	Mon 8/18/08	Mon 11/10/08			Linda Fung[5%],Judy Hirashima[10%],Sylvia Chock[10%],Diane Fillbeck[10%]
620	**3.107.37.20.59**	**Re-Prep data for Integration Testing**	**Fri 10/24/08**	**Mon 6/16/08**	**Fri 10/31/08**			
621	3.107.37.20.59.52	MAY 2008 TESTBED CAPTURED & CONVERTED (LC	Mon 6/16/08	Mon 6/16/08	Mon 6/16/08		622	
622	3.107.37.20.59.53	Prepare SQL Server DB from May 2008 Snapshot	Fri 6/20/08	Tue 6/17/08	Mon 6/23/08	621	623	Tom Nii[50%]
623	3.107.37.20.59.54	Rerun TYC Data Prep MS ACCESS Scripts	Mon 7/7/08	Tue 6/24/08	Wed 9/24/08	622		Tom Nii[25%],Michael Mwamunga[5%]
624	3.107.37.20.59.55	SEPT 2008 TESTBED CAPTURED & CONVERTED (S	Mon 10/6/08	Tue 9/30/08	Tue 9/30/08		625	Tom Nii
625	3.107.37.20.59.56	Rerun Peace Based Data Prep SQL from Robyn & Bil	Fri 10/10/08	Fri 10/17/08	Fri 10/31/08	624		Mark Ivanovich[50%]
626	3.107.37.20.59.58	Correct Data Prep SQL & Data Mine Complex Data Re	Tue 9/9/08	Mon 6/16/08	Tue 9/30/08			Mark Ivanovich[50%],Rajat Datta[50%]
627	3.107.37.20.60	Collation of Test Results & Verifying of Logging Results at	Fri 6/27/08	Tue 9/2/08	Mon 9/15/08			Darren Wong
628	**3.107.37.20.63**	**Re-Orientation Testing Training**	**Fri 10/17/08**	**Fri 10/17/08**	**Tue 10/21/08**			
629	3.107.37.20.63.26	Prepare for Re-Orientation Testing Training	Tue 10/14/08	Fri 10/17/08	Mon 10/20/08		632	Michael Mwamunga[50%],Wendy Oda[50%]
630	3.107.37.20.63.27	INTEGRATION TEST ENVIRONMENT READY FOR R	Tue 10/14/08	Mon 10/20/08	Mon 10/20/08		632	
631	**3.107.37.20.63.28**	**Conduct Re-Orientation Testing Training**	**Fri 10/17/08**	**Tue 10/21/08**	**Tue 10/21/08**			
632	107.37.20.63.28.23	Conduct Session 1 Re-Orientation Testing Traini	Wed 10/15/08	Tue 10/21/08	Tue 10/21/08	629,630		TBD,Wendy Oda,Michael Mwamunga,Danny Ishii[20%]
633	**3.107.37.20.64**	**Accounting/GL Testing Preparation**	**Wed 11/19/08**	**Mon 6/16/08**	**Fri 10/17/08**			
634	3.107.37.20.64.57	Reconcile 280 GL transactions to Test Scripts	Tue 9/9/08	Mon 6/16/08	Fri 10/3/08		636,637	Michael Mwamunga[25%],Nelson Watanabe[25%],Judy Hirashima[25%],Krislynn
635	3.107.37.20.64.65	Address Transactions Identified as FDU Re-Do (17 Tra	Fri 10/10/08	Tue 9/23/08	Fri 10/10/08			Jonathan Hall
636	3.107.37.20.64.58	Specify Expected Results for Test Scripts identified	Tue 10/7/08	Fri 9/19/08	Thu 10/16/08	634	637	lester nip[37%],Nelson Watanabe[50%],Anna Arase[50%],Kendall Waltjen[50%]
637	3.107.37.20.64.59	Develop Test Specifications for Transactions not alrea	Tue 11/4/08	Mon 9/22/08	Fri 10/17/08	634,636		lester nip[50%],Mark Kiyozuka[25%],Lloyd Shibata[25%],Judy Hirashima
638	3.107.37.20.64.63	Review GL Reports out of Peace	Wed 11/12/08	Mon 6/16/08	Fri 6/20/08		639	lester nip,Lloyd Shibata[25%]
639	3.107.37.20.64.64	Review Ellipse Reports for Balancing with Peace	Wed 11/19/08	Mon 6/23/08	Fri 6/27/08	638		lester nip,Lloyd Shibata[25%],Wendy Wingfield[10%]
640	**3.107.23**	**PTJ and Workflow**	**Fri 9/5/08**	**Thu 10/2/08**	**Fri 10/17/08**	**183**		
641	**3.107.23.2**	**PTJ Defect Fixes**	**Fri 9/5/08**	**Thu 10/2/08**	**Fri 10/17/08**	**184**	**644**	
642	3.107.23.2.23	PTJ / Workflow defects	Fri 9/5/08	Thu 10/2/08	Fri 10/17/08			Peggy Yuen,Oleg Vinkovsky
643	3.107.23.2.24	Work Queue defects	Fri 9/5/08	Thu 10/2/08	Fri 10/17/08			Peggy Yuen,Oleg Vinkovsky
644	**3.107.23.3**	**Deliver PTJ/PRW/WQ to Int Test**	**Fri 9/5/08**	**Fri 10/17/08**	**Fri 10/17/08**	**641**		
645	3.107.23.3.23	Release PTJ/ Workflows to Integration test	Fri 9/5/08	Fri 10/17/08	Fri 10/17/08			
646	3.107.23.3.24	Release to Integration test	Fri 9/5/08	Fri 10/17/08	Fri 10/17/08			
647	**3.107.29**	**Wishbone**	**Mon 10/20/08**	**Wed 6/18/08**	**Thu 11/13/08**	**200**	**654SS**	
648	**3.107.29.1**	**End to End Interface Testing**	**Fri 10/17/08**	**Wed 6/18/08**	**Wed 11/12/08**			

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
649	3.107.29.1.21	Business Objects - printing service orders	Tue 9/30/08	Mon 10/20/08	Fri 10/31/08			Mark Ivanovich,Ben Maclean
650	3.107.29.1.22	Download data setup for end to end testing	Tue 9/30/08	Thu 10/30/08	Wed 11/5/08		651	Stacey Ishihara
651	3.107.29.1.23	Onsite Config/ Unit Test Download and Fat Finger Tablet i	Tue 10/14/08	Wed 6/18/08	Wed 6/18/08	650	52FF+3 days	Ramona Hamasu,Stacey Ishihara
652	3.107.29.1.25	Onsite system test break-fix support	Fri 10/17/08	Thu 10/30/08	Wed 11/12/08	651FF+3 days	653FF+1 day	Jay Prabha,Ben Maclean,Maanav,Duncan
653	3.107.29.3	HECO Release to Integration Testing	Mon 10/20/08	Thu 11/13/08	Thu 11/13/08	652FF+1 day		Kathy Lagundimao
654	**3.107.35**	**OPUS - Interface 68/Productivity Statistics**	**Fri 10/3/08**	**Wed 6/18/08**	**Fri 6/27/08**	**647SS**		
655	3.107.35.1	Execute tests	Mon 9/29/08	Wed 6/18/08	Mon 6/23/08		656	Ben Maclean
656	3.107.35.2	Resolve incidents	Fri 10/3/08	Tue 6/24/08	Fri 6/27/08	655		Ben Maclean
657	**3.107.24**	**GLI**	**Wed 6/18/08**	**Tue 9/2/08**	**Mon 9/15/08**	**201**		
658	**3.107.24.1**	**Base GL Interface**	**Wed 6/18/08**	**Tue 9/2/08**	**Mon 9/15/08**	**202**		
659	3.107.24.1.1	Unit Test Execution	Fri 6/13/08	Tue 9/2/08	Fri 9/5/08		662	Helen Guo[78%],Ellen Walter[78%],Charlene[78%],Brent[78%]
660	3.107.24.1.2	Review Test Results& break fix	Fri 6/13/08	Tue 9/2/08	Fri 9/5/08			Charlene,Ellen Walter,Helen Guo,Brent
661	3.107.24.1.3	Release planning meeting	Tue 6/10/08	Tue 9/2/08	Tue 9/2/08		662	Wendy Wingfield,Annette Tanabe,Jenny Whibley,Ramona Hamasu,Jay Prabha,T
662	3.107.24.1.4	Release for Delivery to Site	Fri 6/13/08	Fri 9/5/08	Fri 9/5/08	659,661	663	
663	3.107.24.1.5	Install GL Interface	Mon 6/16/08	Wed 9/10/08	Wed 9/10/08	662	664	Ramona Hamasu
664	3.107.24.1.6	Configuration	Mon 6/16/08	Thu 9/11/08	Thu 9/11/08	663	665	Ramona Hamasu,Jonathan Hall
665	3.107.24.1.7	Interface Functional Test	Wed 6/18/08	Fri 9/12/08	Mon 9/15/08	664	666	Wendy Wingfield,Ellen Walter,Jay Prabha,Ramona Hamasu,Alan Hija
666	3.107.24.1.8	Acceptance for Integration Testing	Wed 6/18/08	Mon 9/15/08	Mon 9/15/08	665		
667	**3.107.24.2**	**GL Controls**	**Mon 6/16/08**	**Tue 9/2/08**	**Mon 9/8/08**	**204**		
668	3.107.24.2.1	Unit Test Execution	Fri 6/13/08	Tue 9/2/08	Thu 9/4/08		670	Helen Guo,Ellen Walter
669	3.107.24.2.2	Review Test Results& break fix	Fri 6/13/08	Tue 9/2/08	Thu 9/4/08		670	Wendy Wingfield,Ellen Walter,Helen Guo
670	3.107.24.2.3	Release for Delivery to Site	Fri 6/13/08	Thu 9/4/08	Thu 9/4/08	668,669	671	Wendy Wingfield
671	3.107.24.2.4	Configuration Test	Mon 6/16/08	Fri 9/5/08	Mon 9/8/08	670	672	Wendy Wingfield,Ellen Walter,Jonathan Hall,Jay Prabha
672	3.107.24.2.5	Acceptance for Integration Testing	Mon 6/16/08	Mon 9/8/08	Mon 9/8/08	671		
673	**3.107.33**	**Interface 80 - PBC Adapter Upload (CR121)**	**Fri 4/18/08**	**Wed 5/21/08**	**Thu 6/26/08**			
674	3.107.33.4	Resolve Issues (PBC Adapter Upload)	Mon 5/19/08	Wed 5/21/08	Thu 6/26/08		675	Praneeth[13%]
675	3.107.33.2	Peace Functional Testing (PBC Adapter Upload)	Fri 4/18/08	Fri 5/30/08	Fri 5/30/08	78,674	676	Jonathan Hall
676	3.107.33.3	Break/Fix (PBC Adapter Upload)	Thu 6/5/08	Wed 5/21/08	Mon 6/2/08	675		Praneeth[38%]
677	**3.107.21**	**Bill Print**	**Tue 7/22/08**	**Wed 10/8/08**	**Wed 10/8/08**			
678	**3.107.21.3**	**Letters**	**Tue 7/8/08**	**Wed 10/8/08**	**Wed 10/8/08**			
679	3.107.21.3.3	Review AFP Files (Letters)	Tue 7/8/08	Wed 10/8/08	Wed 10/8/08		680	Lloyd Shibata[25%],Judy Hirashima[25%],Ramona Hamasu[25%]
680	3.107.21.3.4	Review Test Results& break fix (Letters)	Thu 7/3/08	Wed 10/8/08	Wed 10/8/08	679		Curt[25%],Kerry[25%],Ben Maclean[25%]
681	**3.144**	**Integration Testing**	**Mon 4/6/09**	**Tue 2/21/06**	**Tue 4/7/09**			
682	3.144.36	Manage Test Activities	NA	Mon 10/20/08	Mon 3/30/09			Michael Mwamunga
683	3.144.30	Revalidate/Refactor Integration Test Scripts	Fri 12/19/08	Mon 8/18/08	Mon 10/20/08			Judy Hirashima[25%],Lloyd Shibata[25%],Wendy Oda[57%],Sylvia Chock[25%],J
684	3.144.31	INTEGRATION TEST ENVIRONMENT BUILT & READY FOR USE	NA	Mon 10/20/08	Mon 10/20/08		685,728	
685	**3.144.32**	**Conduct Online Testing**	**Mon 4/6/09**	**Tue 10/21/08**	**Tue 4/7/09**	**684**		
686	3.144.32.16	Execute Integration Test Scripts based on Online Transactions	Wed 4/15/09	Tue 10/21/08	Tue 4/7/09		687SS	Dragos Oprescu,Dean Oshiro,Amber Ballesteros,Janelle Komatsu,Michele Aiu,Pe
687	3.144.32.17	Support Business Testers in Execution of Integration Test Scrip	Wed 4/15/09	Tue 10/21/08	Tue 4/7/09	686SS		Loren Yasuda[10%],Linda Fung[25%],Mark Kiyozuka[10%],Lloyd Shibata[10%],J
688	**3.144.32.18**	**Review Conversion and Processing of VIP & Special Custor**	**Thu 1/22/09**	**Tue 10/21/08**	**Sun 1/18/09**			
689	3.144.32.18.22	Specify Procedure for Monitoring VIP Customer Listing	Wed 10/22/08	Tue 10/21/08	Tue 10/21/08		690	Michael Mwamunga,Wendy Oda
690	3.144.32.18.23	Assign VIP List Customers to Testers for Monitory	Thu 10/23/08	Wed 10/22/08	Wed 10/22/08	689	692,691	Michael Mwamunga[20%],Wendy Oda[20%],Krislynn Elvenia[20%],Sandy Satake
691	3.144.32.18.24	Assign Special Customer List Customer to Testers for Mon	Fri 10/24/08	Thu 10/23/08	Thu 10/23/08	690	693	Michael Mwamunga[20%],Wendy Oda[20%],Krislynn Elvenia[20%],Sandy Satake
692	3.144.32.18.25	Monitor VIP Customers in Integration Test Environment	Wed 1/21/09	Thu 10/23/08	Fri 1/16/09	690		Amber Ballesteros[10%],Janelle Komatsu[10%],Sandy Satake[10%],Krislynn Elve
693	3.144.32.18.26	Monitor Special Customers in Integration Test Environment	Thu 1/22/09	Fri 10/24/08	Sun 1/18/09	691		Amber Ballesteros[10%],Janelle Komatsu[10%],Sandy Satake[20%],Krislynn Elve
694	**3.144.33**	**Conduct Batch Testing**	**Wed 11/26/08**	**Tue 2/21/06**	**Tue 4/7/09**			
695	**3.144.33.16**	**Unscripted Batch Testing (May 2008; 20 Cycles)**	**Wed 11/26/08**	**Mon 7/28/08**	**Fri 10/10/08**			
696	3.144.33.16.21	Perform Unscripted Batch Test Runs	Mon 10/20/08	Mon 7/28/08	Fri 10/10/08		0SF+10 days	Todd Miyamoto[10%],Annette Tanabe[13%],Mark Ivanovich[10%]
697	3.144.33.16.22	Review Peace/ACCESS Variance Output for Daily Cycle Ru	Fri 11/7/08	Tue 7/29/08	Fri 10/10/08	696SS+1 day		Lloyd Shibata[25%],Mark Ivanovich[25%]
698	**3.144.33.18**	**Unscripted Batch Testing (October 2008; 20 Cycles)**	**Mon 3/16/09**	**Mon 10/13/08**	**Wed 12/17/08**			
699	3.144.33.18.1	Prepare Environment - Virtual Month October 2008 Testing	Mon 1/12/09	Mon 10/13/08	Mon 10/13/08		00FS+4 days	Annette Tanabe[25%],Tom Nii[25%]
700	3.144.33.18.2	Perform First Pass through Virtual Month - October 2008 I	Fri 2/13/09	Mon 10/20/08	Fri 11/14/08	699FS+4 days	701	Annette Tanabe[25%],Todd Miyamoto[25%],Mark Ivanovich[25%],Lloyd Shibata[
701	3.144.33.18.3	Prepare Environment - Virtual Month October 2008 Testing	Mon 2/16/09	Mon 11/17/08	Mon 11/17/08	700	702	Annette Tanabe[25%],Tom Nii[25%]
702	3.144.33.18.4	Perform Second Pass throuh Virtual Month - October 2008	Mon 3/16/09	Tue 11/18/08	Wed 12/17/08	701		Annette Tanabe[25%],Todd Miyamoto[25%],Mark Ivanovich[25%],Lloyd Shibata[
703	**3.144.33.17**	**Round-Trip Batch Testing**	**Mon 3/2/09**	**Tue 2/21/06**	**Tue 4/7/09**			
704	3.144.33.17.64	Procure Fake Checks stock	Fri 10/10/08	Mon 12/1/08	Fri 12/5/08		705	Judy Hirashima[10%]
705	3.144.33.17.65	Schedule / Cordinate Round Trip Testing With Check Proc	Fri 11/7/08	Mon 12/8/08	Fri 12/19/08	704	706	Judy Hirashima[10%]
706	3.144.33.17.66	Coordinate Round-Trip Testing with Wausau Vendor	Tue 12/9/08	Mon 12/22/08	Wed 1/7/09	705	707	Judy Hirashima[5%]
707	3.144.33.17.67	Select Billing Cycle to use for Round Trip Testing	Tue 12/16/08	Thu 1/8/09	Tue 1/13/09	706	708	Ramona Hamasu[5%],Judy Hirashima[5%],Lloyd Shibata[5%],Michael Mwamunga

