

TESTIMONY OF
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HAWAIIAN ELECTRIC COMPANY, INC.

Subject: A&G Expenses - Employee Benefits
Human Resources Suite Project
Wage and Salary Increase

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INTRODUCTION

- Q. Please state your name and business address.
- A. My name is Julie K. Price and my business address is 220 South King Street, Honolulu, Hawaii.
- Q. By whom are you employed and in what capacity?
- A. I am the Manager of Compensation and Benefits for Hawaiian Electric Company, Inc. (“HECO”). My work experience and educational background are shown in HECO-1300.
- Q. What are your areas of responsibility in this rate case?
- A. I am responsible for covering HECO’s 2009 test year estimate of employee benefits expense (account no. 926) which is included in total Administrative and General (“A&G”) expenses, discussed by Ms. Patsy Nanbu in HECO T-11. I will also cover the Human Resources (“HR”) Suite software project and the wage and salary increase for the test year.
- Q. Please describe the expenses included in account no. 926.
- A. Generally, this account includes costs related to providing employee benefits to HECO’s employees. HECO-WP-1350 summarizes the employee benefits provided to regular employees. Differences in benefits for bargaining unit and non-bargaining unit employees are described later in the applicable sections of my testimony.

EMPLOYEE BENEFITS

- Q. What are the accounts and 2009 test year estimate for employee benefits expense?
- A. The accounts and the associated 2009 test year estimate for employee benefits unadjusted for the Campbell Industrial Park Generating Station and Transmission

1 Project (CIP1) is \$23,407,000 as follows:

		2009 Test Yr. Estimate (Thousands)
2		
3		
4		
5	<u>Account No.</u>	<u>Description</u>
6	926000	Employee Pensions and Benefits \$ 21,197
7	926010	Employee Benefits-Flex Credits 11,173
8	926020	Employee Benefits Transfer <u>(8,963)</u>
9		Total Employee Benefits Expense <u>\$ 23,407</u>

10 This unadjusted estimate is referred to as the “base case.”

11 Q. Please describe how employee benefits expense in account 926 will be impacted
12 by the interim increase and the CIP CT1 step scenarios?

13 A. HECO is requesting a revenue increase to closely match our cost incurrence and
14 cost recovery. The first step is an interim increase which excludes costs
15 associated with CIP CT1. A second step is a rate increase which includes the full
16 cost of CIP CT1. As shown in HECO-1301, page 1, employee benefits expense is
17 \$23,282,000 for the interim rate increase and \$23,548,000 with CIP CT1.
18 Calculation of these amounts are explained by Ms. Patsy Nanbu in HECO T-11
19 and shown in HECO-1101 and HECO-WP-1101. The interim increase and CIP
20 CT1 step increase being proposed are discussed by Mr. Robert Alm in HECO T-1
21 and further discussed by Mr. William Bonnet in HECO T-23.

22 Q. How will employee benefit costs be explained?

23 A. Amounts in account no. 926000 and account no. 926010 include a broad range of
24 employee benefit costs. The explanation will break down the costs into general
25 categories to facilitate review. HECO-1301, page 1, provides the amounts by
26 account for these categories for 2003 through 2007 (recorded), 2008 Operational
27 and Maintenance (“O&M”) expense budget and 2009 test year estimates.

1 HECO-1301, page 2, provides explanations of the adjustments made to derive the
2 2009 test year estimates. HECO-1301, page 3, identifies and briefly explains the
3 significant differences between the 2009 O&M expense budget and the recorded
4 2007 amounts. Differences are further explained in the applicable sections of my
5 testimony.

6 Q. What adjustments were made to the 2009 O&M expense budget to derive the
7 2009 test year estimate for employee benefit costs?

8 A. Adjustments were made to the 2009 O&M expense budget for employee benefit
9 cost to: 1) remove the costs associated with the non-qualified plans, executive life
10 program, 401K administration and executive incentive compensation to simplify
11 and limit the issues in this case, 2) update pension and postretirement costs
12 received after the budget was completed, 3) reflect the amortization of the
13 regulatory liability resulting from the tracking mechanism stipulated in HECO
14 Docket No. 2006-0386, and 4) revise the estimated number of covered employees.
15 These adjustments will be described in the applicable sections of my testimony.

16 Q. Please describe the employee benefits transfer of (\$8,963,000) in account no.
17 926020.

18 A. This is the amount transferred to plant construction or billed to affiliated
19 companies and outside third parties for services rendered. Ms. Patsy Nanbu
20 covers this account in HECO T-11.

21 ACCOUNT NO. 926000 – EMPLOYEE PENSIONS AND BENEFITS

22 Q. What categories are included in account no. 926000 – employee pensions and
23 benefits?

1 A. As shown in HECO-1301, page 1, the breakdown of this account by category is as
2 follows:

3		Test Yr. 2009
4		Estimate
5		(Thousands)
6	<u>Category</u>	
7		
8	Qualified Pension Plan	\$ 14,013
9	Non-Qualified Pension Plan	0
10	Other Postretirement Benefits	5,000
11	Long-Term Disability Benefits	544
12	Other Benefits/Administration	<u>799</u>
13	Total Non-Labor	\$ 20,356
14	Total Labor	<u>841</u>
15	Total Employee Pension and Benefits (acct. no. 926000)	<u>\$ 21,197</u>

16 Qualified Pension Plan

17 Q. What is included in the test year 2009 estimate for this category?

18 A. The test year 2009 estimate of \$14,013,000 as shown in HECO-1301, page 1,
19 includes the estimated net periodic pension cost (“NPPC”) of \$14,623,000 (see
20 HECO-1302) and (\$610,000) which is the amortization of the regulatory liability.

21 Q. How was the 2009 O&M expense budget adjusted to get the test year 2009
22 estimate?

23 A. The 2009 O&M expense budget for the qualified pension plan was adjusted
24 downward by a net decrease of \$1,131,000 which includes the following: 1) an
25 increase of \$340,000 to reflect the updated 2009 NPPC of \$14,623,000 that was
26 provided by Watson Wyatt Worldwide in June 2008, and 2) a decrease of
27 \$1,471,000 for the amortization of the regulatory liability resulting from the
28 tracking mechanism. See HECO-1301, page 1, col. h. HECO-1301, page 2, notes
29 1 and 2 provide further details on these adjustments.

- 1 Q. What is the (\$610,000) amortization of the regulatory liability?
- 2 A. This amortization is due to the pension tracking mechanism approved by the
3 Commission in its Interim Decision and Order No. 23749 issued on October 22,
4 2007 in HECO's last rate case, Docket No. 2006-0386. The calculation of this
5 amount is provided in HECO-1124. Ms. Patsy Nanbu discusses the accounting
6 and ratemaking treatment of pension costs in HECO T-11.
- 7 Q. How does the Company provide pension benefits to its employees?
- 8 A. The Company provides pension benefits to its employees by participating in the
9 Retirement Plan for Employees of Hawaiian Electric Industries, Inc. and
10 Participating Subsidiaries ("HEI Retirement Plan"), a qualified defined benefit
11 pension plan.
- 12 Q. How is the pension cost determined?
- 13 A. Watson Wyatt Worldwide, the plan's independent actuary, determines the pension
14 cost to be recognized by the Company each year in accordance with the provisions
15 of the Statement of Financial Accounting Standards No. 87 ("SFAS 87"). Under
16 SFAS 87, the Company's pension cost is referred to as the net periodic pension
17 cost ("NPPC"). The NPPC is the amount that HECO is required to recognize on
18 its financial statements as the cost of providing pension benefits to its employees
19 for the year, and includes the capitalized and expense amounts.
- 20 Q. When will the actual 2009 NPPC be determined?
- 21 A. Watson Wyatt Worldwide will determine the actual 2009 NPPC in June 2009
22 based on employee data as of January 1, 2009.
- 23 Q. Is the NPPC included in the Company's revenue requirements for the 2009 test
24 year?
- 25 A. Yes. Since adoption of SFAS 87 in 1987, the Company has consistently and

1 properly incorporated the NPPC in the budget for employee benefits and the
2 Commission accepted HECO's treatment of pension costs consistent with
3 SFAS 87 in Decision and Order No. 11317 (Oct. 17, 1991) in Docket No. 6531,
4 Decision and Order No. 11699 (June 30, 1992) in Docket No. 6998, Decision and
5 Order No. 13704 (December 28, 1994) in Docket No. 7700, Decision and Order
6 No. 14412 (December 11, 1995) in Docket No. 7766, and Decision and Order
7 24171 in Docket No. 04-0113. In the Company's last rate case, Docket No. 2006-
8 0386, the Company proposed and the Commission approved on an interim basis
9 the adoption of a pension tracking mechanism in which the SFAS 87 NPPC is
10 incorporated in the ratemaking process. See Interim Decision and Order No.
11 23749 issued on October 22, 2007. The Commission also accepted the treatment
12 of pension costs consistent with SFAS 87 in prior rate cases for HECO's affiliated
13 companies, e.g., Decision and Order No. 18365 in Docket No. 99-0207 (February
14 8, 2001) HELCO's 2000 test year rate case, Interim Decision and Order No.
15 23342 in Docket No. 05-0315 (April 4, 2007) HELCO's 2006 test year rate case,
16 Amended Decision and Order No. 16922 in Docket No. 97-0346 (April 6, 1999)
17 MECO's 1999 test year rate case, and Interim Decision and Order No. 23926 in
18 Docket No. 2006-0387 (December 21, 2007) MECO's 2007 test year rate case.

19 Q. Is the NPPC the amount that HECO is required to contribute to fund its pension
20 obligation?

21 A. No. The NPPC is the accrual cost that HECO needs to recognize for financial
22 reporting purposes under SFAS 87. Minimum funding requirements for qualified
23 pension plans are specified under the Employee Retirement Income Security Act
24 of 1974 ("ERISA"), and maximum tax deductible amounts for federal income tax
25 calculation purposes are specified by the Internal Revenue Code ("IRC").

1 HECO's minimum contribution funding requirement and maximum tax deductible
2 contribution amounts are also calculated by Watson Wyatt Worldwide and
3 provided in its actuarial valuation of the plan. HECO-WP-1351 provides a copy
4 of the latest available valuation of the plan as of January 1, 2007.

5 Q. How does the Company fund the plan?

6 A. The Company funds the plan by making tax deductible contributions into a trust
7 held by the plan's trustee, the Bank of New York. A pension investment
8 committee ("PIC") is the named fiduciary for the plan and is responsible for
9 overseeing the administration of the plan and management of plan assets.
10 HECO-1303 shows the contributions made by the Company to the pension trust
11 and the NPPC since adoption of SFAS 87.

12 a. Factors Affecting Pension Expense

13 Q. What factors determine the Company's pension cost?

14 A. In general, requirements of SFAS 87 determine the Company's pension cost.

15 Factors used are as follows:

- 16 1) plan provisions,
- 17 2) employee demographics,
- 18 3) pension fund performance,
- 19 4) actuarial assumptions, and
- 20 5) methodology for determination of the value of plan assets.

21 1) Plan Provisions

22 Q. How do provisions of the pension plan affect pension cost?

23 A. The plan provisions determine the amounts that will be paid to employees when
24 they become eligible to retire.

25 Q. How are pension plan provisions determined?

26 A. Pension plan provisions for members of the bargaining unit are negotiated

1 between the Company and the International Brotherhood of Electrical Workers
2 (“IBEW”), Local 1260. A different benefit formula applies to merit employees,
3 but other plan provisions are the same as those for bargaining unit employees.
4 The main provisions of the HEI Retirement Plan are summarized on pages 35-38
5 of HECO-WP-1351.

6 2) Employee Demographics

7 Q. How do employee demographics affect pension cost?

8 A. Pension benefits are determined by employees’ years of service, age at retirement,
9 and wage levels or average salary levels at time of retirement. The length of
10 benefit payments depends on how long the employee lives, whether or not the
11 employee has a surviving spouse at the time of death and how long the surviving
12 spouse lives. Therefore, demographics such as hire dates, birthdates, pay rates,
13 sex and marital status are used to determine benefit levels. The Company
14 provides Watson Wyatt Worldwide with information about employees (age, sex,
15 status, years of service, pay/salary rates) as of January 1 of each year which is
16 used to determine the pension cost for that year.

17 3) Pension Fund Performance

18 Q. How does performance of the pension fund affect pension cost?

19 A. The Company’s contributions are accumulated in a trust from which retirement
20 benefits are paid. The expected return on plan assets in the trust offsets cost
21 components of the NPPC. As assets increase due to Company contributions and
22 investment performance, the expected return will also increase and will reduce
23 pension cost. Assets of the trust are managed by professional investment
24 managers. The trustee provides investment information to Watson Wyatt

1 Worldwide. Assets of the HEI Retirement Plan are commingled for all
2 participating employers to maximize investment opportunities and minimize plan
3 expenses. Assets and liabilities of each participating employer are separated for
4 purposes of determining each participating employer's pension cost.

5 4) Actuarial Assumptions

6 Q. Why are actuarial assumptions needed to estimate pension cost?

7 A. The Company's ultimate cost for the pension plan will not be known until all
8 benefits are paid to all participants and beneficiaries. During the life of the plan,
9 benefits payable are estimated using certain assumptions which take into account
10 probabilities for determining how many and when participants will become
11 eligible for benefits, amount of the benefits expected to be paid, how long benefits
12 will be paid and the current value of future benefits. These assumptions, together
13 with participant data and plan provisions determine the liability of the plan from
14 which pension cost is determined.

15 Q. What are some of the assumptions used?

16 A. There are demographic assumptions such as turnover rates, mortality, retirement
17 ages, the number of married participants and economic assumptions such as
18 discount rates, asset return rates and salary increase rates.

19 Q. How are these assumptions determined?

20 A. These assumptions are determined by the Company in conjunction with Watson
21 Wyatt Worldwide and approved by the Company's independent auditor. The
22 assumptions used for funding are included in pages 42-44 of HECO-WP-1351.
23 Generally, demographic assumptions are based on the plan's historical experience.
24 Most of the assumptions used for funding are also used for determining the NPPC

1 with the following exceptions: 1) a discount rate is used for the NPPC instead of
2 the funding interest rate, 2) the maximum benefit and pay limits are indexed for
3 future inflation for the NPPC, and 3) the current liability interest rates do not
4 apply for the NPPC. The discount rate assumption is determined as required
5 under SFAS 87 as a proxy for investment grade corporate bonds yield rates and
6 the rate selected is approved by the Company's independent auditor.

7 5) Methodology for Determination of the Value of Plan Assets

8 Q. How is the value of plan assets determined?

9 A. The asset valuation method is selected by the Company in conjunction with
10 Watson Wyatt Worldwide and approved by the Company's independent auditor.
11 Under the method used by HECO, the difference between the actual market value
12 of assets and the expected market value of assets as of the valuation date is
13 recognized over a five-year period – 0% in the first year and 25% in each of the
14 next four years. The market value of assets as of the valuation date is adjusted for
15 unrecognized gains and losses from the prior four years to determine the market-
16 related value of assets. The market-related value must be between 85% - 115% of
17 the market value. As these gains and losses are reflected in the accumulated
18 gain/loss, they are subject to recognition through the Amortization of Gain/(Loss)
19 component of the NPPC.

20 b. Components of Pension Expense

21 Q. What are the components of the NPPC?

22 A. SFAS 87 specifies six basic components of NPPC. Actual amounts for 2007 and
23 2008 and 2009 estimated as determined by Watson Wyatt Worldwide are as
24 follows:

	(Thousands)		
	<u>2007 Actual</u>	<u>2008 Actual*</u>	<u>2009 Est.*</u>
1) Service Cost	\$ 17,842	\$ 18,732	\$ 19,631
2) Interest Cost	37,325	38,919	40,377
3) Expected Return	(44,666)	(47,318)	(48,858)
4) Amortization of Transition Obligation	0	0	0
5) Amortization of Prior Service Cost	(464)	(465)	(465)
6) Amortization of (Gain)/Loss	7,674	4,792	3,938
Total NPPC	<u>\$ 17,711</u>	<u>\$ 14,660</u>	<u>\$ 14,623</u>

* See HECO-1302

1) Service Cost

Q. What is the “service cost” component?

A. Service cost is the “actuarial present value” of the pension benefits expected to be earned during the year (with projected pay).

Q. How is the service cost component for the test year determined?

A. The actuary used certain assumptions to estimate the amount of benefits to be earned by an employee during the year that the Company will pay for and determined the present value of these benefits (i.e., the service cost) assuming a discount rate of 6.125% for the test year.

2) Interest Cost

Q. What is “interest cost”?

A. Interest cost is the increase in the present value of the projected benefit obligation due to the passage of one year’s time. The projected benefit obligation is an estimate of pension benefits accrued through the valuation date using projected salary levels and based on assumptions outlined in the actuarial valuation. The

1 present value of the projected benefit obligation is based on an assumed discount
2 rate.

3 3) Expected Return on Plan Assets

4 Q. How is the “expected return on plan assets” used in the computation of pension
5 cost for the year?

6 A. The Company’s overall pension costs are reduced by earnings on assets that have
7 been acquired with contributions to the pension fund. The return on plan assets
8 includes the plan’s dividend and interest income for the year, plus realized and
9 unrealized appreciation less any depreciation in the market value of its
10 investments and the expenses related to benefits paid, administration and investing
11 the fund.

12 The test year estimate was based on an 8.5% assumption for the expected
13 return on plan assets. This rate is intended to reflect the average long term rate of
14 earnings expected on investments in the pension fund.

15 4) Amortization of Transition Obligation

16 Q. What is the “amortization of transition obligation”?

17 A. This is the difference between the fair market value of plan assets and the actuarial
18 present value of pension benefits earned at the time of transition to the provisions
19 of SFAS 87. HECO’s transition obligation has been fully amortized as of
20 December 31, 2003.

21 5) Amortization of Prior Service Cost

22 Q. What is the “amortization of prior service cost”?

23 A. This is the amortization of a change in the projected benefit obligation due to a
24 plan amendment. Under SFAS 87 increases or decreases in the projected benefit

1 obligation due to a plan change should be amortized as a component of future
2 pension costs over the average remaining service lives of active employees at the
3 time of the amendment.

4 6) Amortization of (Gain)/Loss

5 Q. Please explain the amortization of gains and losses.

6 A. Gain and losses are changes in the amount of either the projected benefit
7 obligation or the plan assets. These changes result from experience that is
8 different from what is expected and from changes in assumptions.

9 If accumulated gains and losses are greater than a “corridor” amount, a portion is
10 recognized in the current year (determined as the excess over the corridor
11 amortized over the average remaining service lives of active employees expected
12 to receive benefits under the plan).

13 Q. Please explain the change in the NPPC from 2007 to 2009.

14 A. Per the table in section b “Components of Pension Expense” of this testimony,
15 NPPC decreased from 2007’s actual \$17.7M to 2009’s estimate of \$14.6M.
16 Increases in service cost and interest cost are due to the aging of the workforce
17 and additional accruals. These increases are offset by higher expected asset return
18 due to higher asset levels and a reduction in the amount of unrecognized gains and
19 losses being amortized from prior years. The net accumulated unrecognized loss
20 was reduced by amortization of the (Gain)/Loss through NPPC as well as
21 obligation-sourced gains attributable to an increase in the discount rate and asset-
22 sourced gains. The lower accumulated loss expected at January 1, 2009 resulted
23 in a lower expected amortization amount for 2009.

1 Non-Qualified Pensions

2 Q. What is the cost for non-qualified pensions?

3 A. The Company participates in the HEI Excess Pay Supplemental Executive
4 Retirement Plan (“Excess Pay SERP”), the HEI Excess Benefit Plan (“Excess
5 Plan”), and the HEI Supplemental Executive Retirement Plan (“HEI SERP”),
6 which are non-qualified pension plans.

7 Q. What are non-qualified pension plans?

8 A. Non-qualified pension plans do not meet requirements of IRC Section 401(a).
9 Participation in the HEI SERP is limited to critical executives as part of their total
10 compensation. The Excess Pay SERP and Excess Plans are designed to restore
11 benefits lost due to limitations placed on qualified plans which include pay limits
12 under IRC Section 401(a)(17) and benefit limits under IRC Section 415.

13 Q. What is the estimated cost for non-qualified pensions for 2009?

14 A. The estimated cost of \$345,000 for non-qualified pensions included in the 2009
15 O&M expense budget was updated to \$374,000 in June 2008 by Watson Wyatt
16 Worldwide and determined using the same methodology that applies to the
17 qualified pension plan in accordance with SFAS 87.

18 Q. How has HECO treated non-qualified pension plan cost for the 2009 test year?

19 A. A budget adjustment of (\$374,000) was made to remove the entire non-qualified
20 pension plan cost to limit the issues in this proceeding. The combined effect of
21 the two budget adjustments reduces the 2009 O&M expenses budget by \$345,000,
22 as shown in HECO-1301, page 1, column h. HECO-1301, page 2, note 3 provides
23 further details on these adjustments. Thus, the 2009 test year estimate for non-
24 qualified pension plans is \$0. However, the Company’s position is that these
25 benefits are part of employees’ total compensation and should not be treated

1 differently for ratemaking purposes due to statutory limits. Therefore, the
2 Company reserves the right to include non-qualified pension cost in its test year
3 estimates in future rate cases.

4 Other Postretirement Benefits

5 Q. What is included in the test year 2009 estimate for other postretirement benefits?

6 A. The 2009 test year estimate for other postretirement benefits is \$5,000,000 which
7 includes the estimated net periodic benefits cost (“NPBC”) for 2009 of \$5,224,000
8 (see HECO-1304), reduced by \$873,000 for the executive life insurance cost and
9 \$498,000 for the electric discount provided to retirees to derive \$3,853,000 as
10 shown in HECO-1301, page 1, col i, line 5. The amortization of the regulatory
11 asset of \$1,302,000 and (\$155,000) for the regulatory liability amortization are
12 added to derive the \$5,000,000 (line 8).

13 Q. How was the 2009 O&M expense budget adjusted?

14 A. The 2009 O&M expense budget was decreased by \$1,765,000 consisting of the
15 following budget adjustments: 1) a decrease of \$621,000 to reflect the updated
16 2009 NPBC of \$5,224,000 that was provided by Watson Wyatt Worldwide in
17 June 2008, 2) the removal of executive life insurance costs of \$873,000 to limit
18 the issues in this proceeding, and 3) a decrease of \$271,000 for the amortization of
19 the regulatory liability resulting from the tracking mechanism stipulated in HECO
20 Docket No. 2006-0386. See HECO-1301, page 1, col h. HECO-1301, page 2,
21 notes 4 and 5 provide further details on these adjustments.

22 Q. Please explain the adjustment of (\$873,000) to delete life insurance for senior
23 management.

24 A. The adjustment of (\$873,000) was made to simplify and limit the issues in this

1 proceeding. These costs have been disallowed in prior rate cases. However, the
2 Company reserves the right to propose inclusion of these expenses in its revenue
3 requirements in future rate cases. The amount was calculated by Watson Wyatt
4 Worldwide as part of the NPBC. See HECO-1304.

5 Q. Why is it necessary to make an adjustment for electric service discount provided
6 to retirees?

7 A. This adjustment is necessary because the electric discount is already reflected in
8 the test year in the form of lower revenues and the amount should be deleted from
9 the postretirement benefit cost estimate to avoid duplication. See HECO-WP-301.

10 Q. How was the \$498,000 for the electric discount for retirees estimated?

11 A. The electric discount was estimated by taking the average for the three-month
12 period (December 2007-February 2008) multiplied by twelve months. See
13 HECO-WP-1356, Attachment 2, page 20.

14 Q. Please explain the \$1,302,000 amortization of the regulatory asset.

15 A. Per the Commission's Decision and Order No. 13659, (November 29, 1994), and
16 letter, dated December 28, 1994, in Docket Nos. 7243 and 7233 (Consolidated),
17 HECO was allowed to adopt SFAS 106 in its entirety and include in its rates the
18 full cost of postretirement benefits other than pensions calculated pursuant to
19 SFAS 106, effective January 1, 1995, and to amortize the regulatory asset
20 established for the deferral of postretirement benefit costs other than pensions for
21 the period January 1, 1993 to December 31, 1994, over an 18-year period
22 beginning January 1, 1995. The total amount being amortized is \$23,433,103, or
23 \$1,302,000 per year.

24 Q. What is the (\$155,000) amortization of the regulatory liability?

25 A. This amortization is due to the Postretirement Benefits Other Than Pensions

1 (“OPEB”) tracking mechanism approved by the Commission in its Interim
2 Decision and Order No. 23749 issued on October 22, 2007 in HECO’s last rate
3 case in Docket No. 2006-0386. The calculation of this amount is provided in
4 HECO-1125. Ms. Patsy Nanbu discusses the accounting and ratemaking
5 treatment of postretirement benefit costs other than pensions in HECO T-11.

6 Q. How does HECO provide postretirement benefits other than pensions to its
7 employees?

8 A. HECO provides postretirement benefits other than pensions by participating in the
9 Postretirement Welfare Benefits Plan for Employees of Hawaiian Electric
10 Company, Inc. and Participating Employers (“HECO Postretirement Plan”).

11 Q. How is the postretirement benefits cost determined?

12 A. Watson Wyatt Worldwide, the plan’s independent actuary, determines the
13 postretirement benefits cost to be recognized by the Company each year in
14 accordance with provisions of the Statement of Financial Accounting Standards
15 No. 106, Employers’ Accounting for Postretirement Benefits Other Than Pensions
16 (“SFAS 106”). Calculation of postretirement benefit expense under SFAS 106 is
17 similar to the calculation of NPPC under SFAS 87. Under SFAS 106, the
18 Company’s postretirement benefit cost is referred to as the net periodic
19 postretirement benefit cost (“NPBC”). This is the amount that HECO must
20 recognize on its financial statements as the cost of providing other postretirement
21 benefits to its employees for the year and includes capitalized and expense
22 amounts.

23 Q. When will the actual 2009 NPBC be determined?

24 A. The actual 2009 NPBC will be determined by Watson Wyatt Worldwide in June,
25 2009, based on employee data as of January 1, 2009.

1 Q. Is the NPBC included in the Company's revenue requirements for the 2009 test
2 year?

3 A. Yes. Since adoption of SFAS 106 in 1995, the Company has consistently and
4 properly incorporated the NPBC in the budget for employee benefits and the
5 Commission accepted HECO's treatment of OPEB costs consistent with SFAS
6 106 in Decision and Order No. 14412 (December 11, 1995) in Docket No. 7766
7 and Decision and Order No. 24171 in Docket No. 04-0113. In the Company's last
8 rate case, Docket No. 2006-0386, the Company proposed and the Commission
9 approved on an interim basis the adoption of an OPEB tracking mechanism in
10 which the SFAS 106 NPBC is incorporated in the ratemaking process. See
11 Interim Decision and Order No. 23749 issued on October 22, 2007. The
12 Commission also accepted the treatment of OPEB costs consistent with SFAS 106
13 in prior rate cases for HECO's affiliated companies, e.g., Decision and Order No.
14 18365 in Docket No. 99-0207 (February 8, 2001) HELCO's 2000 test year rate
15 case, Interim Decision and Order No. 23342 in Docket No. 05-0315 (April 4,
16 2007) HELCO's 2006 test year rate case, Amended Decision and Order No.
17 16922 in Docket No. 97-0346 (April 6, 1999) MECO's 1999 test year rate case,
18 and. Interim Decision and Order No. 23926 in Docket No. 2006-0387 (December
19 21, 2007) MECO's 2007 test year rate case.

20 Q. Does HECO fund the postretirement benefits?

21 A. Yes. As directed by the Commission in Decision and Order No. 13659 in Docket
22 Nos. 7243 and 7233 (Consolidated) HECO funds the entire postretirement
23 benefits cost to the maximum extent possible using tax advantaged funding
24 vehicles.

1 Q. What are these funding vehicles?

2 A. In accordance with its funding plan submitted to the Commission on January 3,
3 1995, in Docket No. 7243, the Company makes contributions to two Voluntary
4 Employees' Beneficiary Association ("VEBA") trusts (bargaining unit and non-
5 bargaining). The Company also makes additional contributions to a special
6 401(h) account in the existing pension plan trust to provide postretirement medical
7 benefits for non-bargaining unit employees. Assets of these trusts are
8 commingled for all participating employers to maximize investment opportunities
9 and minimize plan expenses. Assets and liabilities of each participating employer
10 are separated for purposes of determining postretirement benefit expenses and
11 funding amounts for each participating employer. Maximum tax deductible
12 contributions to the various funding vehicles are determined by Watson Wyatt
13 Worldwide and included in its actuarial valuation of the plan. HECO-WP-1352
14 provides a copy of the latest available valuation of the HECO Postretirement Plan
15 as of January 1, 2007.

16 Q. How are contributions in the trusts invested?

17 A. Assets are held by the plan's trustee, the Bank of New York. The PIC is the
18 named fiduciary for the plan and is responsible for overseeing the administration
19 of the plan and management of plan assets. HECO-1303 shows the contributions
20 made by the Company to the VEBA trusts and the NPBC since adoption of
21 SFAS 106.

22 a. Factors Affecting Postretirement Expense

23 Q. What factors determine the Company's postretirement benefits cost?

24 A. In general, requirements of SFAS 106 determine the postretirement benefits cost.

1 Factors used to determine the expense are similar to those that determine pension
2 cost, and include the following:

- 3 1) plan provisions,
- 4 2) employee demographics,
- 5 3) postretirement fund performance,
- 6 4) actuarial assumptions, and
- 7 5) methodology of determination of the value of plan assets.

8 1) Plan Provisions

9 Q. What are the postretirement benefits that HECO provides to its retirees?

10 A. HECO provides the following postretirement benefits to retirees:

- 11 a) medical/drug insurance,
- 12 b) partial reimbursement of Medicare Part B premiums,
- 13 c) vision insurance,
- 14 d) dental insurance,
- 15 e) life insurance, and
- 16 f) electric service discount.

17 Pages 22-25 of HECO-WP-1352 provide a summary of these benefits.

18 Q. How are postretirement benefits determined?

19 A. Benefits for bargaining unit employees are negotiated between the Company and
20 the IBEW, Local 1260, and are included in the Benefit Agreement by and between
21 Hawaiian Electric Company, Inc. and Local 1260 of the IBEW. The Benefit
22 Agreement which has been extended to December 31, 2010 is provided at HECO-
23 WP-1353. The page from the labor agreement that includes the electric discount
24 provision is provided at HECO-WP-1354. Merit employees receive the same
25 postretirement benefits provided to bargaining unit employees.

26 2) Employee Demographics

27 Q. How do employee demographics affect postretirement benefits cost?

28 A. Eligibility for postretirement benefits is determined by eligibility for pension

1 benefits. The length of coverage depends on how long the employee lives and
2 whether or not the employee has a spouse. Therefore, demographics such as hire
3 dates, birthdates and marital status are used to determine coverage. Watson Wyatt
4 Worldwide uses the demographic information provided for the pension plan as of
5 January 1 of each year to determine the postretirement benefit cost for that year.

6 3) Postretirement Fund Performance

7 Q. How does performance of the postretirement investment funds affect
8 postretirement benefit cost?

9 A. The Company's contributions are accumulated in the trusts from which benefits
10 are paid. The expected return on plan assets in the trust offsets cost components
11 of the NPBC. As assets increase due to Company contributions and investment
12 performance, the expected return will also increase and will reduce postretirement
13 benefit cost. Assets of the trusts are managed by professional investment
14 managers. The trustee provides investment information to Watson Wyatt
15 Worldwide.

16 4) Actuarial Assumptions

17 Q. Are actuarial assumptions for determining the NPBC the same as those used to
18 determine the NPPC?

19 A. Yes, the assumptions are generally the same. For example, the same discount rate
20 for estimating the NPPC was used to estimate the NPBC. However, an additional
21 assumption for the medical trend rate is necessary for determining the NPBC.
22 Pages 27-29 of HECO-WP-1352 include the medical trend rate and other
23 assumptions used to estimate the 2009 NPBC. Assumptions are determined by

1 the Company in conjunction with Watson Wyatt Worldwide and approved by the
2 Company's independent auditor.

3 Q. What is the assumption for the medical trend rate?

4 A. This assumption is an estimate of the annual rate of change in the cost of health
5 care benefits. Under SFAS 106, the assumption should consider estimates of
6 health care inflation, changes in health care utilization or delivery patterns,
7 technological advances, and changes in the health care status of plan participants.

8 5) Methodology for Determination of the Value of Plan Assets

9 Q. How is the value of plan assets determined?

10 A. The asset valuation method is the same as that used for the pension plan.

11 b. Components of Other Postretirement Benefit Expense

12 Q. What are the components of the Company's NPBC?

13 A. Components for the NPBC are the same as for the NPPC as previously described.
14 Actual amounts for 2007 and 2008 and 2009 estimated as determined by Watson
15 Wyatt Worldwide are as follows:

	(Thousands)		
	<u>2007 Actual</u>	<u>2008 Actual*</u>	<u>2009 Est*.</u>
18 1) Service Cost	\$ 3,222	\$ 3,156	\$ 3,096
19 2) Interest Cost	7,430	7,465	7,739
20 3) Expected Return	(6,761)	(7,472)	(8,011)
21 4) Amortization of Transition			
22 Obligation	2,400	2,400	2,400
23 5) Amortization of Prior Service			
24 Cost	0	0	0
25 6) Amortization of (Gain)/Loss	0	0	0
26 Total NPBC	<u>\$ 6,291</u>	<u>\$ 5,549</u>	<u>\$ 5,224</u>

27 * See HECO-1304

1 Q. Please explain the change in NPBC from 2007 to 2009.

2 A. Per the above table, NPBC decreased from 2007's actual \$6.3M to 2009's
3 estimated \$5.2M. The decrease in service cost is due to a combination of the
4 effects of the aging of the workforce, plan design and an increase in the discount
5 rate from 2007 to 2008. Interest cost increases are due to the aging workforce and
6 the impact of increasing the discount rate assumption from 2007 to 2008, and the
7 expected asset return is higher due to higher asset levels.

8 Q. Has HECO made changes to reduce its postretirement benefits cost?

9 A. Yes. HECO significantly reduced postretirement benefits cost as a result of the
10 1998 negotiations with the IBEW by changing plan provisions and placing caps
11 on future Company funded premiums. When premiums reach these caps, retirees
12 are required to contribute the difference between the actual premium rates and the
13 Company's caps in addition to the contributions required based on years of
14 service. In addition, changes made to the medical and drug plans for active
15 employees effective January 1, 2006, January 1, 2007, and January 1, 2008, also
16 apply to retirees. These changes increase retirees' cost sharing for medical and
17 drug costs (see HECO-WP-1353, pages 4-11).

18 Q. Will there be any changes to postretirement benefits for the test year?

19 A. No. The Benefits Agreement with the IBEW was recently extended with no
20 changes to benefits through December 31, 2011. See HECO-WP-1353, page 22.

21 Q. Has the Medicare Modernization Act ("MMA") affected HECO's postretirement
22 benefits?

23 A. Yes. The Medicare Prescription Drug Improvement and Modernization Act of
24 2003 ("MMA") expanded Medicare to include coverage for prescription drugs.
25 Under the Act, employer-sponsored retiree drug plans that provide benefits

1 equivalent to the new Medicare Part D drug coverage are eligible to receive a
2 subsidy of 28 percent of the participants' drug costs between \$250 and \$5,000 per
3 retiree, if the retiree waives coverage under Medicare Part D beginning in 2006.
4 For 2006 the Company received \$29,537 for the Medicare Part D subsidy.
5 Watson Wyatt Worldwide has included an estimate that reduces the Company's
6 postretirement benefits cost due to the MMA in the calculation of the NPBC.

7 Q. How will the Pension Protection Act affect the NPPC and NPBC?

8 A. The Pension Protection Act of 2006 ("PPA"), which was enacted on August 18,
9 2006, made significant changes to rules dealing with minimum funding of
10 qualified pension plans. The PPA does not change the components or method of
11 calculating the NPPC and NPBC. Minimum funding rules of the PPA applicable
12 to pension plans became effective on January 1, 2008.

13 Long-Term Disability Benefits

14 Q. What is the 2009 test year estimate of long-term disability benefits?

15 A. The 2009 test year estimate for this category of employee benefits is \$544,000, as
16 shown in HECO-1301, page 1.

17 Q. How was the test year estimate adjusted?

18 A. Benefit costs for LTD and other group insurance premiums are based in part on
19 the estimated number of covered employees for the year. The average number of
20 employees for the test year 2009 as discussed by Ms. Faye Chiogioji in HECO
21 T-15 is 1,621 (see HECO-1503). This average includes regular, temporary and
22 probationary employees and reflects the removal of 6 employees (5 employees
23 whose costs are recovered through the Demand-Side Management adjustment
24 surcharge and 1 employee for the correction made to the Safety, Security &

1 Facilities Department). Benefit costs for the 2009 test year were based on a
2 13-month average of 1,599 regular employees. The 13-month average was
3 calculated by using the budgeted number of employees for December 2008 –
4 December 2009 adjusted to remove the 6 employees and temporary employees
5 who do not participate in the Company’s LTD and FlexPlan. See HECO-1305.

6 Q. How was the estimated number of covered employees determined in HECO’s last
7 rate case?

8 A. The estimated number of covered employees in HECO’s last rate case was
9 determined using a 12-month average of regular employees. Under this method
10 the average number of covered employees for the 2009 test year would be 1,602.

11 Q. What costs are included in this category?

12 A. This category includes costs to provide long-term disability (“LTD”) benefits to
13 HECO’s employees.

14 Q. Please describe LTD benefits.

15 A. LTD benefits are income replacement benefits provided to employees in the event
16 of a non-occupational long-term disability that lasts beyond six months.

17 Q. How are LTD benefits provided to employees?

18 A. LTD benefits are provided through an insurance contract with MetLife. Effective
19 January 1, 2003, benefits under the contract are paid on a fully insured basis.
20 Prior to that, the Company paid benefits for the first five years of disability and on
21 a fully insured basis thereafter.

22 Q. Why was the change made from a partially self-insured basis to a fully insured
23 basis?

24 A. The decision to change to a fully insured basis was made primarily due to
25 administrative issues. Under the partially self-insured contract with MetLife,

1 claims for all companies were paid from one bank account which made the
2 tracking and reconciliation of claims paid by the individual companies extremely
3 difficult due to timing differences. While partially self-insured arrangements of
4 this type were once prevalent, these arrangements are now the exception to
5 MetLife's general administrative procedures which limited their ability to provide
6 HECO with the data required for the tracking and reconciliation of claims. Going
7 to a fully insured arrangement with predictable costs was also a factor in making
8 the change.

9 Q. How was the 2009 test year estimate of \$544,000 calculated?

10 A. HECO-1306 provides the calculation of long-term disability plan expenses. Since
11 LTD monthly premiums are based on covered compensation (employees' base
12 pay), HECO projected the base pay for merit and bargaining unit employees as
13 follows:

14 Start with the average monthly salaries/wages as of April 1, 2008, increased by
15 3.5% effective May 1, 2008, and 4.5% effective May 1, 2009, for merit employees
16 and 4.0% effective January 1, 2009, for bargaining unit employees to get the
17 projected average monthly salary/wage for each group which was multiplied by
18 the applicable number of months to get the estimated covered compensation for
19 the test year for each group. The estimated covered compensation was then
20 multiplied by the average number of merit and bargaining unit employees
21 respectively for the test year and the estimated premium rates to derive the
22 estimated 2009 premium. The following additional cost items were also added to
23 the premium: 1) \$3,012 for administrative services fees ("ASA") which were
24 estimated by using the fee as of February, 2008 times 12 months, and 2) \$30,000
25 for claim payments from the partially self-insured portion prior to January 1,

1 2003, which were estimated by using the claims as of February, 2008 times
2 12 months.

3 Q. How were premium rates for the test year determined?

4 A. LTD rates for 2007 were guaranteed not to change by the insurer for 2008. 2009
5 rates will be determined in August 2008. HECO used rates in effect for 2008 to
6 estimate LTD premiums for the test year since rates have not increased since
7 2005. See HECO-1307.

8 Q. Why are premium rates different for bargaining unit and merit employees?

9 A. The difference is due to the level of benefits. The LTD benefit for bargaining unit
10 employees is 60% of base pay which is limited to the Prevailing Lineman
11 Thereafter rate. The LTD benefit for merit employees is 65% of base pay.

12 Q. How have LTD costs varied since 2003?

13 A. Premium rates for LTD were separated for bargaining unit and non-bargaining
14 unit employees in 2005 with the change in benefit levels and have decreased since
15 then. Therefore, the variation in LTD costs since 2003 as shown in HECO-1301,
16 page 1 is the result of decreases in premium rates offset by increases in the
17 number of covered employees and base salaries/wages, and claims incurred from
18 the prior self-insured arrangement.

19 Q. Does HECO provide other disability benefits to its employees?

20 A. Yes. In addition to LTD benefits, HECO provides other disability benefits such as
21 workers' compensation and sick leave to employees.

22 Q. How do LTD benefits coordinate with other disability benefits?

23 A. The LTD plan is designed to provide a total level of disability income to
24 employees. Therefore, LTD benefits payable by the plan are offset by any other
25 income received by the disabled employee. For example, sick leave, workers'

1 compensation and social security benefits would be offset against LTD benefits.

2 Q. What is the reason for offsetting these benefits?

3 A. These benefits are offset because the plan is designed to encourage employees to
4 return to work and keep disability related costs under control.

5 Other Benefits/Administration

6 Q. What is HECO's 2009 test year estimate for the Other Benefits/Administration
7 category of employee benefit costs charged to account no. 926000?

8 A. The 2009 test year estimate for Other Benefits/Administration is \$799,000.

9 Q. What types of costs are included in this category?

10 A. This category includes costs related to training and development, health and
11 wellness programs, miscellaneous other benefits, and the administration of
12 pension, postretirement and long-term disability benefits. A breakdown of the
13 2009 test year costs is as follows:

	TY 2009
	<u>Estimate</u>
14	
15	
16	
17	
18	
19	
20	
21	
1) Training & Development	\$ 231,000
2) Health and Wellness Programs	75,000
3) Miscellaneous Other Benefits	129,000
4) Administration	360,000
5) On-Cost	<u>4,000</u>
Total (HECO-1301, pg. 1 col. i, line 10)	<u>\$ 799,000</u>

22 Q. What adjustments were made to the costs for other benefits/administration to
23 arrive at HECO's 2009 test year estimate?

24 A. As shown in HECO-1301, page 1, column h, line 10, a net adjustment of \$389,000
25 was made to this category which includes three adjustments to simplify and limit
26 the issues in this case: \$507,000 for the executive life program based on a prior
27 Commission ruling (D&O No. 14412, filed on December 11, 1995 in Docket

1 No. 7766, HECO's 1995 test year rate case), (\$44,000) to delete costs related to
2 401(k) administration, and (\$74,000) for executive incentive compensation,
3 401(k) and non-qualified plan administrative costs from HEI. However, the
4 Company reserves the right to propose inclusion of these expenses in future rate
5 cases. Executive life costs are in HECO-WP-1356, Attachment 2, page 2 (codes
6 15D, 15E, 15F, 15G). 401(k) administration costs are in HECO-WP-1356,
7 Attachment 1 and Attachment 2, page 2 (codes 8A, 8C, 9). HEI costs are in
8 HECO-1107. HECO-1301, page 2, note 7 provides further details on these
9 adjustments.

10
11 1) Training and Development Programs

12 Q. What is the 2009 test year estimate for training and development costs?

13 A. The 2009 test year estimate for these costs is \$231,000 which is related to training
14 and development programs that are essential to HECO's ability to attract, retain,
15 engage and maintain a fully qualified workforce. The programs are administered
16 by HECO's Workforce Staffing and Development and Industrial Relations
17 departments. Training costs for the Compensation and Benefits Division
18 (RA-PFB) are also included in account no. 926000, as shown on HECO-1308.

19 Q. Describe the costs related to the training and development programs.

20 A. These costs relate to activities such as planning and determining employee
21 development and training needs, development of in-house training programs,
22 delivery of these programs, training materials, apprenticeship program costs and
23 the voluntary educational assistance ("VEA") program.

1 Q. How was the 2009 test year estimate for training and development programs
2 determined?

3 A. The 2009 test year estimate was determined by considering the courses to be
4 offered, materials, instructor fees, and facilitator guides. Apprenticeship program
5 costs were estimated using training requirements of current apprentices, the
6 estimated number of new apprentices, instructor fees, books and supplies. VEA
7 program costs were based on 2007 actual costs increased by 10% (the average
8 increase in tuition fees at local universities).

9 Q. Describe the types of in-house training programs covered in this account.

10 A. The in-house training programs provide specific job-related competencies or
11 knowledge and/or career and life skills. Examples of program categories include
12 customer relations, supervision, finance, leadership, executive development and
13 civil treatment (Equal Employment Opportunity).

14 Q. What is the voluntary educational assistance (“VEA”) program?

15 A. This program was initiated to encourage employees to pursue educational
16 programs outside of work hours that directly or indirectly enhance their
17 performance on the job. HECO provides 100% reimbursement upon the
18 successful completion of approved courses taken on the employees’ own time.
19 The courses must be offered by an accredited school, college, or university, or any
20 agency or association approved by the Workforce Staffing & Development
21 Department.

22 Q. How have training and development costs varied since 2003?

23 A. Actual training and development costs from 2003-2007 and budgeted for 2008
24 and 2009 are reflected in HECO-1308 along with explanations for the variances
25 and references to workpapers.

1 2) Health and Wellness Programs

2 Q. Please describe the type of expenses included in this category.

3 A. The expenses in this category are related to administration of the Integrated
4 Absence Management (“IAM”) program, the employee assistance (“EAP”)
5 program and other wellness activities.

6 Q. What is the 2009 test year estimate for health and wellness programs?

7 A. The 2009 test year estimate is \$75,000. The majority of these costs is for medical
8 consulting of \$28,000 and premiums for EAP services in the amount of \$34,000.

9 Q. What is the IAM program?

10 A. The IAM program was initiated in 2001 to better manage absences. Resources
11 within the Compensation and Benefits Division (workers’ compensation
12 administration, the Corporate Health Director, benefits administration) were
13 pooled to manage disability cases and provide information on benefits to disabled
14 employees with the goal of reducing HECO’s absence-related costs. The Health
15 and Wellness Division was subsequently formed in 2007 which encompasses the
16 workers’ compensation function and wellness activities and moved to the Safety,
17 Security and Facilities Department. Employees report daily absences to an
18 outsourced centralized call center. These absences are reported to supervisors and
19 to the Health and Wellness Division which monitors employee absences and
20 follows up with individual employees to address issues such as return to work and
21 temporary work restrictions. The Health and Wellness Division facilitates the
22 Company’s compliance with the Family and Medical Leave Act (“FMLA”), the
23 Americans with Disabilities Act (“ADA”), and the Health Insurance Portability
24 and Accountability Act (“HIPAA”).

1 Q. How was the test year 2009 estimate of \$34,000 for the EAP program expenses
2 determined?

3 A. This estimate was determined using quarterly premiums for January 2007 –
4 September 2007 (3 quarters) and an estimate for October –December 2007 (4th
5 quarter). See HECO-WP-1356, Attachment 5, page 2.

6 Q. What is the EAP program?

7 A. The EAP provides employees with access to professional counselors for strictly
8 confidential personal consultations on work-related, personal or mental health
9 problems. Assessment for referral for substance abuse problems and resources to
10 address legal or financial difficulties is also available. Immediate family members
11 of employees are also eligible for these services.

12 Q. How does the Company benefit from EAP services?

13 A. Supervisors can make EAP referrals for employees about job performance or
14 workplace behavioral concerns. Group sessions are provided for crisis
15 intervention when critical events such as serious and fatal accidents and similar
16 types of emergencies occur in the workplace. These services help employees to
17 focus on their job and increase productivity by limiting distractions and undue
18 emotional or psychological stress.

19 Q. How does HECO provide EAP services to its employees?

20 A. EAP services are provided through a contract with an external organization.

21 3) Miscellaneous Other Benefits

22 Q. Please describe the benefit costs included in this category.

23 A. Miscellaneous Other Benefits include the bus pass, long-term care insurance,
24 adoption reimbursement, child care referral services, contributions in

1 remembrance of deceased employees and retirees, cafeteria maintenance and
2 deferred compensation.

3 Q. What is the test year 2009 estimate for these costs?

4 A. The 2009 test year estimate is \$129,000.

5 Q. What are the greatest cost items in this category?

6 A. The greatest cost items are the bus pass program and premiums for long-term care
7 insurance in the amount of \$83,000 and \$30,000, respectively.

8 Q. How was the 2009 test year estimate determined for these items?

9 A. The estimates were based on the number of employees participating in the
10 programs, the cost of the bus pass, and the long-term care premium rate. See
11 HECO-WP-1356, Attachment 4 (bus pass program) and Attachment 2, page 22
12 (long-term care insurance).

13 Q. Please describe the bus pass program.

14 A. Under the program, employees are encouraged to use public transportation to
15 commute to work by providing them with a bus pass. This alleviates traffic
16 congestion, fuel consumption and parking accommodations.

17 Q. Please describe the long-term care benefit.

18 A. Effective July 1, 2004, HECO provides merit employees with a basic level of long
19 term care benefits through an insurance contract. In general the basic level
20 provides a benefit of \$1,000 per month for up to two years towards the cost of
21 confinement in a long-term care facility. Employees also have the option to
22 purchase additional coverage at their cost. Upon retirement or other termination
23 of employment, employees may assume this cost to continue the coverage.

1 4) Administration

2 Q. What is included in Administration costs?

3 A. Administration costs of \$360,000 include costs related to expenses for
4 administering the retirement plan including legal and consulting fees, inter-
5 company charges from HEI for plan administration support, computer systems
6 and department costs. HECO-1317 includes a breakdown of these costs by RA
7 with references to applicable workpapers.

8 5) On-Cost

9 Q. What is the On-Cost amount in account no. 926000 employee pensions and
10 benefits?

11 A. On-Cost is the portion of administrative costs transferred to construction projects
12 and is discussed by Ms. Patsy Nanbu in HECO T-11.

13 Labor

14 Q. Please explain the labor amount included in account no. 926000?

15 A. The 2009 test year labor amount of \$841,000, as shown in HECO-1301, page 1,
16 is primarily attributable to the administration of the programs included in account
17 926000, i.e., retirement, postretirement, LTD, training, wellness, and other
18 benefits.

19 Q. How was the labor cost for the 2009 test year determined?

20 A. See HECO-WP-1355 for the worksheets used to determine labor hours.

21 ACCOUNT NO. 926010-EMPLOYEE BENEFITS-FLEX CREDITS

22 Q. What categories are included in account no. 926010 – employee benefits-flex
23 credits.

1 A. As shown in HECO-1301, page 1, the breakdown of this account by category is as
2 follows:

3		
4		Test Yr. 2009
5		Estimate
6	<u>Category</u>	<u>(Thousands)</u>
7	Flex Credits Less Prices	\$ (1,229)
8	Group Medical Plan	8,719
9	Group Dental Plan	1,318
10	Group Vision Plan	204
11	Group Life Insurance Plan	1,068
12	Other/Administration	<u>882</u>
13	Total Non-Labor	\$10,962
14	Total Labor	<u>211</u>
15	Total Employee Benefits – Flex Credits (account no. 926010)	<u>\$11,173</u>

16 This account includes costs related to the Company’s flexible benefits plan
17 (“FlexPlan”), which consists of premiums for group medical, dental, vision and
18 life insurance programs and other costs related to administration.

19 Q. How was the 2009 O&M expense budget adjusted for the categories in account
20 no. 926010 to derive the 2009 test year estimates?

21 A. The O&M expense budget was adjusted to reflect revised estimates based on the
22 average number of covered employees in the FlexPlan of 1,599 as explained in the
23 Long-Term Disability Benefits section of my testimony.

24 Q. What is the FlexPlan?

25 A. HECO provides group medical, dental, vision and life insurance benefits to its
26 employees through a flexible benefits plan called “FlexPlan”. The plan is
27 designed to meet the requirements of Section 125 of the Internal Revenue Code
28 (“IRC”). Under the provisions of the plan, employees are given an allocation of
29 flex credits each year by the Company. These flex credits are stated in units of

1 flex “dollars”. Employees apply these credits toward the purchase of non-taxable
2 benefits (health and life insurance) by electing from several available plans, each
3 with a stated flex price in units of flex “dollars”. To the extent that the
4 employee’s flex credits exceed the total of flex prices for health and life insurance
5 purchases, remaining credits can be: 1) used to purchase other optional benefits
6 such as supplemental life insurance, dependent life insurance, and accidental death
7 and dismemberment insurance (“AD&D”), 2) directed to spending accounts for
8 health benefits not covered by insurance and/or dependent care expenses or 3)
9 returned to the employee. If the total of flex prices for the plans elected by the
10 employee exceeds flex credits, the difference is withheld from the employee’s pay
11 on a pre-tax basis or after-tax basis. Information provided to employees regarding
12 the FlexPlan is provided in HECO-WP-1350.

13 Q. Why did HECO adopt the FlexPlan?

14 A. The plan was adopted in 1989 to provide employees with the flexibility of
15 choosing benefit levels that meet individual needs while helping the Company to
16 control future health plan costs.

17 Q. How does the FlexPlan help to control future health plan costs?

18 A. Health plan costs are driven by plan provisions, plan utilization and the cost of
19 services. FlexPlan offers employees an incentive to waive health plan coverage in
20 return for flex credits that can be used to purchase other benefits. For example,
21 employees covered by their spouses’ medical plan may elect to waive medical
22 plan coverage with HECO and use their flex credits to purchase additional life
23 insurance, dependent life insurance or put the credits into a spending account to
24 apply towards non-covered medical or child care expenses. This results in lower
25 utilization of health plan benefits which results in lower premium rates.

1 Q. How is the Company's total cost for the FlexPlan determined?

2 A. The Company's cost is equal to:

3 Flex credits (company funded) less Flex prices (employee funded) plus premiums
4 for all plans (company funded).

5 Flex Credits Less Prices

6 Q. What is included in this category of employee benefit costs?

7 A. This category includes the estimated difference between company-funded flex
8 credits and flex prices charged to employees for health and life insurance plans.

9 Q. How was the 2009 test year estimate determined?

10 A. The Company provides basic flex credits for health coverage plus additional
11 credits for life insurance coverage. Basic flex credits amount to \$67.54 per
12 employee for each of 24 pay periods. Life insurance credits are equal to the
13 premium to provide each bargaining unit employee with coverage of one and one-
14 half times the annual base pay, each merit employee with coverage of two times
15 the annual salary, and senior management employees with coverage of \$50,000.
16 The budget estimate for flex credits less prices is shown in HECO-1309 and was
17 determined as follows:

- 18 1) The basic flex credit amount of \$67.54 per employee per pay period was
19 multiplied by 1,599 (estimated average number of covered employees) and
20 annualized to get \$2,591,915 ($\$67.54 \times 1,599 \times 24$ pay periods). This
21 amount was added to the life insurance credit amount in (2) below.
- 22 2) The flex credits for basic group life insurance was estimated by using the
23 average basic group life credit from the January 2008 enrollment which was
24 based on wages and salaries as of October 2007, increased by 3.5% for the

1 May 1, 2008 merit salary increase and by 3.5% for the November 1, 2007
2 bargaining unit wage increase to derive the average basic life credit of
3 \$367.14 per merit employee, \$231.26 per bargaining unit employee and
4 \$120.00 per executive multiplied by 735 merit employees, 825 bargaining
5 unit employees, and 40 executives respectively. The results totaled
6 \$465,437. See HECO-1309, page 2.

7 3) The sum of amounts from (1) and (2) above is \$3,057,352 which was
8 reduced by \$4,286,408 total flex prices resulting in a net price of (\$1,229,056).
9 The amount of \$4,286,408 total flex prices was estimated by applying the flex
10 price for each plan to the associated projected number of employees for the test
11 year based on the percentage of employees' elections from the January 1, 2008,
12 enrollment. See HECO-1309, page 1.

13 Q. How is the level of flex credits and prices determined?

14 A. The difference between flex credits and prices is the employee contributions,
15 which is estimated at (\$1,229,045) as shown above. The maximum amount of
16 employee contributions for health plan coverage is negotiated between the
17 Company and the IBEW for bargaining unit employees. See Benefits Agreement
18 in HECO-WP-1353. The same contribution level applies to merit employees.
19 Flex credits and prices are set such that the difference between the employer-
20 provided flex basic credits and flex prices charged to employees for health plans
21 will not exceed the maximum employee contributions. Attached in HECO-1310
22 is a schedule showing basic flex credits of \$67.54 per pay period for each
23 employee and the prices for health plan options. As an example, each employee
24 receives \$67.54 in basic flex credits each pay period. Assuming the employee
25 elects the PPP medical plan (family coverage) at a price of \$88.49, the vision plan

1 (family coverage) at a price of \$3.00 and the Major Care Dental plan (family
2 coverage) at a price of \$6.05, the employee's contribution per pay period will be
3 \$30.00 (\$67.54-\$88.49-\$3.00-\$6.05), which is the maximum employee
4 contribution as indicated in the Benefit Agreement for January 1, 2008. See
5 HECO-WP-1353, page 19. Employees also receive flex credits for life insurance.
6 Basic credits and life insurance credits are added together and used towards
7 purchasing all options under the FlexPlan. The basic flex credits have been at the
8 same level since 1999, and the basic flex prices for health plan options have been
9 revised annually as the maximum employee contribution amount increases.

10 Q. Why were the same flex credits and prices in effect for January 1, 2008 used for
11 the test year?

12 A. Employee contributions for health plans will remain the same through
13 December 31, 2011, per agreement reached on January 23, 2008 with the IBEW.
14 See HECO-WP-1353, page 22.

15 Q. What does the test year estimate of (\$1,229,056) indicate?

16 A. The negative amount indicates that flex prices of options elected by employees for
17 the test year will exceed flex credits by this amount, which is the estimate of the
18 amount that will be deducted from employees' pay for the test year. See
19 HECO-1301, page 1.