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
708	3.144.33.17.68	RESIDENTIAL BILLS & OCARS READY FOR PRINTING	Fri 10/31/08	Tue 1/13/09	Tue 1/13/09	707	710FS+1 day	
709	**3.144.33.17.69**	**Round-Trip Test - Flight 1**	**Wed 1/21/09**	**Thu 1/15/09**	**Tue 2/10/09**	**708**		
710	3.144.33.17.69.43	Round Trip 1 - Send Round-Trip Statement & Notices	Wed 12/17/08	Thu 1/15/09	Thu 1/15/09	,708FS+1 day	711,725SS	Ramona Hamasu[25%],Annette Tanabe[25%]
711	3.144.33.17.69.44	Round Trip 1 - Receive Stuffed Bills by Courier	Fri 12/19/08	Fri 1/16/09	Sun 1/18/09	710	712	Ramona Hamasu[25%],Judy Hirashima[25%]
712	3.144.33.17.69.45	Round Trip 1 - Open & Validate 10K Customer Bills	Tue 12/30/08	Mon 1/19/09	Fri 1/23/09	711	713	Amber Ballesteros,Janelle Komatsu,Jennifer Estencion,Cari Arita,David Tokuda,L
713	3.144.33.17.69.46	Round Trip 1 - Create Fake Check Payment and Stuff	Thu 1/8/09	Mon 1/26/09	Fri 1/30/09	712	714	Janelle Komatsu,Jennifer Estencion,Cari Arita,David Tokuda,Lance Keahi,Lee Ha
714	3.144.33.17.69.47	Round Trip 1 - Process Payments through Check Pro	Mon 1/12/09	Sat 1/31/09	Sun 2/1/09	713	715	Judy Hirashima[50%]
715	3.144.33.17.69.48	Round Trip 1 - Post Payments from Check Processing	Wed 1/14/09	Mon 2/2/09	Tue 2/3/09	714	716	Judy Hirashima[25%],Annette Tanabe[10%]
716	3.144.33.17.69.49	Round Trip 1 - Validate Customer Fake Payments in F	Wed 1/21/09	Wed 2/4/09	Tue 2/10/09	715		Judy Hirashima[50%],Jennifer Estencion
717	**3.144.33.17.70**	**Round Trip Test - Flight 2**	**Fri 2/20/09**	**Tue 2/21/06**	**Wed 3/22/06**			
718	3.144.33.17.70.51	Round Trip 2 - Send Round-Trip Statement & Notices	Thu 1/22/09	Tue 2/21/06	Tue 2/21/06		719	Ramona Hamasu[25%],Annette Tanabe[25%]
719	3.144.33.17.70.52	Round Trip 2 - Receive Stuffed Bills by Courier	Mon 1/26/09	Wed 2/22/06	Thu 2/23/06	718	720	Ramona Hamasu[25%],Judy Hirashima[25%]
720	3.144.33.17.70.53	Round Trip 2 - Open & Validate 10K Customer Bills	Mon 2/2/09	Fri 2/24/06	Thu 3/2/06	719	721	Amber Ballesteros,Janelle Komatsu,Jennifer Estencion,Cari Arita,David Tokuda,L
721	3.144.33.17.70.54	Round Trip 2 - Create Fake Check Payment and Stuff	Mon 2/9/09	Fri 3/3/06	Thu 3/9/06	720	722	Amber Ballesteros,Janelle Komatsu,Jennifer Estencion,Cari Arita,David Tokuda,L
722	3.144.33.17.70.55	Round Trip 2 - Process Payments through Check Pro	Wed 2/11/09	Fri 3/10/06	Mon 3/13/06	721	723	Judy Hirashima[50%]
723	3.144.33.17.70.56	Round Trip 2 - Post Payments from Check Processing	Fri 2/13/09	Tue 3/14/06	Wed 3/15/06	722	724	Judy Hirashima[25%],Annette Tanabe[10%]
724	3.144.33.17.70.57	Round Trip 2 - Validate Customer Fake Payments in F	Fri 2/20/09	Thu 3/16/06	Wed 3/22/06	723		Judy Hirashima[50%],Jennifer Estencion
725	3.144.33.17.71	Support Round Trip Testing Efforts	Mon 3/2/09	Thu 1/15/09	Tue 4/7/09	710SS		Ramona Hamasu[25%],Wendy Wingfield[25%],Ben Maclean[25%],Annette Tanat
726	**3.144.34**	**Conduct Unbilled Revenue Testing**	**Mon 2/2/09**	**Tue 10/21/08**	**Thu 3/12/09**			
727	**3.144.34.18**	**Conduct Scripted Unbilled Revenue Testing**	**Wed 1/7/09**	**Tue 10/21/08**	**Mon 1/5/09**		**730**	
728	3.144.34.18.16	Build Scripted Unbilled Revenue Testing Environment	Tue 10/28/08	Tue 10/21/08	Mon 10/27/08	684	729	Annette Tanabe
729	3.144.34.18.17	Execute Scripted Unbilled Revenue Tests	Wed 1/7/09	Tue 10/28/08	Mon 1/5/09	728	737	Mark Kiyozuka[50%],Anne Fuller[25%],Cathy Hazama[25%]
730	**3.144.34.19**	**Conduct Unscripted Unbilled Revenue Testing**	**Fri 3/20/09**	**Tue 1/6/09**	**Thu 3/12/09**	**727**		
731	**3.144.34.19.32**	**Build Test Bed for Unscripted Unbilled Revenue Testin**	**Mon 2/2/09**	**Tue 1/6/09**	**Tue 1/27/09**			
732	3.144.34.19.32.48	Complete Accounts Selection Criteria for Unscriped U	Mon 1/12/09	Tue 1/6/09	Thu 1/8/09		733	Michael Mwamunga
733	3.144.34.19.32.49	Program Listing of Identified Accounts for Unscripted	Mon 1/26/09	Fri 1/9/09	Tue 1/20/09	732	735,734,738	Tom Nii
734	3.144.34.19.32.50	Convert CB ACCESS Subset Data for Unscripted Unb	Mon 2/2/09	Wed 1/21/09	Tue 1/27/09	733		Tommy Hull,Tom Nii,Alan Toft
735	3.144.34.19.33	Derive Uncripted Unbilled Revenue Subset Testbed Expec	Mon 2/2/09	Wed 1/21/09	Tue 1/27/09	733	742	Anne Fuller,Cathy Hazama
736	**3.144.34.19.34**	**Perform Unscripted Unbilled Revenue Test Run**	**Mon 2/16/09**	**Tue 1/6/09**	**Fri 2/6/09**		**3FS+10 days**	
737	3.144.34.19.34.23	Build Unscripted Unbilled Revenue Testing Environm	Thu 1/8/09	Tue 1/6/09	Tue 1/6/09	729	738,739	Annette Tanabe
738	3.144.34.19.34.24	Load Readings for Testbed Subset into Peace for Billi	Tue 1/27/09	Wed 1/21/09	Wed 1/21/09	733,737	740	Ben Maclean[25%],Annette Tanabe[25%]
739	3.144.34.19.34.25	Specify Generation Factor to use for Unbilled Revenu	Fri 1/9/09	Wed 1/7/09	Wed 1/7/09	737	740	Anne Fuller[25%],Cathy Hazama[25%]
740	3.144.34.19.34.26	Run DP for Month End on Testbed Subset	Wed 1/28/09	Thu 1/22/09	Thu 1/22/09	738,739	741	Mark Kiyozuka[25%],Annette Tanabe[10%]
741	3.144.34.19.34.27	Produce Unbilled Revenue Reports from Testbed Sub	Thu 1/29/09	Fri 1/23/09	Fri 1/23/09	740	742	Mark Kiyozuka,Anne Fuller,Cathy Hazama
742	3.144.34.19.34.28	Evaluate Peace Unbilled Revenue Calculation with Ex	Mon 2/16/09	Wed 1/28/09	Fri 2/6/09	735,741		Anne Fuller,Cathy Hazama
743	**3.144.34.19.35**	**Perform Unscripted Unbilled Revenue Retest Run**	**Fri 3/20/09**	**Mon 2/23/09**	**Thu 3/12/09**	**36FS+10 days**		
744	3.144.34.19.35.19	Refresh & Update Unscripted Unbilled Revenue Testi	Tue 3/3/09	Mon 2/23/09	Mon 2/23/09		745,746	Annette Tanabe
745	3.144.34.19.35.20	Load Readings for Testbed Subset into Peace for Ret	Wed 3/4/09	Tue 2/24/09	Tue 2/24/09	744	747	Ben Maclean[25%],Annette Tanabe[25%]
746	3.144.34.19.35.21	Specify Generation Factor to use for Unbilled Revenu	Wed 3/4/09	Tue 2/24/09	Tue 2/24/09	744	747	Anne Fuller[25%],Cathy Hazama[25%]
747	3.144.34.19.35.22	Run DP for Month End on Testbed Subset for Retest	Thu 3/5/09	Wed 2/25/09	Wed 2/25/09	745,746	748	Mark Kiyozuka[25%],Annette Tanabe[10%]
748	3.144.34.19.35.23	Produce Unbilled Revenue Reports from Testbed Sub	Fri 3/6/09	Thu 2/26/09	Thu 2/26/09	747	749	Mark Kiyozuka,Anne Fuller,Cathy Hazama
749	3.144.34.19.35.24	Evaluate Peace Unbilled Revenue Calculation with Ex	Fri 3/20/09	Fri 2/27/09	Thu 3/12/09	748		Anne Fuller,Cathy Hazama
750	**3.144.37**	**Conduct Operational Critical Process Testing**	**NA**	**Mon 9/15/08**	**Wed 3/18/09**			
751	3.144.37.13	Develop OCP planning and tracking documents	NA	Mon 9/15/08	Fri 10/10/08			Harry Spanke[50%]
752	3.144.37.9	Execute core functionality tests	NA	Mon 9/22/08	Fri 10/31/08		753	Billy Love
753	3.144.37.10	Execute HECO extended functionality tests	NA	Mon 11/3/08	Tue 12/16/08	752	754	Billy Love
754	3.144.37.11	Execute interface/extended functionality tests	NA	Wed 12/17/08	Mon 3/9/09	753		Billy Love
755	3.144.37.12	Assist with processing of test incident proposed resolutions	NA	Wed 10/1/08	Wed 3/18/09			Billy Love[10%]
756	**3.144.35**	**Support and Assist with Integration Testing**	**Mon 4/6/09**	**Mon 10/20/08**	**Tue 2/24/09**			
757	3.144.35.24	Process Incident Reports, Resolve Incidents, Assist Test Team	Mon 4/6/09	Mon 10/20/08	Tue 2/24/09			Alan Toft,Auckland,Ben Maclean,Carlos Palmer,Duncan,Jay Prabha,Jonathan Ha
758	**3.145**	**Perfomance Testing**	**NA**	**Tue 7/1/08**	**Mon 12/8/08**			
759	3.145.4	Prep Environment for Performance Testing	Wed 8/6/08	Tue 7/1/08	Wed 8/6/08		761,760FF	Annette Tanabe[40%],Peter Park[10%],Jay Prabha[5%]
760	3.145.1	Run Sample Jmeter Test	Wed 8/6/08	Mon 7/14/08	Wed 8/6/08	759FF	761	Annette Tanabe[50%],Peter Park[10%]
761	3.145.2	Execute Online Performance	Wed 9/10/08	Wed 8/6/08	Thu 10/30/08	759,760	762	Annette Tanabe[60%],Jay Prabha[5%],Peter Park[5%],Rohn Carlson[60%]
762	3.145.3	Execute Batch Performance	Wed 10/15/08	Fri 10/31/08	Mon 12/8/08	761		Annette Tanabe[60%],Jay Prabha[10%],Rohn Carlson[60%]
763								
764	**3.78**	**Phase 5 - Deployment**	**Mon 5/11/09**	**Fri 7/6/07**	**Tue 6/23/09**			
765	**3.78.32**	**Conduct Training**	**Mon 5/11/09**	**Mon 1/5/09**	**Mon 5/4/09**			
766	3.78.32.11	FDU Instructors Review modules and Prepare to Teach	Fri 1/30/09	Mon 1/5/09	Mon 2/9/09		768FF,767FF	Rhea Lalla,Beverly Chambers

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
767	3.78.32.12	HECO T3 Instructors Review procedures and prepare to teach	Fri 1/30/09	Thu 1/29/09	Mon 2/9/09	766FF		Sylvia Chock,Wendy Oda,Lloyd Shibata,Diane Filibeck,Loren Yasuda,Sandy Ols
768	3.78.32.13	Prepare Classroom and Materials for T3 Training	Fri 1/30/09	Mon 2/9/09	Mon 2/9/09	766FF	769	Rhea Lalla,Beverly Chambers
769	3.78.32.14	FDU to conduct T3 Training for HECO Trainers	Fri 2/13/09	Tue 2/10/09	Mon 2/23/09	768	770	Rhea Lalla,Beverly Chambers
770	3.78.32.15	MECO/HELCO Additional T3	Fri 2/20/09	Tue 2/24/09	Mon 3/2/09	769	771,772	
771	3.78.32.16	FDU to provide management with an evaluation of HECO traine	Fri 2/27/09	Tue 3/3/09	Mon 3/9/09	770		Rhea Lalla,Beverly Chambers
772	3.78.32.17	HECO to provide management with assessment of HECO Train	Fri 2/27/09	Tue 3/3/09	Mon 3/9/09	770	773	Danny Ishii
773	3.78.32.18	Prepare for End User Training	Fri 3/6/09	Tue 3/10/09	Mon 3/16/09	772	774	Danny Ishii
774	3.78.32.19	Conduct End User Training	Fri 5/8/09	Tue 3/17/09	Mon 5/4/09	773		FDU,HECO
775								
776	**3.78.18**	**Prepare Production Environment**	**Wed 1/9/08**	**Fri 7/6/07**	**Wed 1/9/08**		**850**	**Annette Tanabe[0%]**
777	3.78.18.21	Confirm configuration architect	Fri 7/6/07	Fri 7/6/07	Fri 7/6/07		778	
778	3.78.18.22	Procure hardware & system software	Thu 8/23/07	Fri 7/6/07	Thu 8/23/07	777	779,781	
779	3.78.18.23	Install hardware and system software	Thu 8/30/07	Thu 8/23/07	Thu 8/30/07	778	780,781	Jim Kotaka
780	3.78.18.24	Install Oracle DBMS	Thu 8/30/07	Thu 8/23/07	Thu 8/30/07	779		Tom Nii
781	3.78.18.25	Install Peace Product on HECO hardware	Thu 8/30/07	Thu 8/23/07	Thu 8/30/07	778,779	782SS	Annette Tanabe[0%],Mark Noonan
782	3.78.18.26	Install Peace implementation project tool (jmeter)	Wed 11/21/07	Mon 10/1/07	Wed 11/21/07	781SS		Annette Tanabe
783	3.78.18.27	Procure Load Balancer	Fri 12/14/07	Mon 12/3/07	Fri 12/14/07		784	Annette Tanabe
784	3.78.18.28	Install Load Balancer	Wed 1/9/08	Mon 12/17/07	Wed 1/9/08	783		
785	3.78.18.29	Procure MQ License	Mon 12/3/07	Mon 11/19/07	Mon 12/3/07		786	Annette Tanabe
786	3.78.18.30	Install & setup Message Broker	Thu 1/3/08	Wed 12/5/07	Thu 1/3/08	785		Camille Au
787	**3.78.33**	**Cutover Activities**	**Fri 2/13/09**	**Tue 5/20/08**	**Tue 6/23/09**			
788	**3.78.33.46**	**Develop Cutover Documents**	**Tue 7/8/08**	**Tue 5/20/08**	**Tue 6/23/09**			
789	3.78.33.46.22	Develop MSP Workplan	Thu 9/25/08	Tue 5/20/08	Tue 10/7/08			Harry Spanke[60%]
790	3.78.33.46.23	Develop Playbooks	Thu 9/25/08	Mon 6/23/08	Mon 10/27/08		791	Harry Spanke[80%],Lloyd Shibata[11%],Diane Filibeck[10%],Judy Hirashima[11%
791	3.78.33.46.24	Develop Checklists	Mon 9/29/08	Mon 10/27/08	Wed 2/18/09	790	793,798	Harry Spanke
792	**3.78.33.46.25**	**Develop & Manage Checklists**	**NA**	**Wed 2/18/09**	**Tue 6/23/09**			
793	3.78.33.46.25.5	Refine Checklists	Mon 10/13/08	Wed 2/18/09	Wed 3/4/09	791	794,796FF	Harry Spanke[10%]
794	3.78.33.46.25.6	Maintain Checklists	Thu 8/6/09	Wed 3/4/09	Tue 6/23/09	793		Harry Spanke[10%]
795	**3.78.33.46.26**	**Develop and Manage Readiness Measures**	**Tue 7/8/08**	**Tue 8/26/08**	**Tue 5/26/09**			
796	3.78.33.46.26.6	Refine Readiness Measures in Dash Board	Mon 10/13/08	Tue 8/26/08	Wed 3/4/09	793FF	797	Harry Spanke[10%]
797	3.78.33.46.26.7	Maintain Readiness Measures	Thu 7/30/09	Wed 3/4/09	Tue 5/26/09	796		Harry Spanke
798	3.78.33.46.27	Revise Master Cutover Plan Document	Fri 10/17/08	Wed 2/18/09	Wed 2/25/09	791	799	Harry Spanke
799	3.78.33.46.28	Review & Modify Appendices D, E, F	Thu 10/23/08	Wed 2/25/09	Tue 3/3/09	798		Harry Spanke
800	**3.78.33.47**	**Conduct Rehearsal One**	**Mon 9/15/08**	**Wed 10/8/08**	**Wed 2/11/09**			
801	**3.78.33.47.32**	**Clean-Up 15 Playbooks for Timings, Reports, Activity S**	**Wed 10/8/08**	**Wed 10/29/08**	**Wed 12/17/08**			
802	3.78.33.47.32.1	Complete Cash & Credit	NA	Wed 10/29/08	Wed 10/29/08		803	Harry Spanke,Wendy Oda[25%]
803	3.78.33.47.32.2	Complete Field Service	NA	Wed 10/29/08	Wed 12/17/08	802	804	Harry Spanke,Wendy Oda[25%]
804	3.78.33.47.32.3	Complete Billing	NA	Wed 10/29/08	Wed 10/29/08	803	805	Harry Spanke
805	3.78.33.47.32.4	Complete Call Center	NA	Wed 10/29/08	Wed 10/29/08	804	806	Harry Spanke
806	3.78.33.47.32.5	Complete Meter Reading	NA	Wed 10/29/08	Wed 10/29/08	805	807	Harry Spanke
807	3.78.33.47.32.6	Complete System Operations	NA	Wed 10/29/08	Wed 10/29/08	806	808	Harry Spanke
808	3.78.33.47.32.7	Complete CID	NA	Wed 10/29/08	Wed 11/5/08	807	809	Harry Spanke
809	3.78.33.47.32.8	Complete Engineering	NA	Wed 10/29/08	Wed 11/5/08	808	810	Harry Spanke,Loren Yasuda[25%]
810	3.78.33.47.32.9	Complete Transformers	NA	Wed 10/29/08	Wed 11/5/08	809	811	Harry Spanke,Loren Yasuda
811	3.78.33.47.32.10	Complete ITS	NA	Thu 11/6/08	Fri 11/7/08	810	812	Harry Spanke,Kathy Lagundimao[25%]
812	3.78.33.47.44	Put Playbook Activities into Calendar	Wed 10/8/08	Wed 10/8/08	Wed 11/5/08	811	813	Harry Spanke
813	3.78.33.47.45	Get Support Process Defined (Go-Live & Post Go-Live); Cr	Fri 10/10/08	Wed 10/15/08	Wed 1/14/09	812	818	Harry Spanke,Kathy Lagundimao,Robb Tanaka[50%],Ramona Hamasu[25%]
814	3.78.33.47.46	Develop the PPT for the Conduct of War Room, Facilities, I	Wed 10/15/08	Sat 1/31/09	Mon 2/2/09	826	815	Harry Spanke
815	3.78.33.47.59	Determine Accounting Approach / Process	NA	Tue 2/3/09	Fri 2/6/09	814	816	Harry Spanke,lester nip,Lloyd Shibata[50%]
816	3.78.33.47.60	Revise Conversion Playbook Tasks / Timing	NA	Mon 2/9/09	Wed 2/11/09	815		Harry Spanke,Tommy Hull
817	**3.78.33.47.61**	**Develop Model Office Process**	**NA**	**Wed 1/14/09**	**Wed 1/14/09**			
818	3.78.33.47.61.1	Determine Transactions For Each Function	NA	Wed 1/14/09	Wed 1/14/09	813	819	Harry Spanke
819	3.78.33.47.61.2	Develop Transaction Scenarios For Model Office	NA	Wed 1/14/09	Wed 1/14/09	818	820	Harry Spanke
820	3.78.33.47.61.3	Develop Operational Effectiveness Measures	NA	Wed 1/14/09	Wed 1/14/09	819	821FS+1 day	Harry Spanke
821	3.78.33.47.33	Internal Review of Rehearsal One	Thu 10/9/08	Thu 1/15/09	Thu 1/15/09	820FS+1 day	822	Harry Spanke
822	3.78.33.47.63	Develop SME Group Rehearsal Calendar	NA	Fri 1/16/09	Fri 1/16/09	821	823	Harry Spanke
823	3.78.33.47.64	Conduct Group SME's Rehearsal	NA	Sun 1/18/09	Wed 1/21/09	822	824	Harry Spanke[80%],Lloyd Shibata[11%],Diane Filibeck[10%],Judy Hirashima[11%
824	3.78.33.47.65	Conduct Model Office	NA	Thu 1/22/09	Thu 1/22/09	823	825	Harry Spanke,Judy Hirashima[80%],Lloyd Shibata[80%],Sylvia Chock[80%],Wen
825	3.78.33.47.66	Collect & Analyze Readiness Results	NA	Fri 1/23/09	Tue 1/27/09	824	826	Harry Spanke