20 Group Medical/Dental/Vision Plans

21 Q. What do group medical/dental/vision plan costs represent?

22 A. These costs represent premiums for medical, dental and vision plans provided
23 under FlexPlan. Medical plans are provided by the Hawaii Medical Service
24 Association ("HMSA") and Kaiser Foundation Health Plan ("Kaiser"). Dental

1 and vision plans are provided by Hawaii Dental Service (“HDS”) and Vision
2 Service Plan (“VSP”), respectively.

3 Q. What plan options are included under FlexPlan?

4 A. The following health plan options are available under FlexPlan:

- 5 1) HMSA Preferred Provider Plan (“PPP”) with Vision Plan,
- 6 2) HMSA Health Plan Hawaii Plus (“HPH”) with Vision Plan,
- 7 3) Kaiser Permanente Group Plan with Vision Plan,
- 8 4) HDS Major Care Plan,
- 9 5) Waiver of Medical Coverage, and
- 10 6) Waiver of Dental Coverage.

11 Q. How were the 2009 test year estimates of \$8,719,000 for medical, \$1,318,000 for
12 dental and \$204,000 for vision plan premiums determined?

13 A. The estimates were determined by taking the estimated average number of
14 covered employees for each plan, multiplied by the estimated applicable premium
15 rate for 2009. The estimated number of employees covered in each plan was
16 determined by pro-rating the elections made by employees for 2008 by plan to the
17 total number of covered employees for the test year (1,599). The calculation
18 worksheets are provided in HECO-1311 (medical), HECO-1312 (dental), and
19 HECO-1313 (vision).

20 Q. What has HECO done to control medical plan costs?

21 A. As a result of negotiations with the IBEW in 2003, medical plan provisions
22 changed effective January 1, 2005, January 1, 2006, January 1, 2007, and
23 January 1, 2008. These changes required increased out-of-pocket contributions by
24 employees and resulted in reduced costs for the Company. From 2003-2008,
25 HECO’s average annual increase in premium rates for medical plans ranged from
26 1.03% - 2.7% depending on the plan, which are reasonable compared to average
27 annual increases in community premium rates for the same period of

1 approximately 7.4% for HMSA. In estimating premium rates for the test year
2 HECO used an inflation factor of 2.5% which was in line with the historical five
3 year average annual increases of 1.03%-2.7%. See HECO-1307.

4 Group Life Insurance

5 Q. What costs are included in this category of employee benefits?

6 A. This category includes premiums for group life (basic and supplemental
7 coverage), dependent life and AD&D insurance coverages as elected by
8 employees under the FlexPlan.

9 Q. What is the Company's 2009 test year 2009 estimate for group life insurance
10 costs?

11 A. The 2009 test year estimate for group life insurance premiums is \$1,068,000.

12 Q. How was the test year estimate calculated?

13 A. Group life insurance coverage for the test year will be based on annual
14 salaries/wages as of October 2008. For the calculation, the average annual
15 salaries/wages as of October 2007 (basis for January 2008 enrollment), was
16 increased by 3.5% for merit and bargaining unit employees to get the average
17 annual salaries/wages as of October 2008. These averages were then multiplied
18 by .5, 1.5 or 2.0 for merit employees and .5 or 1.5 for bargaining unit employees
19 using the January 1, 2008 employee elections, to get the basic coverage for each
20 group which was then multiplied by the estimated number of merit and bargaining
21 unit employees electing each coverage option (based on 2008 enrollment) and the
22 annual premium rate. Supplemental life, dependent life and AD&D premiums
23 were estimated using the same methodology. The same premium rates in effect
24 on January 1, 2008, were used for the test year estimates. The calculation of the

1 test year estimate is shown in HECO-1314.

2 Q. In general, what are the reasons for changes in costs for medical, dental, vision
3 and group life insurance premiums since 2003?

4 A. These premiums vary due to changes in the premium rates as shown in
5 HECO-1307, changes in the number of covered employees, employee elections
6 under FlexPlan, and increases in base salaries and wages (applicable to group life
7 insurance).

8 Other/Administration

9 Q. What costs are included in this category?

10 A. This category includes costs of \$882,000 related to the FlexPlan including
11 administration, other group insurance premiums and expenses related to the HR
12 Suite Project as follows:

	TY 2009
	<u>Estimate</u>
13	
14	
15 a. Administration	\$260,000
16 b. Other Group Insurance Premiums	187,000
17 c. HR Suite Project	441,000
18 d. On-Cost	<u>(6,000)</u>
19 Total (HECO-1301, pg. 1, col. i, line 19)	<u>\$882,000</u>

20 a. Administration

21 Q. What is included in administration costs?

22 A. These costs are related to expenses for administering the FlexPlan including costs
23 of computer systems, consulting and third party administrative fees and system
24 maintenance costs for the HR Suite. HECO-1317 includes a breakdown of these
25 costs by RA with references to applicable workpapers.

26 b. Other Group Insurance Premiums

27 Q. What is included in the Other Group Insurance Premiums category?

1 A. These are insurance premiums related to employees not participating in the
2 FlexPlan such as temporary employees and employees on probationary, leave of
3 absence, or disability status.

4 Q. How was this amount estimated?

5 A. The estimate was based on 2007 costs. See HECO-WP-1356, Attachment 2,
6 page 15.

7 c. HR Suite Project

8 Q. Please explain the HR Suite costs.

9 A. These are costs related to the HR Suite project which is described later in my
10 testimony.

11 d. On-Cost

12 Q. What is the On-Cost amount in account no. 926010 employee benefits – flex
13 credits?

14 A. On-Cost is the portion of administrative costs transferred to construction projects
15 as discussed by Ms. Patsy Nanbu in HECO T-11.

16 Labor

17 Q. Please explain the labor amount included in account 926010?

18 A. The 2009 test year labor amount of \$211,000 includes the labor costs for
19 administering the FlexPlan and for the HR Suite project explained below.

20 Q. How was the labor cost for the 2009 test year determined?

21 A. See HECO-WP-1355 for the worksheets used to determine labor hours.

22 Q. Please identify employees involved in preparation of the budgeted labor and non-
23 labor amounts in account no. 926000 and account no. 926010, worksheets and
24 calculations used to document budgeted items.

1 A. The requested information with support references is in HECO-WP-1355 and
2 HECO-WP-1356.

3 HUMAN RESOURCES SUITE PROJECT

4 Q. What is the Human Resources (“HR”) Suite Project?

5 A. The HR Suite Project is a planned computer software development project that
6 involves the purchase, installation and configuration of a new, commercially
7 available, human resources suite system, including purchase, configuration and
8 testing of the software for the new system, purchase and installation of related
9 hardware and operating software, conversion, “cleansing” and formatting of
10 employee and retiree data (i.e., ensuring that the data that is converted is in the
11 standard format), development and testing of interfaces between the new system
12 and other HECO systems, including the new Customer Service System (“CIS”)
13 and the Ellipse system associated training for administrators and employees, and
14 post implementation activities. An application was filed with the Commission
15 (Docket No. 2006-0003) on January 3, 2006, on behalf of HECO, Hawaii Electric
16 Light Company, Inc. and Maui Electric Company, Limited, (the “Companies”)
17 requesting approval for the purchase and installation of Project P0001010, Human
18 Resources Suite System, to defer certain computer software development costs, to
19 apply an allowance for funds used during construction (“AFUDC”) during the
20 deferral period, to amortize the deferred costs (including AFUDC) over a twelve-
21 year period and to include the unamortized deferred costs (including AFUDC) in
22 rate base. This treatment is consistent with HECO’s accounting policy for
23 software development costs, as discussed by Ms. Nanbu in HECO T-11.

1 Q. What is the status of the application?

2 A. Decision and Order No. 23413 in Docket No. 2006-0003 was issued on May 3,
3 2007, in which the Commission approved the application for the HR Suite
4 System.

5 Q. What does the system do?

6 A. The system will improve the Company's ability to store, maintain, manage and
7 secure employee information necessary to support basic employee functions such
8 as hiring, managing, training, retention, retirement and termination. The system
9 will improve integration and functionality for human resources data and systems,
10 specifically for benefits, human resources, compensation and disability
11 management administration.

12 Q. What is the status of the project?

13 A. The project is currently in the Implementation state (Stage 2) which includes the
14 analysis and design of the software, solution confirmation and review of
15 requirements versus application software, and defining data conversion and
16 interface strategies, specifications and plans.

17 Q. When is the project scheduled to be completed?

18 A. Current completion date is April, 2009.

19 Q. What are total costs of the HR Suite project?

20 A. The current estimated cost of the HR Suite project is \$9,462,000 as reported in the
21 Interim Supplemental Report (May 21, 2008) – Amended filed with the
22 Commission on June 27, 2008. The amount includes \$371,000 for capital,
23 \$5,559,000 for deferred expenses, \$3,267,000 for expenses – not reengineering
24 and \$265,000 for expenses – reengineering. See HECO-1315, page 1.

1 Q. How are the costs allocated?

2 A. Costs are shared among HECO, Hawaii Electric Light Company, Inc.
3 (“HELCO”), Maui Electric Company, Ltd. (“MECO”) and Hawaiian Electric
4 Industries Inc. (“HEI”) using a weighted average based on a five year period
5 (2001-2005) of productive labor hours by company for the retiree portion and the
6 employee count by company for the active employee portion. Per the Decision
7 and Order No. 23413, the agreed upon allocation is as follows: HECO – 67%,
8 HELCO – 16%, MECO – 15%, HEI – 2%.

9 Q. What is HECO’s portion of the total project costs?

10 A. HECO’s portion of total costs for the HR Suite project is \$6,311,000. The amount
11 includes \$371,000 for capital, \$3,618,000 for deferred expenses, \$2,167,000 for
12 expenses – not reengineering and \$155,000 reengineering expenses. See
13 HECO-1315, page 2.

14 Q. How are the HR Suite costs being included in the 2009 test year estimates?

15 A. Capital costs are included as capital expenditures for the year. Expenses are
16 charged to functional areas to which they relate and are included in account nos.
17 920, 921 and 926, as shown in HECO-1316. Deferred costs are being amortized
18 beginning in May, 2009 over a twelve year period in account no. 921. The
19 unamortized amount as of December 31, 2009 is included in rate base, as
20 discussed by Ms. Patsy Nanbu in HECO T-11, and shown in HECO-1117.
21 Worksheets for the calculation of the amortized amount including AFUDC are in
22 HECO-WP-1257.

23 Q. What are the HR Suite costs included in account no. 926010 for the test year?

1 A. The estimated non-labor HR Suite cost of \$441,500 is included in account no.
2 926010 for the test year, which is for the purchase of software, consulting and
3 training. See HECO-1316 and HECO-WP-1356, Attachment 7.

4 WAGE AND SALARY INCREASE

5 Bargaining Unit Wage Increase

6 Q. How were wage increases determined for bargaining unit positions for the test
7 year?

8 A. Wage increases for bargaining unit positions are negotiated between the Company
9 and BEW, Local 1260. The Company and the IBEW recently agreed to an
10 extension of the labor agreement until October 31, 2010. Based on provisions of
11 this extension, wages for bargaining unit positions will be increased by 4%
12 effective January 1, 2009. The percentage increase is reasonable based on
13 industry experience and Company position within its competitive market.

14 Merit Compensation Program

15 Q. How was the 2009 salary increase budget determined for merit positions?

16 A. The salary budget for merit positions was based on an assessment of HECO's
17 competitive market, identification of HECO's position within this competitive
18 market, market trends regarding future salary increases and an evaluation of
19 internal "compression" with bargaining unit pay levels.

20 Q. How were merit salaries increased for the test year?

21 A. To estimate salaries for the test year, salaries as of December 31, 2008, were
22 increased by 4.0% effective May 1, 2009, plus .30% effective September 1, 2009,
23 and .20% effective December 2009. However, individual salary increases within
24 the approved budget will be granted to employees based on performance, current

1 salary position relative to peers, and current salary relative to the market pay rate
2 for the employee's position.

3 Q. How does HECO's budget of salary increase compare with the salary increase
4 plans at other companies?

5 A. HECO uses survey data reflecting anticipated merit budget movements. While it
6 is not possible to precisely forecast 2009 salary increase amounts industry-wide
7 due to the normal compensation survey timing and data delays, the 4.0% merit
8 increase budget was established based on early indications that 2009 merit
9 budgets will be slightly higher than the 2008 average in HECO's target labor
10 markets. In 2008, the average merit budget for exempt positions nationally is
11 projected to be 3.86%. The 2008 average for utilities nationally was 3.58%.
12 See HECO-WP-1357.

13 Q. What is HECO's competitive market?

14 A. HECO's competitive market includes Mainland and other local utilities, Pearl
15 Harbor, engineering firms and other large diversified local companies.

16 Q. How is HECO positioned within its competitive market?

17 A. HECO's pay is within the targeted market position in the general utility industry.
18 In some instances, particularly where HECO competes for very specialized skills
19 or skills that are in high demand, the Company has been unable to hire its first or
20 second choice candidates resulting in lengthy vacancies impacting business
21 operations.

22 Q. Are HECO's pay levels reasonable when compared to pay levels of similar
23 positions of other local employers?

24 A. Yes. HECO's overall base pay reflects the unique nature of working for a
25 regulated utility that provides services to nearly every resident on the island of

1 Oahu. When compared to the base pay of general businesses on Oahu, HECO's
2 merit pay is above average. However, when compared to the Company's target
3 labor market HECO's merit pay is within and sometimes below levels required to
4 attract and retain experienced personnel desired for specific types of positions.
5 Merit pay levels reflect the highly technical nature of the required engineering,
6 operations and support positions needed for the utility. The supply of individuals
7 with the specialized skills required to ensure efficient and consistent delivery of
8 electricity is less than the demand both locally and nationally. Industry
9 projections indicate the supply of labor will grow shorter as the population and
10 existing skill holders age out of the workforce.

11 Q. What are other forms of compensation?

12 A. Many companies are shifting more of their compensation increases into "at risk"
13 programs whereby base salaries are increased at a conservative rate, while
14 enabling employees to earn additional variable ("at risk") compensation
15 depending on individual or business performance. This serves to restrain base
16 salary increases and the associated benefits and tax-related costs, while providing
17 employees an incentive and opportunity to maintain or increase their "total"
18 compensation (base plus variable). HECO will be reviewing the compensation
19 structure to consider new programs for merit employees subsequent to the test
20 year.

21 Executive Compensation

22 Q. Does HECO have a different form of compensation for its executives?

23 A. Yes. On one hand, HECO's executive compensation is managed similarly to non-
24 executive merit employees, with salary ranges pegged to market salaries in the

1 for bargaining unit employees. Merit employees generally receive the same level
2 of benefits with some differences in retirement benefits, long-term disability,
3 group life insurance and long term care.

4 Pension and postretirement benefits were calculated by HECO's actuary using
5 reasonable assumptions in accordance with provisions of SFAS 87 and SFAS 106,
6 which have been accepted by the Commission for ratemaking purposes in prior
7 rate cases and agreed to on an interim basis in HECO's last rate case. The other
8 major cost category is medical plan costs which have been managed by
9 negotiating increased cost sharing with employees. The 2009 test year expenses
10 also include costs related to the HR Suite project which has been approved by the
11 Commission in a separate docket. Wage and salary increase are within market
12 comparisons.

13 Q. Why is HECO's total compensation package a necessary business expense?

14 A. HECO's mission is to provide reliable electrical service to its customers and our
15 employees are critical to fulfilling this mission. Competitive wages and benefits
16 enable HECO to attract and retain a highly qualified workforce.

17 Q. Does this conclude your testimony?

18 A. Yes, it does.

HAWAIIAN ELECTRIC COMPANY, INC.

JULIE K. PRICE

EDUCATIONAL BACKGROUND AND EXPERIENCE

Business Address: Hawaiian Electric Company, Inc.
220 South King Street
Honolulu, Hawaii 96813

Current Position: Manager, Compensation & Benefits

Prior Positions: 1970 – 1989
Manager, Employee Benefits
Administrator, Employee Benefits
Secretary, Employee Benefits
Dillingham Construction Corporation
Pleasanton, CA
Dillingham Corporation
Honolulu, HI

Professional
Registration: Certified Employee Benefits Specialist
CEBS, The Wharton School, University of
Pennsylvania.
Fellow, International Society of Certified Employee
Benefits Specialist.

Years of Service: 18

Previous Testimony: Docket Nos. 7243 and 7233 (Consolidated) -
Postretirement Benefits Other Than
Pensions-Costs related to these benefits and
efforts to control these costs.
Docket Nos. 7700, 7766, 04-0113, 2006-0386 –
HECO: A&G Expenses-Employee Benefits.
Docket Nos. 96-0040, 97-0346, 2006-0387 –
MECO: A&G Expenses-Employee Benefits.
Docket Nos. 94-0140, 99-0207, 05-0315 – HELCO:
A&G Expenses-Employee Benefits.

HAWAIIAN ELECTRIC COMPANY, INC.
ADMINISTRATIVE AND GENERAL EXPENSES - Employee Benefits
(\$1000s)

Line	Account Description	(a) Recorded 2003	(b) 2004	(c) 2005	(d) 2006	(e) 2007	(f) Budget 2008	(g) Budget 2009	(h) Budget Adj	(i) TY Est 2009
926000 Employee Pensions and Benefits										
1	Qualified Pension Plan	5,894	-1,547	4,588	14,237	17,711	14,401	14,283	340 (1)	14,623
2	Amortization of Regulatory Liability						3,309	861	-1,471 (2)	-610
3	Total Qualified Pension Plan	5,894	-1,547	4,588	14,237	17,711	17,710	15,144	-1,131	14,013
4	Non-Qualified Pension Plans	355	474	336	333	320	348	345	-345 (3)	0
5	Other Postretirement Benefits*	6,607	5,907	6,667	6,211	5,880	5,339	5,347	-1,494 (4)	3,853
6	Amortization of Regulatory Asset	1,302	1,302	1,302	1,302	1,302	1,302	1,302	0	1,302
7	Amortization of Regulatory Liability						394	116	-271 (5)	-155
8	Total Other Postretirement Benefits	7,909	7,209	7,969	7,513	7,182	7,035	6,765	-1,765	5,000
9	Long-Term Disability Benefits	498	509	532	488	460	506	546	-2 (6)	544
10	Other Benefits/Administration	47	198	527	316	435	461	410	389 (7)	799
11	Subtotals: Non-Labor	14,703	6,843	13,952	22,887	26,108	26,060	23,210	-2,854	20,356
12	Labor	496	555	580	550	621	535	841	0	841
13	Total 926000	15,199	7,398	14,532	23,437	26,729	26,595	24,051	-2,854	21,197
926010 Employee Benefits-Flex Credits										
14	Flex Credits Less Prices	-744	-829	-841	-942	-1,027	-1,176	-1,234	5 (8)	-1,229
15	Group Medical Plan	6,097	7,005	7,543	7,431	7,871	8,101	8,752	-33 (9)	8,719
16	Group Dental Plan	957	977	1,124	1,175	1,143	1,217	1,323	-5 (10)	1,318
17	Group Vision Plan	192	192	170	179	181	192	204	0	204
18	Group Life Insurance Plan	389	693	824	865	756	987	1,072	-4 (11)	1,068
19	Other/Administration	87	135	192	157	296	893	882	0	882
20	Subtotals: Non-Labor	6,978	8,173	9,012	8,865	9,220	10,214	10,999	-37	10,962
21	Labor	66	71	69	54	90	359	211	0	211
22	Total 926010	7,044	8,244	9,081	8,919	9,310	10,573	11,210	-37	11,173
23	926020 Employee Benefits Transfer	-6,543	-4,446	-6,783	-8,992	-9,893	-11,011	-9,655	692	-8,963
24	Grand Total Charged to O&M	15,700	11,196	16,830	23,364	26,146	26,157	25,606	-2,199	23,407
* Net of electric discount										
See notes on next page for explanations of adjustments.										
										HECO-1101
										"
										"
										"
										Less CPI CT-1 Average Cost
										-125
										Interim Increase
										23,282
										CPI CT-1 Annualized
										266
										CIP CT1 Step
										23,548

Notes:

- (1) Adjust 2009 budget amount for updated 2009 NPPC estimate from Watson Wyatt Worldwide (HECO-1302), \$14,623 - \$14,283 = \$340.
- (2) Adjustment of -\$1,471 to derive test year 2009's balance of -\$610 (\$861 - \$1,471 = -\$610) as required under the NPPC tracking mechanism.
- (3) Two adjustments were made resulting in the net adjustment amount of -\$345 as follows:
 - a. Adjust 2009 budget amount for updated non-qualified plans estimate from Watson Wyatt Worldwide (HECO-1303, p. 3), \$374 - \$345 = \$29.
 - b. Delete non-qualified plans -\$374 to simplify and limit issues in this rate case.
 - c. \$29 - \$374 = -\$345
- (4) Two adjustments were made resulting in a gross adjustment amount of -\$1,494 as follows:
 - a. Adjust 2009 budget amount for updated OPEB estimate from Watson Wyatt Worldwide:
 - i. Original 2009 budget OPEB (HECO-WP-1356, Attachment 2, p. 2, code 10A (\$850) and 10B (\$4,995), \$850 + \$4,995 = \$5,845
 - ii. Updated 2009 OPEB estimate from Watson Wyatt Worldwide (HECO-1303, p. 3), \$5,224
 - iii. \$5,224 - \$5,845 = -\$621
 - b. Delete executive life program (postretirement) \$873 to simplify and limit issues in this rate case.
 - c. -\$621 - \$873 = -\$1,494
- (5) Adjustment of -\$271 to derive test year 2009's balance of -\$155 (\$116 - \$271 = -\$155) as required under the OPEB tracking mechanism.
- (6) Adjustment to delete cost for 6 employees (5 DSM, 1 SSF)
- (7) Three adjustments were made resulting in a gross adjustment amount of \$389 to simplify and limit issues in this rate case.
 - a. Delete executive life program (active) \$507 (HECO-WP-1356, Attachment 2, p.2, codes 15D (-\$180), E (-523), F (\$128), G (\$68)
 - b. Delete 401K administration -\$44 as follows:
 - i. HECO-WP-1356, Attachment 2, p 2, codes 8A (-\$13), C (-\$8), 9 (-\$16), totaling to -\$36 (not foot due to rounding)
 - ii. HECO-WP-1356, Attachment 1, Account 779 (-\$8 [-\$7559 shown])
 - c. Delete HEI EICP, 401K, and non-qualified plans administration -\$74 (HECO-1107)
 - d. \$507 - \$44 - \$74 = \$389
- (8) Adjustment to delete cost for 6 employees (5 DSM, 1 SSF)
- (9) Adjustment to delete cost for 6 employees (5 DSM, 1 SSF)
- (10) Adjustment to delete cost for 6 employees (5 DSM, 1 SSF)
- (11) Adjustment to delete cost for 6 employees (5 DSM, 1 SSF)

HAWAIIAN ELECTRIC COMPANY, INC.
ADMINISTRATIVE AND GENERAL EXPENSES
Employee Benefits
Significant Variances

<u>Account/Codeblock</u>	<u>(a) 2007 Recorded</u>	<u>(b) 2009 Budget</u>	<u>(c) Inc./-Dec</u>	<u>(d) % Inc/Dec</u>	<u>Explanation</u>
926000 Employee Pensions and Benefits					
PFB778PHENENPFZZZZZ901	1,301,839	659,092	A -642,747	-49	Decrease due to estimate of amortization for pension/OPEB tracking mechanism in 2009.
926010 Empl Benefits - Flex Credits					
PFB778PHENENPFZZZZZ501	9,902	212,474	B 202,572	2,046	Increase due to a credit in 2007 for forfeitures from spending accounts offset by HR Suite software maintenance in 2009
PFB778PHENENPFZZZZZ509	9,960,664	11,538,001	C 1,577,337	16	Increase due to increase in premium and covered employees for group insurance benefits.
PFB778PHENEP0001010501	47,222	432,386	D 385,164	816	Increase in HR Suite project consulting costs.

Ref: HECO-WP-1356, Attachment 2, pages 1-2:

- A - Codes 12A, 12B
- B - Codes 18A, 18B, 18C
- C - Codes 19A-19H

**HECO - Qualified Pension
Net Periodic Pension Cost (in thousands)**

	<u>2008 Actual</u>
Discount rate	6.125%
Expected return on assets	8.500%
Service Cost	18,732
Interest Cost	38,919
Expected return on Assets	(47,318)
Amortization of Transition	-
Amortization of Prior Service Cost	(465)
Amortization of Gain/Loss	4,792
Net Periodic Pension Cost	14,660

	<u>2009 Estimate</u>
Discount rate	6.125%
Expected return on assets	8.500%
Service Cost	19,631
Interest Cost	40,377
Expected return on Assets	(48,858)
Amortization of Transition	-
Amortization of Prior Service Cost	(465)
Amortization of Gain/Loss	3,938
Net Periodic Pension Cost	14,623

Data

Based on 1/1/2008 employee data and assets

Assumptions

Discount Rate: 6.125%

Long Term Asset Return Rate: 8.500%

Assumed Asset Return Rate for 2008: 8.500%

Contributions:

Pension - 2008: \$0

- 2009: \$0

Hawaiian Electric Company, Inc.
Pension & OPEB Costs
1987-2009

Line	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	1987 Actual	1988 Actual	1989 Actual	1990 Actual	1991 Actual	1992 Actual	1993 Actual	1994 Actual	1995 Actual	1996 Actual
1	9,216,777	8,307,882	9,007,061	9,739,662	10,617,695	11,382,007	10,939,516	10,924,690	6,408,000	8,380,584
2	145,541	334,671	198,260	294,658	175,451	103,410	184,174	243,032	299,652	369,814
3	9,362,318	8,642,553	9,205,321	10,034,320	10,793,146	11,485,417	11,123,690	11,167,722	6,707,652	8,750,398
4	NA	15,724,612	14,935,627							
5	NA	2,751,001	1,301,839							
6	NA	18,475,613	16,237,466							
7	NA	609,327	657,180							
Assumptions:										
Discount Rate	7.50%	8.00%	8.50%	8.50%	8.50%	8.50%	8.50%	7.00%	8.00%	7.00%
Asset Return Rate	7.50%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	9.00%	9.00%
Medical Trend	NA	7.50%	6.50%							
Dental Trend	NA	6.00%	5.00%							
Vision Trend	NA	5.00%	4.00%							
Pension:										
Actual Returns for Valuation	13.15%	0.58%	9.35%	0.78%	13.48%	23.51%	11.62%	11.27%	8.96%	11.27%
Market Related Value Return	3.17%	4.34%	6.32%	3.42%	8.81%	12.06%	27.58%	10.49%	7.60%	13.06%
Market Value Return	0.55%	6.89%	22.00%	-1.67%	25.93%	4.20%	16.16%	-2.77%	26.47%	13.92%
OPEB:										
Actual Returns for Valuation										7.54%
Market Related Value Return										8.80%
Market Value Return										11.29%
8	8,736,278	8,307,882	9,007,061	9,739,662	10,617,695	11,382,007	10,939,516	10,924,690	9,058,124	6,971,824
9	NA	14,270,149	15,580,286							

¹ Regulatory asset amortization began in January 1995.

² Non-qualified plan expenses removed from test year estimate to simplify and limit the issues in this case.

³ Executive Life expenses removed from test year estimate to simplify and limit the issues in this case.

Hawaiian Electric Company, Inc.
Pension & OPEB Costs
1987-2009

Line		(k) 1997		(l) 1998		(m) 1999		(n) 2000		(o) 2001		(p) 2002		(q) 2003		(r) 2004		(s) 2005		(t) 2006	
		Actual		Actual		Actual		Actual		Actual		Actual		Actual		Actual		Actual		Actual	
1	Qualified Plan NPPC	7,117,179		1,870,595	(1,073,259)	(19,322,692)	(20,465,117)	(15,655,436)		5,894,495	(1,546,921)	4,587,662	14,236,666								
2	Non-Qualified Plans ²	607,686		357,662	319,919	296,534	206,237	228,915		354,937	474,310	335,962	333,313								
3	Total	7,724,865		2,228,257	(753,340)	(19,026,158)	(20,258,880)	(15,426,521)		6,249,432	(1,072,611)	4,923,624	14,569,979								
4	OPEB - FAS 106 NPBC	14,393,350		9,284,785	3,574,126	1,761,196	2,106,966	4,262,731		6,905,766	6,233,487	7,033,687	6,620,307								
5	OPEB - Reg Asset Amort ¹	1,301,839		1,301,839	1,301,839	1,301,839	1,301,839	1,301,839		1,301,839	1,301,839	1,301,839	1,301,839								
6	Total	15,695,189		10,586,624	4,875,965	3,063,035	3,408,805	5,564,570		8,207,605	7,535,326	8,335,526	7,922,146								
7	OPEB - Executive Life Only ³	671,152		540,422	518,685	458,422	551,450	637,414		844,050	855,395	900,225	862,439								
Assumptions:																					
	Discount Rate	7.00%		7.00%	6.50%	7.75%	7.50%	7.25%		6.75%	6.25%	6.00%	5.75%								
	Asset Return Rate	9.00%		10.00%	10.00%	10.00%	10.00%	10.00%		9.00%	9.00%	9.00%	9.00%								
	Medical Trend	6.50%		5.50%	5.00%	6.25%	6.00%	10% ⁴ -4.75%		9.25% ⁴ -4.25%	10% ⁴ -4.25%	10% ⁴ -5%	10% ⁴ -5%								
	Dental Trend	5.00%		4.00%	3.50%	4.75%	4.50%	4.75%		4.25%	4.25%	5.00%	5.00%								
	Vision Trend	4.00%		3.50%	3.00%	4.25%	4.00%	3.75%		3.25%	3.25%	4.00%	4.00%								
Pension:																					
	Actual Returns for Valuation	13.49%		15.03%	25.19%	15.03%	13.45%	-14.69%		2.29%	8.67%	8.68%	9.54%								
	Market Related Value Return	14.09%		15.23%	28.31%	11.85%	5.04%	-14.52%		22.89%	2.58%	0.69%	5.97%								
	Market Value Return	15.23%		16.38%	30.10%	-3.32%	-10.26%	-13.90%		23.30%	10.13%	7.38%	13.32%								
OPEB:																					
	Actual Returns for Valuation	8.39%		10.76%	11.82%	19.82%	12.02%	4.52%		-2.16%	-2.68%	2.02%	6.48%								
	Market Related Value Return	9.49%		11.66%	21.99%	10.80%	2.42%	-15.85%		24.19%	1.90%	1.65%	6.31%								
	Market Value Return	14.04%		13.53%	35.64%	-5.63%	-11.18%	-15.88%		25.27%	10.66%	6.95%	13.22%								
8	Contrib. To Pension Trust	5,876,355		2,206,034	0	0	0	0		13,394,248	15,186,494	6,000,000	0								
9	Contrib. To OPEB Trusts	15,024,037		10,046,203	4,357,280	2,604,613	2,857,355	4,927,156		7,363,555	6,679,931	7,435,301	7,059,707								

¹ Regulatory asset amortization began in January 1995.

² Non-qualified plan expenses removed from test year estimate to simplify and limit the issues in this case.

³ Executive Life expenses removed from test year estimate to simplify and limit the issues in this case.

Hawaiian Electric Company, Inc.
Pension & OPEB Costs
1987-2009

Line		(u)	(v)	(w)
		2007 Actual	2008 Actual	2009 Est
1	Qualified Plan NPPC	17,710,729	14,660,243	14,623,000
2	Non-Qualified Plans ²	320,387	348,106	374,000
3	Total	18,031,116	15,008,349	14,997,000
4	OPEB - FAS 106 NPBC	6,291,386	5,548,953	5,224,000
5	OPEB - Reg Asset Amort ¹	1,301,839	1,301,839	1,301,839
6	Total	7,593,225	6,850,792	6,525,839
7	OPEB - Executive Life Only ³	835,309	869,715	873,000
	Assumptions:			
	Discount Rate	6.00%	6.125%	6.125%
	Asset Return Rate	8.50%	8.50%	8.50%
	Medical Trend	10%-5%	10%-5%	10%-5%
	Dental Trend	5.00%	5.00%	5.00%
	Vision Trend	4.00%	4.00%	4.00%
	Pension:			
	Actual Returns for Valuation	12.83%		
	Market Related Value Return	12.62%		
	Market Value Return	8.82%		
	OPEB:			
	Actual Returns for Valuation	12.69%		
	Market Related Value Return	12.16%		
	Market Value Return	8.65%		
8	Contrib. To Pension Trust	0	0	0
9	Contrib. To OPEB Trusts	6,757,916	5,981,077	5,652,839

¹ Regulatory asset amortization began in January 1995.

² Non-qualified plan expenses removed from test year estimate to simplify and limit the issues in this case.

³ Executive Life expenses removed from test year estimate to simplify and limit the issues in this case.

HECO - OPEB
Net Periodic Benefit Cost (in thousands)

	<u>2008 Actual</u>			
Discount rate	6.125%			
Expected return on assets	8.500%			
	Total	Elec Dis	Exe Life	Net
Service Cost	3,156	315	56	2,785
Interest Cost	7,465	596	471	6,398
Expected return on Assets	(7,472)	(9)	-	(7,463)
Amortization of Transition	2,400	127	343	1,930
Amortization of Prior Service Cost	-	-	-	-
Amortization of Gain/Loss	-	-	-	-
Net Periodic Pension Cost	5,549	1,029	870	3,650

	<u>2009 Estimate</u>			
Discount rate	6.125%			
Expected return on assets	8.500%			
	Total	Elec Dis	Exe Life	Net
Service Cost	3,096	323	46	2,727
Interest Cost	7,739	624	484	6,631
Expected return on Assets	(8,011)	(9)	-	(8,002)
Amortization of Transition	2,400	127	343	1,930
Amortization of Prior Service Cost	-	-	-	-
Amortization of Gain/Loss	-	-	-	-
Net Periodic Pension Cost	5,224	1,065	873	3,286

Data

Based on 1/1/2008 employee data and assets

Assumptions

Discount Rate: 6.125%

Long Term Asset Return Rate:

BU VEBA, 401(h)	8.50%
NBU VEBA	4.75%
Electric discount trust	5.25%

Trend Rates

Medical	10% to 5%
Dental	5%
Vision	4%

2008 asset return assumed to equal expected return

Average Employee Count Calculation for Benefits Forecast

	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09
HECO-WP-1501 ²	1578 ¹	1620	1620	1620	1620	1620	1623	1623	1623	1621	1621	1621	1621
Less: Part-Time/Temps													
Cust Svc	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14	-14
Corporate Audit							-4	-4	-4	-2	-2	-2	-2
Technology	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
CorpCom													
WFSD		-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Total Part-Time/Temps	-15	-17	-17	-17	-17	-17	-21	-21	-21	-19	-19	-19	-19
Employee Count for Benefits	1563	1603	1603	1603	1603	1603	1602	1602	1602	1602	1602	1602	1602
13-month Average - 2009		1599											

¹ Number of employees at 12/31/08 per budget - See HECO-1503, Col G

² Excludes 5 DSM employees and 1 employee reduction to Safety, Security & Facilities department

Hawaiian Electric Co., Inc.
CALCULATION OF LONG TERM DISABILITY
2009

A. MERIT

1.	Average Monthly Salary for April 2008	\$6,547	
	5/1/2008 Adjustment (Jan '09 - Apr '09)	x 1.035	
		\$6,776	
	5/1/2009 Adjustment (May '09 - Dec '09)	x 1.045	
		\$7,081	
2.	2009 Covered Compensation Jan '09 - Apr '09 \$6,776 x 4 mos.	\$27,104	
	May '09 - Dec '09 \$7,081 x 8 mos.	\$56,648	
	Total Covered Compensation	\$83,752	
3.	Premium Calculation 48.42% x 1599 employees Total Covered Compensation for 2009	x 774	
		\$64,824,048	
	Premium Rate \$0.48 per \$100		\$311,155

B. BU

1.	Average BU Salary for April 2008	\$5,253	
	1/1/2009 Adjustment (Jan '09 - Dec '09)	x 1.04	
		\$5,463	
2.	2009 Covered Compensation Jan '09 - Dec '09 \$5,463 x 12 mos	\$65,556	
3.	Premium Calculation 51.58% x 1599 employees Total Covered Compensation for 2009	x 825	
		\$54,083,700	
	Premium Rate \$0.37 per \$100		\$200,110

C. Premiums

	MERIT A3	\$311,155	
	BU B3	\$200,110	
	Total Premiums	\$511,265	
	ASA Administrative Fees	\$3,012	
	Claims Annualized (incurred as of 2/2008)	\$30,000	
	Total Long Term Disability	\$544,277	

UTILITIES 2008 Active Premium Basis -- 5-Year Average

	2003	2004	2005	2006	2007	2008	5 Year
	Amount	Amount	Amount	Amount	Amount	Amount	Average
		% Change					
PPP							
Single	195.83	207.65	208.46	202.74	210.41	206.10	1.03%
Single Parent	387.13	405.67	417.76	407.41	422.22	417.03	1.50%
Couple	465.78	488.05	502.72	490.27	508.10	501.90	1.50%
Family	502.54	526.15	542.86	529.50	548.71	542.30	1.53%
HPH Plus							
Single	220.12	232.15	237.19	232.89	249.77	245.55	2.21%
Single Parent	418.68	437.50	456.20	449.17	482.46	477.20	2.65%
Couple	503.76	526.37	548.96	540.52	580.58	574.30	2.66%
Family	547.10	571.11	596.88	587.86	631.55	625.10	2.70%
Kaiser							
Single	234.14	286.96	249.01	258.07	253.31	247.78	1.14%
Single Parent	449.55	550.96	478.10	495.50	486.35	475.71	1.14%
Couple	540.86	662.88	575.22	596.14	585.15	572.34	1.14%
Family	590.03	723.14	627.51	650.34	638.34	624.37	1.14%
Vision							
Single	5.85	5.85	4.86	5.08	5.08	5.08	-2.78%
2-Party	11.70	11.70	9.71	10.15	10.15	10.15	-2.80%
Family	16.97	16.97	14.09	14.73	14.73	14.73	-2.79%

UTILITIES 2008 Active Premium Basis -- 5-Year Average

	2003	2004	2005	2006	2007	2008	5 Year
	Amount	Amount	Amount	Amount	Amount	Amount	Average
		% Change					
Maj:HDS							
Single	28.69	29.44	31.21	32.32	31.29	31.29	1.75%
Couple	57.37	58.86	62.39	64.63	62.56	62.56	1.75%
Family	82.11	84.24	89.29	92.48	89.52	89.52	1.74%
Group Life							
Basic	0.149	0.149	0.220	0.205	0.200	0.200	6.06%
Supplemental							
0-29	0.059	0.059	0.059	0.064	0.064	0.064	1.64%
30-34	0.066	0.066	0.066	0.072	0.072	0.072	1.76%
35-39	0.110	0.110	0.110	0.119	0.119	0.119	1.59%
40-44	0.146	0.146	0.146	0.159	0.159	0.159	1.72%
45-49	0.212	0.212	0.212	0.230	0.230	0.230	1.64%
50-54	0.372	0.372	0.372	0.404	0.404	0.404	1.66%
55-59	0.599	0.599	0.599	0.651	0.651	0.651	1.68%
60-64	1.013	1.013	1.013	1.100	1.100	1.100	1.66%
65 & +	1.899	1.899	1.899	2.062	2.062	2.062	1.66%
Dep Life							
\$10,000	2.230	2.230	2.230	2.230	2.230	2.230	0.00%
\$25,000	5.870	5.870	5.870	5.870	5.870	5.870	0.00%
AD&D							
Single	0.035	0.035	0.035	0.035	0.035	0.035	0.00%
Family	0.058	0.058	0.058	0.058	0.058	0.058	0.00%
LTD							
per \$100	0.42	0.42	0.42	0.38	0.37	0.37	-4.14% *
BU				0.53	0.48	0.48	-6.65% *
NBU							

* 3-yr average

Hawaiian Electric Company, Inc.

Training and Development Costs - Account no. 926000
(\$Thousands)

RA	Activity Program	Actual								Budget 2008	TY 2009	Notes	Ref: HECO-WP-1356
		2003	2004	2005	2006	2007	2008	2009	2010				
PF1/PFD 776/788	780 Voluntary Education Assistance	45.6	89.8	139.6	104.7	120.0	160.0	135.0			A	Attch 3	
	In-House Training	0.6	100.0	68.3	35.8	42.5	8.5	73.2			B	Attch 3	
PPI 786	Apprenticeship	0.2	9.9	16.2	5.2	3.1	44.0	16.4			C	Attch 6	
PFB 749/789	External Training (Comp & Benefits Div)	0.3	1.3	11.7	0.9	3.9	1.0	6.3			D	Attch 2, pg 1 (Code 1,2,3) pg 3 (Code 17)	
	Total	46.7	201.0	235.8	146.6	169.5	213.5	230.9					

Notes:

- A Cost varies based on number of employees involved in the program and cost of tuition and materials. Program temporarily suspended from May-Dec 2003 due to constraints on O&M expenses. 2008 reflects plans to promote VEA program and includes \$40,000 that should have been allocated to account 921 (activity 722) for membership to the Corporate Leadership Council.
- B Program curtailed in 2003, 2006, 2007 and 2008 due to constraints on O&M expenses. Escalated activity in 2004 and 2005. 2009 reflects assumption of normal training and development curriculum.
- C Cost varies based on number of current apprentices, which step they're in, and number of senior helpers to be indentured as apprentices. Training curtailed in 2003, 2006, 2007 and 2008 due to constraints on O&M expenses; 2005 includes expenses for positions subsequently moved to the Safety, Securities and Facilities Dept.
- D 2009 reflects plans to attend Oracle Users Group conference and training registration fees for 2 people to attend WorldAtWork.

Hawaiian Electric Co., Inc.
Projected FlexPlan & Premium Expense
2009

CREDITS		PRICES		Enrollment Participation % as of Jan-08	Projected Enrollment No.	Amount	CR - PR
Basic	\$2,591,915						
Life	\$465,437						
Total Credits	\$3,057,352						
778 PHE NE NPFZZZZ 900							
		PPP	Single	11.6%	185.5	\$303,537	
			S. Parent	2.5%	40.0	\$70,550	
			Couple	6.6%	105.5	\$207,523	
			Family	20.8%	332.6	\$706,363	
		HPH Plus	Single	10.6%	169.5	\$277,356	
			S. Parent	3.4%	54.4	\$95,949	
			Couple	7.0%	111.9	\$220,112	
			Family	19.6%	313.4	\$665,586	
		<i>SUBTOTAL HMSA</i>				\$2,546,976	
		Kaiser	Single	3.7%	59.2	\$96,870	
			S. Parent	0.7%	11.2	\$19,754	
			Couple	2.4%	38.4	\$75,534	
			Family	5.1%	81.5	\$173,086	
						\$365,244	
		Vision	Single	25.9%	414.1	\$27,331	
			Couple	16.0%	255.8	\$18,418	
			Family	52.1%	833.1	\$59,983	
						\$105,732	\$3,017,952
							778 PHE NE NPFZZZZ 900
		Major Care	Single	25.2%	402.9	\$39,742	
			Couple	17.3%	276.6	\$33,723	
			Family	54.5%	871.5	\$126,542	
		<i>SUBTOTAL DENTAL</i>				\$200,007	778 PHE NE NPFZZZZ 900
		Basic Life				\$395,268	
		Supplemental Life				\$454,164	
		<i>SUBTOTAL LIFE INSURANCE</i>				\$849,432	778 PHE NE NPFZZZZ 900
		Dependent Life				\$51,300	778 PHE NE NPFZZZZ 900
		AD&D				\$167,717	778 PHE NE NPFZZZZ 900
		Total Prices				\$4,286,408	
		Total Credits - Prices					(\$1,229,056)

Hawaiian Electric Co., Inc.
Life Credits
2009

			Merit	Exec	BU	Total
January	2008	Average Life Credit	\$354.72	\$120.00	\$223.44	
2009	Projected Premium Increase	0%	X 1	X 1	X 1	
	Salary/Wage Increase		<u>X 1.0350</u>	<u>X 1.0000</u>	<u>X 1.0350</u>	
2009	Projected Average Life Credit		\$367.14	\$120.00	\$231.26	
Projected Number of Employees *			<u>X 735</u>	<u>X 40</u>	<u>X 825</u>	
	2009 Life Credits		\$269,847.90	\$4,800.00	\$190,789.50	\$465,437

* does not total 1599 due to rounding

Hawaiian Electric Co., Inc.
Flex Plan Premiums & Prices
2009

Plan Options	Premium Per Month		Medical % Increase	FlexPlan Price per Pay Pd	
	2008 Medical	2009		2008	2009
Credits				67.54	67.54
PPP					
Single	206.10	211.25	2.500	68.18	68.18
Single Parent	417.03	427.46	2.500	73.49	73.49
Couple	501.90	514.45	2.500	81.96	81.96
Family	542.30	555.86	2.500	88.49	88.49
HPH Plus					
Single	245.55	251.69	2.500	68.18	68.18
Single Parent	477.20	489.13	2.500	73.49	73.49
Couple	574.30	588.66	2.500	81.96	81.96
Family	625.10	640.73	2.500	88.49	88.49
Kaiser					
Single	247.78	253.97	2.500	68.18	68.18
Single Parent	475.71	487.60	2.500	73.49	73.49
Couple	572.34	586.65	2.500	81.96	81.96
Family	624.37	639.98	2.500	88.49	88.49
Vision					
Single	5.08	5.08	0.000	2.75	2.75
Couple	10.15	10.15	0.000	3.00	3.00
Family	14.73	14.73	0.000	3.00	3.00
Major Care					
Single	31.29	31.84	1.750	4.11	4.11
Couple	62.56	63.65	1.750	5.08	5.08
Family	89.52	91.09	1.750	6.05	6.05

Note:

Medical prices based on employee contribution per 2007 Negotiations
No price increase for Vision and Dental

	Single	SingleParent	Couple	Family
Medical	68.18	73.49	81.96	88.49
Vision	2.75	3.00	3.00	3.00
Dental	4.11	6.05	5.08	6.05
Total Prices	75.04	82.54	90.04	97.54
Less Credits	67.54	67.54	67.54	67.54
Employee Cont.	7.50	15.00	22.50	30.00

Hawaiian Electric Co., Inc.
Calculation of Medical Expense
2009

PLAN	COVERAGE	1	2	3	4	5
		% OF PARTICIPATION 1/1/2008	PROJECTED PARTICIPATION 2009	2009 MONTHLY PREMIUM RATES	MONTHLY PREMIUM FOR 2009 PARTICIPATION (2 x 3)	2009 ANNUAL PREMIUM
PPP (HMSA)	Single	11.6%	185.5	\$211.25	\$39,187	\$470,244
	S. Parent	2.5%	40.0	\$427.46	\$17,098	\$205,176
	Couple	6.6%	105.5	\$514.45	\$54,274	\$651,288
	Family	20.8%	332.6	\$555.86	\$184,879	\$2,218,548
					<u>\$295,438</u>	<u>\$3,545,256</u>
HPH Plus (HMSA)	Single	10.6%	169.5	\$251.69	\$42,661	\$511,932
	S. Parent	3.4%	54.4	\$489.13	\$26,609	\$319,308
	Couple	7.0%	111.9	\$588.66	\$65,871	\$790,452
	Family	19.6%	313.4	\$640.73	\$200,805	\$2,409,660
					<u>\$335,946</u>	<u>\$4,031,352</u>
Kaiser	Single	3.7%	59.2	\$253.97	\$15,035	\$180,420
	S. Parent	0.7%	11.2	\$487.60	\$5,461	\$65,532
	Couple	2.4%	38.4	\$586.65	\$22,527	\$270,324
	Family	5.1%	81.5	\$639.98	\$52,158	\$625,896
					<u>\$95,181</u>	<u>\$1,142,172</u>
Waive		6.0%	95.9			
		<u>100.0%</u>	<u>1,599</u>		<u>\$726,565</u>	<u>\$8,718,780</u>

778 PHE NE NPFZZZZZ 509 **TOTAL HMSA \$7,576,608**

778 PHE NE NPFZZZZZ 509 **TOTAL Kaiser \$1,142,172**

Hawaiian Electric Co., Inc.
Calculation of Dental Expense
2009

PLAN	COVERAGE	1	2	3	4	5
		% OF PARTICIPATION 1/1/2008	PROJECTED PARTICIPATION 2009	2009 MONTHLY PREMIUM RATES	MONTHLY PREMIUM FOR 2009 PARTICIPATION (2 x 3)	2009 PROJECTED ANNUAL PREMIUM
Major Care (HDS)	Single	25.2%	402.9	\$31.84	\$12,828	\$153,936
	2 Party	17.3%	276.6	\$63.65	\$17,606	\$211,272
	Family	54.5%	871.5	\$91.09	\$79,385	\$952,620
					<u>\$109,819</u>	<u>\$1,317,828</u>
Waive		3.0%	48.0			
		<u>100.0%</u>	<u>1,599</u>		<u>\$109,819</u>	<u>\$1,317,828</u>

778 PHE NE NPFZZZZ 509

TOTAL

\$1,317,828

Hawaiian Electric Co., Inc.
Calculation of Vision Expense
2009

PLAN	COVERAGE	1	2	3	4	5
		% OF PARTICIPATION 1/1/2008	PROJECTED PARTICIPATION 2009	2009 MONTHLY PREMIUM RATES	MONTHLY PREMIUM FOR 2009 PARTICIPATION (2 x 3)	2009 PROJECTED ANNUAL PREMIUM
VISION (VSP)	Single	25.9%	414.1	\$5.08	\$2,104	\$25,248
	Couple	16.0%	255.8	\$10.15	\$2,596	\$31,152
	Family	52.1%	833.1	\$14.73	\$12,272	\$147,264
Waive		6.0%	96.0			
		100.0%	1,599		\$16,972	\$203,664

778 PHE NE NPFZZZZ 509

TOTAL

\$203,664

Hawaiian Electric Co., Inc.
Calculation of Group Life Insurance - Supplemental
2009

Total Coverage = 2-1/2 x annual comp

	<u>Basic Coverage</u>	<u>Supplemental Coverage*</u>
Merit	2 x annual comp	1/2 x annual comp
Exec	2 x annual comp	1/2 x annual comp
BU	1-1/2 x annual comp	1 x annual comp

	a	b	c	d	e	f	g	h
			2009			2009		
Supplemental Coverage*	Age	Monthly Rate Per \$1000	Average Annual Compensation	% of Participation 1/1/2008	2009 Projected Participation	Supplemental Coverage Amount (a x c x d)	Monthly Premium (b/\$1000 x f)	2009 Annual Premium (g x 12)
1/2 x annual comp								
MERIT	0-29	0.064	\$76,271	0.27%	4.3	\$163,983	\$10	\$120
	30-34	0.072	\$76,271	0.07%	1.1	\$41,949	\$3	\$36
	35-39	0.119	\$76,271	0.28%	4.5	\$171,610	\$20	\$240
	40-44	0.159	\$76,271	1.03%	16.5	\$629,236	\$100	\$1,200
	45-49	0.230	\$76,271	0.69%	11.0	\$419,491	\$96	\$1,152
	50-54	0.404	\$76,271	0.69%	11.0	\$419,491	\$169	\$2,028
	55-59	0.651	\$76,271	1.03%	16.5	\$629,236	\$410	\$4,920
	60-64	1.100	\$76,271	0.55%	8.8	\$335,592	\$369	\$4,428
	65+	2.062	\$76,271	0.07%	1.1	\$41,949	\$86	\$1,032
					74.8	\$2,852,537	\$1,263	\$15,156
EXEC	0-29	0.064	\$160,263	0.00%	0.0	\$0	\$0	\$0
	30-34	0.072	\$160,263	0.00%	0.0	\$0	\$0	\$0
	35-39	0.119	\$160,263	0.00%	0.0	\$0	\$0	\$0
	40-44	0.159	\$160,263	0.00%	0.0	\$0	\$0	\$0
	45-49	0.230	\$160,263	0.00%	0.0	\$0	\$0	\$0
	50-54	0.404	\$160,263	0.00%	0.0	\$0	\$0	\$0
	55-59	0.651	\$160,263	0.00%	0.0	\$0	\$0	\$0
	60-64	1.100	\$160,263	0.21%	3.4	\$272,447	\$300	\$3,600
	65+	2.062	\$160,263	0.00%	0.0	\$0	\$0	\$0
					3.4	\$272,447	\$300	\$3,600
1 x annual comp								
BU	0-29	0.064	\$63,969	0.69%	11.0	\$703,659	\$45	\$540
	30-34	0.072	\$63,969	0.41%	6.6	\$422,195	\$30	\$360
	35-39	0.119	\$63,969	0.27%	4.3	\$275,067	\$33	\$396
	40-44	0.159	\$63,969	0.83%	13.3	\$850,788	\$135	\$1,620
	45-49	0.230	\$63,969	0.55%	8.8	\$562,927	\$129	\$1,548
	50-54	0.404	\$63,969	0.96%	15.4	\$985,123	\$398	\$4,776
	55-59	0.651	\$63,969	0.28%	4.5	\$287,861	\$187	\$2,244
	60-64	1.100	\$63,969	0.21%	3.4	\$217,495	\$239	\$2,868
	65+	2.062	\$63,969	0.14%	2.2	\$140,732	\$290	\$3,480
					69.5	\$4,445,847	\$1,486	\$17,832
Total Supplemental Premium for 2-1/2 x annual comp coverage					148	\$7,570,831	\$3,049	\$36,588

Hawaiian Electric Co., Inc.
Calculation of Group Life Insurance - Supplemental
2009

Total Coverage = 3-1/2 x annual comp

	<u>Basic Coverage</u>	<u>Supplemental Coverage*</u>
Merit	2 x annual comp	1-1/2 x annual comp
Exec	2 x annual comp	1-1/2 x annual comp
BU	1-1/2 x annual comp	2 x annual comp

	a	b	c	d	e	f	g	h
			2009			2009		
Supplemental Coverage*	Age	Monthly Rate Per \$1000	Average Annual Compensation	% of Participation 1/1/2008	2009 Projected Participation	Supplemental Coverage Amount (a x c x d)	Monthly Premium (b/\$1000 x f)	2009 Annual Premium (g x 12)
1-1/2 x annual comp								
MERIT	0-29	0.064	\$76,271	0.21%	3.4	\$388,982	\$25	\$300
	30-34	0.072	\$76,271	0.55%	8.8	\$1,006,777	\$72	\$864
	35-39	0.119	\$76,271	2.13%	34.1	\$3,901,262	\$464	\$5,568
	40-44	0.159	\$76,271	3.99%	63.8	\$7,299,135	\$1,161	\$13,932
	45-49	0.230	\$76,271	5.37%	85.9	\$9,827,518	\$2,260	\$27,120
	50-54	0.404	\$76,271	4.06%	64.9	\$7,424,982	\$3,000	\$36,000
	55-59	0.651	\$76,271	2.76%	44.1	\$5,045,327	\$3,285	\$39,420
	60-64	1.100	\$76,271	0.90%	14.4	\$1,647,454	\$1,812	\$21,744
	65+	2.062	\$76,271	0.07%	1.1	\$125,847	\$259	\$3,108
					320.5	\$36,667,284	\$12,338	\$148,056
EXEC	0-29	0.064	\$160,263	0.00%	0.0	\$0	\$0	\$0
	30-34	0.072	\$160,263	0.00%	0.0	\$0	\$0	\$0
	35-39	0.119	\$160,263	0.00%	0.0	\$0	\$0	\$0
	40-44	0.159	\$160,263	0.07%	1.1	\$264,434	\$42	\$504
	45-49	0.230	\$160,263	0.14%	2.2	\$528,868	\$122	\$1,464
	50-54	0.404	\$160,263	0.27%	4.3	\$1,033,696	\$418	\$5,016
	55-59	0.651	\$160,263	0.14%	2.2	\$528,868	\$344	\$4,128
	60-64	1.100	\$160,263	0.00%	0.0	\$0	\$0	\$0
	65+	2.062	\$160,263	0.00%	0.0	\$0	\$0	\$0
					9.8	\$2,355,866	\$926	\$11,112
2 x annual comp								
BU	0-29	0.064	\$63,969	0.96%	15.4	\$1,970,245	\$126	\$1,512
	30-34	0.072	\$63,969	2.00%	32.0	\$4,094,016	\$295	\$3,540
	35-39	0.119	\$63,969	5.10%	81.5	\$10,426,947	\$1,241	\$14,892
	40-44	0.159	\$63,969	7.23%	115.6	\$14,789,633	\$2,352	\$28,224
	45-49	0.230	\$63,969	8.06%	128.9	\$16,491,208	\$3,793	\$45,516
	50-54	0.404	\$63,969	5.58%	89.2	\$11,412,070	\$4,610	\$55,320
	55-59	0.651	\$63,969	3.24%	51.8	\$6,627,188	\$4,314	\$51,768
	60-64	1.100	\$63,969	1.38%	22.1	\$2,827,430	\$3,110	\$37,320
	65+	2.062	\$63,969	0.40%	6.4	\$818,803	\$1,688	\$20,256
					542.9	\$69,457,540	\$21,529	\$258,348
Total Supplemental Premium for 3-1/2 x annual comp coverage					873	\$108,480,690	\$34,793	\$417,516
				BU	612	\$73,903,387	\$23,015	\$276,180
				MERIT	395	\$39,519,821	\$13,601	\$163,212
				EXEC	13	\$2,628,313	\$1,226	\$14,712
Total Supplemental Premium for 2-1/2 & 3-1/2 times annual comp coverage					1020	\$116,051,521	\$37,842	\$454,104