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
826	3.78.33.47.67	Revise Cutover Documents	NA	Wed 1/28/09	Fri 1/30/09	825	829,814	Harry Spanke,Sylvia Chock,Judy Hirashima,Lloyd Shibata,Loren Yasuda,Diane F
827	3.78.33.47.68	Identify & Develop Cutover Reports	NA	Mon 1/5/09	Mon 2/2/09			Mark Ivanovich[60%],Rajat Datta[30%],Harry Spanke[50%],Tommy Hull[85%],Ala
828	**3.78.33.48**	**Conduct Rehearsal Two**	**Wed 10/15/08**	**Sat 1/31/09**	**Mon 3/30/09**			
829	3.78.33.48.25	Revise Transaction Scenarios For First Day Transactions	NA	Sat 1/31/09	Wed 2/4/09	826	830,831	Harry Spanke,Sylvia Chock[20%],Judy Hirashima[20%],Linda Fung[20%],Lloyd S
830	3.78.33.48.24	Prepare Rehearsal Calendar, PB Material & Distribute	Tue 10/28/08	Thu 2/5/09	Fri 2/6/09	829		Harry Spanke
831	3.78.33.48.18	Prepare Environments	Tue 10/7/08	Thu 2/5/09	Fri 2/6/09	829	832	Harry Spanke[80%],Kathy Lagundimao[50%],Tommy Hull[50%],Annette Tanabe[5
832	3.78.33.48.19	Simulate Rampdown Using Test Access	Thu 10/9/08	Mon 2/9/09	Tue 2/10/09	831	833	Harry Spanke,Judy Hirashima,Sylvia Chock,Wendy Oda,Lloyd Shibata,Loren Yas
833	3.78.33.48.20	Cutover Weekend	Mon 10/13/08	Wed 2/11/09	Thu 2/12/09	832	834	Harry Spanke,Tommy Hull,Tom Nii[50%],Alan Toft[50%],Kathy Lagundimao[50%],
834	3.78.33.48.21	Rampup	Wed 10/15/08	Fri 2/13/09	Mon 2/16/09	833	835	Harry Spanke,Tommy Hull,Tom Nii,Alan Toft,Kathy Lagundimao,Sylvia Chock,Wer
835	3.78.33.48.22	Revise Cutover Documents	NA	Tue 2/17/09	Mon 3/2/09	834	836,838	Harry Spanke[80%],Tommy Hull[25%],Sylvia Chock[25%],Judy Hirashima[25%],L
836	3.78.33.48.23	Identify & Revise / Develop Cutover Reports	NA	Tue 3/3/09	Mon 3/30/09	835		Mark Ivanovich[50%],Rajat Datta[25%],Harry Spanke[25%],Tommy Hull[85%],Ala
837	**3.78.33.49**	**Conduct Rehearsal Three**	**Wed 11/12/08**	**Tue 3/3/09**	**Fri 5/8/09**			
838	3.78.33.49.28	Capture & Prepare First Day Transactions	NA	Tue 3/3/09	Mon 3/16/09	835	839	Harry Spanke,Sylvia Chock[20%],Judy Hirashima[20%],Linda Fung[20%],Lloyd S
839	3.78.33.49.29	Establish Go-Live Tracking Statistics	NA	Tue 3/17/09	Mon 3/23/09	838	840	Harry Spanke,Sylvia Chock[20%],Tommy Hull[20%],Robb Tanaka[20%],Danny Is
840	3.78.33.49.30	Prepare Go-Live Readiness Indicators / Checklist	NA	Tue 3/24/09	Mon 3/30/09	839	841	Harry Spanke,Kathy Lagundimao[20%],Robb Tanaka[20%],Danny Ishii[20%],Nels
841	3.78.33.49.31	Prepare Rehearsal Calendar, PB Material & Distribute	NA	Tue 3/31/09	Fri 4/3/09	840	842SS	Harry Spanke
842	3.78.33.49.32	Prepare Location Staff & Environments	NA	Tue 3/31/09	Thu 4/9/09	841SS	843	Harry Spanke[80%],Kathy Lagundimao[50%],Tommy Hull[50%],Annette Tanabe[5
843	3.78.33.49.24	Simulate Rampdown Using Test Access	Thu 11/6/08	Fri 4/10/09	Mon 4/13/09	842	844	Harry Spanke,Tommy Hull,Tom Nii,Alan Toft,Kathy Lagundimao,Annette Tanabe,R
844	3.78.33.49.25	Cutover Weekend	Mon 11/10/08	Tue 4/14/09	Wed 4/15/09	843	845	Harry Spanke,Tommy Hull,Tom Nii[50%],Alan Toft[50%],Kathy Lagundimao[50%],
845	3.78.33.49.26	Rampup	Wed 11/12/08	Thu 4/16/09	Fri 4/17/09	844	846	Harry Spanke,Todd Miyamoto,Tommy Hull[50%],Tom Nii[50%],Alan Toft[50%],Joa
846	3.78.33.49.27	Revise Cutover Documents	NA	Mon 4/20/09	Fri 5/8/09	845		Harry Spanke[80%],Tommy Hull[10%],Sylvia Chock[10%],Judy Hirashima[10%],D
847	3.78.33.50	Conduct Final Rehearsal	Fri 2/13/09	Mon 4/13/09	Fri 5/1/09			Harry Spanke,Kathy Lagundimao,Todd Miyamoto[50%],Tom Nii[50%],Annette Tar
848	**3.78.20**	**Execute Cutover Activities**	**Thu 5/7/09**	**Mon 5/4/09**	**Tue 6/2/09**			
849	3.78.20.3	Ramp Down	Mon 5/4/09	Mon 5/4/09	Fri 5/29/09		850	
850	3.78.20.4	Cutover Weekend	Thu 5/7/09	Sat 5/30/09	Tue 6/2/09	776,849	851	
851	3.78.21	**CIS Solution is in production use**	Thu 5/7/09	Tue 6/2/09	Tue 6/2/09	850	878,852	
852	**3.78.22**	**Initial Business Day Pre-full production**	**Mon 5/11/09**	**Wed 6/3/09**	**Thu 6/4/09**	**851**		
853	3.78.22.222	Enter Payments and balance	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09			Lloyd Shibata[25%],Linda Fung[10%],Dan Hanohano[10%],Judy Hirashima[10%],
854	3.78.22.223	Enter Call Center transactions	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09		859FF,860FF	Lloyd Shibata[25%],Linda Fung[10%],Dan Hanohano[10%],Judy Hirashima[10%],
855	3.78.22.224	Select VIP Accounts and review	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09			Lloyd Shibata,Mark Kiyozuka
856	3.78.22.225	Review of balancing reports	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF		Lloyd Shibata[25%],Linda Fung[10%],Dan Hanohano[10%],Judy Hirashima[10%],
857	3.78.22.226	Review of operational reports error logs etc	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF		Lloyd Shibata[10%],Mark Ivanovich[10%],Linda Fung[10%],Dan Hanohano[10%],
858	3.78.22.227	Work on CS Queue's	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF		Todd Miyamoto[25%],Dan Hanohano
859	3.78.22.228	Work Field Service Work Queue's	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF		Jay Prabha[25%],Wendy Oda[25%],Jill Reppun[20%]
860	3.78.22.229	Reasonable Review of Customer data credit cycle ?	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF		Linda Fung
861	3.78.22.230	Reasonable Review of Billing	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF		Lou Richards[25%],Jonathan Hall[25%],Lloyd Shibata[75%],Mark Kiyozuka[75%]
862	3.78.22.231	Reasonable Review of Omaha Feeds Statements/Letters	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	854FF	865FF,864FF	Jay Prabha[25%],Jonathan Hall[25%],Mark Kiyozuka[25%],Lloyd Shibata[25%],R
863	3.78.22.232	Identify incidences	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	862FF	866	Jonathan Hall[20%],Lloyd Shibata[50%],Mark Kiyozuka[50%],Wendy Oda[25%],L
864	3.78.22.233	Download MVRS 3 day schedule	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	862FF		
865	3.78.22.234	WISHBONE - Execute/verify Prime Download	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	862FF		
866	3.78.22.235	Determine adjusting accounting entries to G/L	Mon 5/11/09	Thu 6/4/09	Thu 6/4/09	863		Lloyd Shibata[10%],Mark Ivanovich[10%],Linda Fung[10%],Dan Hanohano[10%],
867	**3.78.22.236**	**Execute ist PEACE Business Day**	**Mon 5/11/09**	**Wed 6/3/09**	**Thu 6/4/09**			
868	3.78.22.236.144	Set Data entry and DP date to 5/31	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09			Dan Hanohano
869	3.78.22.236.145	Execute DP for 5/31	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09		870FF,871	Annette Tanabe
870	3.78.22.236.146	Backup C.O. environment	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09	869FF		Tom Nii
871	3.78.22.236.147	Balance PEACE DP	Mon 5/11/09	Wed 6/3/09	Thu 6/4/09	869	872SS	Tom Nii
872	3.78.22.236.148	Verify Go/No-Go for full production	Mon 5/11/09	Wed 6/3/09	Thu 6/4/09	871SS	873	
873	3.78.22.236.149	System ready for first full production business day	Mon 5/11/09	Thu 6/4/09	Thu 6/4/09	872		
874	**3.78.22.237**	**Post Go Live**	**Fri 5/8/09**	**Wed 6/3/09**	**Wed 6/3/09**			
875	3.78.22.237.34	IWR Enable full availabilty on web site	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09			
876	3.78.22.237.35	IVR Enable full availabilty	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09			
877	3.78.22.237.36	3 day ABP account return file validation (ACCESS?)	Fri 5/8/09	Wed 6/3/09	Wed 6/3/09			
878	**3.79**	**Phase 6 - Support**	**Thu 7/2/09**	**Tue 6/2/09**	**Tue 7/28/09**	**851**		
879	**3.79.9**	**Support Production Operations**	**Thu 7/2/09**	**Tue 6/2/09**	**Tue 7/28/09**			
880	**3.79.9.42**	**Provide a minimum of two months onsite support**	**Thu 7/2/09**	**Tue 6/2/09**	**Tue 7/28/09**			
881	3.79.9.42.9	Document all priority 1, 2, 3 and 4 incidents	Thu 7/2/09	Tue 6/2/09	Tue 7/28/09		885	Glenn Maglasang[0%],Jill Reppun[0%],Linda Fung[0%],Robb Tanaka[0%],Jonathan Hall,Peac
882	3.79.9.42.10	Diagnose all documented incidents (CIS Solution)	Thu 7/2/09	Tue 6/2/09	Tue 7/28/09		885	Glenn Maglasang[0%],Jill Reppun[0%],Linda Fung[0%],Robb Tanaka[0%],Jonathan Hall,Peac
883	3.79.9.42.11	Resolve all incidents (CIS Solution)	Thu 7/2/09	Wed 6/3/09	Tue 7/28/09		885	Jonathan Hall,Peace-BA-2,Peace-TA-1,Peace-TA-2

ID	WBS	Task Name	Baseline Finish	Start	Finish	Predecessors	Successors	Resource Names
884	3.79.9.42.12	Close incidents (CIS Solution)	Thu 5/7/09	Tue 6/2/09	Tue 6/2/09		885	Glenn Maglasang[0%],Jill Reppun[0%],Linda Fung[0%],Robb Tanaka[0%]
885	3.79.9.43	Provision of Notice of Final System Acceptance provided to Ven	Thu 7/2/09	Tue 7/28/09	Tue 7/28/09	31,882,883,884		
886								
887	**3.143**	**Phase 7 - deferred functionality**	**NA**	**Mon 3/30/09**	**Tue 9/8/09**			
888	**3.143.4**	**Wishbone**	**NA**	**Mon 3/30/09**	**Tue 9/8/09**			
889	**3.143.4.17**	**Design**	**NA**	**Mon 3/30/09**	**Thu 4/23/09**			
890	**3.143.4.17.14**	**Upload SDD Documentation**	**Tue 5/20/08**	**Mon 3/30/09**	**Thu 4/16/09**		**893**	
891	3.143.4.17.14.24	Write Upload SDD Documentation	Mon 5/19/08	Mon 3/30/09	Wed 4/15/09		892	Megan Mansfield,Wendy Oda[20%],Ramona Hamasu[40%],Ben Maclean[0%],Ja
892	3.143.4.17.14.25	Final Review Upload SDD	Tue 5/20/08	Wed 4/15/09	Thu 4/16/09	891	7,898,899,900	Ramona Hamasu,Jay Prabha,Ben Maclean,Megan Mansfield,Wendy Oda
893	**3.143.4.17.15**	**Performance Review of Design**	**Wed 5/28/08**	**Thu 4/16/09**	**Thu 4/23/09**	**890**		
894	3.143.4.17.15.27	wishbone download	Wed 5/28/08	Thu 4/16/09	Thu 4/23/09		911	Jim Mooney[50%],Camille Au[50%]
895	3.143.4.17.15.28	Wishbone upload	Wed 5/28/08	Thu 4/16/09	Thu 4/23/09			Camille Au[50%],Jim Mooney[50%]
896	**3.143.4.17.16**	**HECO Signoff - Upload Mapping Complete**	**Wed 5/21/08**	**Thu 4/16/09**	**Fri 4/17/09**		**912,904**	
897	3.143.4.17.16.37	Upload mapping document - signoff	Wed 5/21/08	Thu 4/16/09	Fri 4/17/09	892		Ramona Hamasu
898	3.143.4.17.16.38	upload validation document - signoff	Wed 5/21/08	Thu 4/16/09	Fri 4/17/09	892		Ramona Hamasu
899	3.143.4.17.16.39	upload service order - completion code mapping docu	Wed 5/21/08	Thu 4/16/09	Fri 4/17/09	892		Ramona Hamasu
900	3.143.4.17.16.40	Upload interface SDD sign-off	Tue 5/20/08	Thu 4/16/09	Thu 4/16/09	892		
901	**3.143.4.18**	**Construction**	**NA**	**Fri 4/17/09**	**Thu 8/13/09**			
902	**3.143.4.18.6**	**Wishbone**	**Tue 9/23/08**	**Fri 4/17/09**	**Thu 8/13/09**			
903	**3.143.4.18.6.31**	**Populate Configuration data from mapping/ Comp**	**Fri 6/6/08**	**Fri 4/17/09**	**Tue 4/28/09**			
904	3.143.4.18.6.31.21	Populate Configuration data from Mapping/ Com	Thu 6/5/08	Fri 4/17/09	Mon 4/27/09	896	905	Jay Prabha,Megan Mansfield
905	3.143.4.18.6.31.22	review config data mapping	Fri 6/6/08	Mon 4/27/09	Tue 4/28/09	904	907,908	Ramona Hamasu,Ben Maclean
906	**3.143.4.18.6.32**	**Document Unit Test Cases**	**Tue 7/15/08**	**Tue 4/28/09**	**Thu 6/4/09**			
907	3.143.4.18.6.32.31	Document Down Load Test Cases	Fri 7/11/08	Tue 4/28/09	Tue 6/2/09	905	4FF+30 days	Auckland TBD
908	3.143.4.18.6.32.32	Document Up Load Test Cases	Fri 7/11/08	Tue 4/28/09	Tue 6/2/09	905	6FF+40 days	Megan Mansfield
909	3.143.4.18.6.32.33	Onsite team review test case documents	Tue 7/15/08	Thu 4/30/09	Thu 6/4/09	908FF+2 days		Jay Prabha[10%],Ben Maclean[20%],Ramona Hamasu[10%]
910	**3.143.4.18.6.33**	**Complete development**	**Thu 7/24/08**	**Fri 4/17/09**	**Fri 6/19/09**			
911	3.143.4.18.6.33.21	Download - refactor and code fix	Thu 7/24/08	Thu 4/23/09	Fri 6/19/09	894	914	Maanav
912	3.143.4.18.6.33.22	Upload - refactor and code fix	Wed 7/2/08	Fri 4/17/09	Fri 5/22/09	896	916	Duncan,Auckland Two TBD
913	**3.143.4.18.6.34**	**Integration Engineering Unit test**	**Fri 9/12/08**	**Mon 6/1/09**	**Tue 8/4/09**			
914	3.143.4.18.6.34.51	Download Unit tests	Mon 9/1/08	Fri 6/19/09	Tue 7/28/09	F+30 days,911	18FF+2 days	Megan Mansfield,Ramona Hamasu[10%]
915	3.143.4.18.6.34.52	Download unit test break fix	Fri 9/5/08	Thu 6/25/09	Mon 8/3/09	914FF+4 days		Maanav
916	3.143.4.18.6.34.53	Upload Unit tests	Fri 9/5/08	Mon 6/1/09	Tue 7/28/09	F+40 days,912	18FF+2 days	Auckland TBD,Auckland Three TBD
917	3.143.4.18.6.34.54	Upload unit test break fix	Fri 9/12/08	Mon 6/8/09	Tue 8/4/09	916FF+5 days		Duncan,Auckland Two TBD
918	3.143.4.18.6.34.55	FDU Onsite Unit Test Review	Tue 9/9/08	Tue 6/23/09	Thu 7/30/09	916FF+2 days	920	Jay Prabha,Ben Maclean
919	**3.143.4.18.6.35**	**PRW String Tests**	**Tue 9/23/08**	**Thu 7/30/09**	**Thu 8/13/09**		**921**	
920	3.143.4.18.6.35.11	Onsite String tests with process workflows	Tue 9/23/08	Thu 7/30/09	Thu 8/13/09	918		Peggy Yuen,Stu Turner
921	**3.143.4.19**	**End to End Interface Testing**	**Fri 10/17/08**	**Thu 8/13/09**	**Tue 9/8/09**	**919**		
922	3.143.4.19.46	Business Objects - printing service orders	Tue 9/30/08	Thu 8/13/09	Thu 8/20/09			Mark Ivanovich,Ben Maclean
923	3.143.4.19.47	Download data setup for end to end testing	Tue 9/30/08	Thu 8/13/09	Thu 8/20/09		924	Stacey Ishihara
924	3.143.4.19.48	Onsite Config/ Unit Test Download and Fat Finger Tablet i	Tue 10/14/08	Thu 8/20/09	Thu 9/3/09	923	25FF+3 days	Ramona Hamasu,Stacey Ishihara
925	3.143.4.19.49	Onsite system test break-fix support	Fri 10/17/08	Tue 8/25/09	Tue 9/8/09	924FF+3 days		Jay Prabha,Ben Maclean,Maanav,Duncan
926								
927	**3.148**	**Unplanned Time**	**NA**	**Wed 10/1/08**	**Thu 4/23/09**			
928	3.148.1	October 2008	NA	Wed 10/1/08	Thu 10/30/08		929	
929	3.148.2	November 2008	NA	Mon 11/3/08	Fri 11/28/08	928	930	
930	3.148.3	December 2008	NA	Fri 11/28/08	Fri 11/28/08	929	931	
931	3.148.4	January 2009	NA	Mon 12/1/08	Fri 1/2/09	930	932	
932	3.148.5	February 2009	NA	Sun 1/4/09	Tue 1/27/09	931	933	
933	3.148.6	March 2009	NA	Wed 1/28/09	Tue 2/24/09	932	934	
934	3.148.7	April 2009	NA	Wed 2/25/09	Thu 3/26/09	933	935	
935	3.148.8	May 2009	NA	Fri 3/27/09	Thu 4/23/09	934		

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

Attachment 8 contains confidential information and is provided subject to

the Protective Order filed on November 21, 2008 in this proceeding.

CA-IR-324

Ref: CIS Project Problems.

Has HECO decided to reduce any of the initially planned scope of the CIS project, to reduce the number of workflows or to shift any work to the post go-live period? If affirmative, please identify and describe each such change and the reduced capabilities caused by same and explain the anticipated impact upon CIS project go-live schedule and ultimate total cost after any shifted work is later completed.

HECO Response:

Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

CA-IR-325

Ref: HECO Response to CA-IR-109, Confidential Attachment 3; (CIS Change Requests).

Please provide the following information:

a. A summary listing of each change request that HECO has initiated since the original contract with Peace/First Data was signed, indicating the date of each change, the reasons for the change and the anticipated impact upon final project schedule and cost caused by the change.

b. A summary listing of each change request that Peace/First Data has initiated since the original contract with Peace/First Data was signed, indicating the date of each change, the reasons for the change and the anticipated impact upon final project schedule and cost caused by the change.

c. Information describing how HECO and Peace/First Data have resolved issues regarding compensation for the change requests listed in your responses to parts (a) and (b) of this information request.

<u>HECO Response:</u>

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

CA-IR-326

Ref: HECO Response to CA-IR-146, Confidential Attachment 1, page 500 (CIS Project Work Plan).

Please provide a complete copy of CIS Project Work Plan that corresponds to the June 2009 go live date and explain whether and to what extent current CIS project status is meeting the requirements of this Work Plan, explaining each area where current project progress is deficient relative to the Work Plan.

HECO Response:

Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

CA-IR-327

Ref: CIS Project Problems.

Did HECO issue any requests for proposals ("RFPs") to solicit additional contractor assistance for the CIS project, beyond the resources initially contracted at the time HECO retained Peace/First Data for the project? If affirmative, please provide the following information:

a. Complete copies of all such RFPs,
b. Describe all contractors retained in each area addressed by such RFPs.
c. Provide an itemization of charges by month from each such contractor, to-date.

HECO Response:

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

CA-IR-328

Ref: HECO Response to CA-IR-109, Confidential Attachments 27 and 28 (CIS Project Coordinating Committee).

Please provide complete copies of all presentations, reports, minutes, notes and other documents in the possession of HECO or its contractors that are associated with or prepared in connection with the referenced Coordinating Committee meeting.

HECO Response:

Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

CA-IR-329

Ref: HECO Response to CA-IR-109, Confidential Attachment 29 (CIS Project Work Scope Change/Deferral).

Please provide the following information:

a. A complete copy of the "document" from First Data that is referenced in this letter.
b. Explain with specificity how work scope or schedule changes discussed in your response to part (a) would likely impact the go-live functionality and go-live timing for the CIS project.
c. Provide complete copies of all presentations, reports, minutes, notes and other documents in the possession of HECO or its contractors that are associated with or prepared in connection with the proposed "meeting" that is referenced in this letter.

HECO Response:

a. Please see the Company's response to CA-IR-323 which states that, at this time, the HECO Companies believe that it is likely that the CIS project will not be placed into service in 2009. In addition, most of the 2009 test year costs for the CIS project are being removed from the test year. As a result, the information requested in this information request will not be provided since it is no longer relevant in this proceeding.

b. See response to part a. above.

c. See response to part a. above.

CA-IR-330

Ref: HECO Responses to CA-IR-114, 115 and 223 (Outsourced Bill Print, IWR, IVR Expenses).

Please confirm that the planned outsourcing of Bill Print, IWR and IVR activities with First Data assumes integration with the completed CIS System and explain/quantify how changing anticipated CIS go-live dates are expected to impact the timing and amounts of test year projected bill print, IWR and IVR expenses. Provide detailed assumptions, workpapers and supporting documentation for your response.

HECO Response:

Yes. The planned outsourcing of Bill Print, IWR and IVR activities with First Data assumes integration with the completed CIS System.

If there is a change in the go-live date, the post go-live expenses would be reduced based on the number of months that the go-live date shifted. Conversely, current system expense would be added back based on the number of months the go-live date shifted. The total monthly reductions are ($59,956) and total add backs are $20,554 netting to a reduction in expense of ($39,402).

The following is a list of amounts that would be (reduced) and added back per month with their source reference:

REDUCTIONS	**Monthly**	**Source Reference**
Bill Print -	($45,951)	(refer to CA-IR-2 (T-9), Attach. 2, pp. 3 & 16 of 36)
IWR -	($ 4,267)	(refer to CA-IR-2 (T-9), Attach. 2, p. 16 of 36)
IVR -	($ 9,738)	(refer to CA-IR-2 (T-9), Attach. 2, p. 16 of 36)
Total Reduction	**($59,956)**	**(refer to CA-IR-2 (T-9), Attach. 2, p. 16 of 36)**

ADD BACKS	Monthly	Source Reference
Bill Forms	**$10,078**	**(refer to CA-IR-2 (T-9), Attach. 2, p. 3 of 36).**
ITS Machine Room Supplies	$40	(refer to CA-IR-113a., p. 1 of 3)
ITS Inserter Maintenance	$1,301	(refer to CA-IR-113a., p. 1 of 3)
ITS Printer Lease Expense	$9,135	(refer to CA-IR-113a., p. 1 of 3)
Sub Total ITS Bill Print	**$10,476**	**(refer to CA-IR-113a., p. 1 of 3)**
TOTAL ADD BACKS	**$20,554**	
NET IMPACT	**($39,402)**	

CA-IR-331

Please provide, for HECO, MECO and HELCO, a summary of the recorded CIS project monthly deferred costs by RA and expense element, including any deferred carrying charges, from project inception through December 31, 2008.