Hawaiian Electric Co., Inc.
Calculation of Group Life Insurance - Supplemental
for \$50,000 Coverage*
2009

	a	b	c	d	e	f	g	
	Monthly	2009	% of	2009	2009	Monthly	2009	
Age	Rate	Average	Participation	Projected	Supplemental	Premium	Annual	
	Per \$1000	Supplemental	1/1/2008	Participation	Coverage	(a/\$1000 x e)	Premium	
		Coverage			Amount		(f x 12)	
					(b x c)			
BU	0-29	0.064	\$4,140	0.07%	1.1	\$4,554	\$0	\$0
	30-34	0.072	\$4,140	0.00%	0.0	\$0	\$0	\$0
	35-39	0.119	\$4,140	0.00%	0.0	\$0	\$0	\$0
	40-44	0.159	\$4,140	0.00%	0.0	\$0	\$0	\$0
	45-49	0.230	\$4,140	0.00%	0.0	\$0	\$0	\$0
	50-54	0.404	\$4,140	0.07%	1.1	\$4,554	\$2	\$24
	55-59	0.651	\$4,140	0.07%	1.1	\$4,554	\$3	\$36
	60-64	1.100	\$4,140	0.00%	0.0	\$0	\$0	\$0
	65+	2.062	\$4,140	0.00%	0.0	\$0	\$0	\$0
					3.3	\$13,662	\$5	\$60
MERIT	0-29	0.064	\$0	0.00%	0.0	\$0	\$0	\$0
	30-34	0.072	\$0	0.00%	0.0	\$0	\$0	\$0
	35-39	0.119	\$0	0.00%	0.0	\$0	\$0	\$0
	40-44	0.159	\$0	0.00%	0.0	\$0	\$0	\$0
	45-49	0.230	\$0	0.00%	0.0	\$0	\$0	\$0
	50-54	0.404	\$0	0.00%	0.0	\$0	\$0	\$0
	55-59	0.651	\$0	0.00%	0.0	\$0	\$0	\$0
	60-64	1.100	\$0	0.00%	0.0	\$0	\$0	\$0
	65+	2.062	\$0	0.00%	0.0	\$0	\$0	\$0
					0.0	\$0	\$0	\$0
Total Supplement Premium for \$50,000 coverage					3	\$13,662	\$5	\$60

* Employees who elect \$50,000 coverage with a portion subject to supplemental rates

Hawaiian Electric Co., Inc.
**Calculation of Dependent Life Insurance
2009**

Plan	Participation as of Jan-08	No. of Emp Enrolled	Annual Rate	TOTAL
10K	6.60%	106	\$26.76	\$2,837
25K	43.00%	688	\$70.44	<u>\$48,463</u>
				\$51,300

778 PHE NE NPFZZZZZ 509 **\$51,300**

Hawaiian Electric Co., Inc.
Calculation of Accidental Death & Dismemberment
2009

	MERIT	BU	TOTAL
Average Single Coverage ¹	\$189,512	\$187,069	
Salary/Wage Adjustment ²	x 1.0350 <u> \$196,145</u>	x 1.0350 <u> \$193,616</u>	
Projected No. of Merit and BU Employees ³	x 774 <u> \$151,816,230</u>	x 825 <u> \$159,733,200</u>	
Average Merit plus BU Single Coverage			\$194,840
Participation Annual Single Rate			477 x 0.00042 <u> </u>
Single Coverage Premium			\$39,034
Average Family Coverage ¹	\$232,988	\$206,240	
Salary/Wage Adjustment ²	x 1.0350 <u> \$241,143</u>	x 1.0350 <u> \$213,458</u>	
Projected No. of Merit and BU Employees ³	x 774 <u> \$186,644,682</u>	x 825 <u> \$176,102,850</u>	
Average Merit plus BU Family Coverage			\$226,859
Participation Annual Family Rate			x 815 x 0.000696 <u> </u>
Family Coverage Premium			\$128,683
			TOTAL \$167,717
			 778 PHE NE NPFZZZZZ 509 \$167,717

Note:

¹ Average Single and Family Coverages Amounts based on 1/1/2008 Enrollment

² Salary/Wage cut-off for 1/1/2008 Enrollment is 10/1/2007; therefore, for 2009:

 Merit salary = 10/1/2007 salary + 5/1/2008 increase

 BU wage = 10/1/2007 wages + 11/1/2007 increase

³ No. of Merit Employees 48.42%

 No. of BU Employees 51.58%

HR SUITE PROJECT
TOTAL PROJECT (ALL YEARS) COST
By Cost Type, Phase & Stage

(Thousands ¹)

Capital Deferred Expense	Cost Type	Phase 1				Project Total
		Stage 1	Stage 2	Stage 3	Total	
Capital	Material	-	328	-	328	328
	Overhead	-	43	-	43	43
	Other	-	-	-	-	-
	Total	-	371	-	371	371
Deferred	Labor	-	665	-	665	665
	Overhead	-	422	-	422	422
	O/S Svc	-	3,147	-	3,147	3,147
	Other	-	1,070	-	1,070	1,070
	AFUDC	-	255	-	255	255
	Total	-	5,559	-	5,559	5,559
Expense - Not Reengineering	Labor	320	352	155	828	828
	Overhead	148	294	101	542	542
	O/S Svc	412	967	481	1,860	1,860
	Other	-	37	-	37	37
	AFUDC	-	-	-	-	-
	Total	880	1,650	737	3,267	3,267
Expense - Reengineering	Labor	-	134	-	134	134
	Overhead	-	92	-	92	92
	O/S Svc	-	39	-	39	39
	Total	-	265	-	265	265
Total	Total	880	7,845	737	9,462	9,462

1. The detail amounts are rounded which may cause differences in the totals.

Source: Interim Supplemental Report (May 21, 2008) - Amended
Dated June 27, 2008, Attachment 2, page 8

HR SUITE PROJECT
HECO's PORTION OF TOTAL (ALL YEARS) COST
By Cost Type, Phase & Stage

(Thousands ¹)

Capital Deferred Expense	Cost Type	Phase 1				Project Total
		Stage 1	Stage 2	Stage 3	Total	
Capital	Material	-	328	-	328	328
	Overhead	-	43	-	43	43
	Other	-	-	-	-	-
	Total	-	371	-	371	371
Deferred	Labor	-	386	-	386	386
	Overhead	-	226	-	226	226
	O/S Svc	-	2,097	-	2,097	2,097
	Other	-	704	-	704	704
	AFUDC	-	205	-	205	205
	Total	-	3,618	-	3,618	3,618
Expense - Not Reengineering	Labor	216	220	89	525	525
	Overhead	96	199	56	351	351
	O/S Svc	275	658	321	1,254	1,254
	Other	-	37	-	37	37
	AFUDC	-	-	-	-	-
	Total	587	1,114	466	2,167	2,167
Expense - Reengineering	Labor	-	77	-	77	77
	Overhead	-	53	-	53	53
	O/S Svc	-	25	-	25	25
	Total	-	155	-	155	155
Total	Total	587	5,258	466	6,311	6,311

1. The detail amounts are rounded which may cause differences in the totals.

Source: Interim Supplemental Report (May 21, 2008) - Amended
Dated June 27, 2008, Attachment 2, page 7

HR Suite Project
2009 Test Year

Expense
(\$ Thousands¹)

<u>Account</u>	<u>Labor/On Cost</u>	<u>Non-Labor</u>	<u>Total</u>
Expense			
920	47	0	47
921	24	0	24
926	241	441	682
Total	312	441	753

1. The detail amounts are rounded which may cause differences in the totals.

<u>Amortization²</u>			
921	0	201	201
Total	0	201	201

2. Based on estimated deferred costs as of April 2008 for \$6,386,042 amortized over 12 yrs

Hawaiian Electric Company, Inc.
Administrative and General Expenses - Employee Benefits
Breakdown of Administration Costs

RA	Act	Budget	Description	Reference
<u>Account No. 926000</u>				
PFB	776	306	Subscriptions/Publications	Attch 2, pg 1 (code 4)
	776	13,002	Office supplies/printing	Attch 2, pg 1 (code 5)
	779	344	Workshops	Attch 2, pg 2 (code 8)
		<u>13,652</u>	Total Comp & Benefits Dept.	
	776	3,614	CPP parking	Attch 2, pg 1 (code 6)
		3,075	Surveys	Attch 2, pg 1 (code 6)
		45,752	Consulting	Attch 2, pg 1 (code 6A)
		83,600	Consulting	Attch 2, pg 1 (code 6B)
	776	11,116	Pension system maintenance	Attch 2, pg 2 (code 8B)
	778	21,748	Legal	Attch 2, pg 1 (code 7)
P9P	779	172,900	HEI charges	HECO-1107
PEZ	778	4,633	IT chargeback	Attch 1
		<u>360,090</u>	Total account no. 926000	
<u>Account No. 926010</u>				
PFB	778	22,800	Fees - FSA administration	Attch 2, pg 7
		3,283	Consulting	Attch 2, pg 5 (code 18C)
		186,391	HR Suite - software maintenance	Attch 2, pg 8 (code 18B)
PEZ	778	47,184	IT chargeback	Attch 1
		<u>259,658</u>	Total account no. 926010	

TESTIMONY OF
BRUCE TAMASHIRO

DIRECTOR, CORPORATE AND PROPERTY ACCOUNTING
HAWAIIAN ELECTRIC COMPANY, INC.

Subjects: Miscellaneous Administrative and General Expenses
Research and Development Expenses
Depreciation Expense and Accumulated Depreciation

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1 of accounts, my testimony will explain the 2009 test year expenses for all R&D
2 activities in order to provide the complete scope of HECO's R&D programs in one
3 testimony. (These other accounts also include expenses other than R&D expenses,
4 and will be covered by the witness responsible for the associated block of accounts.)
5 The majority of the R&D expenses are in account 9302 which is in the A&G block
6 of accounts and account 549 which is in the production O&M block of accounts (see
7 the direct testimony of Mr. Dan Giovanni in HECO T-7). Adjustments to the 2009
8 test year R&D expenses that I discuss in my testimony, other than those R&D costs
9 included in account 9302, will be made in the testimony of the witness responsible
10 for that particular account (e.g., Mr. Giovanni's testimony at HECO T-7 for
11 production R&D expenses adjustments).

12 MISCELLANEOUS A&G EXPENSES

13 Q. What are the accounts and test year 2009 estimates for the miscellaneous A&G
14 expenses?

15 A. As shown in HECO-1401, the miscellaneous A&G accounts and the associated
16 estimates totaling \$8,027,000 for the test year 2009, are as follows:

17	<u>Acct No.</u>	<u>Description</u>	<u>TY 2009 Estimate</u>
18	928	Regulatory Commission Expenses	\$ 440,000
19	9301	Inst / Goodwill Advertising	36,000
20	9302	Miscellaneous General Expenses	3,857,000
21	931	Rent Expense	3,062,000
22	932	Maintenance of General Plant	<u>1,565,000</u>
23		TOTAL	<u>\$ 8,960,000</u>

24 HECO-1402 shows actual costs from 2004 through 2007, the 2008 forecasted costs
25 and 2009 test year estimated costs for these miscellaneous A&G accounts.

1 Q. What is the nature of the costs charged to these accounts?

2 A. These accounts capture a variety of costs which are necessary for Company
3 operations, but which are not reflected in other functional accounts. I will discuss
4 each account in detail below.

5 Account 928 – Regulatory Commission Expenses

6 Q. What is the Company's test year 2009 estimate for account 928 – regulatory
7 commission expenses?

8 A. The test year 2009 estimate for account 928 – regulatory commission expenses is
9 \$440,000 as shown in HECO-1403.

10 Q. What is included in account 928 - regulatory commission expenses?

11 A. Account 928 includes the amortization of external costs that the Company will incur
12 for this rate case, as shown in HECO-1403. External costs consist of outside
13 attorney fees, outside consultant fees, stenographer fees, printing costs and supplies.

14 Q. How was the test year 2009 estimate determined?

15 A. The Company estimated the external costs related to the rate case proceeding using
16 both actual and estimated costs of past rate cases. These costs, when incurred, are
17 accumulated in a deferred debit account and amortized to account 928. For the test
18 year 2009 estimate, the Company used an amortization period of two years.

19 Q. Why did the Company use an amortization period of two years?

20 A. As Mr. Robert Alm explains in HECO T-1, there are a number of interrelated
21 factors, such as flat sales, the success of demand-side management programs,
22 energy conservation, the high price of fuel oil, higher operations and maintenance
23 costs of an aging infrastructure and capital investment needs, that are putting
24 downward pressure on the Company's financial condition. Without sales growth in
25 times of rising costs, the only way for the Company to achieve a fair return on its

1 utility property is through regulatory rate relief. If the Company does not receive
2 approval of its proposed revenue step increase that would incorporate the entire
3 investment of the new generating unit (“CIP CT-1”) at Campbell Industrial Park in
4 rate base and include an appropriate level of associated O&M expenses in its
5 revenue requirement, it is a virtual certainty that the Company will file an
6 application for a general rate increase in the 2010 test year. Approval of the
7 Company’s proposal for a step increase would have a significant positive impact on
8 the Company’s financial condition and decrease the chances that it will have to file
9 a 2010 test year rate case. There will be certain substantial recovery needs in 2010,
10 including depreciation on the new CIP CT-1 (which is not included in the 2009 test
11 year) and the installation of the East Oahu Transmission System (“EOTP”). The
12 Company will have to assess the need for rate relief in the 2010 test year when the
13 Company’s financial picture for 2010 becomes more definite in 2009. To be
14 conservative, the Company is proposing in this rate case a two-year amortization
15 period for regulatory commission expenses which would be consistent with the
16 timing of the Company’s most recent rate cases. Specifically, the Company filed
17 general rate increase applications for test years 2005, 2007 and 2009.

18 Q. If the amortization period were one year, what would be HECO’s test year estimate
19 of regulatory commission expenses?

20 A. If the amortization period were one year, HECO’s test year estimate of regulatory
21 commission expenses would be \$880,000.

22 Q. Has the Company fully amortized its regulatory commission expenses from its 2007
23 test year rate case, Docket No. 2006-0386?

24 A. No. The Company has not fully amortized its regulatory commission expenses from
25 its 2007 test year rate case and is currently amortizing these expenses over a three-

1 year period as agreed in the Stipulated Settlement Letter, dated September 5, 2007,
2 which was accepted by the Hawaii Public Utilities Commission in Interim Decision
3 and Order No. 23749 issued on October 22, 2007.

4 Q. Are amortization expenses from the 2007 test year rate case included in the test year
5 2009 estimates?

6 A. No. In Decision and Order No. 12679 issued October 13, 1993 in East Honolulu
7 Community Services, Inc.'s general rate increase proceeding (Docket No. 7064),
8 the Commission ruled that unrecovered rate case expenses from past proceedings
9 may not be recovered in a subsequent rate case. Therefore, regulatory commission
10 expenses incurred for the 2007 test year rate case were not included in the test year
11 2009 estimates.

12 Q. Are internal costs related to this rate case included in account 928?

13 A. No. HECO's internal costs related to this rate case are not included in the test year
14 2009 estimates for account 928. Employees involved in rate case work charge their
15 labor and related non-labor costs to the various functional accounts that they
16 normally charge.

17 Account 9301 – Institutional or Goodwill Advertising

18 Q. What is the Company's test year 2009 estimate for account 9301 – institutional or
19 goodwill advertising?

20 A. The Company's test year 2009 estimate for account 9301 – institutional or goodwill
21 advertising is \$36,000, as shown in HECO-1401.

22 Q. What types of expenses are included in this account?

23 A. Account 9301 includes expenses related to general advertising for community
24 related events, such as the Christmas Electric Light Parade. Additionally, the

1 account includes costs to set up and take down Christmas decorations at the
2 Company's King Street building during the Christmas season.

3 Q. How was the test year estimate determined?

4 A. The test year amounts were determined by estimating the total costs for advertising
5 production, media air time and media buying services for community programs
6 expected to be supported in 2009 and by examining prior year recorded information
7 related to the Christmas decorations at the King Street building.

8 Q. How does the test year 2009 estimate compare with the amounts recorded in 2007?

9 A. The test year 2009 estimate is comparable to what was recorded in 2007 as shown in
10 HECO-1402.

11 Q. Has the Commission approved these types of expenses in past rate cases?

12 A. Yes. In Interim Decision and Order No. 23749, dated October 22, 2007, in Docket
13 No. 2006-0386, the Commission adopted, on an interim basis, the Parties'
14 Stipulated Settlement Letter which included these types of expenses. Also, the
15 Commission has approved these types of expenses in previous rate cases, including
16 the Company's 2005 test year rate case (Docket No. 04-0113, in Decision and Order
17 No. 24171, issued on May 1, 2008) and the Company's 1995 test year rate case
18 (Docket No. 7766, in Decision and Order No. 14412 issued on December 11, 1995).

19 Account 9302 – Miscellaneous General Expenses

20 Q. What is the Company's test year 2009 estimate for account 9302 – miscellaneous
21 general expenses?

22 A. The test year 2009 estimate for account 9302 – miscellaneous general expenses is
23 \$3,857,000. A summary of the costs is located on page 1 of HECO-1404.

1 Q. What types of costs are included in account 9302 – miscellaneous general expenses?

2 A. Account 9302 includes the costs for the Company's:

- 3 • research and development;
- 4 • development and demonstration of new technology;
- 5 • community service activities;
- 6 • Company memberships dues;
- 7 • Ellipse software maintenance fees; and
- 8 • Board of Directors' expenses.

9 I will discuss research and development and development and demonstration of new
10 technology costs in the research and development section of my testimony. The
11 remaining costs are discussed below.

12 Community Service Activities

13 Q. What is the Company's test year 2009 estimate for community service activities?

14 A. The test year 2009 estimate for community service activities is \$361,000, after a
15 downward issue simplification adjustment of \$7,000, a downward budget
16 adjustment for overstated hours of \$8,000 and a budget reclassification adjustment
17 of \$182,000, as shown on page 2 of HECO-1404.

18 Q. Why did the Company make the issue simplification adjustment?

19 A. To reduce the number of issues in this case, HECO has removed from its test year
20 2009 estimate the expense items that were disallowed by the Commission in Docket
21 Nos. 6531 and 6998, HECO's test year 1990 and 1992 rate cases, respectively. The
22 adjustment is for the cost items related to Aloha United Way ("AUW") and
23 Community Action Group ("CAG") activities.

1 Q. What is the budget adjustment for overstated hours related to?

2 A. The adjustment is to correct an overstatement of labor hours in the 2009 budget.
3 The calculation of the total overstatement is shown at note 2 on page 2 of
4 HECO-1404.

5 Q. What is the budget reclassification adjustment of \$182,000?

6 A. The \$182,000 represent two environmental monitoring programs which are part of
7 the community benefits package relating to HECO's 2009 Campbell Industrial Park
8 generating unit (Docket No. 05-0146), which were approved by the Commission in
9 Decision and Order No. 23514, issued June 27, 2007. Since these programs are
10 more representative of environmental compliance programs rather than community
11 service activities, the costs of these environmental monitoring programs are
12 reclassified to other production O&M expenses (account 506), discussed in Mr. Dan
13 Giovanni's testimony (HECO T-7).

14 Q. What types of costs are included in the community service activities test year 2009
15 estimate?

16 A. The test year 2009 estimate includes the costs incurred by HECO in support of
17 community services and activities. Specifically, HECO participates in education
18 programs such as summer internships, school repair and renovation projects, native
19 Hawaiian planting projects, school presentations, and presidential awards. HECO
20 also provides information and assistance to civic groups, businesses and the general
21 public. Examples of community information and activities include the Arbor Day,
22 McGruff programs and the Company's Corporate Sustainability Report.
23 Additionally, through the Company's Speakers' Bureau program, Company
24 employees make presentations to requesting organizations on various subjects

1 related to the electric utility business. Subject matters include energy management,
2 environmental concerns and electrical safety.

3 Q. How was the test year 2009 estimate determined?

4 A. The Company examined prior years' recorded information for recurring community
5 service activities as a basis for determining the test year estimate and estimates of
6 work scope for new community service activities.

7 Q. How does the test year 2009 estimate compare to the 2007 recorded amount?

8 A. The test year 2009 estimate is approximately \$86,000 greater than the 2007
9 recorded amount which is approximately \$275,000. The increase is attributable to
10 budgeted costs for the continued update, maintenance, printing and distribution of
11 the Company's Corporate Sustainability Report, which commenced in 2008 and
12 will continue to be an annual activity, offset by costs related to AUW and CAG
13 activities recorded in 2007 but excluded in the test year 2009 estimate.

14 Q. What is the Company's Corporate Sustainability Report?

15 A. The Company's 2007 Corporate Sustainability Report provides current information
16 on electricity generation, electricity usage and renewable energy in Hawaii. It
17 presents basic information on global warming and potential greenhouse gas
18 regulation and legislation. The report also provides information on the Company's
19 renewable energy efforts, energy efficiency and conservation, sustainability and
20 environmental stewardship and corporate giving. Copies of the booklet were
21 widely distributed to community leaders and elected officials, the State Greenhouse
22 Gas Task Force, Hawaii Energy Policy Forum, large customers, business
23 organizations and other key stakeholders. In keeping with our sustainability goals,
24 the report was printed on 100 percent post-consumer waste paper material certified
25 by the Rainforest Alliance and Forest Stewardship Council, the first such

1 certifications in Hawaii, and meeting American National Standards Institute
2 longevity requirements. A copy of the report can be downloaded from the
3 Company's website at www.heco.com.

4 Company Memberships Dues

5 Q. What is the test year 2009 estimate for Company membership expenses?

6 A. The test year 2009 estimate for Company membership expenses is \$263,000, as
7 shown on page 3 of HECO-1404, after a net downward issue simplification
8 adjustment of \$118,000, as shown on page 4 of HECO-1404.

9 Q. Why was the issue simplification adjustment made?

10 A. The Company removed from its test year estimate the estimated portion of the
11 Edison Electric Institute ("EEI") dues that relate to government lobbying, as well as
12 legislative advocacy and research, advertising, marketing and public relations. In
13 Interim Decision and Order No. 23749, dated October 22, 2007, in Docket No.
14 2006-0386, the Commission adopted, on an interim basis, the Parties' Stipulated
15 Settlement Letter which excluded the costs of these activities embedded in the
16 Company's EEI dues.

17 Q. How was the simplification adjustment calculated?

18 A. As shown on Notes (2) and (3) on page 4 of HECO-1404, estimated membership
19 dues related to EEI lobbying are based on a percentage provided by EEI on the
20 Company's EEI membership dues invoice, while the estimated membership dues
21 related to legislative advocacy and other types of excluded activities are based on
22 EEI's actual 2006 Schedule of Expenses by NARUC Category, which was
23 confirmed by EEI as comparable to 2007. A copy of EEI's actual 2006 Schedule of
24 Expenses by NARUC Category is included as HECO T-13 Attachment 1 of the
25 Stipulated Settlement Letter, dated September 5, 2007, between HECO, the Division

1 of Consumer Advocacy and the Department of Defense in HECO's 2007 Test Year
2 Rate Case (Docket No. 2006-0386).

3 Q. What costs are included in the Company's membership expenses?

4 A. The Company's membership expenses include the costs of Company memberships
5 in industrial, service, trade and technical organizations. As shown on page 3 of
6 HECO-1404, the largest cost item is \$180,000 (after the budget simplification
7 adjustment) for the Company's membership in EEI, the industry's trade
8 organization. The remaining test year estimate amount of \$83,000 represents the
9 cost of Company memberships in professional and other types of organizations
10 whose activities relate to the functions performed by Company employees.

11 Q. How did the Company estimate the test year 2009 EEI dues?

12 A. The amount of EEI dues is based on actual 2008 invoice information. In accordance
13 with the Commission's previous rate decisions, the amount was then adjusted to
14 exclude the portion of the dues estimated to be in support of government lobbying,
15 legislative advocacy and research, advertising, marketing and public relations. The
16 EEI dues calculation is shown on page 4 of HECO-1404.

17 Q. How do HECO and its customers benefit from HECO's membership in EEI?

18 A. Some of the more significant benefits are as follows:

- 19 1) EEI membership provides an ongoing forum through which Company
20 personnel share information with their counterparts at other electric utility
21 companies. Among other things, this exchange of information and ideas helps
22 the Company find better overall solutions to its problems at lower costs than
23 would otherwise be the case; and
- 24 2) The many ongoing EEI services provide information that helps member
25 companies save costs. For example, there are reports on electrical system and

1 equipment failures which alert companies to potential problems with
2 particular equipment.

3 EEI serves as a liaison between the industry and the federal government, which
4 allows the Company to indirectly voice its opinion on matters it would probably not
5 otherwise have a chance to address.

6 Q. How was the cost of Company memberships in professional and other types of
7 organizations determined?

8 A. The Company examined prior years' recorded information as a basis for
9 determining the test year estimate.

10 Q. How does the test year 2009 estimate compare to the 2007 recorded amount?

11 A. The test year 2009 estimate is approximately \$72,000 less than the 2007 recorded
12 amount. The decrease is primarily attributable to costs related to EEI lobbying
13 activities recorded in 2007 but excluded in the test year 2009 estimates, offset by
14 higher costs of existing membership dues.

15 Ellipse Software Maintenance Fees

16 Q. What is HECO's test year 2009 estimate of the Ellipse software maintenance fee?

17 A. HECO's test year 2009 estimate of the Ellipse software maintenance fee allocable to
18 Account 9302 is \$117,000 as shown on page 6 of HECO-1404. HECO's share of
19 the Ellipse software maintenance fee is \$205,000. (See HECO-1404, page 5).

20 Q. What costs are included in HECO's test year 2009 estimate of the Ellipse software
21 maintenance fee?

22 A. The test year 2009 estimate of the Ellipse software maintenance fee includes two
23 components:

24 1) Annual Ellipse software (Company's core business software) maintenance
25 fees; and

1 2) Annual BSI software (Company's payroll tax software) maintenance fees.

2 Q. How were the estimates computed?

3 A. First, HECO calculated total Ellipse and BSI software maintenance fees (\$293,000),
4 based on actual 2007-2008 Ellipse and BSI software maintenance fee invoices, with
5 an escalation factor applied to the costs, as shown on page 5 of HECO-1404.
6 Second, the total estimated fees were allocated to HECO, HELCO and MECO,
7 based on the proportionate number of users at each respective Company, as shown
8 on page 5 at HECO-1404. Third, HECO's share of the software maintenance
9 expense (\$205,000) was then allocated to A&G (accounts 921 and 9302),
10 transmission, distribution and production expense accounts, as shown on page 6,
11 HECO-1404.

12 Q. How does the test year 2009 estimate compare to the 2007 recorded amount?

13 A. The test year 2009 estimate is approximately \$120,000 less than the 2007 recorded
14 amount. The decrease is primarily attributable to 2007 recorded costs reflecting the
15 following: 1) the amortization of a buy-down fee paid to the Company's Ellipse
16 software vendor amounting to approximately \$34,000 that was allocated to NARUC
17 account 9302; and 2) \$68,000 of costs associated with the Company's UNIX
18 migration project (which is anticipated to be completed in 2008).

19 Board of Directors' Fees

20 Q. What is the Company's test year 2009 estimate of Board of Directors' ("BOD")
21 expenses?

22 A. The Company's 2009 estimate of BOD expenses is \$514,000, as shown on page 1
23 of HECO-1404, after downward budget adjustments of \$104,000 to revise
24 intercompany BOD expenses and \$3,000 to exclude restricted stock expenses.

1 Q. Why were the budget adjustments made?

2 A. The \$104,000 budget adjustment was made to decrease the Company's
3 intercompany charges from HEI (HEI labor and supplies), that are directly related
4 to HECO's BOD, based on a revised intercompany BOD estimate. The \$3,000
5 budget adjustment was made to exclude restricted stock expenses to reduce the
6 number of issues in this proceeding. The Company has not waived its right to seek
7 recovery of this cost in future rate cases.

8 Q. What types of BOD expenses are included in the test year 2009 estimate?

9 A. Included in this amount are the costs of HECO BOD and investor relations
10 activities. These costs primarily include: 1) \$381,000 of Directors' fees; 2) \$60,000
11 of miscellaneous expenses including travel; and 3) \$64,000 of HEI charges related
12 to HECO BOD, after a downward budget adjustment of \$104,000 mentioned above.

13 Q. How was the test year 2009 BOD expenses estimate determined?

14 A. The Directors' fees are based on the current 2007 methodology of determining
15 Directors' compensation, which is a combination of a cash retainer and stock award
16 for each BOD member, including Audit Committee members. Other BOD
17 expenses were determined based on 2007 actual expenses such as traveling
18 expenses. HEI intercompany BOD charges were based on actual 2007 labor and
19 nonlabor expenses incurred by HEI.

20 Q. How does the test year 2009 BOD expenses estimate compare with the amounts
21 recorded in 2007?

22 A. The test year 2009 estimate is approximately \$37,000 less than the \$551,000 of
23 BOD expenses that was recorded in 2007.

24 Account 931 – Rent Expense

25 Q. What is the Company's test year 2009 estimate for account 931 – rent expense?

1 A. The test year 2009 estimate for account 931 – rent expense is \$3,062,000, as shown
2 on page 1 of HECO-1405, which includes a budget increase of \$36,000.
3 Explanations of the amounts included in the budget adjustment are found on page 2
4 of HECO-1405.

5 Q. What is included in the Company’s test year 2009 estimate for account 931?

6 A. Account 931 includes the lease rental expense for office space in Central Pacific
7 Plaza (“CPP”), the King Street building, Pauahi Tower, Waterhouse Building and
8 Honolulu Club, and related common area maintenance expenses, general excise
9 taxes and the annual real property tax credits, where applicable. Additionally, it
10 includes the lease rental expense for the Waiiau Viaduct space and an allocated
11 usage cost for the ASB Training Rooms.

12 The breakdown for the 2009 test year estimate for account 931 is summarized
13 below and is also shown in HECO-1405.

<u>Existing Leases</u>	<u>\$ in Thousands</u>
Central Pacific Plaza	\$ 1,395
King Street Gross Rent	818
Pauahi Tower 5 th Floor	475
Waterhouse Building	174
Honolulu Club	92
ASB Tower Training Rooms	76
Waiiau Viaduct	<u>32</u>
TOTAL	<u>\$ 3,062</u>

23 Q. How did HECO determine the 2009 test year estimate for rent expense?

24 A. The 2009 test year estimate was prepared based on existing and estimated renewed
25 lease rates for office space in CPP, the King Street office building, Pauahi Tower,

1 Waterhouse Building, and Honolulu Club, as well as the lease for the Waiiau
2 Viaduct space. The ASB Tower Training Room allocated usage cost was derived
3 from HEI's allocation calculation.

4 Q. How does the test year 2009 estimate compare with the 2007 recorded amount?

5 A. The test year 2009 estimate is approximately \$51,000 higher than the 2007 recorded
6 amount primarily due to base rent increases in most of its existing and estimated
7 renewed leases, and partially offset primarily by the ASB Tower 8th floor
8 (terminated in June 2007) and South Street Parking Lot (discontinued use in
9 September 2007) leases which the Company excluded from the test year. HECO
10 employees who were previously located on the ASB Tower 8th floor were relocated
11 to the 4th floor of the King Street office building (see Note (2) of Attachment 1 of
12 HECO's response to CA-IR-299 of the 2007 test year rate case, Docket No. 2006-
13 0386) and employees who parked at the South Street parking lot were relocated to
14 the Ward facility.

15 Account 932 - Maintenance of General Plant

16 Q. What is the Company's test year 2009 estimate for account 932 - maintenance of
17 general plant?

18 A. The test year 2009 estimate for account 932 - maintenance of general plant is
19 \$1,565,000, which includes upward budget reclassification adjustments of \$88,000
20 related to recurring maintenance work and \$1,072,000 related to non-recurring
21 maintenance work, and a downward normalization adjustment of \$188,000, as
22 shown on HECO-1412.

23 Q. What is the purpose of the budget reclassification adjustments?

24 A. The \$88,000 budget reclassification adjustment represents budgeted labor and
25 nonlabor costs of structural maintenance and repair work on the Company's assets

1 (e.g., King Street office building) that should be recorded to NARUC account 932.
2 However, these expenses were budgeted to NARUC account 920 (A&G expense –
3 labor) and account 921 (A&G expense – nonlabor). Similarly, the \$1,072,000
4 budget reclassification adjustment represents budgeted labor and nonlabor costs of
5 non-recurring maintenance projects related to the Ward parking facility’s ramp that
6 should be recorded to NARUC account 932. These costs were also originally
7 budgeted to NARUC account 920 and 921. See corresponding budget
8 reclassification adjustments in the direct testimony of Ms. Patsy Nanbu (HECO
9 T-11).

10 Q. Why did the Company make the normalization adjustment?

11 A. The normalization adjustment was intended to make the test year estimates of non-
12 recurring maintenance projects more representative of the average non-recurring
13 maintenance projects incurred or expected to be incurred in 2008, 2009 and 2010.
14 The normalization adjustment was made by averaging the non-recurring projects in
15 these years.

16 Q. What types of costs are included in this account?

17 A. Account 932 includes the costs of maintaining property primarily assigned to the
18 customer accounts, customer services, and administrative and general functions of
19 the Company. Examples of such costs include structural maintenance and repairs to
20 the Company’s Ward Avenue employee parking structure, King Street office
21 building, rearranging and changing the location of office furniture and equipment,
22 air conditioning maintenance and repairs, and maintenance contracts on office
23 equipment.

1 Q. How was the test year estimate determined?

2 A. The Company determined the routine, ongoing costs incurred in the past to maintain
3 the general plant items and included an average cost of on-going and budgeted non-
4 recurring maintenance projects.

5 Q. What is the variance in account 932 costs between 2007 recorded and the test year
6 2009?

7 A. The variance between 2007 recorded costs and the test year 2009 estimate in
8 account 932 is an increase of \$694,000, after certain revisions are made to the 2007
9 recorded costs, calculated as follows:

	<u>\$ in Thousands</u>
10	
11	2007 Recorded per HECO-1402 \$ 454
12	Add: air conditioning repair work adjustment 90
13	Add: Ward parking structure roof level repairs adj <u>327</u>
14	Revised 2007 Recorded 871
15	Variance <u>694</u>
16	Test Year 2009 Account 932 <u>\$ 1,565</u>

17 Q. What is the purpose of the adjustments to the 2007 recorded costs?

18 A. The adjustments relate to work which should have been captured in NARUC
19 account 932. Although properly expensed, the costs were captured in NARUC
20 account 921 (A&G expense – nonlabor). The adjustments related to general
21 recurring repair and maintenance work on the Company’s air conditioning system
22 and nonrecurring repair work on the Company’s Ward parking structure. For
23 comparative purposes only, these costs were added to account 932’s 2007 recorded
24 amounts. Similarly, these costs were removed from account 921’s 2007 recorded
25 amounts for comparative purposes at Ms. Patsy Nanbu’s testimony (HECO T-11).

1 Q. What is the increase from the revised 2007 recorded amount to the test year 2009
2 estimate attributed to?

3 A. The increase from the revised 2007 recorded amount to the test year 2009 estimate
4 is primarily the result of 1) an increase of approximately \$559,000 of non-recurring
5 maintenance projects; and 2) an increase of approximately \$135,000 of recurring
6 maintenance work. The \$559,000 increase in non-recurring maintenance work is
7 primarily attributable to three projects related to repair work on the Company's
8 Ward parking structure ramp (repairs to the ramp walls amounting to \$626,000,
9 repairs to the Ewa end of the ramp amounting to \$444,000 and repairs to the
10 Diamond Head end of the ramp amounting to \$628,000). These three ramp projects
11 account for \$1,698,000 or 64% of the total normalized non-recurring maintenance
12 expense estimate: The \$135,000 increase in recurring maintenance work is mostly
13 related to air conditioning repair work, primarily at the King Street office building
14 scheduled for 2009.

15 RESEARCH AND DEVELOPMENT

16 Q. What are the accounts and test year 2009 estimates for the Company's Research and
17 Development ("R&D") expenses?

18 A. As shown on page 1 of HECO-1406, the accounts and test year 2009 estimates for
19 the Company's R&D expenses are as follows:

<u>Acct No.</u>	<u>Description</u>	<u>TY 2009 Estimate</u>
20 9302	Miscellaneous General Expenses	\$ 2,603,000
21 549	Miscellaneous Expenses – Other Production	899,000
22 Various	Various Operation and A&G Expenses	<u>31,000</u>
23	TOTAL	<u>\$ 3,533,000</u>

1 HECO-1406, page 2, shows actual costs from 2004 through 2007, the 2008
2 forecasted costs and 2009 test year estimated costs for R&D expenses.

3 Q. Were there any budget adjustments made to the test year estimates?

4 A. Yes. A \$49,000 budget adjustment was made to increase HECO's portion of the
5 EPRI dues allocation and a \$26,000 budget reclassification adjustment was made to
6 reclassify certain R&D expenses from account 549 to 9302. These adjustments are
7 discussed in detail later in this testimony.

8 Q. What is the nature of the costs charged to these accounts?

9 A. In general, the nature of the costs charged to these accounts relate to R&D activities
10 (e.g., evaluation and implementation of new technologies related to electric utility
11 operations, renewable energy, alternate energy, and emerging technologies) which
12 enable the Company to achieve its objectives of increasing renewable energy and
13 implementing advanced technologies.

14 Q. What is the primary difference between R&D costs charged to account 9302
15 (miscellaneous general expenses) versus R&D costs charged to account 549
16 (miscellaneous expenses – other production) and other various operation and A&G
17 expense accounts?

18 A. The R&D work efforts in account 9302 versus account 549 and others are different
19 and non-duplicative and reflect different perspectives and/or approaches in
20 achieving the Company's objectives. In general, R&D activities charged to account
21 9302 generally focus on the Company's long-term R&D opportunities in the areas
22 of advanced technologies, wind integration, customer service and policy issues.
23 Account 9302 also includes the Company's dues for membership in the Electric
24 Power Research Institute ("EPRI"). The long-term R&D activities would include,
25 but would not be limited to, hydrogen energy, fuel cells, advanced energy storage

1 systems, advanced metering, and other emerging technologies that could have a
2 place in Hawaii's energy mix in the future. Account 9302 also includes renewable
3 energy activities which address evolving state and federal energy policies. Some of
4 the state and federal energy policies are renewable portfolio standards, net energy
5 metering, system benefit charges, protecting the environment, reducing customer
6 rates, energy security, carbon emissions, energy credit trading, tax credits, and other
7 energy policies. The Company is taking steps to be even more proactive in the
8 renewable energy field by looking at the next steps and technologies that will help
9 increase renewable energy on Oahu. Flexibility in the use of these R&D funds is
10 essential as laws, regulations, and policies evolve and change over time, and as a
11 result, projects and their priorities are adjusted accordingly to address and meet
12 these changes. As a result, the costs recorded to this A&G account reflects the wide
13 range of research initiatives that the Company undertakes to address these changes.

14 In contrast, R&D activities charged to account 549 and various other
15 operation and A&G accounts generally focus on the Company's near-term R&D
16 opportunities which can be directly attributable to the production NARUC account.
17 These activities concentrate on areas where R&D results will have impact on the
18 technology or project that could be implemented by the Company in the near-term.
19 These activities would include, but would not be limited to, technology research,
20 development and demonstration, feasibility studies, resource data collection, land
21 availability studies, collection and evaluation of information on technology
22 performance, cost, operations, emissions, and other investigations. As is the case
23 with R&D funds in account 9302, the Company requires flexibility in account 549
24 to direct research expenditures to renewable energy projects and initiatives as the
25 need arises.

1 Q. Is the manner in which current R&D costs are charged to account 9302 versus
2 account 549 and other various operation and A&G accounts in accordance with
3 NARUC's Uniform System of Accounts?

4 A. Yes. Under NARUC account 9302, R&D costs not charged to O&M expense
5 accounts on a functional basis, should be charged to miscellaneous general
6 expenses. As previously mentioned, R&D activities charged to account 9302 focus
7 on the Company's long-term R&D opportunities (primarily advanced technologies,
8 customer service and policy issues which cannot be directly attributable to
9 particular functional O&M expense accounts at this time), and the costs of the
10 Company's membership in EPRI. Although it is not always clear to what account a
11 particular R&D project should be assigned, the Company makes its best effort to
12 ensure costs are recorded properly.

13 Q How do HECO's customers benefit from the R&D activities?

14 A. HECO's customers benefit from the Company's R&D activities in many different
15 ways. For example, R&D initiatives have been undertaken to explore technology
16 that could provide customer load profile information, which would be used to
17 increase customer offerings, improve customer services and plan and implement
18 conservation and education programs. Also, customers benefit from R&D
19 initiatives that deal with studies and technologies intended to provide a more
20 efficient, reliable and environmentally-sound electrical system.

21 In addition, all of the residents of Hawaii can benefit from the Company's
22 R&D activities that address global warming and the protection of Hawaii's island
23 ecology while continuing to provide reliable power to customers. There is strong
24 public interest to increase renewable energy development in Hawaii, as evidenced
25 by the actions of the State Legislature to amend the renewable portfolio standards

1 law in 2004 and 2006, and the recent Hawaii Clean Energy Initiative (“HCEI”)
2 announcement by the Governor to partner with the U.S. Department of Energy
3 (“USDOE”) to move Hawaii to 70% renewable energy by 2030. Therefore, the
4 Company plans to continue to fund R&D activities that further develop renewable
5 energy in Hawaii.

6 Account 9302 – Miscellaneous General R&D Expenses

7 Q. What is the Company’s test year 2009 estimate of R&D expenses for account 9302
8 (miscellaneous general expenses)?

9 A. As shown in HECO-1404, the Company’s test year 2009 estimate of R&D expenses
10 in account 9302 (miscellaneous general expenses) total \$2,603,000, and is detailed
11 as follows:

<u>Account 9302 R&D Activities</u>	<u>TY 2009 Estimate</u>
EPRI Dues	\$ 1,657,000
Develop & Demonstrate New Technology	424,000
Other Long-Term R&D Strategies	<u>522,000</u>
TOTAL	<u>\$ 2,603,000</u>

17 Q. How does the test year 2009 estimate compare with the 2007 recorded amount?

18 A. The total R&D costs currently estimated in account 9302 for the 2009 test year is
19 approximately \$105,000 greater than the 2007 recorded amount of approximately
20 \$2,498,000. Approximately \$49,000 of the variance is due to an increase in
21 HECO’s allocation of total EPRI dues. The remaining difference is primarily due to
22 new projects and studies budgeted in 2009 (e.g., Oahu Electric System Analysis and
23 U.S. Department of Energy modernization study) and increases in costs of existing
24 projects and studies from actual 2007 (e.g., Advanced Metering Infrastructure
25 (“AMI”)), offset by the termination of costs for 2007 projects and studies completed

1 prior to 2009 (e.g., Broadband over Power Lines decommissioning effort, biofuel
2 feedstock policy, critical peak pricing project, grid code study) and decreases in
3 budgeted costs of existing projects and studies compared to actual 2007 costs (e.g.,
4 Maui Electric System Analysis).

5 Q. In the Company's 2007 test year rate case, did the Company make a commitment to
6 a certain minimum level of R&D spending?

7 A. Yes. In Exhibit 1, page 16 of the Stipulated Settlement Letter, dated September 5,
8 2007, which was accepted by the Hawaii Public Utilities Commission for purposes
9 of the Interim Decision and Order No. 23749 issued on October 22, 2007, the
10 Company agreed to spend at least \$2,464,000 on a recurring annual basis
11 (\$1,608,000 for EPRI dues and \$856,000 for non-EPRI R&D) under miscellaneous
12 general R&D expenses. The Company spent approximately \$34,000 more in 2007
13 than what was agreed to in the stipulation.

14 EPRI membership dues

15 Q. What is the Company's test year 2009 estimate of EPRI membership dues?

16 A. The Company's test year 2009 estimate of EPRI membership dues is \$1,657,000,
17 after a budget increase of \$49,000, as shown on HECO-1406.

18 Q. How was the test year 2009 estimate for the EPRI membership dues determined?

19 A. The 2009 EPRI membership dues are based on a multi-year membership agreement
20 between HECO and EPRI. HECO will be in the third year of its five-year
21 agreement with EPRI which expires on December 31, 2011. EPRI membership
22 dues are allocated among HECO, HELCO and MECO based on each Company's
23 total R&D estimate in their most recent respective rate cases, as a percentage of the
24 total Company-wide R&D estimate. The \$49,000 budget adjustment is due to the
25 Company updating the R&D estimates used in the allocation calculation.

1 Q. How do HECO and its customers benefit from the Company's membership in
2 EPRI?

3 A. The primary benefit for both HECO and its customers results from HECO's access
4 to EPRI information, including computer software, presentations by EPRI personnel
5 and technical experts, technical meetings, conferences, workshops, webcasts,
6 electronic mail or telephone inquiries with EPRI personnel. EPRI spends millions
7 of dollars each year on research that would otherwise be far beyond the capability of
8 any one utility to finance and administer. HECO is also able to leverage local R&D
9 funds with EPRI cost sharing funds to conduct research, development and
10 demonstration projects and studies related to HECO projects, thus addressing
11 specific needs of HECO.

12 Q. What are some of the specific benefits enjoyed by HECO from its membership in
13 EPRI?

14 A. HECO has obtained direct benefits through EPRI's participation in HECO-related
15 projects, seminars and presentations both here in Hawaii and in other states. HECO
16 is able to tap the expertise of EPRI researchers in a wide variety of technical areas
17 that provide useful information directly to HECO. In addition, HECO's
18 participation in EPRI-sponsored meetings on the mainland allows HECO's staff and
19 executives to meet and interact with their mainland peers. The development of
20 these personal relationships is used to facilitate the exchange of information with
21 other utilities facing similar issues.

22 In recent years, for example, EPRI funds have been directed towards
23 HECO-specific projects to optimize power plant maintenance techniques,
24 implement predictive maintenance tools and procedures, equipment evaluation and
25 techniques to enhance the transmission and delivery of electrical energy, assess

1 power quality technologies that might impact our customers, investigate
2 environmental mitigation strategies for generation equipment, and develop
3 methodologies and systems to assess the impact of intermittent generation
4 technologies on the utility grid. EPRI funds have also been used to evaluate and/or
5 demonstrate alternative energy technologies such as microturbines, broadband over
6 power lines, combined heat and power, photovoltaics, solar thermal energy, in-line
7 hydroelectric systems, biofuels, and wave energy devices. Additionally, EPRI
8 personnel have made presentations to HECO on topics such as plant maintenance,
9 climate change, biofuels, advanced photovoltaics, and power quality.

10 Apart from the R&D context, HECO is participating in studies being
11 conducted by EPRI regarding compliance with regulations governing cooling water
12 intake structures at certain existing power producing facilities under section 316(b)
13 of the Clean Water Act. These studies are discussed in more detail in the testimony
14 of Mr. Dan Giovanni, HECO T-7.

15 Q. What is the value of research conducted by EPRI?

16 A. Typically, the cost to non-EPRI members for reports on results of EPRI research
17 range anywhere from thousands to tens of thousands of dollars per report. EPRI
18 produces hundreds of reports, technical papers, and other products each year. A
19 license to non-EPRI members for EPRI software can cost tens of thousands of
20 dollars. An EPRI member company pays no additional fees for EPRI reports or
21 rights to software if the member subscribes to the associated program under its
22 membership. Some examples of recent EPRI technical reports received at no
23 additional cost under this current membership are related to material energy
24 management, transmission discharge measurements, need for control of degradation
25 of buried pipes, dissimilar metal pipe welding evaluation, and combustion turbine

1 experience. In addition, EPRI funds for HECO-related projects have directly
2 benefited the Company by increasing its knowledge base and experience in
3 advanced technologies.

4 Q. Please summarize the benefits derived from HECO's membership in EPRI.

5 A. HECO has been able to greatly maximize its R&D dollars through its membership
6 in EPRI. As an EPRI member, HECO is eligible to receive results of R&D funded
7 by other EPRI members. These results would not be available to HECO without a
8 membership in EPRI.

9 Develop and Demonstrate New Technology

10 Q. What is the Company's test year 2009 estimate for R&D to develop and
11 demonstrate new technology?

12 A. The test year 2009 estimate for R&D to develop and demonstrate new technology is
13 \$424,000. Advanced metering infrastructure ("AMI") is a component of an on-
14 going R&D project, which makes up approximately \$414,000 of the Company's test
15 year estimate, while other miscellaneous R&D-related activities to develop and
16 demonstrate new technology make up the remaining test year 2009 balance.

17 Q. What types of expenses are included in the Company's test year estimate for
18 developing and demonstrating new technology?

19 A. In general, included are expenses to recommend, implement, demonstrate, monitor
20 and evaluate new technologies. The test year 2009 estimate for the R&D project
21 primarily includes vendor and consultant fees amounting to \$291,000 and lease
22 rents amounting to \$123,000. The lease rents are the operation and maintenance
23 monthly fees for the fixed-radio AMI network used in the R&D project.

24 Q. How was the test year estimate determined?

25 A. The Company based its vendor and consultant fee estimates on prior vendor

1 proposals and cost budget estimates of the scope of work for existing consulting
2 services in the test year. The lease rent estimates are based on unit pricing of four
3 Tower Gateway Base Stations (“TGBs”) in the test year. The lease price per TGB is
4 based on the Sensus Pilot AMI Program agreement filed as HECO T-13, Attachment
5 1 (CONFIDENTIAL) of the Company’s response to CA-IR-182 of the 2007 test
6 year rate case (Docket No. 2006-0386).

7 Q. What is the Company’s R&D study?

8 A. The Company’s R&D study is described in detail in HECO T-13, pages 12-15, of
9 the Company’s 2007 test year rate case (Docket No. 2006-0386). In summary, the
10 R&D study is the next step in the Company’s 2005 R&D study, “New
11 Communications Technology for Advanced Meter and Customer Detection Outage
12 Study” which was completed in 2006. The R&D study is a gated process of
13 development and demonstration, intended to address the AMI project objectives
14 identified in HECO T-13, pages 12-15, of the Company’s 2007 test year rate case
15 (Docket No. 2006-0386), through multiple phases of pilot utility applications of the
16 Sensus FlexNet two-way communication advanced metering solutions for
17 automated meter reading, dynamic pricing and demand response utility
18 applications.

19 Q. What is the current status of the R&D study?

20 A. The R&D study commenced with the execution of the AMI Pilot Program
21 Agreement with Sensus dated August 1, 2006 (see Attachment 1 of HECO’s
22 response to CA-IR-182, revised 6/12/07, Docket No. 2006-0386). The R&D study,
23 through its multiple phases of pilot utility applications, will continue over multiple
24 years extending beyond 2009. Below is a summary and status of the project
25 objectives:

- 1 • Select a viable two-way advanced metering communications solution(s) to pilot
2 in the Company's service area. (Status: Accomplished. The Company selected
3 Sensus FlexNet AMI technology.)
- 4 • Demonstrate, through a pilot of the chosen Sensus FlexNet AMI solution, the
5 utility applications benefits of automated meter reading, dynamic pricing (i.e.,
6 peak time rebate), time of use, load research and demand load control. (Status:
7 On-going.)
- 8 • Research and demonstrate the interoperability of the deployment of Advanced
9 Metering communication technologies within HECO's service territory in
10 support of utility applications. (Status: Discontinued. HECO has determined
11 that the Sensus FlexNet AMI technology will meet the coverage objectives for
12 its service territory. It is anticipated that engineering studies will validate
13 HECO's pilot results for MECO and HELCO to the extent that the AMI system
14 requirements are similar for all three companies.)
- 15 • Evaluate and demonstrate the Meter Data Management System ("MDMS")
16 integration efforts required to interface with the existing/future Customer
17 Information System ("CIS") and Outage Management System ("OMS") and the
18 Sensus FlexNet AMI system. (Starting in June 2008 and running through 2009.)
- 19 • Produce an AMI Pilot Project Evaluation report to document findings and
20 results. (Status: On-going. HECO is in the process of finalizing the pilot
21 performance report which is expected to be completed by the August 2008
22 timeframe.)
- 23 • Assess the technical feasibility of a future scalable, commercial deployment of
24 the selected AMI solution in support of the Energy Policy Act of 2005 and the

1 Energy Independence and Security Act (“EISA”) of 2007. (Status: On-going.
2 Will continue through the 2009.)

3 • Demonstrate and validate the ability of the AMI meters to reliably collect and
4 transmit accurate time-based energy consumption information to the Company’s
5 billing system in support of HECO’s Dynamic Pricing Pilot (“DPP”) program.
6 (New objective. See HECO’s application in Docket No. 2008-0074, page 5.
7 Anticipated to start in early 2009 and continue for twelve months.)

8 • Evaluate and demonstrate Smart Grid applications leveraging the Sensus
9 FlexNet communications technology. Because of the success of the technical
10 trial evaluation of the Cooper Power Systems faulted circuit indicator (“FCI”)
11 devices which use the Sensus FlexNet communications technology, the
12 Company intends to expand and extend the trial to more thoroughly evaluate a
13 wider scale deployment over a diverse geographic area of HECO’s service
14 territory. (New objective. HECO is considering an expanded deployment of the
15 FCI devices to provide a more comprehensive demonstration and evaluation of
16 the potential benefits case for Smart Grid services using the Sensus FlexNet
17 communications technology. Will continue through the 2009.)

18 Q. In summary, how will HECO and its customers benefit from the AMI project?

19 A. The AMI component of the R&D study is a series of technical trials and business
20 use cases (e.g., automated meter reading, dynamic pricing, load research, and
21 demand load control) that will provide HECO first hand knowledge and experience
22 and Company-specific performance data to enable HECO to identify the trade-offs
23 and operational savings potential of advanced metering if such a technology were to
24 be deployed full scale across HECO, MECO and HELCO’s service areas. The
25 R&D study will also provide data on technical adequacy, reliability and flexibility

1 of viable solutions to address issues related to a full-scale deployment of AMI.
2 Further, the R&D study will provide data to manage outages more efficiently as
3 well as customer satisfaction benefits that could potentially be achieved with a full
4 deployment and integration of advanced metering with billing, demand response
5 and outage management systems.

6 Q. Are these R&D expenses separate from the AMI expenses noted in Mr. Robert
7 Young's testimony at HECO T-8?

8 A. Yes. Although the expenses relate to the same overall AMI strategy, the AMI
9 expenses discussed at HECO T-8 are different and properly separated from the
10 R&D expenses recorded in this testimony. The AMI expenses recorded in HECO
11 T-8 relate to the test year expenses expected to be incurred for the commercial
12 deployment of the AMI project and therefore are properly recorded to its functional
13 expense account, whereas the AMI-related R&D expenses recorded in this
14 testimony relate to the research and development aspects of the AMI project, and
15 are properly recorded in account 9302. Please refer to the testimony of Mr. Robert
16 Young at HECO T-8 for more information on the commercial deployment of the
17 AMI project.

18 Other Long-Term R&D Strategies

19 Q. What is the Company's test year 2009 estimate for long-term research and
20 development strategies?

21 A. The Company's test year 2009 estimate, as shown on HECO-1406, for other long-
22 term R&D strategies is \$522,000, after an upward budget reclassification adjustment
23 of \$26,000. The funds in this strategy will be used for:
24

1	<u>Description of R&D Activity</u>	<u>TY 2009 Estimate</u>
2	Maui Electric System Analysis Phase 2	\$ 75,000
3	Oahu Electric System Analysis	352,000
4	Biofuel Agriculture Crop Research Phase 3	50,000
5	Other R&D related activities	<u>45,000</u>
6	TOTAL	<u>\$ 522,000</u>

7 Q. What was the purpose of the \$26,000 upward budget reclassification adjustment?

8 A. The adjustment reclassifies certain other R&D related activities related to long-term
9 R&D initiatives from NARUC 549 to NARUC 9302. See corresponding budget
10 reclassification adjustment in the direct testimony and HECO-736 exhibit of Mr.
11 Dan Giovanni (HECO T-7).

12 Maui Electric System Analysis Phase 2

13 Q. Please provide a summary of the Maui Electric System Analysis.

14 A. The Company's Maui Electric System Analysis is described in detail in HECO T-
15 13, pages 9-12, of the Company's 2007 Test Year Rate Case (Docket No. 2006-
16 0386). The primary objective of this study is to address potential issues with future
17 wind farms (and other renewable resources). The proposed effort is to characterize
18 the current challenges of integrating intermittent renewable energy (e.g., wind
19 energy) into the electrical grid, evaluate the impact of currently planned renewable
20 expansion scenarios on MECO's grid operation, and formulate controls, storage and
21 interconnection recommendations to help achieve renewable energy targets.

22 Q. What is the status of the Maui Electric System Analysis?

23 A. As stated in the Company's response to CA-IR-453 in HECO's 2007 test year rate
24 case, the commencement of the Maui Electric System Analysis was delayed
25 primarily due to negotiations with General Electric ("GE"). However, in late 2007,

1 the Company signed an agreement (see HECO-WP-1406) with the University of
2 Hawaii’s Hawaii Natural Energy Institute (“HNEI”), which has a separate
3 agreement with GE for this study on Maui. Phase 1 of the project commenced in
4 late 2007 and is being led by MECO. Numerous team meetings (among MECO,
5 HECO, HNEI and GE personnel) have been held on Maui and project discussions
6 have also occurred through email and telephone. HECO and MECO have provided
7 information to GE to populate the simulation model and anticipate that the review,
8 comment and approval of the results will occur in the summer of 2008. The
9 completion of Phase 1 of the Maui Electric System Analysis is expected in late
10 2008. HECO anticipates Phase 2 to commence in late 2008 and finish in 2009.

11 Q. Are there updates to how the Maui Electric System Analysis is being funded?

12 A. Yes. The Company is expected to spend approximately \$419,000 (\$344,000 for
13 Phase 1 and \$75,000 for Phase 2) for the Maui Electric System Analysis as follows.
14 Phase 1 costs are detailed as follows:

15	1. Data consolidation and preliminary model feasibility analysis	\$	89,000
16	2. Data evaluation, manipulation and completion		47,000
17	3. System model development		95,000
18	4. Baseline model validation		83,000
19	5. Scenario development		<u>30,000</u>
20	Total Phase 1 costs	\$	<u>344,000</u>

21 A more detailed discussion of Phase 1 of the Maui Electrical System Analysis
22 is provided in HECO-1407, which is a copy of Exhibit MECO-101 in Docket No.
23 2008-0021. The USDOE is providing \$60,000 of cost share funding and the HNEI
24 is providing \$20,000 in-kind cost share for coordination and management
25 throughout the project in 2008 and 2009. As previously mentioned in HECO T-13,

1 page 11, of the Company's 2007 test year rate case (Docket No. 2006-0386),
2 MECO's cost-share in this project is in-kind as the technical lead, coordinating and
3 collaborating with GE, HNEI and HECO engineers in the various work activities.