HECO Response:

Please refer to Attachment 1 of this response for a summary of the recorded CIS Project (P0000571) monthly deferred costs from project inception through November 30, 2008. Due to the timing of the Company's closing of 2008 financials, recorded monthly costs for the month of December 2008 are not available at the time of this submittal. Attachment 1 contains confidential information and is submitted under the Protective Order approved and filed on November 21, 2008, in this proceeding.

Confidential Information Deleted Pursuant To Protective Order, Filed on November 21, 2008.

Attachment 1 contains confidential information and is provided subject to

the Protective Order filed on November 21, 2008 in this proceeding.

CA-IR-332

Ref: HECO T-10 Update, page 4 (Director – Special Projects).

According to Mr. Hee, "The company has already filled the Director, Special Projects, position as of November 24, 2008. Please explain whether this position was filled externally or internally, indicating the present status of any backfill vacancy that was created and provide a written position description for the Direct, Special Projects position.

HECO Response:

The Director, Special Projects, position was filled internally on November 24, 2008[1] by an employee who was formerly the Manager, Customer Installations[2]. In turn, effective November 24, 2008, the Manager, Customer Installations position was filled internally by an employee who was formerly the Director, Planning & Design. Effective December 22, 2008, the Director, Planning & Design position was then filled internally by an employee who was formerly a Senior Supervising Engineer.

The Senior Supervising Engineer position was posted on December 18, 2008. HECO did not receive applications from qualified candidates for this position. HECO will be re-reposting this position and continuing to recruit for this vacant position.

Please refer to Attachment 1 of this response for the position description for the Director, Special Projects position.

[1] See HECO T-10 Update at 4.
[2] See HECO T-10 Update, Attachment 1 ("Change in Personnel Status" form)

HAWAIIAN ELECTRIC COMPANY
MERIT
POSITION DESCRIPTION

Position Title:	**Director, Special Projects**
Department:	**Customer Solutions**
Reports to:	**Vice President, Customer Solutions**

Job Code:	**J2616**	***FLSA:***	**A**
Role:	**F**	***Date:***	**11-19-08**

Primary Role/Function

Directs the development and implementation of strategies to deliver new emerging technologies and innovative programs that create exceptional value for customers. These strategies and programs will drive customers to make electricity the preferred source of energy in new construction, existing buildings, and across all classes of customers. The immediate responsibility will be the implementation of initiatives related to the Hawaii Clean Energy Initiative.

Job Responsibilities

*	30%	Plans, develops and directs the implementation of policies, programs and activities of the Hawaii Clean Energy Initiative and related programs by taking a leadership role and integrating these programs across the Customer Solutions process area and other process areas of the company.
*	30%	Explore and update demand response programs that manage emergency grid operations, will accommodate more renewable energy in the future, and provide flexible pricing signals to drive customer behavior.
*	20%	Lead process area contribution to the Clean Energy Scenario Planning process including the development of scenarios for energy efficiency, demand response, innovative rate design and other programs as defined by that process.
*	10%	Coordinate and assist process area legislative activity related to energy efficiency, solar water heating, building codes and other Hawaii Clean Energy Initiative's legislative issues.
*	10%	Develop, recommend and implement marketing plans and programs that provide new products or services to customers or generate additional income for the company.

*** Denotes a "Fundamental Responsibility"**

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

Director, Special Projects J2616

Minimum Qualifications

Knowledge Requirements:

- Thorough knowledge of electric utility customer programs including pricing programs, advanced metering, technology adoption, energy efficiency, and demand response.
- Thorough knowledge of energy technologies, equipment and economic analysis.
- Thorough knowledge of principles of utility rates making, PUC processes, and development of PUC filings.
- Graduate level courses in marketing, finance, and accounting are highly desirable.
- Working knowledge of personal computers and/or mainframe systems and related software applications such as spreadsheets, word processing, etc.
- Broad knowledge of various programs and services offered by energy service companies.

Skills Requirements

- Excellent written, oral and presentation skills.
- Strong interpersonal skills to influence and persuade various groups or individuals.
- Ability to work with a variety of individuals, occasionally dealing with sensitive, difficult or confrontational issues.
- Ability to remain flexible in a demanding work environment and adapt to rapidly changing priorities.
- In depth analytical, computational, organizational, and conceptual skills to handle various projects and programs.
- Must have or be able to qualify for State of Hawaii and HECO driver licenses in order to travel to a customer's site on a frequent basis.

Experience Requirements

- Extensive (7 or more years) experience in the field of engineering, marketing, system planning, or economic analysis within the utility industry.

Requirements are representative of minimum levels of knowledge, skills, and abilities. To perform the position successfully, the incumbent will need to demonstrate the use of these knowledge, skills, and abilities at an "Effective" level.

Positions Supervised

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

Director, Special Projects J2616

Physical Requirements

Only items that are necessary to perform the "fundamental" responsibilities of the position are indicated.

"F" for Frequently: Daily, several times a week, weekly
"O" for Occasionally: Monthly, Couple times a year

F	Standing
F	Walking
F	Sitting
O	Climbing Ascending or descending ladders, stairs, or other objects.
O	Balancing on narrow, slippery, or erratically moving surfaces.
O	Stooping, kneeling, crouching, crawling, and/or squatting
F	Handling Working with hands, arms or fingers.
F	Feeling Perceiving attributes such as size, share, temperature or texture.
F	Ability to follow written/oral instructions

O	Lifting/Carrying below 25 lbs.
O	26 to 50 lbs.
	above 50 lbs.
F	Vision acuity the ability to see clearly 20 feet or more
F	Color vision the ability to identify and distinguish different colors.
	Night vision the ability to perform work at night with the use of portable lighting.
F	Talking
F	Hearing
O	Ability to perform simple, repetitive tasks for an extended period of time
F	Ability to perform complex and varied tasks for an extended period

Environmental Conditions

The employee will be exposed to the following environmental conditions in performing the "fundamental" responsibilities of the position.

	Extreme Cold temperatures for an hour or more
	Extreme Heat warm/hot temperatures for an hour or more
	Wetness
	Use of personal protective equipment (hard hats, respirator, leather gloves, rubber glove, safety shoes, nomex clothing)
	Work in emergency/potentially "high stress" situations
	Noise At least 80 decibels

	Working Outdoors may be during prevailing weather/climate conditions
	Hazardous Conditions potentially life-threatening situations
	Work above 5 feet
	Work above 70 feet
	Work on mountain trails/cliff sides

Job responsibilities are subject to possible modification to reasonably accommodate individuals with disabilities.

Some job requirements may exclude individuals who pose a direct threat or significant risk to the health and safety of themselves or other individuals.

This position description in no way states or implies that these are the only duties/functions to be performed by the incumbent. Employee will be required to follow any other job-related duties/functions assigned by the supervisor

CA-IR-333

Ref: HECO T-10 pages 59 to 62 (IRP conversion to CESP).

Please provide the following information regarding the Company's proposed test year IRP costs:

a. Describe with specificity all IRP activities that are presently planned for 2009, indicating which tasks will be performed by Company personnel and which tasks will be performed by named contractors.

b. Provide a listing of the deliverable written work products and schedule meetings/events by date that are associated with each element of your response to part (a) of this information request.

c. Explain in detail how the Clean Energy Scenario Planning ("CESP") process described at Sections 32 and 33 of the CEI Agreement is expected to impact the IRP scope and timing of efforts originally anticipated and included in the Company's test year 2009 forecast.

d. Provide an updated HECO-1028 to restate the proposed Base IRP Planning costs, to the extent necessary, in order to reflect known changes to planned IRP/CESP activity.

e. Explain in detail whether and to what extent HECO will propose Clean Energy Initiative surcharge recovery for any or all CESP related activities and costs.

f. Provide updated CA-IR-234 expense data, replacing the "Sum of 2008 Bud" data on pages 3 and 4 with 2008 actual expenditures and inserting a 2008 actual column in pages 5 through 9.

HECO Response:

a. HECO's 2009 budget includes, but is not limited to, the following IRP activities: filing an IRP Evaluation report, holding quarterly Advisory Group meetings, developing load forecasts and studies to determine technical and economical potential for a broad variety of energy efficiency, demand response, and renewable measures within Hawaii.

On November 26, 2008, the Commission issued a decision and order closing Docket No. 2007-0084 (HECO IRP-4) and directed HECO to suspend all activities pursuant to the IRP Framework to allow for resources to be diverted to development of a Clean Energy Scenario Planning ("CESP") Framework. In compliance with the Commission's order, HECO currently has no IRP activities planned for 2009 and is focusing on the development

of the CESP Framework. It is anticipated that HECO personnel will develop what the CESP process could entail and will meet with interested parties to obtain their input then submit the proposed CESP Framework to the Commission. HECO anticipates the Commission opening a docket for the CESP Framework and will devote resources and time to that effort. It is uncertain as to when the Commission may issue an order opening a docket to begin the CESP process, but it could occur before the end of 2009.

In addition, as part of the Clean Energy Initiative Agreement, HECO personnel are also planning to develop locational value maps which will identify near-term geographic areas of distribution system growth for HECO, as well as for HELCO and MECO.

b. HECO is planning to file its proposed CESP Framework, developed in consultation with the Consumer Advocate, by April 28, 2009 and complete locational value maps by December 31, 2009.

c. At this time, HECO is not anticipating the CESP process to vary dramatically from the IRP process in terms of resources and costs. In general, HECO believes that the CESP process will be similar to the IRP process by having a 3-year cycle with evaluation reports in mid-cycle, meeting with a newly formed Advisory Committee on a quarterly basis, developing forecasts assumptions and scenarios planning assumptions to be analyzed, and performing analyses to develop the company's long-term resource plan and near-term action plan. Although uncertainty exists in what the detailed tasks in the CESP process may involve and the CESP process envisions additional planning requirements such as the development of locational value maps and renewable energy zones, as a conservative starting point, it is anticipated that the resources that would need to perform the tasks would be similar to that utilized in the IRP process. However, when the specific framework requirements of the

CESP process and CESP Framework are established by the Commission, the estimated costs to conduct a CESP process may be further evaluated. The 2009 test year estimate for the IRP planning costs through base rates was normalized and based on historical average amounts as explained on page 61 of HECO T-10. HECO maintains that the 2009 test year estimate for IRP planning costs is still an appropriate estimate at this time for normalized costs to support the future CESP process.

d. As explained in response to part c. above, an update to Exhibit HECO-1028 is unnecessary.

e. At this time, HECO is not proposing that the CESP process costs be recovered through a surcharge and that the costs should continue to be included in base rates similar to the treatment for past IRP costs. HECO anticipates surcharge recovery of costs mainly related to infrastructure projects and renewable resource studies as proposed in the Renewable Energy Infrastructure Program, Docket No. 2007-0416, currently pending with the Commission.

f. Attachment 1 contains updated pages 3 through 9 of CA-IR-234 response. The updated pages include 2008 actual year end data as of December 31, 2008.

ACT	711	NONLABOR					
acct	acct desc	RA	EE	Sum of 2006rec	Sum of 2007rec	2008 Actuals	Sum of 2009bud
506030	MISC STEAM POWER EXP-KAHE	PYA	201	0	0	0	500
			401	0	0	0	52.65
		PYA Total		0	0	0	552.65
		PYB	501	0	0	0	10800
		PYB Total		0	0	0	10800
	MISC STEAM POWER EXP-KAHE Total			0	0	0	11352.65
506030 Total				0	0	0	11352.65
909	SUPERVISION- CUST SERVICE EXP	PSA	501	0	0	10	0
			502	0	0	3274	0
		PSA Total		0	0	3284	0
	SUPERVISION- CUST SERVICE EXP Total			0	0	3284	0
909 Total				0	0	3284	0
910	CUSTOMER ASSISTANCE EXPENSES	PQE	501	0	0	335	0
		PQE Total		0	0	335	0
		PSD	501	123125.4	66564	0	0
		PSD Total		123125.4	66564	0	0
		PSM	201	0	0	200	0
			205	0	0	0	300
			301	0	0	0	107.25
			462	0	0	476	828.98
			501	64505.57	69943.49	62197	222499.95
			520	0	0	0	4400
			521	0	0	0	400
		PSM Total		64505.57	69943.49	62872	228536.18
	CUSTOMER ASSISTANCE EXPENSES Total			187630.97	136507.49	63208	228536.18
910 Total				187630.97	136507.49	63208	228536.18
911	INFORMATIONAL ADVERTISING EXP	PQC	501	0	15483.93	8175	0
		PQC Total		0	15483.93	8175	0
	INFORMATIONAL ADVERTISING EXP Total			0	15483.93	8175	0
911 Total				0	15483.93	8175	0
921	ADMIN & GENL EXP - NLABR	P9S	520	0	0	0	0
		P9S Total		0	0	0	0
		PEZ	451	42445.28	47580.53	48938	55872
		PEZ Total		42445.28	47580.53	48938	55872
		PIA	462	0	8594.08	8763	0
		PIA Total		0	8594.08	8763	0
		PNC	502	0	6594.65	7233	0
		PNC Total		0	6594.65	7233	0
		PNG	521	0	0	0	0
		PNG Total		0	0	0	0
		PNP	201	315.45	0	0	0
			205	0	0	702	0
			501	4667.05	0	0	0

ACT	711	NONLABOR					
acct	acct desc	RA	EE	Sum of 2006rec	Sum of 2007rec	2008 Actuals	Sum of 2009bud
			502	156032.04	19773.14	39749	13000
			521	809.63	0	0	0
			522	0	129.81	0	0
		PNP Total		161824.17	19902.95	40451	13000
		PNR	201	0	0	0	0
			501	35103.48	0	-2135	0
			506	0	0	0	100000
			520	739.88	262.44	0	2000
			521	40.25	23.54	0	500
		PNR Total		35883.61	285.98	-2135	102500
		PSM	501	43744.06	37582.55	33973	40182
			521	0	0	0	200
		PSM Total		43744.06	37582.55	33973	40382
		PYA	201	-47.43	0	0	0
			301	12	0	0	0
			501	14819.5	0	0	0
			520	0	0	0	0
			521	0	0	0	0
		PYA Total		14784.07	0	0	0
		PYB	462	8303.36	0	0	0
			522	0	0	0	0
		PYB Total		8303.36	0	0	0
		PYP	201	647.41	973.14	80	480
			205	450.81	798.94	716	625
			301	0	386.08	46	264
			401	0	0	0	50.54
			462	347.61	0	0	773.71
			501	264	5914.77	2250	29000
			506	0	0	64957	100000
			520	0	21.46	1538	4500
			521	0	1964.47	456	1050
			522	-372	0	0	1600
		PYP Total		1337.83	10058.86	70043	138343.25
	ADMIN & GENL EXP - NLABR Total			308322.38	130599.6	207265	350097.25
921 Total				308322.38	130599.6	207265	350097.25
Grand Total				495953.35	282591.02	281931	589986.08

ACT	711	LABOR				
		EEs# 150,155,421				
acct	acct desc	RA	EE	Sum of 2007rec	2008 Actuals	Sum of 2009bud
909	SUPERVISION- CUST SERVICE EXP	P1W	150	1982.61	228	0
			155	-450.25	-49	0
			421	82.59	10	0
		P1W Total		1614.95	189	0
		PSA	150	3535.56	1186	961.76
			155	204.44	12	0
			421	297.99	105	80
		PSA Total		4037.99	1302	1041.76
	SUPERVISION- CUST SERVICE EXP Total			5652.94	1492	1041.76
909 Total				5652.94	1492	1041.76
910	CUSTOMER ASSISTANCE EXPENSES	PQE	150	34618.04	16611	30354.12
			155	-4285.55	980	0
			421	4212.76	2068	3810
		PQE Total		34545.25	19660	34164.12
		PSA	150	3843.42	2768	0
			155	275.15	6	0
			421	420.2	244	0
		PSA Total		4538.77	3018	0
		PSD	150	8031.6	423	16431.59
			155	565.88	34	0
			421	929.56	58	1855
		PSD Total		9527.04	514	18286.59
		PSM	150	156702.15	146488	160849.47
			155	20173.2	18561	0
			421	22122.12	20800	22565
		PSM Total		198997.47	185850	183414.47
		PSN	150	779.52	0	0
			155	143.55	0	0
			421	103.68	0	0
		PSN Total		1026.75	0	0
		PSR	150	1964.59	1208	0
			155	324.37	162	0
			421	248.42	162	0
		PSR Total		2537.38	1533	0
	CUSTOMER ASSISTANCE EXPENSES Total			251172.66	210573	235865.18
910 Total				251172.66	210573	235865.18
911	INFORMATIONAL ADVERTISING EXP	PQC	150	4651.32	2752	5205
			155	-671.25	-440	0
			421	675.64	412	750
		PQC Total		4655.71	2724	5955
	INFORMATIONAL ADVERTISING EXP Total			4655.71	2724	5955
911 Total				4655.71	2724	5955
920	ADMIN & GENL EXP - LABR	P1V	150	1259.25	1710	0
			155	-649.84	-810	0
		P1V Total		609.41	900	0
		P3V	150	6287.53	1863	3184.26
			155	-761.06	-200	0
		P3V Total		5526.47	1663	3184.26
		P4V	150	219	0	1444.56
			155	-58.81	0	0
		P4V Total		160.19	0	1444.56
		P5V	150	766.5	57	0
			155	-187.53	-19	0
		P5V Total		578.97	38	0
		P7V	150	1204.5	456	0
			155	-299.09	-116	0
		P7V Total		905.41	340	0

ACT	711	LABOR				
		EEs# 150,155,421				
acct	acct desc	RA	EE	Sum of 2007rec	2008 Actuals	Sum of 2009bud
		P8V	150	602.25	0	0
			155	87.71	0	0
		P8V Total		689.96	0	0
		P9P	150	5.81	0	0
			155	-0.88	0	0
		P9P Total		4.93	0	0
		P9S	150	131.98	0	0
			155	-16.75	0	0
		P9S Total		115.23	0	0
		P9V	150	8157.75	2793	0
			155	1528.55	585	0
		P9V Total		9686.3	3378	0
		PBE	150	207.36	0	0
			155	46.39	0	0
		PBE Total		253.75	0	0
		PIA	150	162.87	112	0
			155	-9.31	-1	0
		PIA Total		153.56	111	0
		PJA	150	589.26	424	0
			155	-48.31	-67	0
		PJA Total		540.95	357	0
		PJB	150	0	80	0
			155	0	4	0
		PJB Total		0	84	0
		PKF	150	61.79	0	0
			155	-9.14	0	0
		PKF Total		52.65	0	0
		PNC	150	438.61	0	0
			155	66.21	0	0
		PNC Total		504.82	0	0
		PNG	150	5644.38	1412	2885.28
			155	1090.6	151	0
		PNG Total		6734.98	1564	2885.28
		PNP	150	5456.64	2002	0
			155	1442.72	229	0
		PNP Total		6899.36	2231	0
		PNR	150	2041.35	1991	12454.5
			155	-174.78	-145	0
		PNR Total		1866.57	1847	12454.5
		PSM	150	73594.11	45229	39245.7
			155	9466.87	6086	0
		PSM Total		83060.98	51315	39245.7
		PXA	150	2524.51	364	0
			155	-423.29	-59	0
		PXA Total		2101.22	305	0
		PYA	150	763.37	0	0
			155	-38.67	0	0
		PYA Total		724.7	0	0
		PYB	150	55522.94	18734	50934.3
			155	1221.55	2339	0
		PYB Total		56744.49	21073	50934.3
		PYP	150	176716.45	139746	127661.72
			155	-2291.48	-331	0
		PYP Total		174424.97	139415	127661.72
		PYT	150	1956	11796	3423.2
			155	297.95	5	0
		PYT Total		2253.95	11801	3423.2

ACT	711	LABOR				
		EEs# 150,155,421				
acct	acct desc	RA	EE	Sum of 2007rec	2008 Actuals	Sum of 2009bud
	ADMIN & GENL EXP - LABR Total			354593.82	236423	241233.52
920 Total				354593.82	236423	241233.52
921	ADMIN & GENL EXP - NLABR	P1V	421	51.06	75	0
		P1V Total		51.06	75	0
		P3V	421	330.66	140	150
		P3V Total		330.66	140	150
		P4V	421	8.64	0	60
		P4V Total		8.64	0	60
		P5V	421	34.38	3	0
		P5V Total		34.38	3	0
		P7V	421	50.28	20	0
		P7V Total		50.28	20	0
		P8V	421	26.52	0	0
		P8V Total		26.52	0	0
		P9P	421	1.08	0	0
		P9P Total		1.08	0	0
		P9S	421	11.88	0	0
		P9S Total		11.88	0	0
		P9V	421	335.28	122	0
		P9V Total		335.28	122	0
		PBE	421	25.92	0	0
		PBE Total		25.92	0	0
		PIA	421	12.96	10	0
		PIA Total		12.96	10	0
		PJA	421	55.2	37	0
		PJA Total		55.2	37	0
		PJB	421	0	10	0
		PJB Total		0	10	0
		PKF	421	6.48	0	0
		PKF Total		6.48	0	0
		PNC	421	37.8	0	0
		PNC Total		37.8	0	0
		PNG	421	522.56	125	240
		PNG Total		522.56	125	240
		PNP	421	737.68	300	0
		PNP Total		737.68	300	0
		PNR	421	255.22	240	1500
		PNR Total		255.22	240	1500
		PSM	421	10126.5	6730	5655
		PSM Total		10126.5	6730	5655
		PXA	421	217.55	32	0
		PXA Total		217.55	32	0
		PYA	421	53.13	0	0
		PYA Total		53.13	0	0
		PYB	421	7198.26	2346	6150
		PYB Total		7198.26	2346	6150
		PYP	421	23593.18	19878	17650
		PYP Total		23593.18	19878	17650
		PYT	421	231.84	1471	400
		PYT Total		231.84	1471	400
	ADMIN & GENL EXP - NLABR Total			43924.06	31538	31805
921 Total				43924.06	31538	31805
Grand Total				659999.19	482750	515900.46