4 Q. How was the test year 2009 estimate for the Maui Electric System Analysis
5 determined?

6 A. The \$75,000 test year 2009 estimate for Phase 2 of the Maui Electric System
7 Analysis was determined based on costs incurred for certain tasks of Phase 1 and
8 planned Phase 2 tasks and objectives. Phase 2 tasks and objectives will consist of
9 developing and running different scenarios (e.g., meeting RPS levels, Hawaii Clean
10 Energy Initiative renewable levels, etc.) using the Phase 1 model with new scenario
11 data. The Company will be negotiating an agreement with its consultants for Phase
12 2.

13 Oahu Electric System Analysis

14 Q. What is the Oahu Electric System Analysis?

15 A. Similar to the Maui Electric Analysis, the Oahu Electric System Analysis is an R&D
16 project to characterize, evaluate and formulate controls, storage and interconnection
17 recommendations with the objective of increasing the Company's renewable energy
18 portfolio. The study will be performed on the Company's electric system on the
19 island of Oahu.

20 Q. Why is the Oahu Electric System Analysis needed?

21 A. The Oahu Electrical System Analysis is needed to address the challenges of
22 integrating renewable energy resources to the Company's electrical grid on Oahu.
23 With the recent negotiations for a commercial wind farm on the north shore of
24 Oahu, possible additional wind farm(s) resulting from the Company's Request for
25 Proposals for Renewable Energy Projects (Docket No. 2007-0331), and interest by

1 large wind farm developers on neighboring islands to transport this energy to Oahu
2 via undersea cables, the Company will be faced with challenges of integrating these
3 potential wind farms and other renewable energy projects on the HECO grid.

4 Q. Why can't the Company use the results of the Maui Electric System Analysis in lieu
5 of this project?

6 A. The Company will benefit from the wealth of information acquired from the results
7 of the Maui Electric System Analysis and will apply this knowledge to the Oahu
8 Electric System Analysis. However, HECO will need to tailor the Oahu study
9 according to the unique characteristics of HECO's electric system. For example, the
10 type, number, size and mix of the Company's electrical generating facilities are very
11 different than its subsidiary utilities on the Big Island and Maui. HECO has
12 predominantly steam boiler units (baseload and cycling units) and two combustion
13 turbines (peaking units), while HELCO and MECO have a mix of steam boilers,
14 diesel generators, and combustion turbines. Therefore, HELCO and MECO have
15 generating units (diesel and combustion turbines) that can respond more quickly to
16 fluctuating wind energy production, as opposed to HECO's steam boiler units that
17 cannot respond as quickly. HECO's generation mix also includes Independent
18 Power Producers that utilize coal-fired steam boiler, oil-fired combustion turbine
19 with steam recovery, and waste-to-energy generation which further differentiates the
20 Oahu system from its neighbor island systems.

21 The Company will, however, benefit from the Maui Electric System Analysis
22 since the same consultants will be utilized for the Oahu Electric System Analysis.
23 The consultant will have already gone through similar study steps such as model
24 development for the Big Island and Maui studies, thus reducing the consultant's
25 learning curve and formulating a more effective and efficient study.

1 Q. What is the objective of the Oahu Electric System Analysis?

2 A. The primary objective of this study is to address integrating future wind farms (and
3 other intermittent renewable resources) on the HECO grid. It will assess the
4 challenges of integrating intermittent renewable energy into the electrical grid,
5 evaluate the impact of currently planned renewable expansion scenarios on the
6 Company's grid operation, and formulate controls, storage and interconnection
7 recommendations to help achieve the renewable energy targets for the island.

8 Q. What is the general scope of work for the Oahu Electric System Analysis?

9 A. The general scope of work will evaluate:

- 10 • The impact of wind capacity, as planned by other wind developers, and
11 associated energy storage projects on the HECO grid;
12 • The utilization of energy storage system technologies to address the effect of
13 wind variability on grid frequency; and
14 • The impact of significant distributed renewable energy (photovoltaic) resources.

15 Q. What is the cost of the Oahu Electric System Analysis?

16 A. The Company has requested a price quotation from the consultant for this effort, but
17 to date, has not received an estimate. The current test year 2009 estimate of
18 \$352,000 is primarily based on the Company's estimated Phase 1 costs of the Maui
19 Electric System Analysis that I described earlier in my testimony.

20 Q. Can the Company expect cost sharing from HNEI and USDOE for this project?

21 A. Early communication with HNEI personnel indicate that HNEI and USDOE cost
22 sharing will be available and could be as high as 50%. However, HECO will not
23 know the actual cost share until an agreement with HNEI is finalized.

1 Q. What is the schedule for the Oahu Electric System Analysis?

2 A. It is anticipated that the Oahu Electric System Analysis will commence in late 2008
3 with the bulk of the work being conducted in 2009 due to resource limitations of the
4 consultant. The consultant's prime researchers are working to complete the Big
5 Island Energy Roadmap study for USDOE and are also working on the Maui
6 Electrical System Analysis.

7 Biofuel Agriculture Crop Research Phase 3

8 Q. What is the status of the biofuels agriculture crop research project?

9 A. HECO is working with the Hawaiian Agriculture Research Center ("HARC") on a
10 biofuels agriculture crop research project. HARC is conducting research and is
11 coordinating the work of the University of Hawaii at Manoa's College of Tropical
12 Agriculture and Human Resources ("CTAHR") and University of Hawaii at Hilo's
13 College of Agriculture, Forestry and Natural Resources Management
14 ("CAFNR"). HECO executed an agreement with HARC in 2007 and has
15 leveraged EPRI monies to co-fund this research. With EPRI's cost-matching of
16 \$53,000 and HECO's participation, Phase 1 of the biofuel agriculture crop research
17 project costs was \$103,000 in 2007. This EPRI agreement was amended in 2008
18 (Phase 2) with a similar HECO grant award and EPRI co-share totaling \$100,000.
19 (HECO's confidential agreement with HARC, including amendment for Phase 2
20 work, is submitted as HECO-WP-1407.) HECO's response to LOL-IR-34 and 39 in
21 Docket No. 2007-0346 provides additional background on the biofuel agriculture
22 crop research effort.

23 Q. What are HECO's plans in 2009 for biofuels agriculture crop research?

24 A. HECO plans to provide a third installment of seed funding to HARC in 2009 (Phase
25 3) with EPRI cost-sharing. HECO will provide \$50,000 (test year 2009 estimate)

1 and EPRI will provide another \$50,000 towards this effort, similar to what was done
2 in the past.

3 Q. What are the study results to date of the biofuels agriculture crop research project?

4 A. HARC, the University of Hawaii at Manoa, and the University of Hawaii at Hilo are
5 each responsible for separate projects in the research effort. A summary, as of April
6 30, 2008, of each project is as follows (see HECO-WP-1408 for progress report):

7 HARC

- 8 • Established test plots of *Moringa oleifera* on Molokai in a low-elevation site in
9 Hoolehua.
 - 10 ○ Planted in approximately 1.2 acres over 650 moringa seedlings and
 - 11 approximately 150 jatropha seedlings.
 - 12 ○ Installed an irrigation system using individual emitters to control the flow of
 - 13 water to each tree and minimize competition from weeds and grasses.
 - 14 ○ Planted seedlings from a small nursery that had been established with
 - 15 moringa and jatropha materials.
- 16 • The second site (Kalae, Molokai) has about 75 moringa trees and 30 jatropha
- 17 seedlings already in the ground (approximately six months old) or awaiting
- 18 transplant.
- 19 • The project will enter Phase 2 this summer with soil testing and fertilization
- 20 regime introduction to determine nutrient utilization for each species at the
- 21 Hoolehua site.
- 22 • Growth and overall tree performance will be monitored prior to, during, and
- 23 following the fertilization trial.

1 UH-Manoa (CTAHR)

- 2 • Developing a method to produce identical jatropha trees to increase uniformity
3 of growth and yield in the field. The major accomplishments toward this goal
4 were the hiring of a plant scientist and locating a suitable test plant.
- 5 • All available literature on jatropha tissue culture has been evaluated and a
6 selection made as to the procedure with the greatest promise.
- 7 • Leaf tissue from the jatropha tree at Pearl City Urban Garden Center has been
8 taken to check the sterilization protocol and test the selected tissue culture
9 media.

10 UH-Hilo (CAFNRM)

- 11 • Worked with the Waters of Life Charter School (“WOLS”) whose screen houses
12 are provided free and were to be used to grow out the 10,000 seedlings of oil
13 palm. WOLS fell into financial difficulties in December 2007. Worked with
14 the Department of Education to resolve the use of the screen houses.
- 15 • The seeds of different oil palm hybrids were ordered in November 2007.

16 Other R&D Related Activities

17 Q. What is included in other R&D related activities?

18 A. Included in other R&D related activities are miscellaneous activities that relate to
19 R&D, primarily labor and overheads related to a USDOE modernization study.
20 HNEI, in cooperation with General Electric, Hawaiian Electric Company, Inc.,
21 Maui Electric Company, and other private entities, will explore the management of
22 distribution system resources for improved service quality and reliability,
23 transmission congestion relief, and grid support functions. HECO’s labor is an in-
24 kind contribution to the study and was determined based on the anticipated work
25 that will occur in 2009 (primarily Phase 1 and 2 of the study).

1 Account 549 – Miscellaneous R&D Expenses – Other Production

2 Q. What is the Company's test year 2009 estimate of R&D expenses for account 549
3 (miscellaneous expenses – other production)?

4 A. As shown on HECO-1406, the Company's test year 2009 estimate of R&D
5 expenses in account 549 (miscellaneous expenses – other production) total
6 \$899,000, after a downward budget reclassification adjustment of \$26,000.

7 <u>Production R&D Activities</u>	<u>TY 2009 Estimate</u>
8 Biofuel Co-Firing Project	\$ 649,000
9 Technology Division labor and related costs	132,000
10 Renewable Energy Recurring Activities	34,000
11 Other	<u>84,000</u>
12 TOTAL	<u>\$ 899,000</u>

13 Q. What was the purpose of the \$26,000 downward budget reclassification adjustment?

14 A. As mentioned in the NARUC account 9302 section of this testimony, the
15 adjustment moves the costs of certain activities related to long-term R&D initiatives
16 from account 549 to account 9302 in order to properly assign the R&D activities to
17 the proper NARUC account. The corresponding downward budget reclassification
18 adjustment is reflected in exhibit HECO-736 of Mr. Dan Giovanni's testimony
19 (HECO T-7).

20 Q. How does the test year 2009 estimate compare to the actual 2007 recorded other
21 production R&D expenses?

22 A. The test year 2009 estimate is approximately \$302,000 greater than the 2007
23 recorded amount of approximately \$597,000, primarily due to the Biofuel Co-Firing
24 Project.

1 Biofuel Co-Firing Project

2 Q. Has HECO been actively investigating the use of biofuels at its generating facilities?

3 A. Yes. HECO, along with MECO and HELCO, are engaged in a broad multi-phased
4 technology assessment and demonstration program that includes: (1) biofuels
5 screening (investigation of supply, availability, pricing, and properties of biofuels);
6 (2) evaluation of generating unit performance and emissions; (3) investigation of
7 key operational, environmental, and regulatory issues faced by the electric utility;
8 and (4) demonstration of biofuel usage in utility power generating units. Maui
9 Electric Company, Ltd., Integrated Resource Plan, 2007-2026, filed April 30, 2007,
10 Docket No. 04-0077 at pages 7-11, and 12-8 to 12-10.

11 Q. What is HECO's Biofuel Co-Firing Project?

12 A. The Biofuel Co-Firing Project is part of a multi-year R&D program to examine
13 biofuels for stationary power generation consisting of the following phases:
14 Phase 1 – Biofuels resource assessment (completed);
15 Phase 2 – Combustion testing (completed);
16 Phase 3 – Generating unit assessment and infrastructure and operational assessment
17 (completed); and
18 Phase 4 – Utility-scale demonstration (2009 – Biofuel Co-Firing Project).
19 The HECO T-6 August 2007 Supplement dated September 6, 2007, Attachment 5,
20 and HECO-629 of HECO's 2007 test year rate case (Docket No. 2006-0386)
21 provide background and more information on the biofuels initiatives.

22 Q. Why is biofuel testing in the Company's steam boiler important?

23 A. For the Company to transition its generating units from fossil fuels to indigenous
24 biofuels, it must conduct tests on its existing generating units to ensure that the
25 Company understands the benefits and impacts of using biofuel blends or neat

1 biofuels (100% biofuel) in its units. It must investigate a number of issues including
2 combustion efficiency, emissions, storage and handling, operations and other issues
3 associated with the use of biofuels. The use of biofuels in existing HECO electrical
4 generating assets has the advantages of not requiring new site acquisition, continued
5 use of existing infrastructure, and reducing carbon output. Additionally, this testing
6 will provide technical data on the impacts of switching from fossil fuel to biofuel
7 blends or neat biofuels.

8 Q. Does the State have policies that favor the development and use of biofuels?

9 A. Yes. The State has policies favoring the development and use of biofuels.

- 10 • Act 159, passed by the 2007 Hawaii State Legislature, encourages further
11 production and use of biofuels in Hawaii, establishes that biofuel processing
12 facilities in Hawaii are a permitted use in designated agricultural districts and
13 establishes a program with the Hawaii Department of Agriculture to encourage
14 the production in Hawaii of energy feedstock (i.e., raw materials for biofuels).
15 Act 159 was signed by the Governor on June 8, 2007 and became effective upon
16 its approval.
- 17 • Act 253, passed by the 2007 Hawaii State Legislature requires the Department
18 of Business, Economic Development, and Tourism (“DBEDT”) of the State of
19 Hawaii to develop and prepare a bioenergy master plan that will set the course
20 for the coordination and implementation of policies and procedures to develop a
21 bioenergy industry in Hawaii. The primary objective of the bioenergy master
22 plan is to develop a Hawaii renewable biofuels program to manage the State's
23 transition to energy self-sufficiency based in part on biofuels for power
24 generation and transportation and to address the following:

- 1 ▪ strategic partnerships for the research, development, testing, and
- 2 deployment of renewable biofuels technologies and production of
- 3 biomass crops;
- 4 ▪ evaluation of Hawaii's potential to rely on biofuels as a significant
- 5 renewable energy resource, biofuels demonstration projects, including
- 6 infrastructure for production, storage, and transportation of biofuels;
- 7 ▪ promotion of Hawaii's renewable biofuels resources to potential partners
- 8 and investors for development in Hawaii as well as for export purposes;
- 9 ▪ a plan or roadmap to implement commercially viable biofuels
- 10 development;
- 11 ▪ specific objectives and timelines; water resources; land resources;
- 12 distribution infrastructure for both marine and land; labor resources and
- 13 issues; technology to develop bioenergy feedstock and biofuels;
- 14 permitting; financial incentives and barriers and other funding; business
- 15 partnering; policy requirements necessary for implementation of the
- 16 master plan; and
- 17 ▪ identification and analysis of the impacts of transitioning to a bioenergy
- 18 economy while considering applicable environmental concerns

19 Act 253 was signed by the Governor on July 5, 2007 and became effective upon
20 its approval.

- 21 • Act 145, passed by the 2008 Hawaii State Legislature which permits the use of
- 22 lands in agricultural land use districts to be used for agricultural-energy facilities
- 23 provided that the primary activity of the agricultural-energy enterprise is
- 24 agricultural activity. Act 145 was signed by the Governor on June 5, 2008 and
- 25 became effective the same day.

1 • Act 90, passed by the 2008 Hawaii State Legislature which amends the
2 definition of "renewable energy producer" to include growers and producers of
3 plant or animal materials used primarily for the production of biofuels or other
4 fuels, so that they will be eligible for direct leases of public land. Act 90 was
5 signed by the Governor on May 21, 2008 and became effective the same day.

6 Q. Please summarize the current status of the Biofuel Co-Firing Project.

7 A. The Company has gone through a selection process to determine which steam boiler
8 will be tested. The Company narrowed the selection to one of four tangentially-
9 fired steam boilers on the system based on various criteria such as space availability
10 for biofuel fuel storage and delivery, infrastructure availability (e.g., pump size and
11 pressure rating), minimum modifications, and timing of the next planned
12 maintenance outage. HECO is targeting biofuel testing on Kahe steam boiler #3 for
13 late September 2009 after the scheduled (mid-year 2009) overhaul of this unit. A
14 test plan, detailed schedule, and budget are being developed.

15 Q. Does the Company have an agreement with EPRI on this research project?

16 A. Yes. HECO has an existing EPRI agreement for a steam boiler testing project (see
17 HECO-WP-1409 for the EPRI agreement and amendments). This agreement will be
18 amended with EPRI to reflect changing the fuel from biodiesel to biofuel and
19 revising funding levels to current project estimates. The amended agreement with
20 EPRI is expected be finalized in 2009. The major tasks are explained below.

21 Task 1 – Fuel Compatibility Evaluation

22 Fuel property and viscosity analyses are being conducted to evaluate the
23 compatibility of biofuel-low sulfur fuel oil ("LSFO") blends with existing fuel
24 delivery and handling systems at the host site. Fuel analyses and viscosity-
25 temperature tests of neat LSFO, neat biofuels (i.e., crude palm oil, refined, bleached

1 and de-odorized palm oil, palm fatty-acid distillate), and a series of these biofuel-
2 LSFO blends (e.g., possible range of 5% to 90% biofuel) will be conducted to
3 characterize fuel properties and flow behaviors (i.e., viscosity vs. temperature).
4 Data from these tests will help HECO select the biofuel to be tested and develop co-
5 firing test plans, including the identification of test limitations and potential
6 equipment modification requirements. This task will be completed in 2008.

7 Task 2 – Biofuel Co-Firing Test Plan

8 Information from Task 1 will be used to identify required equipment modifications
9 and support development of the test matrix for the test plan. The test plan will
10 identify the fuel blends and volume requirements, fuel delivery/mixing procedures,
11 co-firing system design, boiler operating test points, performance and emissions
12 data, testing protocol and instrumentation, and data reduction methodologies.
13 Environmental issues and permit requirements will also be assessed. The
14 envisioned testing may include, but not be limited to, measurements of combustion
15 stability, flame stability, boiler performance, fuel system performance, and
16 emissions. This task is projected to begin after Task 1 is completed and associated
17 data is reviewed and analyzed in late 2008 and continue through 2009.

18 Task 3 – Procurement and Installation

19 Task 3 includes the procurement of biofuel, and procurement and installation of fuel
20 system equipment, boiler-related components, sensor and emissions analyzers, and
21 data acquisition system. Information from the test plan developed in Task 2 will be
22 used to guide the procurement and installation tasks. This task is planned to begin
23 in late 2008 and continue through the early 2009 time period.

1 Task 4 – Shakedown and Testing

2 In Task 4, successful shakedown of equipment and subsystem operations will be
3 followed by co-firing testing and data collection according to the test plan
4 developed in Task 2. This task will be performed in the third quarter of 2009.

5 Task 5 – Test Data Reduction and Analysis

6 Task 5 includes the analysis of collected data, formulation of conclusions, and
7 preparation of the final report on co-firing tests. This task will begin after Task 4 is
8 completed in late 2009.

9 Q. What is the HECO budget for the Biofuel Co-Firing Project through EPRI?

10 A. This multi-year project, originally started in 2007, will culminate in the field testing
11 planned in 2009 subject to approvals. The Company has a Supplemental Project
12 Agreement with EPRI for this project, (see HECO-WP-1409), with existing and
13 planned funding as follows (note, as mentioned earlier, the Supplemental Project
14 Agreement will be amended to include the 2009 planned funding below):

15	<u>Year</u>	<u>HECO</u>
16	2007	\$ 100,000
17	2008	143,250
18	2009	<u>649,000</u>
19	Total	\$ 892,250

20 The Company has received over \$200,000 cost sharing from EPRI to date. The
21 Company will seek additional cost-sharing from EPRI in 2009 in the amount of the
22 Company's contribution.

23 Q. What types of expenses are included in the test year 2009 estimate?

24 A. Various types of expenses are anticipated for tasks prior to, during, and after the
25 testing. Expenses are expected for activities such as fuel analyses and fuel

1 compatibility evaluation, outside services for initial test design, set-up and test runs,
2 site surveys, instrumentation, fuel receipt operations, and demobilization and post-
3 test clean-up.

4 Q. How was the test year 2009 estimate determined?

5 A. The Biofuel Co-Firing Project estimate for test year 2009 was based on production
6 engineering estimates. A consultant is under contract to help develop a detailed test
7 plan, schedule and updated budget. This effort will continually be updated as new
8 information is obtained and final bids are received in 2009.

9 Q. Does the Biofuel Co-Firing Project require capital assets?

10 A. Yes. The Biofuel Co-Firing Project will require the installation of transfer pumps, a
11 fuel blending system, piping, instrumentations and controls to burn biofuel in Kahe
12 Unit #3. The estimated costs of these capital assets amount to approximately \$2.2
13 million and is expected to be installed in 2009 (budgeted as a 2009 plant addition in
14 Ms. Lorie Nagata's testimony at HECO-WP-1701).

15 Q. Why aren't the costs of these assets expensed as R&D costs?

16 A. Although these capital additions are being acquired and installed specially for this
17 R&D project, subsequent to the completion of the R&D project, these assets will be
18 used in the normal course of the Company's daily operations. This treatment is
19 consistent with accounting guidelines under Statement of Financial Accounting
20 Standards No. 2, "Accounting for Research and Development Costs." Therefore,
21 these assets will be capitalized in accordance with the Company's policy of
22 accounting for capital projects.

23 Q. What major approvals are needed for the Biofuel Co-Firing Project?

24 A. HECO will need to obtain approvals from the Department of Health to test the
25 biofuels and biofuel blends. With respect to cost recovery for the biofuel used

1 during testing, HECO plans to issue a request for proposal (“RFP”) for the test
2 biofuel in 2008. Once there is a contract, HECO will file an application with the
3 Commission for approval of the contract and to recover the full cost of the test
4 fuel through the ECAC.

5 Renewable Energy Recurring Activities

6 Q. What types of activities and expenses are included in the 2009 test year estimate of
7 \$34,000 for renewable energy recurring activities?

8 A. The renewable energy recurring activities are comprised of expenses to cover
9 general research and development activities related to renewable energy and
10 alternate energy organization memberships, publications and reports, travel to
11 renewable energy and alternate energy conferences, seminars and training, office
12 supplies and materials and initiatives in alternative energy and emerging
13 technologies (e.g., university assistance in PV evaluations).

14 Other Production R&D Activities

15 Q. What is included in other production R&D activities?

16 A. Other production R&D activities which amount to a test year 2009 estimate of
17 \$84,000 is primarily comprised of \$32,000 for a fuel cell facility license with HNEI
18 and \$34,000 of information technology cost allocation, with the remaining \$18,000
19 related to R&D labor and labor-related costs of various departments of the
20 Company. The Company’s information technology cost allocation methodology is
21 discussed in the direct testimony of Ms. Patsy Nanbu HECO T-11.

22 Q. What is the fuel cell facility license with HNEI?

23 A. The Company has a fuel cell facility license (“License”) with HNEI to allow HNEI
24 to use approximately 4,000 square feet of warehouse space at the Company’s Ward
25 Avenue facilities for the operation of a fuel cell test facility. The fuel cell test

1 facility is used to conduct research, development and testing of fuel cells, fuel cell
2 systems, and alternate fuels. The Company's License with HNEI is month-to-
3 month at a monthly base rent of ten dollars per month. The \$32,000 represents the
4 reasonable market rental rate for a comparable-sized facility in the area and is
5 recorded to production O&M as approved by the Commission in Decision and
6 Order No. 19398, filed June 3, 2002 in Docket No. 01-0480. The corresponding
7 credit to the market rental rate is recorded in other operating revenues and is
8 discussed in the direct testimony of Mr. Peter Young (HECO T-22).

9 Various Accounts – Various Operation and A&G R&D Expenses

10 Q. What is the Company's test year 2009 estimate of R&D expenses for various other
11 operation and A&G expense accounts?

12 A. As shown on HECO-1406, the Company's test year 2009 estimate of R&D
13 expenses for various other operation and A&G expense accounts is \$31,000,
14 primarily consisting of labor and labor-related overhead related to various R&D
15 activities.

16 Q. How does the test year 2009 estimate compare with the 2007 recorded amounts?

17 A. The test year 2009 estimate is approximately \$140,000 less than the 2007 recorded
18 amount. The decrease is primarily due to approximately \$147,000 of energy
19 delivery R&D projects incurred in 2007, whereas there were no energy delivery
20 R&D projects budgeted in the test year 2009, as funds were primarily budgeted for
21 the Biofuel Co-Firing Project. The Biofuel Co-Firing Project derives to NARUC
22 account 549 (miscellaneous expenses – other production), while the costs of energy
23 delivery R&D projects derive to NARUC account 588, (miscellaneous distribution
24 operations).

1 DEPRECIATION

2 Q. What items will you cover in your depreciation testimony?

3 A. My depreciation testimony will address two items. First, I will discuss depreciation
4 expense, which is an operating expense deducted from operating income in the
5 calculation of net operating income for the test year. Second, I will discuss
6 accumulated depreciation, which is the cumulative total of depreciation recorded
7 with adjustments for retired assets. Accumulated depreciation is deducted from the
8 original cost of plant-in-service to determine the depreciated plant-in-service
9 amount used to calculate rate base.

10 Depreciation Expense

11 Q. What is the Company's test year 2009 estimate for depreciation expense?

12 A. The test year 2009 estimate for depreciation expense is \$83,183,000, as shown in
13 HECO-1408.

14 Q. How was the test year 2009 depreciation expense calculated?

15 A. Depreciation expense was calculated by determining the test year depreciation
16 accrual and then adjusting this amount for certain items.

17 Q. What adjustments were made to the depreciation accrual amount to determine
18 depreciation expense?

19 A. Depreciation accrued on vehicles, amortization of Contributions in Aid of
20 Construction ("CIAC"), amortization of federal investment tax credit and
21 amortization of the net regulatory asset related to Statement of Financial Accounting
22 Standards No. 109, which is discussed by Mr. Lon Okada in HECO T-16, were
23 subtracted from the resulting depreciation accrual, as shown in HECO-1408. The
24 net amount after these four adjustments represents the test year 2009 depreciation
25 expense.

- 1 Q. Why is the annual vehicle depreciation accrual subtracted from the total
2 depreciation accrual to derive the amount of depreciation expense included in
3 operating expense?
- 4 A. The annual vehicle depreciation accrual is excluded because it is actually reflected
5 in capital or operations and maintenance (“O&M”) costs. Because of the clearing
6 process used in the accounting for projects and work for which the vehicles are
7 used, vehicle depreciation is appropriately reflected in either the O&M expenses for
8 particular O&M projects or in the subsequent depreciation expense of the assets
9 resulting from the capital projects to which the vehicle depreciation is charged.
10 Thus, it is necessary to exclude the vehicle depreciation accrual from the total
11 depreciation accrual to avoid double-counting the expense.
- 12 Q. Why is the amortization of CIAC subtracted from the depreciation accrual?
- 13 A. The amortization of CIAC is subtracted from the depreciation accrual because
14 CIAC represents funds provided by customers, rather than investors, and is
15 therefore appropriate to exclude that portion of depreciation related to CIAC.
- 16 Q. Please describe the method used to derive the test year 2009 depreciation accrual.
- 17 A. HECO’s depreciation accrual was calculated using depreciation rates as calculated
18 utilizing the straight-line remaining life method and use of the vintage amortization
19 accounting procedure for selected plant accounts.
- 20 Q. Were the depreciation rates and use of the vintage amortization accounting
21 procedure for selected plant accounts approved by the Commission?
- 22 A. Yes. On March 1, 2004, HECO and the Consumer Advocate filed a Settlement
23 Agreement for purposes of simplifying and expediting the proceeding with respect
24 to HECO’s request for Commission approval to change its depreciation rates and
25 approval of a procedure change to vintage amortization accounting for certain

1 accounts. On September 3, 2004, the Commission issued Decision and Order No.
2 21331 in Docket No. 02-0391 which approved this Settlement Agreement.

3 Q. How are the depreciation rates applied in computing the test year 2009 depreciation
4 expense?

5 A. The plant account balances that are subject to depreciation and vintage amortization
6 accounting are separated. Depreciation rates are used to derive the composite book
7 depreciation and amortization rates which are applied to each functional group's
8 depreciable plant balance in computing the test year 2009 depreciation expense.

9 Composite rates were determined by calculating each group's depreciation
10 accrual for 2008 and dividing it by the group's depreciable asset balance as of
11 January 1, 2008. The 2008 depreciation accrual for each group was calculated by
12 multiplying the depreciation rates for each account in the group by its respective
13 depreciable asset balance as of January 1, 2008. See HECO-WP-1405.

14 Q. What are the "functional account groups"?

15 A. The functional account groups are made to segregate the utility plant along
16 functional lines of use, as provided in the National Association of Regulatory
17 Utility Commissioners' ("NARUC") Uniform System of Accounts and as
18 subscribed to by the Hawaii Public Utilities Commission. The five functional
19 groups are:

- 20 1) Production;
- 21 2) Transmission;
- 22 3) Distribution;
- 23 4) General; and
- 24 5) Vehicles.