ACT	711	NONLABOR				
acct	acct desc	RA	EE	Sum of 2007rec	2008 Actuals	Sum of 2009bud
506030	MISC STEAM POWER EXP-KAHE	PYA	201	0	0	500
			401	0	0	52.65
		PYA Total		0	0	552.65
		PYB	501	0	0	10800
		PYB Total		0	0	10800
	MISC STEAM POWER EXP-KAHE Total			0	0	11352.65
506030 Total				0	0	11352.65
909	SUPERVISION- CUST SERVICE EX	PSA	501	0	10	0
			502	0	3274	0
		PSA Total		0	3284	0
	SUPERVISION- CUST SERVICE EXP Total			0	3284	0
909 Total				0	3284	0
910	CUSTOMER ASSISTANCE EXPEN	PQE	501	0	335	0
		PQE Total		0	335	0
		PSD	501	66564	0	0
		PSD Total		66564	0	0
		PSM	201	0	200	0
			205	0	0	300
			301	0	0	107.25
			462	0	476	828.98
			501	69943.49	62197	222499.95
			520	0	0	4400
			521	0	0	400
		PSM Total		69943.49	62872	228536.18
	CUSTOMER ASSISTANCE EXPENSES Total			136507.49	63208	228536.18
910 Total				136507.49	63208	228536.18
911	INFORMATIONAL ADVERTISING E	PQC	501	15483.93	8175	0
		PQC Total		15483.93	8175	0
	INFORMATIONAL ADVERTISING EXP Total			15483.93	8175	0
911 Total				15483.93	8175	0
921	ADMIN & GENL EXP - NLABR	P9S	520	0	0	0
		P9S Total		0	0	0
		PEZ	451	47580.53	48938	55872
		PEZ Total		47580.53	48938	55872
		PIA	462	8594.08	8763	0
		PIA Total		8594.08	8763	0
		PNC	502	6594.65	7233	0
		PNC Total		6594.65	7233	0
		PNG	521	0	0	0
		PNG Total		0	0	0
		PNP	201	0	0	0
			205	0	702	0
			501	0	0	0
			502	19773.14	39749	13000
			521	0	0	0
			522	129.81	0	0
		PNP Total		19902.95	40451	13000

ACT	711	NONLABOR				
acct	acct desc	RA	EE	Sum of 2007rec	2008 Actuals	Sum of 2009bud
		PNR	201	0	0	0
			501	0	-2135	0
			506	0	0	100000
			520	262.44	0	2000
			521	23.54	0	500
		PNR Total		285.98	-2135	102500
		PSM	501	37582.55	33973	40182
			521	0	0	200
		PSM Total		37582.55	33973	40382
		PYA	201	0	0	0
			301	0	0	0
			501	0	0	0
			520	0	0	0
			521	0	0	0
		PYA Total		0	0	0
		PYB	462	0	0	0
			522	0	0	0
		PYB Total		0	0	0
		PYP	201	973.14	80	480
			205	798.94	716	625
			301	386.08	46	264
			401	0	0	50.54
			462	0	0	773.71
			501	5914.77	2250	29000
			506	0	64957	100000
			520	21.46	1538	4500
			521	1964.47	456	1050
			522	0	0	1600
		PYP Total		10058.86	70043	138343.25
	ADMIN & GENL EXP - NLABR Total			130599.6	207265	350097.25
921 Total				130599.6	207265	350097.25
Grand Total				282591.02	281931	589986.08

CA-IR-334

Ref: HECO Response to CA-IR-233, page 2 (Conservation Advertising Costs).

At page 2 of its response, the Company states, "HECO has proposed in its 2008 Annual DSM Modification and Evaluation ("M&E") Report that the RCEA Program be continued for 2009. The proposal to continue the RCEA Program is pending before the Commission, with a decision from the Commission expected prior to year end 2008." Please provide the following information:

a. Describe the current status of the expected "decision from the Commission" and provide copies of all documents associated with your response.

b. If HECO's request to "continue the RCEA Program" is granted, by what amount should test year proposed expenditures be revised to complement but not duplicate the RCEA spending?

c. Explain how the HCEI-related consumer advertising referenced at page 4 of CA-IR-233 is different from proposed RCEA funding or the projected test year spending amounts. How is advertising for three different initiatives to be coordinated and not duplicated?

d. What amounts have actually been spent by HECO for energy efficiency advertising in each of the years 2005, 2006, 2007 and 2008 for RCEA, general energy efficiency messages, HCEI and in total by HECO?

e. Describe all efforts undertaken by HECO to determine the optimal overall level of energy efficiency advertising that should be funded.

f. Provide complete copies of all studies, reports, analyses, workpapers, projections and other documents prepared by or for HECO to determine the optimal level of annual energy efficiency advertising spending.

<u>HECO Response:</u>

a. HECO's proposal to continue the RCEA program in 2009 was denied by the Commission in its November 14, 2008 *Order Regarding HECO's Annual Program Modification and Evaluation Report, Filed on September 30, 2008* in Docket No. 2007-0341. See Attachment 1, pages 2, 9, 10, and 12.

b. As discussed in the response to CA-IR-334 subpart a. above, HECO's request to continue the RCEA program was not granted.

c. The Company is not seeking to fund separate efforts. It is seeking to fund one effort. As previously discussed, the Company has a responsibility to increase customer awareness of energy efficiency and conservation measures. The response to CA-IR-233 discussed various options for funding that effort. HECO first asked for continued RCEA funding for this purpose. However, since it was not certain that the RCEA program would be continued beyond 2007, HECO also included funding for this purpose in the current rate case. This has turned out to be a prudent decision, since as described in subpart a. of this response, the request to continue RCEA was not granted.

The reference to HCEI advertising in HECO's response to CA-IR-233 was included primarily to further demonstrate the need and support for utility advertising to help maximize public awareness.

d. HECO advertising expenditures for 2005 – 2008 are summarized below.

	2005	2006	2007	2008
Residential Customer Informational Advertising*	$1,067,682.66	$800,155.63	$1,586,484.85	$1,063,049.22
Commercial DSM	$219,360.65	$129,246.97	$146,345.88	$157,422.47
RCEA	N/A	N/A	$1,752,472.83	$1,695,872.82
Total	$1,287,043.31	$929,402.60	$3,485,303.56	$2,916,344.51

* HECO's residential customer informational advertising expenditures include costs identified in NARUC account 911 plus Residential DSM and Residential Direct Load Control Program advertising costs. Figures for 2007 also include $9,000 of informational advertising erroneously charged to account 910.

e. Media plans are usually designed around two considerations. Both are generally based on published ratings such as Neilson and Arbitron used by advertisers to set rates.

The first consideration, often referred to as the "reach" of an ad or campaign, is the number of people who will be exposed to a particular advertisement. This number is often expressed as a percentage of the total market. For example, a reach of 99% would mean that 99% of the target market would be exposed to an advertisement.

The second consideration is the number of times that the target market will be exposed to an ad. This is often called "frequency." For example, an ad might be targeted to achieve a frequency of 12 exposures over a three-week period. An exposure is an opportunity for an individual to encounter an advertising message. For example, an advertising exposure for the target audience might be an energy efficiency message aired during the evening news broadcast or during a prime-time sitcom.

Taking the two considerations together, the HECO advertising efforts in 2008 were designed to reach 99% of the market with more than 150 exposures to energy efficiency messages per year.

f. HECO has not conducted studies and does not have such documents about how to determine the optimal level of annual energy efficiency advertising spending. Instead, please see HECO's response to subpart e above for a description of how media spending plans are developed.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

---------In the Matter of----------) PUBLIC UTILITIES COMMISSION) Instituting a Proceeding to Review) Hawaiian Electric Company, Inc.,) Hawaii Electric Light Company, Inc.) and Maui Electric Company, Ltd.'s) Demand-Side Management Reports and) Requests for Program Modifications))	DOCKET NO. 2007-0341

ORDER REGARDING HECO's ANNUAL PROGRAM
MODIFICATION AND EVALUATION REPORT, FILED ON SEPTEMBER 30, 2008

FILED
2008 NOV 14 P 3: 01
PUBLIC UTILITIES COMMISSION

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

---------In the Matter of----------) PUBLIC UTILITIES COMMISSION Instituting a Proceeding to Review Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc. and Maui Electric Company, Ltd.'s Demand-Side Management Reports and Requests for Program Modifications)	Docket No. 2007-0341

ORDER REGARDING HECO'S ANNUAL PROGRAM
MODIFICATION AND EVALUATION REPORT, FILED ON SEPTEMBER 30, 2008

By this Order, the commission denies HAWAIIAN ELECTRIC COMPANY, INC.'s ("HECO")[1] request to continue the Residential Customer Energy Awareness ("RCEA") Program in 2009, as set forth in its Annual Program Modification and Evaluation Report, filed on September 30, 2008 ("M&E Report). The commission also denies the proposed modification to the Commercial and Industrial Customized Rebate ("CICR") Program to permit $50,000 annual incentive awards for certain technologies.

[1]HECO is a Hawaii corporation and a public utility as defined by Hawaii Revised Statutes ("HRS") § 269-1. HECO was initially organized under the laws of the Kingdom of Hawaii on or about October 13, 1891. HECO is engaged in the production, purchase, transmission, distribution, and sale of electricity on the island of Oahu in the State of Hawaii.

The commission approves the proposed 2009 goals and budgets for the remaining Demand Side Management ("DSM") programs,[2] but notifies HECO, Hawaii Electric Light Company, Inc., and Maui Electric Company, Ltd. (collectively, the "HECO Companies") that in 2009, with the transition to the Public Benefits Fee ("PBF") Administrator, the HECO Companies' goals and budgets will be reduced in proportion to the percentage of the year in which the HECO Companies do not operate the programs. In addition, the HECO Companies' incentive awards will be prorated accordingly.

I.

Background

By Order No. 23717, filed on October 12, 2007, in this docket, the commission initiated a proceeding to review the HECO Companies' DSM reports, including the HECO Companies' respective M&E Reports.

The HECO Companies' M&E Reports are typically filed in or about November prior to the beginning of the next program year. The M&E Reports serve three purposes. First, the M&E Reports provide forecasts of the budgets and impact goals (i.e., energy demand reduction measured in megawatts ("MW") and energy savings in megawatt hours ("MWh")) for the upcoming

[2]The subject DSM programs include: Commercial and Industrial Energy Efficiency ("CIEE") Program; Commercial and Industrial New Construction ("CINC") Program; Residential Efficient Water Heating ("REWH") Program; Residential New Construction ("RNC") Program; SolarSaver Program ("SSP"); Energy Solutions for the Home ("ESH") Program; and Residential Low Income ("RLI") Program.

calendar year. Second, the M&E Reports describe the modifications in program processes that are proposed for the upcoming calendar year. Third, the M&E Reports provide the results of both the program Impact Evaluation Reports and the program process evaluations, as available.

With regard to the RCEA Program, in its M&E Report, HECO states:

> HECO maintains that it has a responsibility for communicating with its customers about energy efficiency and related issues regardless of whether or not the DSM energy efficiency programs are transferred to [the PBF Administrator]. . . . [Therefore,] HECO requests approval of the annual budget to conduct the RCEA Program throughout 2009, even if the DSM energy efficiency programs are transferred to [the PBF Administrator].

M&E Report, at 24. With regard to the CICR Program, HECO states the following:

> HECO is proposing to set aside a maximum of $50,000 annually to award incentives for technologies that may not meet the cost effectiveness criteria, but do provide measure[]able energy savings. No single technology will be awarded more than 50% of the incentive dollars set aside per year, and the same technology will not be awarded incentives for more than two years, unless in that time the economics for that technology improve to the point where it passes the cost effectiveness criteria. To be awarded incentives under this set-aside the emerging technology must be included in a customer's CICR Program rebate application.

M&E Report, at 9-10. With regard to the 2009 DSM goals and budgets, HECO states the following:

> During the status conference for Docket No. 2007-0323 conducted on May 12, 2008, HECO offered to forecast the entire annual budget and impact goals for 2009 for the DSM energy efficiency programs slated for transition to the [PBF Administrator] on January 1, 2009. If the six month transition period, ordered by the

> [c]ommission in its Order issued July 2, 2008, is successfully completed by June 30, 2009, then the expected expenses and achieved goals for the DSM energy efficiency programs by June 30, 2009 would be allocated accordingly.

HECO's M&E Report, at 30. With regard to HECO's 2009 incentive award, HECO states, "since the [c]ommission has expressed a clear preference for a smooth transition [to the PBF Administrator], and since the continuation of the aggressive pursuit of DSM options up through the date of transition to the [PBF Administrator] would facilitate the smooth transition, HECO requests [c]ommission approval to continue to earn DSM Utility Incentives in 2009."[3]

HECO has also proposed a method for calculating the incentive:

> HECO proposes that the incremental energy and demand impacts for 2009 be the prorated annual energy and demand goals identified in Attachment A rounded to the nearest whole month that HECO operates the programs. If the program were transferred on the 15th of the month or earlier, the goals would reflect the number of months up to the previous month end. If the programs were transferred on the 16th of the month or later, the goals would reflect the entire month. The impacts claimed by the utility would include all applications approved by the utility at the time of the termination, except that for the ESH Program, the impacts would include those savings resulting from Energy Star appliance rebate applications in the possession by the utility or its third party vendor, plus all [Compact Fluorescent Lamp] coupon redemptions received during the following calendar month.

HECO's M&E Report, at 31-32.

---

[3]HECO's M&E Report, at 31.

HECO's M&E Report states:

HECO's Proposed 2009 Energy Efficiency Annual Program Budget[4]	
Commercial and Industrial	
CIEE	$3,481,786
CINC	$3,302,521
CICR	$2,063,960
Total Commercial and Industrial	**$8,848,267**
Residential	
REWH	$3,122,159
RNC	$2,531,343
SSP	$1,686,413[5]
ESH	$3,276,507
RLI	$639,970
RCEA	$1,719,857
Total Residential	**$12,976,249**
Total Annual Program Budget	**$21,824,516**

[4]These amounts include the base costs, which are recovered through base rates, and incremental costs, which are recovered through the DSM adjustment factor. See M&E Report, dated and filed September 30, 2008, at 4 (CIEE Program), 7 (CINC Program), 9 (CICR Program), 10 (REWH Program), 12 (RNC Program), 16 (SSP Program), 19 (ESH Program), 21 (RLI Program), 24 (RCEA Program).

[5]The 2009 SSP Program budget of $1,686,413 is for the July 1, 2008 to June 30, 2009 time period, which is year two of the SSP Program. See M&E Report, dated and filed September 30, 2008, at 15.

HECO's 2009 Energy Efficiency Cumulative Megawatt-Hour Goal[6]	
Commercial and Industrial	
CIEE	92,646
CINC	47,390
CICR	60,583
Total Commercial and Industrial	**200,619**
Residential	
REWH	18,980
RNC	13,311
SSP	735[7]
ESH	101,725
RLI	5,266
RCEA	0
Total Residential	**140,017**
Total Gross Energy Savings (MWh)	**340,636**

[6]These cumulative MWh goals are the sums of the goals from the Order issued July 7, 2008 in Docket No. 2007-0341 plus the 2009 incremental energy efficiency goals, which assumes that the utility implements the programs for all of 2009 (excepting the SSP Program). See M&E Report, dated and filed September 30, 2008, at 33.

[7]The cumulative demand savings of 735 MWh for the SSP Program is the demand savings that HECO expects will be realized for the time period between July 1, 2007, the effective date of the SSP Program, and June 30, 2009, the end date of the second year of the SSP Program. See M&E Report, dated and filed September 30, 2008, at 15.

HECO's 2009 Energy Efficiency Cumulative Megawatt Goal[8]	
Commercial and Industrial	
CIEE	13.550
CINC	9.267
CICR	7.990
Total Commercial and Industrial	**30.807**
Residential	
REWH	4.339
RNC	3.879
SSP	.168[9]
ESH	22.678
RLI	1.182
RCEA	0.000
Total Residential	**32.246**
Total Gross Energy Savings (MW)	**63.053**

[8]These cumulative MW goals are the sums of the goals from the Order issued July 7, 2008 in Docket No. 2007-0341 plus the 2009 incremental energy efficiency goals, which assume that the utility implements the programs for all of 2009 (excepting the SSP Program). See M&E Report, dated and filed September 30, 2008, at 33.

[9]The cumulative demand savings of .168 MW for the SSP Program are the demand savings that HECO expects will be realized for the time period between July 1, 2007, the effective date of the SSP Program, and June 30, 2009, the end date of the second year of the SSP Program. See M&E Report, dated and filed September 30, 2008, at 15.

II.

Discussion

A.

RCEA Program

As stated in the Energy Efficiency Docket, the "primary objective of the RCEA Program is to determine if an aggressive customer communications program can change levels of residential customer awareness of energy options, encourage customers to adopt energy efficient appliances and behavior, and result in significant energy savings and peak load reduction."[10] The RCEA Program has three tasks, (1) "additional market research and a survey to determine the current level of energy awareness by residential customers"; (2) "the implementation of a multi-faceted communications program"; and (3) "a final survey of residential customers to test their then current level of energy awareness."[11] Unlike the other DSM programs, with RCEA, "HECO [does] not claim[] energy and peak demand savings as a result of this program."[12]

In the Energy Efficiency Docket, the commission stated:

> With respect to the RCEA Program, HECO states that: (1) it "is not claiming energy and peak demand reductions from the RCEA Program," and (2) "since there are no claimed savings for this program, there were only costs represented and thus no [benefit-to-cost] ratios are represented for this program." The commission also notes

[10]Decision and Order No. 23258, filed on February 13, 2007, in the Energy Efficiency Docket ("Decision and Order No. 23258"), at 84.

[11]Decision and Order No. 23258, at 84.

[12]Decision and Order No. 23258, at 86.

> HECO's statement that "[t]he RCEA Program costs are not included in [the] total DSM program costs because HECO requested the [c]ommission's approval in the rate case to include additional informational advertising costs in base rates as a replacement for the RCEA Program." Thus, the benefit-to-cost ratios for the RCEA Program, from <u>any</u> perspective, are not in the docket record.

Decision and Order No. 23258, at 87. The commission ordered:

> HECO's RCEA Program is approved, subject to the following modifications and requirements: (a) HECO is not authorized to recover any expenses related to the RCEA Program that were incurred prior to the filed date of this Decision and Order; (b) HECO's expenditures for the RCEA Program shall be included for purposes of determining whether HECO met its Energy Efficiency goals for the residential sector, and in calculating net system benefits for the purposes of determining utility incentives, if any; and (c) HECO must evaluate the program on an annual basis and report to the commission, with a copy to the Consumer Advocate and any other applicable party, within thirty days of completing said evaluation.

Decision and Order No. 23258, at 147, Ordering Paragraph 14.

Upon review, the commission denies HECO's request to continue its RCEA Program after 2008. The RCEA is a pilot program in part due to the anticipated transition of the HECO Companies' DSM programs to the PBF Administrator. The PBF Administrator will be in place during much of 2009, and the commission therefore declines to continue HECO's RCEA Program.[13]

---

[13]The commission notes that monies which would have gone to HECO for the RCEA Program for 2009 may be utilized by some similar program proposed by the third party administrator.

B.

CICR Program Modification

HECO has proposed a modification to its CICR Program to permit $50,000 annual incentive awards for certain technologies.[14] It states:

> HECO is proposing to set aside a maximum of $50,000 annually to award incentives for technologies that may not meet the cost effectiveness criteria, but do provide measurable energy savings. No single technology will be awarded more than 50% of the incentive dollars set aside per year, and the same technology will not be awarded incentives for more than two years, unless in that time the economics for that technology improve to the point where it passes the cost effectiveness criteria. To be awarded incentives under this set-aside the emerging technology must be included in a customer's CICR Program rebate application.

M&E Report, at 9-10.

The commission has concerns that allowing this modification circumvents an important aspect of the CICR Program; namely, the cost effectiveness criteria absent commission approval, which may trigger unreasonable costs, which do not serve the public interest. Accordingly, the commission denies this requested modification to the CICR Program.

C.

2009 Goals, Budgets and Incentive Awards

The commission approves the 2009 goals and budgets as set forth in HECO's M&E report, except for the inclusion of monies for the RCEA Program. However, with the transition to

[14] M&E Report, at 9.

the PBF Administrator, the HECO Companies' goals and budgets will be reduced in proportion to the percentage of the year in which the HECO Companies do not operate the programs. The HECO Companies' incentive awards will also be prorated accordingly.

C.

Future Program Modification Requests

In the future, if the HECO Companies submit a request for a program modification, including any budget increases, said request must be accompanied by the Companies' projected energy and demand savings as a result of the modification; and proposed revised (increased) goals that incorporate those projected energy and demand savings.

III.

Orders

THE COMMISSION ORDERS:

1. HECO's request to continue the RCEA Program for 2009 is denied.

2. HECO's request to modify the CICR Program to permit $50,000 annual incentive awards for certain technologies is denied.

3. HECO's 2009 DSM program goals and budgets are approved, as set forth herein; however, with the transition to the PBF Administrator, the HECO Companies' goals and budgets will

be reduced in proportion to the percentage of the year in which the HECO Companies do not operate the programs. The HECO Companies' incentive awards will also be prorated accordingly.

DONE at Honolulu, Hawaii NOV 14 2008.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By: _____
Carlito P. Caliboso, Chairman

By: _____
John E. Cole, Commissioner

By: _____
Leslie H. Kondo, Commissioner

APPROVED AS TO FORM:

_____
Jodi J. K. Yi
Commission Counsel

2008-0341.laa

CERTIFICATE OF SERVICE

The foregoing order was served on the date of filing by mail, postage prepaid, and properly addressed to the following parties:

CATHERINE P. AWAKUNI
EXECUTIVE DIRECTOR
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
DIVISION OF CONSUMER ADVOCACY
P. O. Box 541
Honolulu, HI 96809

DEAN MATSUURA
MANAGER, REGULATORY AFFAIRS
HAWAIIAN ELECTRIC COMPANY, INC.
P.O. Box 2750
Honolulu, HI 96840-0001

EDWARD REINHARDT
PRESIDENT
MAUI ELECTRIC COMPANY, LTD.
P.O. Box 398
Kahului, HI 96733-6898

JAY IGNACIO
PRESIDENT
HAWAII ELECTRIC LIGHT COMPANY, LTD.
P.O. Box 1027
Hilo, HI 96721-1027

THOMAS W. WILLIAMS, JR., ESQ.
PETER Y. KIKUTA, ESQ.
GOODSILL, ANDERSON, QUINN & STIFEL
Alii Place, Suite 1800
1099 Alakea Street
Honolulu, HI 96813

Counsel for HECO

CA-IR-335

Ref: HECO Response to CA-IR-125 (Energy Efficiency Advertising Program).

According to the response, "Hawaiian Electric is a well recognized brand name and respected as a valuable and trustworthy source of energy information. Messages that come from commercial suppliers and/or unknown third parties, no matter how well intended or correct, may receive less recognition and less resulting action." Please provide copies of all reports, studies, analyses, surveys and other information relied upon by HECO to draw these conclusions.

HECO Response:

The Company's collective experience with inquiries from our customers regarding energy use and options supports this conclusion. Customers turn to their electric company as a recognized and trusted source for information and advice about electricity use.

HECO has not deemed it necessary or prudent to expend funds to conduct any studies of the subject. The Company does not keep an accounting of the high volume of phone calls, letters, emails, and other communications from residential and commercial customers who contact the Company seeking information about energy options and solutions. Neither does the Company report in a systematic way the number or nature of the letters to the editor, letters to the Commission, and other public communications that urge the electric company to help customers manage their electric bills. However, the nature of these inquiries demonstrates a high degree of trust, and an expectation that the Company should be proactive in presenting such information. The volume and frequency of such customer communications effectively demonstrates that Hawaiian Electric is well recognized and respected as a valuable and trustworthy source of energy information.

CA-IR-336

Ref: HECO T-10, pages 24 & 25, Response to CA-IR-179 (DSM Incentives).

Please provide the following additional information:

a. Confirm that HECO sales projections in the test year reflect all historical lost margins and anticipated test year lost margins from ongoing DSM installations.
b. If your response to part (a) is anything but an unqualified confirmation, please explain any DSM lost margins that have not been fully recognized.
c. Provide an update of CA-IR-179, page 2 amounts to include actual 2008 amounts by NARUC Account.
d. Explain whether HECO will have any ongoing opportunity to earn Utility Incentives from load management or any other DSM-like activities.

HECO Response:

a. It is confirmed that HECO's sales projections include the cumulative energy savings from DSM measures installed prior to the test year and an estimated ramped energy savings from DSM measures installed during the test year. HECO has not included a separate recovery of lost margins for the balance of the ramped 2009 test year measure impacts in any of its test year estimates.

b. See response to part "a" above.

c. See Attachment 1 of this response.

d. In the Commission's Order issued on November 14, 2008 in Docket No. 2007-0341 the Commission allowed HECO to earn DSM Utility Incentives for the period of time that HECO operates the energy efficiency programs in 2009 prior to the transfer to the third party administrator.[1] The ability to earn DSM Utility Incentives was reaffirmed in the Commission's Order issued on December 15, 2008 in Docket No. 2007-0323. However, in this Order the Commission reduced the 2009 incentive cap from $4 million to

[1] See Attachment 1 of CA-IR-334, pages 2, 11, and 12.

$2 million.[2] Following the transition to the third party administrator, HECO will no longer earn DSM Utility Incentives on energy efficiency programs and DSM Utility Incentives are not currently earned on HECO's two load management programs (CIDLC and RDLC) or its two pilot programs (SolarSaver Pilot and RCEA).

[2] See Attachment 2 of this response, pages 12, 13, and 15.

Total Lost Margin by NARUC

	2003	2004	2005	2006	2007	2008**
Naruc 440	2,140,517	2,379,322	1,564,494	21,208	0	(4,992)
Naruc 442	7,115,881	8,435,526	7,626,351	275,946	0	(48,891)
Total	9,256,398	10,814,848	9,190,845	297,154	0	(53,883)

Total DSM Incentives by NARUC *

	2003	2004	2005	2006	2007	2008
Naruc 440	21	25,251	(85,248)	23,279	1,622,638	1,527,730
Naruc 442	1,396,196	1,822,351	3,754,441	630,701	2,377,362	2,039,402
Total	1,396,217	1,847,602	3,669,193	653,980	4,000,000	3,567,132

* The 2003 to 2006 amounts represent DSM shareholder incentives.
The 2007 amount represents DSM utility incentives.

** The 2008 amount is preliminary at this time and expected to be filed with the Commission in March, 2009 in HECO's 2009 A&S Report.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

---------In the Matter of---------- PUBLIC UTILITIES COMMISSION Instituting a Proceeding to Investigate the Issues and Requirements Raised by, and Contained in, Hawaii's Public Benefits Fund, Part VII of Chapter 269, Hawaii Revised Statutes	DOCKET NO. 2007-0323

ORDER SETTING THE PUBLIC BENEFITS FEE SURCHARGE FOR 2009

FILED
2008 DEC 15 P 12: 12
PUBLIC UTILITIES COMMISSION

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

---------In the Matter of---------- PUBLIC UTILITIES COMMISSION Instituting a Proceeding to Investigate the Issues and Requirements Raised by, and Contained in, Hawaii's Public Benefits Fund, Part VII of Chapter 269, Hawaii Revised Statutes	Docket No. 2007-0323

ORDER SETTING THE PUBLIC BENEFITS FEE SURCHARGE FOR 2009

By this Order, the commission sets the Public Benefits Fee ("PBF") surcharge for 2009, subject to modification at the commission's discretion.

I.

Background

By Decision and Order No. 23681, filed on September 26, 2007, in this docket, the commission initiated an investigation of the issues and requirements raised by and contained in, Part VII of Chapter 269, Hawaii Revised Statutes ("HRS"). HRS §§ 269-121 and 269-122 authorize the commission to contract with a third party administrator to operate and manage energy efficiency and demand-side management ("DSM") programs in the State and to assess a PBF surcharge to support those programs. By statute, the commission may also redirect all or a portion of the funds collected by Hawaii's electric utilities

through the current DSM surcharge to the third party administrator.

On July 2, 2008, the commission filed an Order to Initiate the Collection of Funds for the Third Party Administrator of Energy Efficiency Programs in which the commission directed the HECO Companies[1] to expense the DSM surcharge such that by October 1, 2008, $50,000 would be available, as well as $50,000 per quarter thereafter, to support the initial start-up costs associated with the third party administrator, until ordered otherwise by the commission. The commission agreed with the HECO Companies that at this preliminary stage, a separate surcharge was not required.

By letter dated August 28, 2008, the commission directed the parties to this docket to comment on the following:

> Now, looking ahead toward a long-term funding mechanism to collect public benefits fee moneys, the Commission is considering a proper design and application for such a surcharge mechanism. We note that for their DSM adjustment, the HECO Companies currently apply the adjustment to all kWh sales per month in order to recover program costs and revenue taxes for the current year and program costs, if any, for the previous year. In addition, there are separate DSM adjustments for Residential and Commercial/Industrial customers that are determined by each HECO Company's respective kWh.
>
> Should any party wish to comment on this matter, the Commission will accept comments until Friday, September 19, 2008. Parties should focus their comments on: 1) how the surcharge should be applied (i.e., by kWh usage, per meter or other means); 2) whether the surcharge should be assessed by island, by each HECO Company's service

[1]Hawaiian Electric Company, Inc. ("HECO"), Hawaii Electric Light Company, Inc. ("HELCO") and Maui Electric Company, Ltd. are collectively referred to as the "HECO Companies."

> territory, or by the HECO Companies' overall service territory; 3) whether separate surcharges should be established for Residential and Commercial/Industrial customers or one surcharge established for all customers; and 4) any other relevant issues.[2]

By letter dated and filed on September 19, 2008, the HECO Companies recommended that:

> . . . the funding mechanism for the [PBF] should be very similar to the current [DSM surcharge]. . . [the surcharge amount] should be unique to each utility service territory and calculated separately for residential rate schedules and for commercial and industrial (C&I) rate schedules. The PBF surcharge should also prospectively recover forecasted expenses and revenue taxes for the current year and be reconciled each year for actual expenses and revenues. The PBF surcharge should be an adjustment applied to energy (kWh) sales. Further, the HECO Companies' DSM surcharge should be continued as a method of recovery for utility incurred DSM program costs.[3]

The HECO Companies stated:

> The PBF surcharge should be an adjustment adder applied to customers' energy consumption in cents per kWh. Energy sales are a good indicator of the level of usage of the electrical system by individual customers. In addition, energy usage could also be an indicator of customers' ability to participate in the energy efficiency programs. For example, very large energy users may have the greatest opportunity to save energy by installing energy efficiency measures.[4]

---

[2]Letter dated August 28, 2008, from the commission to the Parties.

[3]Letter dated and filed on September 19, 2008, from the HECO Companies to the commission, at 1.

[4]Id. at 2.

The HECO Companies also proposed that the PBF surcharge be combined with the DSM surcharge as one line item on customers' bills.[5]

In addition, by letter filed on September 19, 2008, Hawaii Solar Energy Association ("HSEA") and Hawaii Renewable Energy Alliance ("HREA") recommended that the commission establish a funding mechanism similar to the current DSM surcharge, "assessed separately by island, based on the specific DSM program needs and requirements" and that residential and commercial and industrial funds be separated.[6] Moreover, they recommended flexibility to allow for increases or decreases in the surcharge as individual program goals and objectives evolve by island over time; the total income requirement should be broken down by budgetary line item for each administrative and program expense; and that it would take "a coordinated, and not inexpensive, campaign" to ensure that no "momentum" is lost during the transition from the HECO Companies to the third party Administrator.[7]

On October 20, 2008, the Governor of the State of Hawaii, the State of Hawaii Department of Business, Economic Development and Tourism, the State of Hawaii Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs ("Consumer Advocate"), and the HECO Companies entered into a

---

[5]Letter dated and filed September 19, 2008, from the HECO Companies to the commission, at 2.

[6]Letter dated September 18, 2008, filed on September 19, 2008, from HSEA and HREA to the commission, at 2.

[7]Id. at 2.

comprehensive agreement designed to move the State away from its dependence on imported fossil fuels for electricity and ground transportation, and toward "indigenously produced renewable energy and an ethic of energy efficiency."[8] In the Agreement, the HECO Companies and the Consumer Advocate state that they will request that the commission "establish a PBF that is funded by collecting 1% of each Hawaiian Electric utility's total revenues in years one and two; 1.5% in years three and four; and 2% thereafter. Once sufficient load research and potential studies allow more precise identification of the cost-effective and achievable levels of energy efficiency, the PBF collection amount will be based upon the desired level of such investments."[9]

Pursuant to the Agreement, on December 8, 2008, the HECO Companies and the Consumer Advocate proposed that:

> The PBF Surcharge would consist of separate residential and commercial/industrial components that would collect the target revenue equal to 1% (in the first and second year) of the projected total electric revenue, plus revenue taxes. The split between the residential and commercial/industrial components would be prorated according to the PBF administrator's most recent residential and commercial/industrial energy efficiency DSM Program budgets for the following year for that utility company's service territory.
>
> The PBF Surcharge would collect revenue through a per kwh surcharge. A per kwh rather than a percent of base revenue surcharge is appropriate because 1) the funds will be used to fund energy efficiency DSM programs, the focus of which is on

[8]Energy Agreement Among the State of Hawaii, Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies ("Agreement"), at 1.

[9]Agreement, at 29-30.

energy savings, and 2) this is consistent with the existing DSM surcharge, which is also applied on a cent per kwh basis. The cent per kwh surcharges would be calculated by dividing the target residential and commercial/industrial PBF Surcharge revenues by the projected residential and commercial/industrial sales for the respective utility companies.

The PBF Surcharge would be added to customers' bills as a separate line item and the revenue would be collected by the utilities beginning on January 1. A proposed PBF Surcharge tariff is attached as Attachment 1. At regular intervals identified by the Commission, but not more frequently than monthly, the utilities would transfer the collected PBF Surcharge revenues, less the revenue tax liabilities, to the Commission, or its designate.

The amount actually collected through the PBF Surcharge will be compared to the target PBF Surcharge revenue. The difference would be applied as a credit or debit to the following year's target PBF Surcharge revenue. Since the target PBF Surcharge revenue is determined and filed by October 31, only 9 months of actual PBF Surcharge revenue will be available for the current calendar year. Thus, the actual PBF Surcharge revenue collected between October 1 of the previous year and September 30 of the current year would be compared to the target PBF Surcharge revenue for the same period to determine the credit or debit applied to the following year's target PBF Surcharge revenue. This reconciliation would be performed separately for residential and commercial/industrial PBF Surcharge revenue.[10]

II.

Discussion

As previously stated by the commission, 2009 is intended to be a transition year in which the HECO Companies will

[10]Letter dated and filed on December 8, 2008, from the HECO Companies and the Consumer Advocate to the commission ("December 8, 2008 Surcharge Proposal"), at 2-3.

be operating their existing energy efficiency programs[11] for the beginning part of the year and the third party administrator will be operating the programs during the latter part of the year. The commission, however, would like the energy efficiency programs to transition as soon as possible, so the HECO Companies should expect that transition may take place sooner than targeted. The goal in either case is a smooth transition.

To ensure sufficient monies are available to both the third party administrator and the HECO Companies, the commission will direct the collection of target revenue equal to 1% of the projected total electric revenue of the HECO Companies, plus revenue taxes, as requested in the December 8, 2008 Surcharge Proposal, but will divide those collections between the PBF surcharge (for the third party administrator) and the DSM surcharge (for the HECO Companies).[12] Specifically, the 1% of

---

[11]HECO's energy efficiency programs include: (1) Commercial and Industrial Energy Efficiency ("CIEE") program; (2) Commercial and Industrial New Construction ("CINC") program; (3) Commercial and Industrial Customized Rebate ("CICR") program; (4) Residential Efficient Water Heating ("REWH") program; (5) Residential New Construction ("RNC") program; (6) Residential Low Income ("RLI") program; (7) Energy$Solutions for the Home ("ESH") program; and 8) SolarSaver program (SSP). HECO also has two load control programs: 1) Residential Direct Load Control ("RDLC") program; and 2) Commercial Industrial Direct Load Control ("CIDLC") program. HECO's SSP, RDLC and CIDLC programs will not be transitioning to the PBF Administrator and will continue to be operated by HECO.

MECO and HELCO's programs include the CIEE, CINC, CICR, REWH and SSP programs.

[12]In this respect, this Order supersedes the commission's Order Regarding HECO's Annual Program Modification and Evaluation Report, filed on September 30, 2008, which was filed on

projected total electric revenue for 2009 should be divided such that 60% is collected via the HECO Companies' DSM surcharges and 40% via the PBF surcharge. This roughly equates with the proportionate period of time that the commission expects the HECO Companies and the third party administrator to provide services in 2009.

A.

PBF Surcharge

With respect to the PBF surcharge, the commission will adopt the HECO Companies' and Consumer Advocate's December 8, 2008 Surcharge Proposal, as it relates to the 2009 PBF surcharge,[13] as described herein.

- The 2009 PBF surcharge will collect revenue through a per kWh surcharge.
- The PBF surcharge will consist of separate residential and commercial/industrial components that will collect the target revenue equal to 1% of the projected total electric revenue, plus revenue taxes.

November 14, 2008 ("HECO M&E Order"). The HECO Companies shall not collect through their DSM surcharge the full budgeted amounts, as set forth in the HECO M&E Order. The only amounts that HECO is authorized to collect through its DSM surcharge are the 60% prorated amounts for its energy efficiency DSM programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs) and the full budgeted amounts for its SSP, RDLC and CIDLC programs exclusive of the amounts included in base rates. Worksheets setting forth those calculations exclusive of the amounts in base rates should be filed in this docket on or before January 1, 2009.

[13]The commission intends to review the PBF surcharge mechanism and amount on an annual basis.

- The split between the residential and commercial/industrial surcharge components will be divided according to the third party administrator's proposed residential and commercial/industrial energy efficiency DSM Program budgets for 2009, which is 45/55 residential/commercial and industrial for 2009

- The PBF surcharge will be assessed statewide, such that customers served under a given rate schedule (e.g., Schedule R) will pay the same cent per kWh surcharge, regardless of service territory, as the PBF programs are intended to be available statewide and provide a statewide benefit.[14]

- The cent per kWh surcharge should be calculated by dividing the target residential and commercial/industrial PBF surcharge revenues by the projected residential and commercial/industrial sales collectively for the HECO Companies.[15]

- The PBF surcharge should be added to customers' bills as a separate line item titled "PBF Surcharge" and the revenue will be collected by the utilities beginning on January 1, 2009.

---

[14]When considering whether to separate residential and commercial/industrial surcharges for each island or, in the alternative, each HECO Company service territory, the commission determined that the intent of the third party administrator should be to serve all markets through statewide programs (with the exception of Kauai, which is serviced by Kauai Island Utility Cooperative). Therefore, the surcharge, in cents per kWh, should be uniform across all service territories, rather than unique to each. By setting the surcharge's structure as statewide, it will encourage customers in all service territories to participate and receive similar benefits from the programs, for similar costs based on their usage. In other words, customers in different service territories should not pay different charges for participating in the same programs. To address any concern that a statewide surcharge and programs may result in disproportionate benefits between service territories, the commission intends to impose some form of proportionate benefit requirement on the third party administrator.

[15]By December 22, 2009, the HECO Companies shall file exhibits similar to Attachment 2 of the HECO Companies' and Consumer Advocate's December 8, 2008 Surcharge Proposal, illustrating the estimates for the PBF surcharge.

- On a monthly basis, beginning on March 1, 2009, the utilities will transfer the collected PBF surcharge revenues, less the revenue tax liabilities, to the commission's fiscal agent.[16]

- The amount actually collected through the PBF surcharge will be compared to the target PBF surcharge revenue. The difference would be applied as a credit or debit to the following year's target PBF surcharge revenue. This reconciliation will be performed separately for residential and commercial/industrial PBF surcharge revenue.

- The PBF surcharge may be modified at the commission's discretion.

Given that the commission is ordering the establishment of a separate PBF surcharge line item, the commission will direct the HECO Companies to provide notice to their customers on the first bill on which the PBF surcharge will be listed. To reduce costs, the commission's preference is that such notice be provided through an article in HECO's Consumer Lines newsletter. If unfeasible, the commission is open to other options. Information on the method and content of the customer notice should be provided to the commission prior to dissemination.

Finally, given the foregoing, as of January 1, 2009, the HECO Companies shall discontinue collecting and expensing

[16]Payment should be made to the "Public Utilities Commission" and delivered to the PBF fiscal agent: Bank of Hawaii, Attention: Kevin Higa, Trust Officer Institutional Client Services, P.O. Box 3170, Honolulu, HI 96802.

the DSM surcharge quarterly.[17] The $50,000 in start-up costs per quarter is no longer necessary given the implementation of the PBF surcharge.

B.

DSM Surcharge

As noted above, beginning January 1, 2009, the HECO Companies may collect 60% of the HECO Companies' 2009 targeted revenues through their DSM surcharge, which shall fund the HECO Companies' operation of their DSM programs in 2009. Unless there is an operational reason otherwise, the HECO Companies shall begin collection of the 2009 DSM surcharge on January 1, 2009.

In addition, to facilitate the transition, the HECO Companies shall provide monthly goals and budgets and reporting for all of their DSM programs, including their demand response programs, for 2009. Within thirty days of the date of this Order, the HECO Companies shall file a statement of their 2009 monthly goals and budgets for all of their existing DSM programs, including their demand response programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, ESH, SSP, RDLC and CIDLC programs, as applicable). In addition, thereafter, on a monthly basis, the HECO Companies shall file monthly reports with the commission on all of their DSM programs (i.e., CIEE, CINC, CICR, REWH, RNC,

[17]By letter dated December 15, 2008, the commission directed the HECO Companies to pay the $50,000 collected in the third quarter of 2008. Likewise, in January 2009, the HECO Companies shall pay to the fiscal agent the remaining $50,000 collected in the last quarter of 2008 (with interest).

RLI, ESH, SSP, RDLC and CIDLC programs, as applicable). Included in those reports should be information on demand and energy savings achieved, commitments and expenditures, as applicable. The HECO Companies shall not exceed a monthly budget for any energy efficiency program (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, and ESH) without prior approval of the commission.

In addition, given the transition of energy efficiency programs to the third party administrator and the discontinuation of integrated resource planning ("IRP"), the HECO Companies shall provide an accounting of the IRP Surcharge for 2008 and 2009, including the monthly surcharge amount and the monthly cost to the average ratepayer in each customer class. Specifically, the HECO Companies' accounting should include HECO Company information on how much of the surcharge is for IRP and how much for DSM programs. Of the portion for DSM programs, information should be included on how much is for incentives and how much for administrative costs. Information should also be included on how much is in base rates versus in the surcharge.

Finally, having just completed a competitive bidding process for a third party administrator, the commission is cognizant of what appears to be the current market rate for performance incentives for administrators of energy efficiency programs, and determines that HECO's incentive cap of $4 million is unnecessarily high and thus, too costly to ratepayers in comparison. Therefore, HECO's energy efficiency goals should be

appropriately and sufficiently incentivized at a much lower cost. Accordingly, the commission will lower HECO's incentive cap to $2 million for 2009. Given that MECO and HELCO's incentive caps are determined in relation to HECO's cap, MECO and HELCO's cap should be lowered accordingly. As noted in the M&E Order, the HECO Companies' incentive caps are also subject to being prorated based on the number of months in 2009 that they do not provide the programs (i.e., the programs have transitioned to the third party administrator).

III.

Orders

THE COMMISSION ORDERS:

1) The HECO Companies shall collect revenue equal to 1% of the projected total electric revenue of the HECO Companies, plus revenue taxes, of which 60% shall be collected via the DSM surcharge and 40% via the PBF surcharge.

2) The 2009 PBF surcharge shall collect revenue through a monthly per kWh surcharge, which will consist of separate residential and commercial/industrial components, and will be assessed statewide beginning on January 1, 2009. The PBF surcharge shall be added to customers' bills as a separate line item titled "PBF Surcharge."

3) Beginning on March 1, 2009, and monthly thereafter, the HECO Companies shall transfer the collected PBF surcharge revenues, less the revenue tax liabilities, to the commission's fiscal agent. The difference between the amount actually

collected through the PBF surcharge and the target PBF surcharge revenue will be applied as a credit or debit to the following year's target PBF surcharge revenue.

4) The HECO Companies shall provide notice to their customers on the first bill on which the PBF surcharge will be listed. Information on the method and content of the customer notice shall be provided to the commission prior to dissemination.

5) By December 22, 2009, the HECO Companies shall file exhibits similar to Attachment 2 of the HECO Companies' and Consumer Advocate's December 8, 2008 Surcharge Proposal, illustrating the estimates for the PBF surcharge.

6) By January 1, 2009, the HECO Companies shall file worksheets setting forth the calculations for its DSM surcharge (for the 60% prorated amounts for its energy efficiency DSM programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, and ESH programs, as applicable) and the full budgeted amounts for its SSP, RDLC and CIDLC programs exclusive of the amounts included in base rates).

7) As of January 1, 2009, the HECO Companies shall discontinue collecting and expensing the DSM surcharge $50,000 quarterly, and thereafter shall pay to the PBF fiscal agent the $50,000 collected in the last quarter of 2008 (with interest).

8) Within thirty days of the date of this Order, the HECO Companies shall file a statement of their 2009 monthly goals and budgets for all of their existing DSM programs, including

their demand response programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, ESH, SSP, RDLC and CIDLC programs, as applicable).

9) Thereafter, on a monthly basis, the HECO Companies shall file monthly reports with the commission on all of their DSM programs (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, ESH, SSP, RDLC and CIDLC programs, as applicable). Included in those reports should be information on demand and energy savings achieved, commitments and expenditures, as applicable. The HECO Companies shall not exceed a monthly budget in any energy efficiency program (i.e., CIEE, CINC, CICR, REWH, RNC, RLI, and ESH) without prior approval of the commission.

10) Within thirty days of the date of this Order, the HECO Companies shall provide an accounting of the IRP Surcharge for 2008 and 2009.

11) HECO's incentive cap of $4 million is reduced to $2 million for 2009, and MECO and HELCO's incentive caps are lowered proportionately.

DONE at Honolulu, Hawaii DEC 15 2008.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By _____
Carlito P. Caliboso, Chairman

By _____
John E. Cole, Commissioner

By _____
Leslie H. Kondo, Commissioner

APPROVED AS TO FORM:

_____
Stacey Kawasaki Djou
Commission Counsel

2007-0323.cp

CERTIFICATE OF SERVICE

The foregoing order was served on the date of filing by mail, postage prepaid, and properly addressed to the following parties:

CATHERINE P. AWAKUNI
EXECUTIVE DIRECTOR
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
DIVISION OF CONSUMER ADVOCACY
P. O. Box 541
Honolulu, HI 96809

DEAN MATSUURA
MANAGER, REGULATORY AFFAIRS
HAWAIIAN ELECTRIC COMPANY, INC.
P.O. Box 2750
Honolulu, HI 96840-0001

EDWARD REINHARDT
PRESIDENT
MAUI ELECTRIC COMPANY, LTD.
P.O. Box 398
Kahului, HI 96733-6898

JAY IGNACIO
PRESIDENT
HAWAII ELECTRIC LIGHT COMPANY, LTD.
P.O. Box 1027
Hilo, HI 96721-1027

THOMAS W. WILLIAMS, JR., ESQ.
PETER Y. KIKUTA, ESQ.
GOODSILL, ANDERSON, QUINN & STIFEL
Alii Place, Suite 1800
1099 Alakea Street
Honolulu, HI 96813

Counsel for HECO, MECO, and HELCO

CARL FREEDMAN
HAIKU DESIGN & ANALYSIS
4234 Hana Highway
Haiku, HI 96708

HENRY Q CURTIS
VICE PRESIDENT FOR CONSUMER ISSUES
LIFE OF THE LAND
76 North King Street, Suite 203
Honolulu, HI 96817

RICHARD R. REED
PRESIDENT
HAWAII SOLAR ENERGY ASSOCIATION
c/o Inter-Island Solar Supply
761 Ahua Street
Honolulu, HI 96819

WARREN S. BOLLMEIER, II
PRESIDENT
HAWAII RENEWABLE ENERGY ALLIANCE
46-040 Konane Place, #3816
Kaneohe, HI 96744

YVETTE MASKREY
DISTRICT MANAGER
HONEYWELL INTERNATIONAL, INC.
220 S. King Street
Suite 1460
Honolulu, HI 96813

MILES M. KUBO
PRESIDENT AND COO
ENERGY IINDUSTRIES, LLC.
2660 Waiwai Loop
Honolulu, HI 96819

CA-IR-337

Ref: HECO Response to CA-IR-120 (DPP Pilot Expenses).

Please update your response to CA-IR-120, indicating the present status of the Company's DPP program application and budgeted monthly spending, indicating whether/how the test year projected expenses should be modified given such status.

HECO Response:

HECO originally assumed that Commission approval of the DPP Program would occur in late 2008. This would have resulted in a schedule that had program participants being recruited beginning in September 2008, the pilot study beginning in January 2009 and ending in December 2009, and an evaluation of the pilot being completed by February 2010. HECO is currently awaiting Commission approval of the DPP Program and will make commensurate adjustments to the timing of the tasks discussed above. However, this delay in the implementation of the DPP Program will not affect the test year projected expenses, since all DPP expense, with the exception of a small amount of base labor, were forecasted as incremental expenses subject to recovery through the IRP Surcharge (see HECO response to CA-IR-120, page 1). The $10,589 in base labor projected for the test year will not be affected by this delay as the employees that would have been spending some of their time working on the DPP Program are using that time to support other DSM programs.

CA-IR-338

Ref: Response to CA-IR-228, Attachment 1 (Labor Hours by DSM Program).

Please provide updated information to replace "2008 Actuals thru June" with calendar year 2008 actual data.

HECO Response:

Please see Attachment 1 of this response.

HECO Base Positions

Actual Labor Hours By DSM Program

2007

			Energy Efficiency Programs											DSM	
	Pricing	IRP	CIEE	CINC	CICR	REWH	RNC	ESH	CIDLC	RDLC	SSP	DPP	Other	Admin	Total
Director, CEP Division		140							5		12		80	1,629	1,866
CIDLC Program Manager		25							1,865				1		1,891
RDLC Program Manager*						382	285			553	491		1		1,712
Load Management Engr.									1,564	128			112		1,804
Clerk	40	3	432	385	374	3	4				2		135	508	1,886
Total	40	168	432	385	374	385	289		3,434	681	505	0	329	2,137	9,159
			Total labor hours for EE pgrms =					1,865							

2008

			Energy Efficiency Programs											DSM	
	Pricing	IRP	CIEE	CINC	CICR	REWH	RNC	ESH	CIDLC	RDLC	SSP	DPP	Other	Admin	Total
Director, CEP Division		4			8			8					104	1,632	1,756
CIDLC Program Manager[1]									959				1		960
CIDLC Program Manager[2]									256						256
RDLC Program Manager[3]						474	322			324	276		12		1,408
Load Management Engr.[4]									1,463	27			10		1,500
Clerk	54		453	313	343	4		2		1			101	502	1,773
Total	54	4	453	313	351	478	322	10	2,678	352	276	0	228	2,134	7,653
			Total labor hours for EE pgrms =					1,927							

The following notes reflect periods during which the positions were filled:

[1] from 1/08 to 8/1/08

[2] from 11/08 to 12/08

[3] from 3/27/08 to present

[4] from 1/08 to 10/31/08

CA-IR-339

Ref: Response to CA-IR-126 page 2 (Actual Staff – Base Employees).

Please provide an update to this table, showing monthly actual staffing through December 2008 as well as revised test year staff levels after accounting for the T-10 update addition of personnel.

HECO Response:

Refer to Attachment 1 of this response.

Customer Solutions Employee Count
Actual Staffing - Base Employees (A)
(Excludes Incremental DSM Program Employee Positions)

ACTUAL STAFFING (A)

	2009 Revised TY Staff Level (C)	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08
Cust. Technology Applications Division	9	8	8	8	9	9	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Forecasts & Research Division	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Marketing Services Division	12	12	12	12	12	12	11	11	11	12	12	12	11	11	11	11	11	11	11	11	11	11	11	11	11
Customer Solutions - VP Office	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
Energy Services	16	12	12	12	12	12	12	12	12	12	13	13	12	12	12	13	13	13	13	13	12	12	13	13	11
--Admin.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
--Pricing	7	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	6	6	5
--Cust. Eff Prgm (B)	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4	5	5	5	5	5	4	4	4	4	4
TOTAL CUSSOL	50	44	44	44	45	45	43	43	44	45	46	46	44	44	44	45	45	45	45	45	44	44	45	46	44

(A) Source: DARS Report 636-2: Employee Count by Department/Division within VP Function (Excludes Incremental DSM Positions)
(B) In the HECO TY 09 Rate Case, a rate case adjustment was proposed to move an incremental DSM position to base.
Refer to HECO T-10, page 9 of 79 and to HECO-1006 exhibit. Note that this incremental DSM position was filled in 2007 and 2008
This position is included in the 2009 TY counts but not reflected in the actual staffing counts since it is still treated as an incremental DSM position.
(C) Reflects revised 2009 TY staff levels after accounting for the T-10 update addition of personnel.

CA-IR-340

Ref: HECO-1003 and HECO-1004 (Customer Service Expenses).

Please provide an update to HECO-1003 and HECO-1004 replacing the "Budget 2008" data with calendar year 2008 actual data and explain any significant costs shifts or fluctuations evident in the 2008 actual data, relative to prior years or the projected test year.

HECO Response:

Attachment 1 is the updated HECO-1003 and Attachment 2 is the updated HECO-1004. The updated pages include 2008 actual year end data as of December 31, 2008. The significant cost changes are discussed below.

Customer Assistance Non-labor

Per Attachment 1, updated HECO-1003, Customer Services Expenses, NARUC 910, non-labor expenses increased from $1,352K in 2008 to $2,438K in the 2009 test year rate case. Major determinants of this $1,086K increase include:

(a) Higher DSM Base Program non-labor costs of $643K. Actual 2008 DSM Base Program non-labor costs were $719K compared to $1,362K in the 2009 test year rate case. The major reason for the increase is higher budgeted base non-labor for the two load management programs, CIDLC and RDLC, which accounted for $596K of the overall increase. Refer to HECO T-10, Pages 27-30 of 79 for further discussion of 2009 DSM base Program budgeted non-labor costs.

(b) Higher Core Marketing Programs non-labor costs of $134K. In 2008, the Customer Technology Applications ("CTA") Division non-labor expenditures reflected a reduction in education, promotion, and development associated with the Division's core program area and other support activities compared to prior

years. A $105K increase in the non-labor estimate reflects a return to the funding support for the Division's core program area and other normal support activities. The remaining $29K increase relates primarily to higher IT charges in the 2009 test year rate case in comparison to 2007 actual expenses.

(c) Higher HECO IRP non-labor costs of $98K. Test year NARUC 910 IRP non-labor costs of $228K were adjusted downward by a $67K normalization adjustment (see HECO-1030, line 2 for IRP Non-labor Normalization Adjustment) to $161K. The $161K amount is higher than the 2008 IRP non-labor actuals of $63K due primarily to lower IRP non-labor spending in 2008. For instance, in 2008, HECO did not conduct a Commercial End Use survey. The 2009 budget includes $100K for a consultant to perform this survey.

Informational Advertising Non-labor

In 2007, non-labor costs for customer informational advertising totaling $642,000 were incurred. This includes $633,000 of costs charged to account 911 in 2007 and $9,000 of informational advertising costs that were inadvertently charged to account 910 in 2007 and later reclassified to the proper account (account 911) in 2008. In addition, the Company also spent $1,752,000 of DSM funds for the Residential Customer Energy Awareness (RCEA) pilot program on complementary advertising and marketing to encourage the use of specific DSM energy efficiency measures such as solar water heating, EnergyStar appliances and compact fluorescent lights. In total, $2,394,000 was spent on customer informational advertising in 2007. This was also supplemented by additional advertising for the residential energy efficiency and residential direct load control programs.

In 2008, the Company incurred $195,000 in non-labor costs for customer informational advertising. The gross amount charged to account 911 in 2008 was $204,000, however, the total was adjusted for the $9,000 of 2007 charges which were reclassified to account 911 in 2008 as noted above. The lower amount spent compared to 2007 reflects the lower amount approved by the Commission in its interim order (Order No. 23749, Docket 2006-0836) for the Company's 2007 rate case. The order approved cost recovery of $174,000 in informational advertising charged to O&M accounts. To meet customer communication needs, the Company incurred about $21,000 in additional costs above the $174,000 approved in the 2007 rate case decision and order. In addition, the Company spent $1,696,000 for complementary RCEA advertising. In total, $1,891,000 was spent on customer informational advertising in 2008. This was also supplemented by additional advertising for the residential energy efficiency and residential direct load control programs.

In 2009, the Company plans to spend $1,116,000 for non-labor O&M costs for informational advertising. This amount is higher than the amount charged to account 911 in 2007 and 2008 because the RCEA program terminated at the end of 2008 per the Commission's November 14, 2008 Order Regarding HECO's Annual Program Modification and Evaluation Report, Filed on September 30, 2008 in Docket No. 2007-0341). As HECO established in its response to CA-IR-125, even after the energy efficiency DSM programs transition to the third-party administrator, the utility retains an obligation to provide information that increases energy awareness and encourages customers to make energy efficiency part of their everyday lives. Without the RCEA program, additional funds are required in base rates to help fulfill this responsibility. The level of funding included in the 2009 test year is still much lower than the total spent on informational advertising in 2007 or 2008..

CA-IR-340-Revised1003-1004.xls
1003-Cust Svc Exp 03-09
2/2/2009

HAWAIIAN ELECTRIC COMPANY, INC.
CUSTOMER SERVICE EXPENSES*
(Excludes EE#406, 422, & 423)
2003-2009
($1000s)

REPRESENTS UPDATED HECO-1003 with 2008 Recorded.

Line			A	B	C	D	E	F	G
			Recorded 2003	Recorded 2004	Recorded 2005	Recorded 2006	Recorded 2007	Recorded 2008	Test Year 2009
	909	Supervision							
1		Labor	0	115	229	217	239	405	393
2		Non-labor	0	9	17	17	23	75	34
3		Total	0	124	246	234	262	480	427
	910	Customer Assistance							
4		Labor	2,685	2,456	2,824	2,859	3,011	2,702	2,973
5		Non-labor	794	1,175	1,437	1,395	1,357	1,352	2,438
6		Total	3,479	3,631	4,261	4,254	4,368	4,054	5,411
	911	Informational Advertising							
7		Labor	15	15	25	11	17	14	32
8		Non-labor	55	477	554	187	633	204	1,116
9		Total	70	492	579	198	650	218	1,148
	912	Miscellaneous Customer Services							
10		Labor	1	8	1	0	0	0	0
11		Non-labor	0	1	3	3	1	6	21
12		Total	1	9	4	3	1	6	21
		TOTAL CUSTOMER SERVICE EXPENSES							
13		Labor	2,701	2,594	3,079	3,087	3,267	3,121	3,398
14		Non-labor	849	1,662	2,011	1,602	2,014	1,637	3,609
15		Total	3,550	4,256	5,090	4,689	5,281	4,758	7,007

*DSM Incremental costs (Act. 714) have been excluded for all years.
Reflects impact of GL Code Transfer

CA-IR-340-Revised1003-1004.xls
1004-No DSM CusSvc 03-09
2/2/2009

HAWAIIAN ELECTRIC COMPANY, INC.
(Includes EE#406, 422 &423)
NON DSM* CUSTOMER SERVICE EXPENSES
2003-2009
($1000s)

REPRESENTS UPDATED HECO-1004 with 2008 Recorded.

Line			A	B	C	D	E	F	G
			Recorded 2003	Recorded 2004	Recorded 2005	Recorded 2006	Recorded 2007	Recorded 2008	Test Year 2009
	909	Supervision							
1		Labor	0	103	229	216	235	285	330
2		Non-labor	0	28	76	84	104	160	126
3		Total	0	131	305	300	339	445	456
	910	Customer Assistance							
4		Labor	2,438	2,213	2,168	2,083	2,309	2,274	2,356
5		Non-labor	1,618	1,469	1,795	1,828	2,006	1,903	2,202
6		Total	4,056	3,682	3,963	3,911	4,315	4,177	4,558
	911	Informational Advertising							
7		Labor	15	15	25	11	17	14	32
8		Non-labor	60	481	563	193	642	211	1,130
9		Total	75	496	588	204	659	225	1,162
	912	Miscellaneous Customer Services							
10		Labor	1	8	1	0	0	1	0
11		Non-labor	0	4	4	3	1	6	21
12		Total	1	12	5	3	1	7	21
		TOTAL CUSTOMER SERVICE EXPENSES							
13		Labor	2,454	2,339	2,423	2,310	2,561	2,574	2,718
14		Non-labor	1,678	1,982	2,438	2,108	2,753	2,280	3,479
15		Total	4,132	4,321	4,861	4,418	5,314	4,854	6,197

*GL Code Credit has been excluded for all years.
Amount excludes all DSM expenses

CA-IR-341

Ref: HECO T-10 Update, page 10, & HECO T-11 Update, page 6 (Decoupling Consultants).

HECO T-10 discusses the Company's anticipated need for consulting services for the development and testing of various decoupling/attrition mechanism and for other pricing alternatives. HECO's internal estimate of $200,000 was allocated 80% to HECO, with 10% each to HELCO and MECO. Please provide the following:

a. Would retention of the identified consulting service have been required in the absence of the HCEI Agreement? If so, please explain.

b. Please provide a copy of all documentation supporting the $200,000 estimate.

c. Please explain the basis for the proposed two-year amortization period.

d. Please explain why the Company believes that the amortization of these costs should be included in base rates.

e. Please provide the basis and underlying support for the 80/10/10 allocation between HECO, HELCO and MECO.

HECO Response:

The HECO T-10 Update citation referenced above should be corrected to HECO T-10 Update, page 6.

a. HECO had been exploring decoupling from sales prior to the HCEI Agreement in preparation for a decoupling proceeding that the Commission indicated informally that it was planning to open in the latter half of 2008[1]. Therefore, consultant services to explore various decoupling/attrition mechanisms would have been needed eventually even if the HCEI Agreement had not been signed. However, the timing of the consultant services is driven by provisions in the HCEI Agreement that, "The revenues of the utility will be fully

[1] The Commission indicated at the HCEI workshops held in the summer of 2008, that it intended to open a decoupling docket later in the year. The Commission opened Docket No. 2008-0274, *Instituting a Proceeding to Investigate a Decoupling Mechanism for Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Ltd.* on October 24, 2008.

decoupled from sales/revenues beginning with the interim decision in the 2009 Hawaiian Electric Company Rate Case (most likely in the summer of 2009)."[2]

b. Attachment 1 is a copy of an existing Work Authorization with Pacific Economics Group, LLC to provide assistance in regulatory proceedings and settlement discussions relating to revenue decoupling and related revenue adjustment mechanisms. Attachment 2 is an amendment to that work authorization, increasing the not-to-exceed amount by $100,000 for work that will take place in 2009 up to and including the filing of Final Statements of Position. Additional funds would be needed for the consultant to assist with reviewing the decoupling scoping paper issued by the Commission and prepare for and participate in panel hearings scheduled in the week of June 29, 2009.

In addition, the HCEI Agreement also identifies the need to explore the seven additional programs (excluding decoupling) identified on page 5 of the Rate Case Update to HECO T-10. Together with revenue decoupling, these programs will require pricing consultants, the total cost of which will total about $200,000.

c. The two-year amortization period is based on the assumed adoption of revenue decoupling ratemaking, and an initial two-year rate case cycle for HECO, which would assume a subsequent rate case in 2011, two years after this 2009 rate case. Subsequent rate case cycles after the planned HECO 2011 rate case would be every three or four years. The shorter initial period between HECO's 2009 and 2011 rate case is designed to stagger the HECO, MECO, and HELCO rate cases that follow the 2009 rate cases for all HECO Companies so that the subsequent rate cases do not fall on the same year. This is the part

[2] HCEI Agreement, page 33.

of the General Rate Case cycle that is being proposed in the Rate Case Update to HECO T-10, on page 6.

d. The consultant costs that are expected to be expended in the test year are necessary to appropriately design rates under revenue decoupling ratemaking and will benefit customers, regulators, and HECO when the revenue decoupling mechanism is implemented. Since these costs result in benefits to customers, recovery through base rates is appropriate. However, HECO is also willing to consider other cost recovery mechanisms that may be proposed by the parties to this docket.

e. The basis for the 80/10/10 allocation of decoupling consultant services costs is sales by company. Use of sales as the allocator is reasonable because revenue decoupling is related to the linkage between revenue and sales. Attachment 3 shows the data used to determine these allocation percentages.

WORK AUTHORIZATION NO. **PSA-18-007-003**

Under Purchase Order No. V27753 /Contract No. MSTR-PSA-08-007

I. Request for Quote

Under the terms and conditions of the Consultant Services Master Agreement, dated **April 1, 2008**, by and between **Pacific Economics Group, LLC** ("Consultant") and Hawaiian Electric Company, Inc. ("Company"), Company hereby requests a proposal from Consultant to perform the following Work:

Re: Decoupling Study Phase 3: Provide assistance in settlement discussions and regulatory proceedings relating to revenue decoupling and related revenue adjustment mechanisms

Objective: To provide assistance, analysis, a white paper, and possible testimony in the areas of revenue decoupling and revenue adjustment mechanisms, in settlement discussions and a possible regulatory proceeding to be determined by HECO.

Scope: Work under this Work Authorization may include a white paper, testimony, the development of written responses to Information Requests (IRs), review of other parties' testimony, and attendance and participation at meetings with external parties.

Scope of White Paper: The white paper will:

1. Establish Consultant as an authority in revenue decoupling
2. Evaluate the applicability of revenue decoupling to HECO, HELCO, and MECO (HECO Companies)
    a. Include examples from mainland electric and gas utilities that are appropriate to the HECO Companies' sales and financial situation, who are implementing, or have implemented in the past, revenue decoupling.
    b. Identify the reasons why revenue decoupling was implemented and any lessons learned.
3. Identify and discuss the following alternative revenue adjustment mechanisms.
    a. Revenue per customer (RPC) freeze
    b. Inflation
    c. RPC indexed
    d. Forecast
    e. Hybrid of American and British approaches
    f. California utility decoupling mechanisms. Should PEG hire a sub-consultant to explore California utility decoupling mechanisms, the sub-consultant must be approved by HECO.
4. Compare the financial impacts of alternative revenue adjustment mechanisms on the HECO Companies and ratepayers.
    a. Consultant may refer to the analysis performed under the Decoupling Study Phase 2.
    b. When referring to the analysis, Consultant will be responsible for supporting the model, analytical methodology used, and the model results.
    c. HECO will be responsible for supporting the financial data provided to Consultant that was used as inputs into the model.

5. Support the revenue adjustment mechanism that makes the most sense for the HECO Companies, its customers, and regulators.

Deliverables: Deliverables will be scheduled to correspond to the procedural schedule for the regulatory proceeding. However, since the regulatory proceeding within which revenue decoupling will be presented to the PUC has not been identified, no procedural schedule has been developed. Therefore, until such time that a procedural schedule is determined, the schedule for deliverables is as follows

Notice to proceed	Monday, October 20, 2008
1st draft white paper	Friday, November 21, 2008
2nd draft white paper	Friday, November 28, 2008
Final draft white paper	Wednesday, December 10, 2008

Hourly Rates: Hourly rates will be based on the individual billing rates quoted in the Consultant's Proposal for Decoupling Study Phase II, dated June 30, 2008. Invoices will be based on actual hours worked multiplied by the applicable billing rate, plus out-of-pocket expenses.

Cost Estimation: Submit a "not to exceed" price, but include a breakdown of hours by deliverable (above) and role or team member.

- Note: do not include an estimate for travel to Honolulu in the "not-to-exceed" price. Instead, provide an estimate for airfare, a 4-night hotel stay, and per-diem, separately. Airfare, hotel, and per-diem costs will be reimbursed by HECO based on receipts. Airfare and hotel costs must be pre-approved by HECO.

II. Consultant's Proposal

Consultant hereby proposes to perform the Work described in the Consultant's attached proposal dated, December 10, 2008, under said terms and conditions, for the following amount: **$206,630**.

Total not-to-exceed cost is **$206,630**. Total not-to-exceed manhours required is **not applicable**.

Work will begin no later than **October 15, 2008** and be completed on or before **December 31, 2009**.

Mark Lowry, Ph.D., Partner, will act as Consultant's Designated Representative during the performance of this Work.

Dated: 17 Dec 2008

Consultant

III. Work Authorization

Consultant's foregoing Proposal is accepted. Consultant is authorized to perform the Work as proposed. Company's Designated Representative for this Work Authorization shall be **Alan K.C. Hee, Manager, Energy Services Department.**

Date: 12-08-08 By: David G. Waller

Its Vice President

Charles J. Cicchetti, Ph.D.
Jeffrey A. Dubin, Ph.D.
Lawrence R. Kaufmann, Ph.D.
Colin M. Long, J.D.
Mark N. Lowry, Ph.D.

PEG
Pacific Economics Group, LLC
Economic and Litigation Consulting

December 10, 2008

Alan Hee
Manager, Energy Services Department
Hawaiian Electric Co.
P.O. Box 2750
Honolulu, Hawaii 96840-001

Dear Alan,

This letter responds to your recent request for a proposal to help Hawaiian Electric Company (HECO) in Phase III of its alternative regulation (Altreg) project. I begin with a review of the project thus far. There follows the requested proposal.

Review of Earlier Work

Phase I

The goal of this project is to help HECO finalize an Altreg strategy for the next 3-4 years. Phase I of the project was a scoping study on the potential of revenue decoupling as a component of the strategy.

- A high level review of the company's situation was conducted via discussions with company personnel and examination of recent financial reports and key regulatory documents. This review revealed that the company is experiencing serious financial attrition under its current regulatory system. This attrition is due, in the main, to the difficulty with which the current system deals with the acceleration in the company's unit cost growth that has resulted from accelerating input price inflation, higher generation output from aging facilities, and slowing volume per customer growth. Under these circumstances, a multiyear revenue decoupling plan featuring a revenue adjustment mechanism (RAM) to provide attrition relief is a regulatory option worth serious consideration.

- We identified five established approaches to RAM design.

    - Under a <u>revenue per customer (RPC) freeze</u>, revenue per customer is *fixed* for the term of the plan (*e.g.* there is no adjustment for input price inflation). Revenue then grows with the number of customers served. The formula may apply to the *total* revenue per customer, as in the approved decoupling plans of PEPCO and BG&E gas in Maryland. The formula may, alternatively, be applied to individual rate classes as in the approved decoupling plan for Idaho Power. The latter approach to attrition relief was featured in a presentation by the Regulatory Assistance Project (RAP) in Honolulu.

Mathematical analysis of the RPC freeze by service class revealed that it would produce revenue growth very similar to a freeze on the overall RPC in an application to HECO.

- Under revenue per customer *indexing*, the allowed RPC is escalated by an index that reflects trends in external business conditions that drive cost per customer. RPC could, in principle, be escalated by the average growth in the base rate cost per customer of a suitably chosen peer group. For HECO, such a peer group would most likely consist of smaller vertically integrated utilities (VIEUs) with slow growth in generation capacity and the number of customers served. Different peer groups would be appropriate for HELCO & MECO given their different business conditions (*e.g.* even smaller operating scale but much more rapid customer growth). It might be difficult to find good sets of peers, especially for HELCO & MECO. One of the biggest problems in creating a peer group is the more rapid pace of input price inflation in Hawaii.

  In view of these complications, a more practical approach to the design of an RPC index relies on the basic result of index logic that the growth in cost per customer is the difference between input price inflation and productivity growth. This logic provides the foundation for an inflation – X escalation formula. X, the X factor term in the formula, reflects a productivity growth target and any tendency of the chosen inflation measure to overstate or understate utility input price inflation. Revenue escalation is then specific to a company's customer growth and current price inflation. Salient precedents for this approach include the current plan of Enbridge Gas Distribution and an expired plan of Southern California Gas.

  Whichever formulae are used in the design of RPC indexes, they generate considerably more attrition relief than an RPC freeze since X is likely to be well below the rate of inflation. An RPC index also provides more protection against accelerating inflation.

- Under the "**inflation only**" approach to RAM design, the revenue requirement is adjusted only for price inflation. A familiar macroeconomic inflation measure such as the Consumer Price Index or the Gross Domestic Product Price Index is usually used as the inflation measure This is tantamount to an RPC index in which X is set equal to customer growth. It therefore makes the most sense for utilities for which the rate of customer growth is similar to a reasonable X factor. It works less well for utilities with unusually *rapid* customer growth (*e.g.* Nevada Power or HELCO) or unusually *slow* customer growth (*e.g.* Cleveland Electric Illuminating). This approach was approved for use in recently expired decoupling plans for Pacific G&E, Southern California Gas, and San Diego G&E.

- The "all-forecast" and "hybrid" approaches have more of a cost of service flavor and are often favored by utilities making major plant additions because of their need for revenue requirement "bumps". These approaches could even fund HECO's renewables-related transmission investments. Under the "**all-forecast**" approach, growth in the non-energy revenue requirement equals the forecasted growth in the corresponding cost. This is tantamount

to a rate case with multiple forward test years. The revenue requirement in the "out" years may be scheduled to rise in a "stair-step" pattern, as in the current decoupling plans of Consolidated Edison (gas), Orange & Rockland, and Pacific G&E. It may, alternatively, be escalated using an inflation – X formula where X is chosen to yield equivalent net present value given forecasts of inflation and the growth in billing determinants. The latter variant is common in Britain (where it is sometimes called "RPI-X" regulation) and offers extra protection against the risk of hyperinflation. Even if HECO isn't interested in RPI – X, it is another useful precedent for multiple forward test years.

- Under the "**hybrid**" approach to RAM design, O&M expenses (and sometimes also small plant additions) are escalated using an index, whereas capital cost escalation is set by other means. Capital spending may be forecasted or set at a recent historical value or the test year value. In the latter two cases, there is usually an adjustment for construction cost inflation. The index for O&M expenses can, in principle, have a revenue per customer index or a simpler inflation only formula. This general approach to RAM has been used in several California decoupling plans, including the latest plan of Southern California Edison.

- We added to our collection of documents on decoupling precedents in the gas and electric power industries and prepared a summary table. We found that there are several precedents for all five of the established approaches to RAM design.

- Preliminary empirical research revealed that the inflation only and revenue per customer index approaches to RAM design generated revenue growth for HECO that was similar to a rough estimate of the growth in the cost of the company's base rate inputs from 2000 to 2006. The RPC freeze approach was much less compensatory.

HECO concluded, on the basis of these findings, that a revenue decoupling plan with a RAM providing full attrition relief is a sufficiently promising approach to Altreg as to warrant more detailed investigation.

Phase II

Phase II of the project involved a more detailed look at alternative RAMs.

- Further review of Altreg precedents by MNL revealed that

  - The RPC freeze approach to RAM design is used primarily by local gas distribution companies. LDCs use decoupling to obtain relief from declining use per customer, which is chronic in the industry. Even though an RPC freeze provides only partial attrition relief, it mitigates an important source of unit cost escalation and thereby permits rate cases to be held less frequently. Since RPC freezes do not provide full attrition relief, however, utilities that propose them usually reserve the right to file rate cases and have frequently done so. Idaho Power, the only VIEU to operate under an RPC freeze, has also filed a rate case.

  - The RPC freeze is the single most popular approach to RAM design. However, there are also numerous precedents (mostly in California, but also in New York

state and in other countries) for other approaches, most notably the all forecast and hybrid.

- The great majority of approved RAMs used in decoupling are designed to provide full attrition relief.

- A review of the public domain commentary of the RAP revealed that they have consistently acknowledged the relevance of input price and productivity research in RAM design. It can then be said that they have acknowledged the legitimacy of RPC indexes.

- PEG developed RAMs using the five established approaches to RAM design and compared them to the historical and forecasted base rate costs of HECO, HELCO, and MECO. Here are some key features of the research.

  - Simulations were prepared for both an historical period (1999-2007) and a forecast period (2009-2012).
  - The inflation only and RPC index RAMs, as well as the O&M cost escalator in the hybrid RAMs, all used Hawaii's Gross Domestic Product Implicit Price Index as the inflation measure. Note also that the input price indexes used to develop these RAMs were based on data from the *State of Hawaii Data Book.*
  - In calculating the non-energy cost of each HECO company we excluded pensions, benefits, and all power purchase and fuel costs. We assumed that all of these costs will be recovered by separate rate riders.
  - We calculated, additionally, the non-energy cost per customer (and the corresponding input price and productivity) trends of 35 US VIEUs using non-technical methods. *These calculations were also not in the original budget.*

  Here are some key results of the Phase II research.

  - The RPC freeze was found to be markedly uncompensatory for all three HECO utilities for both historical and forecast periods.
  - The problem is not peculiar to HECO. We calculated the non-energy cost per customer of a sample of 35 VIEUs from 2001-2006 and found that it averaged 2.29% growth. The basic problem is that industry productivity growth, while similar to the economy's, is well below the industry's input price growth.
  - The inflation only RAM was much more compensatory than the RPC freeze for HECO and MECO but still fell considerably short of the Company's own cost growth.
  - The RPC index had the highest revenue yield of the formulaic approaches but fell a little short on balance during the forecast period.
  - The all forecast and hybrid approaches were compensatory for both the historical and the forecasted periods.
  - The O&M escalation indexes that we developed for the hybrid RAMs are generally compensatory in applications to both the historical and forecast periods. Our O&M expense growth projections for all three companies are considerably more rapid than the company's own projections.
  - Input price inflation has accelerated materially for the HECO companies since 2002.

- In summary, the research revealed that the three kinds of RAMs that are designed to provide full attrition relief all have the potential to provide satisfactory funding for HECO's operations. The RPC index has the advantage of being an approach that the RAP has sanctioned but involves complicated calculations that, while familiar to California's regulatory community, may not be well received in Hawaii. An important challenge in a regulatory initiative would be to show that the all forecast and hybrid methods achieve the same goal of providing full attrition relief with less complicated methods. It would also be helpful if the RPC index method yielded similar results. This would be as much as to say that HECO isn't asking for more revenue requirement escalation than another utility would under similar circumstances.

Phase III

Objective: To provide assistance, analysis, a white paper, and possible testimony in the areas of revenue decoupling and revenue adjustment mechanisms, in settlement discussions and a possible regulatory proceeding to be determined by HECO.

Scope: : Work under this Work Authorization may include a white paper, testimony, the development of written responses to Information Requests (IRs), review of other parties' testimony, and attendance and participation at meetings with external parties.

Scope of the White Paper: The white paper will:

1. Establish Consultant as an authority on revenue decoupling

2. Evaluate the applicability of revenue decoupling to HECO, HELCO, and MECO (HECO Companies)
    a. Include examples from mainland electric and gas utilities that are appropriate to the HECO Companies' sales and financial situation, who are implementing, or have implemented in the past, revenue decoupling.
    b. Identify the reasons why revenue decoupling was implemented and any lessons learned.

3. Identify and discuss the following alternative revenue adjustment mechanisms.
    a. Revenue per customer (RPC) freeze
    b. Inflation-only
    c. RPC indexes
    d. All Forecast
    e. Hybrid
    f. California utility decoupling mechanisms. Should PEG hire a sub-consultant to explore California utility decoupling mechanisms, the sub-consultant must be approved by HECO.

4. Compare the financial impacts of alternative revenue adjustment mechanisms on the HECO Companies and ratepayers.
    a. Consultant may refer to the analysis performed under the Decoupling Study Phase 2.

Calculation of Proposed Phase III Cost Cap

Task	Staff Member: Mark	Larry	Dave	Lullit	Steve	Travis, Kyle, Jeff	Frank, Matt	Frank	Expenses	Total		
	325	290	180	165	135	120	110	70				
1 Statistical Cost Research	This research will produce final calculations of the RPC Index and Hybrid RAMS, and will also demonstrate the insufficiency of the RPC freeze. The budget does not include any expenses for purchasing data. A breakdown by employee of hours for Phase II research is available on request.											
Phase II										$ 32,000		
New	56		120	100		220		40		$ 85,500		
Subtotal	$ 18,200	$ -	$ 21,600	$ 16,500	$ -	$ 26,400	$ -	$ 2,800	$ -	$ 117,500		
2 Financial Sufficiency Calculations	This research will calculate the financial sufficiency of alternative revenue adjustment mechanisms for the historical period. I have added $5000 to the Phase 1 charges to collect for the complicated tax feedback calculations that I performed. A breakdown by employee of hours for Phase II research is available on request											
Phase II										$ 10,000		
New	16		16			16				$ 10,000		
Subtotal	$ 5,200	$ -	$ 2,880	$ -	$ -	$ 1,920	$ -	$ -	$ -	$ 20,000	*	
3 Further Review of Precedents	I will, additionally, be drawing down the modest balance in the Phase II budget to provide additional funding for my participation in this work.											
Phase II										$ 5,000		
New	40				120			80		$ 34,800		
Subtotal	$ 13,000	$ -	$ -	$ -	$ 16,200	$ -	$ -	$ 5,600	$ -	$ 39,800	*	
4 White Paper												
All New	56						40			$ 22,600		
Subtotal	$ 18,200	$ -	$ -	$ -	$ -	$ -	$ 4,400	$ -	$ -	$ 22,600	*	
5 Project Administration (Oct. - Dec.)												
All new	10						6		200	$ 4,110		
Subtotal	$ 3,250	$ -	$ -	$ -	$ -	$ -	$ 660	$ -	$ 200	$ 4,110	*	Consistency Check / Back Office
Total Cap	$ 57,650	$ -	$ 24,480	$ 16,500	$ 16,200	$ 28,320	$ 5,060	$ 8,400	$ 200	$ 204,010		$ 204,010 / $ 146,160
6 Honolulu Trip Expenses									$ 2,620			
Subtotal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,620	$ 2,620		

AMENDMENT NO. **1** TO AUTHORIZATION NO. **PSA-18-007-003**

UNDER PURCHASE ORDER NO. V27753 /CONTRACT NO. **PSA-18-007**

Hawaiian Electric Company, Inc. ("HECO") and Pacific Economics Group LLC ("Consultant") agree to amend Authorization No. PSA-18-007-003 ("Agreement") of Consultant Services Master Agreement No. MSTR-PSA-08-007, dated April 1, 2008 as follows:

Previous total not-to-exceed amount for Authorization No. PSA-18-007-003	$206,630.00
Total not-to-exceed cost for Amendment No. 1 work	$ 100,000.00
New total not-to-exceed amount for Authorization No. PSA-18-007-003	$ 306,630.00

As hereby amended, the Agreement is hereby ratified and confirmed and shall remain in full force and effect, subject to all of the terms, covenants and conditions therein and herein set forth.

Alan K.C. Hee is the designated HECO representative for this work.

Except as provided herein, the terms of said Agreement shall remain the same and are incorporated by reference herein.

THE ABOVE AMENDMENT IS ACCEPTED BY:

HAWAIIAN ELECTRIC COMPANY, INC.

By: David G. Waller
Title: Vice President
Date: 1-28-09

By: Robert A. Alm
Title: Executive Vice President
Date: 1/29/09

PACIFIC ECONOMICS GROUP, LLC

By:
Title: Managing Partner
Date: 20 January 2009

HECO Consolidated Kwh Sales

	2007		
	Kwh Sales	%	Rounded
HECO	7,675,354,990	75.9%	80%
HELCO	1,162,683,764	11.5%	10%
MECO (consol)	1,280,102,549	12.7%	10%
Total Kwh Sales	10,118,141,303	100.0%	100%