1 Q. What was the next step in calculating the depreciation accrual?

2 A. The Company calculated the test year depreciation accrual by multiplying the
3 composite book depreciation and amortization rate for each functional account
4 group by the beginning-of-the-year test year 2009 depreciable base for each
5 respective functional group. See HECO-WP-1401.

6 Q. How does the test year 2009 depreciation accrual compare with the actual amounts
7 recorded in recent year?

8 A. As shown in HECO-1411, 2009 depreciation accrual as a percentage of plant is
9 comparable to previous years (2005 to 2008). Although the depreciation accrual for
10 the test year 2009 is higher than in previous years, the depreciable plant base is also
11 higher resulting in a comparable percentage.

12 Accumulated Depreciation

13 Q. What is the Company's test year 2009 estimate for accumulated depreciation?

14 A. The test year 2009 estimate for accumulated depreciation is \$1,313,247,000 as
15 shown in HECO-1409.

16 Q. How were the beginning and ending 2009 accumulated depreciation balances
17 calculated?

18 A. The January 1, 2009 balance was calculated as follows:

- 19 1) Recorded accumulated depreciation balance at January 1, 2008;
- 20 2) Plus estimated depreciation accrual for 2008;
- 21 3) Plus estimated salvage value received for 2008 plant retirements;
- 22 4) Less estimated 2008 plant retirements; and
- 23 5) Less estimated cost of removal for 2008 plant retirements.

1 The December 31, 2009 balance was calculated in the same manner starting with an
2 estimated beginning-of-the-year balance and utilizing 2009 estimates for the
3 depreciation accrual, plant retirements and related salvage and cost of removal.

4 Q. How were the estimated plant retirements for 2008 and the test year 2009
5 calculated?

6 A. Retirements were estimated for 2008 and the test year 2009 by examining the
7 historical ratio of actual retirements per functional group to plant balances for the
8 last five years (2003-2007). The Company then calculated a five-year simple
9 average ratio to determine the estimated retirements for 2008 and the test year 2009.
10 2008 and 2009 estimated retirements include retirement of vintage year amortizable
11 plant balances.

12 Q. How were the cost of removal and salvage for plant retirements estimated for 2008
13 and the test year 2009?

14 A. The Company examined the historical ratio of actual cost of removal and salvage to
15 plant retirements for the last five years (2003-2007). The Company calculated a
16 five-year simple average ratio. This ratio was then multiplied by the estimated
17 amount of retirements excluding retirement of vintage year amortizable plant
18 balances for each year to determine the estimated amount of cost of removal and
19 salvage. These calculations are shown on HECO-WP-1403.

20 Q. Please describe the reclassification of cost of removal for financial reporting
21 purposes.

22 A. Based on guidance received from the Securities and Exchange Commission staff in
23 February 2004, beginning with financial statements for the year ended December
24 31, 2003, HECO began to reclassify, as a regulatory liability, the estimated portion
25 of the depreciation expense calculation designed to recover future net salvage.

1 Q. What are the Company's estimated 2008 and test year 2009 balances for its
2 regulatory liability for cost of removal accrual included in accumulated
3 depreciation?

4 A. The amounts of the estimated reclassification from accumulated depreciation to
5 regulatory liability for financial statement purposes are \$24,398,000 and
6 \$25,192,000, for 2008 and 2009, respectively. These calculations are shown on
7 HECO-WP-1404.

8 Q. What impact does this reclassification have on rate base?

9 A. The reclassification has no effect on rate base since both the accumulated
10 depreciation and the regulatory liability are net against total plant-in-service. Refer
11 to Mr. Darren Doi's testimony at HECO T-18 and exhibit HECO-1802 for the plant-
12 in-service summary.

13 SUMMARY

14 Q. Please summarize your testimony.

15 A. The test year 2009 normalized expenses and revenues which the Company has
16 demonstrated to be fair and reasonable in this docket include the following:

17 <u>Description</u>	<u>\$ in Thousands</u>
18 Miscellaneous A&G Expenses	\$ 8,960
19 Research and Development Expenses:	
20 Misc A&G R&D (included Misc A&G Exp above)	2,603
21 Misc Other Production R&D (NARUC 549)	899
22 Other various R&D (Various NARUC)	31
23 Depreciation Expense	83,183

24 The Company's normalized 2009 test year estimates for the Miscellaneous
25 Administrative and General Expense amounting to \$8,960,000 (which includes

1 miscellaneous A&G R&D of \$2,603,000) shown above cover a variety of expenses
2 associated with the cost of doing business. The inclusion of these types of costs,
3 including production R&D and other R&D costs which are included in various
4 other witness testimonies in the 2009 test year estimates, are consistent with prior
5 Commission decisions.

6 Q. Does this conclude your testimony?

7 A. Yes, it does.

BRUCE TAMASHIRO

EDUCATIONAL BACKGROUND AND EXPERIENCE

Present employer: Hawaiian Electric Company, Inc.
900 Richards Street
Honolulu, HI 96813

Current position: Director, Corporate and Property Accounting

Previous position: Senior Financial Analyst
July 2001 - October 2004

Years of service: 7 years

Other experience: Senior Auditor, KPMG LLP
January 1994 – July 2001

Certification: Certified Public Accountant (not in public practice)
State of Hawaii

Education: Bachelor of Business Administration in Accounting
University of Hawaii at Manoa

Hawaiian Electric Company, Inc.
Miscellaneous Administrative and General Expenses
Test Year 2009 (\$ in Thousands)

Line	Account	Notes	[A] 2009 Budget	[B] Budget Adj	[C] Norm	[A]+[B]+[C] 2009 Test Year Estimate
928 Regulatory Commission Expense:						
1	Non-Labor	(1)	760		(320)	440
2	Total 928		760	-	(320)	440
9301 Institutional/Goodwill Advertising Expense						
3	Labor		14	-	-	14
4	Non-Labor		22	-	-	22
5	Total 9301		36	-	-	36
9302 Miscellaneous General Expenses						
6	Labor	(2)	316	(101)	-	215
7	Non-Labor	(3)	3,888	(246)	-	3,642
8	Total 9302		4,204	(347)	-	3,857
931 Rents Expense						
9	Non-Labor	(4)	3,026	36	-	3,062
10	Total 931		3,026	36	-	3,062
932 Administrative and General Maintenance						
11	Labor	(5)	195	52	-	247
12	Non-Labor	(5)	398	1,108	(188)	1,318
13	Total 932		593	1,160	(188)	1,565
Total Misc Administrative and General Expenses			8,619	849	(508)	8,960

Note: Numbers may not total exactly due to rounding.

Note (1): Budget adjustment to normalize 2009 rate case expenses over 2 year period (see HECO-1403).

Note (2): Budget adjustment to remove costs for 1) Aloha United Way and Community Action Group activities amounting to \$7K, 2) overstatement of budgeted labor hours amounting to \$8K, and 3) labor related to the air and fish environmental monitoring programs amounting to \$86K. See HECO-1404, page 2 for details of these budget adjustments.

Note (3): Budget adjustment to 1) reclassify nonlabor costs related to the air and fish environmental monitoring programs amounting to \$96K (See HECO-1404 page 2), 2) remove portion of EEI dues attributed to government lobbying and other activities amounting to \$118K (See HECO-1404 page 4), 3) decrease intercompany BOD fees of \$104K (See HECO T-14 page 13), 4) exclude restricted stock expenses of \$3K (See HECO T-14 page 13), 5) increase R&D estimate by \$26K (See HECO T-14 page 31) and 6) increase R&D estimate by \$49K due to revised EPRI dues allocation (See HECO-1406).

Note (4): Budget adjustment to increase Central Pacific Plaza's Suite 1250/1270 lease rents and ASB Tower Training Room allocated charges, by \$21,000 and \$15,000, respectively. See HECO-1405 for details of these budget adjustments.

Note (5): Budget adjustments to increase Administrative and General Maintenance due to reclassifications of recurring maintenance work amounting to \$88K and non-recurring maintenance projects amounting to \$1.072K, offset by a normalization adjustment for non-recurring maintenance expense projects amounting to \$188K (see HECO-1412).

Hawaiian Electric Company, Inc.
Miscellaneous Administrative and General Expenses
2004 to Test Year 2009 Estimate (\$ in Thousands)

Line	Account	[A]	[B]	[C]	[D]	[E]	[F]	2007 vs. 2009
		2004	2005	2006	2007	Forecast 2008	Test Year Estimate 2009	
1	928 Regulatory Commission Expense	-	61	258	512	317	440	-14%
2	9301 Institutional/Goodwill Advertising Expense	76	73	65	36	34	36	0%
3	9302 Miscellaneous General Expenses	2,803	2,841	732	3,523	4,126	3,857	9%
4	931 Rents Expense	1,544	2,202	2,691	3,011	2,916	3,062	2%
5	932 Administrative and General Maintenance	505	524	444	454	868	1,565	245%
Total		4,928	5,702	4,190	7,536	8,261	8,960	

Note: Numbers may not total exactly due to rounding.

Hawaiian Electric Company, Inc.
Account 928 - Regulatory Commission Expenses
Test Year 2009 Estimate (\$ in Thousands)

2009 Budget		\$	760
Estimated 2009 TY Regulatory Commission Expenses:			
Legal fees	\$	540	
Consultant - Regulatory Support		189	
Consultant - Return on equity		64	
Consultant - Financial Integrity		64	
Printing services		10	
Other		14	
Total 2009 rate case expenses		<u>880</u>	[a]
Amortization period in years - Note (1)		<u>2</u>	[b]
Annual amortization of 2009 rate case expenses	\$	<u>440</u>	[a]/[b]
Normalization adjustment			(320)
Total 2009 Test Year Regulatory Commission Expenses			<u><u>\$ 440</u></u>

Note: Numbers may not total exactly due to rounding.

Note (1): The 2009 test year regulatory commission expenses will be amortized over a 2-year period based on the Company's anticipated timing of rate case filings between the current test year 2009 rate case filing compared to its next rate case filing for an anticipated 2011 test year. The 2-year period is based on the Company obtaining approval for a step-increase in its rates as discussed in R. Alm's direct testimony at HECO T-1. If the Company does not obtain approval for a step-increase in its rates, then the amortization period would be 1-year, resulting in a test year 2009 Regulatory Commission Expense estimate of \$880,000.

Hawaiian Electric Company, Inc.
Account 9302 - Miscellaneous General Expenses
Test Year 2009 Estimate (\$ in Thousands)

Research and Development	\$	2,603
Community Service Activities		361
Company Membership Dues		263
Ellipse Software Maintenance Fees		117
Board of Directors' Expenses		<u>514</u>
Total 2009 Test Year Miscellaneous General Expenses	\$	<u><u>3,857</u></u>

Note: Numbers may not total exactly due to rounding.

Hawaiian Electric Company, Inc.
Community Service Activities
Test Year 2009 Estimate (\$ in Thousands)

Total Community Service Activities	\$	558
Adjustments:		
Aloha United Way & Community Action Group - Note (1)		(7)
Budget input error - Note (2)		(8)
Reclassification of environmental monitoring programs - Note (3)		(182)
		<hr/>
Total 2009 Test Year Community Service Activities	\$	<u>361</u>

Note: Numbers may not total exactly due to rounding.

Note (1): Costs of activities related to the Aloha United Way and Community Action Group activities are excluded as a simplification adjustment due to the Commission's disallowance of these costs in the Company's test year 1990 and 1992 rate cases (Dockets 6531 and 6998, respectively).

Note (2): The labor budget for Community Service Activities is overstated by 192 hours. Therefore, the labor budget will be revised to exclude the overstated hours. Calculated as follows:

Total labor hours (192 hours) x standard labor rate of Teacher/Coach (\$34.70)	\$	6,662
Total labor hours (192 hours) x nonproductive wages rate (\$5/hr)		960
Total adjustment	\$	<hr/> 7,622

Note (3): Costs represent two environmental monitoring programs which are part of the community benefits package relating to HECO's 2009 Campbell Industrial Park generating unit - an Air Quality Monitoring program and a Fish Monitoring program (Docket No. 05-0146). These environmental programs were approved in D&O No. 23514. The costs of these projects are more representative of environmental compliance type of programs, rather than community service activities, for the purposes of this rate case. Refer to D. Giovanni's testimony at HECO T-7 (Production O&M) for inclusion of these costs in the TY 2009 rate case.

Hawaiian Electric Company, Inc.
Company Membership Expenses
Test Year 2009 Estimate (\$ in Thousands)

Adjusted EEI Membership Dues		\$	180
<u>Other Dues:</u>			
Chamber of Commerce of Hawaii	\$	26	
Western Energy Institute		22	
Land Use Research Foundation		17	
Hawaii Employers Council		13	
Better Business Bureau		3	
Western Labor & Management Public Affairs Committee		2	
Total Other Membership Dues			<u>83</u>
Total 2009 Test Year Company Membership Dues		\$	<u><u>263</u></u>

Note: Numbers may not total exactly due to rounding.

Hawaiian Electric Company, Inc.
Estimated EEI Dues
Test Year 2009 Estimate

Membership Dues	Total 2008 EEI Invoice - HECO and subs	Note (1) HECO's Share 66%	Note (2) Legislative Advocacy and Other 40%	Note (3) Lobbying 40%	TY 2009
Regular Activities of EEI	\$ 405,096	\$ 267,585	\$ (107,034)		\$ 160,551
Industry Issues	40,512	26,760		\$ (10,704)	16,056
Mutual Assistance Program	5,000	3,303			3,303
Total	\$ 450,608	\$ 297,647	\$ (107,034)	\$ (10,704)	\$ 179,909

Note: Amounts may not add due to rounding.

Note (1): HECO's share is calculated as follows (revenues per HECO's 2007 Annual Report). The methodology of using total revenues as a basis to allocate the EEI dues is consistent with previous rate cases:

HECO-only 2007 Revenues	\$ 1,385,137
HECO-consolidated 2007 Revenues	\$ 2,096,958
% of HECO's Revenues to Total	66%

Note (2): Amount represents EEI's estimated amount spent on legislative advocacy, legislative policy research advertising, marketing and public relations activities. Amount is based on a 40% estimate which is based on EEI's 2006 actual expenses per HECO T-13, Attachment 1, Page 1 of 2, of the Company's Stipulated Settlement Letter in HECO 2007 Test Year Rate Case dated September 5, 2007. Note, per John Schlenker, EEI Controller, 40% is reasonable for 2007.

Note (3): Amount represents EEI's 2008 estimate of amounts to be spent on issues related to influencing legislation. Obtained % per the 2008 EEI invoice.

Hawaiian Electric Company, Inc.
Ellipse Maintenance Fees
Test Year 2009 Estimate

Note (1)

Month	Software Maintenance Fee	Amend 22	Amend 23	Amend 30	Amend 33	Estimate - Amend 34	BSI	Total (HECO/ HELCO/ MECO)	2009 Est Percent Increase
Jan-09	\$ 18,312	\$ 1,853	\$ 1,142	\$ 301	\$ 378	\$ 750	\$ 1,356	\$ 24,092	
Feb-09	18,312	1,853	1,142	301	378	750	1,356	24,092	
Mar-09	18,312	1,853	1,142	301	378	750	1,356	24,092	
Apr-09	18,312	1,853	1,142	301	378	750	1,356	24,092	
May-09	18,312	1,853	1,142	301	378	750	1,356	24,092	
Jun-09	18,769	1,900	1,170	308	388	751	1,390	24,676	2.5%
Jul-09	18,769	1,900	1,170	308	388	751	1,390	24,676	
Aug-09	18,769	1,900	1,170	308	388	751	1,390	24,676	
Sep-09	18,769	1,900	1,170	308	388	751	1,390	24,676	
Oct-09	18,769	1,900	1,170	308	388	751	1,390	24,676	
Nov-09	18,769	1,900	1,170	308	388	751	1,390	24,676	
Dec-09	18,769	1,900	1,170	308	388	751	1,390	24,676	
Total Ellipse Maintenance Fees								\$ 293,193	
HECO's % Share (Based on total users of HECO/HELCO/MECO)								<u>70%</u>	
Total Test Year 2009 Estimated HECO's Share of Ellipse Maintenance Fees								<u>\$ 205,235</u>	

Note: Numbers may not total exactly due to rounding.

Note (1): Amounts are based on actual invoices paid for the 2007-2008 year and escalated 2.5% on an annual basis beginning June of each year. Amendment 34 is a proposed amendment for the projected additional maintenance costs beginning in 2008.

Hawaiian Electric Company, Inc.
Allocation of Ellipse Software Maintenance Fees
Test Year 2009 Estimate

			% Alloc	% Alloc	% Alloc	% Alloc	Result Alloc	Allocated Amount	NARUC Acct
HECO's portion of Ellipse software maintenance fees per HECO-1404, pg. 5								<u>\$ 205,235</u>	
Work Management Amortization			0.1836						
Capital Expenditures				0.559					
212	212 Constr Proj - Prod				0.072		0.007390	1,517	514
320	320 Manage Trans Construction Proj				0.214		0.021963	4,508	566
420	420 Manage Distri Construction Proj				0.714		0.073280	15,040	598
Production				0.248					
Prod Operation					0.475				
245	245 Monitor Plt Oper Perf - Boiler				0.546		0.011809	2,424	502
246	246 Monitor Plt Oper Perf - Turbo Gen				0.454		0.009819	2,015	505
Prod Maint					0.525				
258	258 Maint Blr Plt & Rel Equip - Predictive				0.625		0.014940	3,066	512
261	261 Maint Stm Turbo Gen & Rel Equip Predictive				0.375		0.008964	1,840	513
Transmission and Distribution				0.193					
Transmission									
Transmission Operation					0.147				
331	331 Oper Trans Fac - OH Line				0.492		0.002563	526	563
333	333 Oper Trans Fac - Substation				0.508		0.002646	543	562
Transmission Maint					0.145				
343	343 Maint Trans OH Line - Predictive				0.682		0.003504	719	571
349	349 Maint Subst Trans Equip - Predictive				0.318		0.001634	335	570
Distribution									
Distribution Operation					0.313	0.309			
461	461 Oper Distri Fac - OH Line				0.309		0.003427	703	583
462	462 Oper Distri Fac - UG Line				0.341		0.003782	776	584
463	463 Oper Distri Fac - Substation				0.350		0.003882	797	582
Distribution Maint					0.395	0.437			
474	474 Maint Distri OH Line - Predictive				0.437		0.006117	1,255	593
477	477 Maint Distri UG Line - Predictive				0.422		0.005907	1,212	594
486	486 Maint Subst Distribution Equip - Predictive				0.141		0.001974	405	592
Accounting/Finance				0.3757					
818	818 Maintain General Ledger, Subledgers, & Statistical Information						0.375700	77,107	[a] 9302
HR/Payroll				0.2466					
766	766 Maintain Employee Records				0.031		0.007645	1,569	921
777	777 Process Payroll				0.969		0.238955	49,042	921
Materials				0.1941					
842	842 Order Materials, Equip., Supplies				0.1		0.019410	3,984	[a] 9302
843	843 Process Invoice & Other Payments				0.649		0.125971	25,854	[a] 9302
850	850 Process Materials & Transaction				0.251		0.048719	9,999	[a] 9302
TOTAL (HECO's portion of Ellipse software maintenance fees)								<u>\$ 205,235</u>	
Sum of [a] - Amt allocated to acct 9302								<u>\$ 116,943</u>	

Hawaiian Electric Company, Inc.
Account 931 - Rent Expense
Test Year 2009 Estimate

EXISTING LEASES	[a] Sq Ft	[b] Monthly Rent per Sq Ft \$	[c]=[a]x[b]		[d]=[a]x note(1) Annual CAM Rent	[e]=[c]+[d] Annual Base & CAM Rent	[f]=[a]x note(1) RPT Credit	[g]= ([e]+[f]) x (4.712%) Annual General Excise Tax	[h]=[e]+ [f]+[g] Annual Rent TY 2007 (\$ 000s)	Reference
			Annual Base Rent	Est Annual CAM						
Central Pacific Plaza (CPP):										
Suite 700	7,598	\$ 1.66	\$ 152,223	\$ 103,723	\$ 255,946	\$ (18,157)	\$ 11,205	\$ 249	See HECO-WP-1410.	
Suite 1010	4,509	1.40	75,756	61,554	137,310	(10,775)	5,962	132	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-B	
Suite 1020/1025/1075	4,532	1.35	73,418	61,868	135,287	(10,830)	5,864	130	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-C	
Suite 1201/1212	2,871	1.65	56,846	39,193	96,039	(6,861)	4,202	93	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-D.	
Suite 1250/1270	1,598	1.35	7,141	21,815	28,956	(3,819)	1,184	26	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-E.	
Suite 1300	9,601	1.55	181,118	131,067	312,185	(22,944)	13,629	303	See HECO-WP-1411.	
Suite 1425	2,788	1.35	46,838	38,060	84,898	(6,663)	3,686	82	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-G.	
Suite 1480	1,242	1.40	20,866	16,955	37,821	(2,968)	1,642	36	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-H.	
Suite 1515	732	1.49	13,077	9,993	23,070	(1,749)	1,005	22	2007 TY Rate Case, CA-IR-299(c) HECO T-13, Attachment 3.	
Suite 1520/1530	2,451	1.66	49,105	33,460	82,564	(5,857)	3,614	80	See HECO-WP-1412.	
Suite 1570	2,969	1.49	53,052	40,531	93,583	(7,095)	4,075	91	2007 TY Rate Case, CA-IR-299(c) HECO T-13, Attachment 4.	
Suite 1710/1750/1760	4,316	1.40	72,509	58,919	131,428	(10,314)	5,707	127	2007 TY Rate Case, CA-IR-299(c) HECO T-13, Attachment 6.	
Total CPP								1,373		
King Street Building	58,313	1.11	781,456	-	781,456	-	36,822	818	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11	
ASB Tower - Training Rooms	15,892	1.25	238,380	215,496	453,876	-	21,387	475	See HECO-WP-1413.	
Pauahi Tower	2,544	2.87	87,730	-	87,730	-	4,134	92	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-N.	
Honolulu Club	3,085	1.25	46,275	35,740	82,015	(2,777)	3,794	83	See HECO-WP-1414.	
Waterhouse - Suite 506	1,662	1.25	24,930	19,254	44,184	(1,496)	1,779	44	2007 TY Rate Case, CA-IR-299(c) HECO T-13, Attachment 8.	
Waterhouse - Suite 404	1,806	1.10	26,006	20,923	46,929	(1,625)	2,135	47	2007 TY Rate Case, CA-IR-299(c) HECO T-13, Attachment 8.	
Waterhouse - Suite 101			Quarterly payments of \$7,925 (no GET)					32	See HECO-WP-1415.	
Waiau Viaduct								15	2007 TY Rate Case, CA-IR-2 HECO T-13, Attachment 11-R.	
Total 2009 Rent Budget								\$ 3,026		
Note (2) adjustment - CPP 1250/1270								21		
Note (3) adjustment - ASB Training Rooms								15		
Total TY 2009 Rent - Adjusted								\$ 3,062		

Note Explanations:

Note: Numbers may not add exactly due to rounding.

(1) For CPP leases, estimated common area maintenance (CAM) costs and real property tax (RPT) credits were estimated based on estimated 2008 figures as follows:

	CAM	RPT
CPP 2008 Estimate	\$ 3,087,587	\$ 540,495
Estimated Annual Increase (3%)	1.03	1.03
Estimated CPP 2009 CAM/RPT	\$ 3,180,215	\$ 556,710
/ Total CPP Sq Ft (Common Interest)	232,959	232,959
/ 12 Months	12	12
Est Monthly 2009 \$ per sq ft	\$ 1.14	\$ 0.20

For Pauahi Tower lease, CAM costs were estimated based on an estimated CAM rate of \$1.0977 per sq ft and escalated 3%. RPT credit is included in the CAM costs.

See HECO-WP-1416.

See HECO-WP-1417.

Note Explanations - continued:

Reference - continued:

For Waterhouse leases, CAM costs were estimated based on actual 2007 CAM rate of \$.91 per sq ft and escalated 3% annually to 2008 and 2009. For RPT credits, assumed \$.15 per sq ft for 6 months (7/09-12/09 for suites 404/506 and 1/09-6/09 for suite 101), based on 2008 RPT credits escalated by 3% and based on the timing of the filing and estimated receipt of the RPT exemption.

See HECO-WP-1418.

For Honolulu Club lease, CAM and RPT credits are included in the base rent.

- (2) Annual base rents are based on existing leases, except as adjusted based on lease terms and/or assumptions below: CPP 1201/1212:

The current lease expires August 31, 2008 and is currently being negotiated. For the purposes of the 2009 budget, assumed a \$1.65 base rate per sq. ft., similar to the CPP 700 lease which was recently negotiated and executed in 2007.

CPP 1250/1270:

The calculation of the 2009 lease is incorrect. The total 2009 annual BASE lease expense for these suites should be \$26,767 in accordance with the existing lease agreement which expires January 31, 2010. Accordingly, the total annual lease expense including CAM, GET and RPT credit should be \$47,000, an increase of \$21,000 from the current 2009 budgeted amount. Therefore, total rent expense will be adjusted at the next opportunity to determine revenue requirements.

CPP 1425:

The current lease expires October 31, 2009. For the purposes of the 2009 budget, assumed a \$1.65 base rate per sq. ft., similar to the CPP 700 lease which was recently negotiated and executed in 2007, beginning November 2009.

Waterhouse 506 and 404:

The current lease expires November 30, 2008 and is currently being negotiated. For the purposes of the 2009 budget assumed a \$1.25 base rate per sq. ft. based on initial renewal discussions.

Waterhouse 101:

The current lease expires April 30, 2009. For the purposes of the 2009 budget, assumed a \$1.25 base rate per sq. ft. based on initial renewal discussions of Waterhouse 506 and 404.

- (3) Budgeted amount is based on an early calculation which has since been updated. The updated amount is \$76,000, approximately \$15,000 more than originally budgeted. Updated amount is based on additional shared costs in addition to rent (e.g., insurance and overhead). Therefore, total ASB training room rent will be adjusted at the next opportunity to determine revenue requirements.

Hawaiian Electric Company, Inc.
Research and Development (R&D) Expenses
Test Year 2009 (\$ in Thousands)

		TY 2009	
<u>NARUC 9302 R&D Expenses:</u>			
EPRI Dues - HECO's Portion - calculation below		\$ 1,657	
Develop & Demonstrate New Technology		424	
<u>Other Long-Term R&D Strategies:</u>			
Oahu Electric System Analysis	\$ 352		
Maui Electric System Analysis Phase 2	75		
Biofuel Agriculture Crop Research Phase 3	50		
Other long-term R&D activities	45	522	
		<hr/>	
Total Account 9302 R&D Expenses		<u>\$ 2,603</u>	
 <u>NARUC 549 R&D Expenses:</u>			
Biofuel Cofiring Project		\$ 649	
Techonology Division Labor and Labor-Related Costs	Note (3)	132	
Renewable Energy Recurring Activities		34	
Other Production R&D Costs		84	
		<hr/>	
Total Account 549 R&D Expenses		<u>\$ 899</u>	
 Various NARUC Operation and A&G R&D Expenses			
		<u>\$ 31</u>	
 <u>EPRI Dues - HECO's Portion:</u>			
Total Estimated EPRI Dues		\$ 1,608	[b]
Budget adjustment		49	[a]-[b]
Total 2009 Company-wide EPRI Dues	Note (1)	\$ 2,085	
HECO's Portion - UPDATED	Note (2)	79.435%	
Total TY 2009 Estimated EPRI Dues		<u>\$ 1,657</u>	[a]

Note: Numbers may not total exactly due to rounding.

Note (1): Amount represents the fixed annual EPRI membership dues per the 5-year EPRI Membership Agreement between HECO and EPRI expiring December 31, 2011.

Note (2): HECO's portion of the total EPRI dues is based on the below allocation:

HECO TY 2007 Docket No. 2006-0386, Interim D&O No. 23749	3,174	79.435%
HELCO TY 2006 Docket No. 05-0315, (HELCO T-9, pg. 75)	324	8.109%
MECO TY 2007 Docket No. 2006-0387, (MECO T-9, pg. 68)	498	12.456%
Total	<u>3,996</u>	

Note (3): Amount represents the labor and labor-related costs of HECO's Technology Division, which is comprised of a Director, Senior Energy Specialist and Project Aide, whose work cannot be directly attributable to specific projects.

Hawaiian Electric Company, Inc.
Research and Development Expenses
2004 to Test Year 2009 Estimate (\$ in Thousands)

Description of R&D Activity	Recorded				Forecast 2008	Test Year 2009
	2004	2005	2006	2007		
EPRI Dues	1,529	1,529	-	1,608	1,608	1,657
Advanced Meter & Customer Outage	-	177	-	-	-	-
Advanced Meter Infrastructure	-	-	146	383	442	414
Power Line Carrier	-	(11)	-	-	-	-
Broadband over Powerlines - McCully Trial	605	101	1	-	-	-
Broadband over Powerlines - Phase 1 Pilot	-	423	40	40	-	-
Residential Use per Customer Study	-	58	-	-	-	-
Sales Forecast Study	-	-	113	-	-	-
Fuel Additive Testing	-	-	488	-	-	-
Biofuel Feedstock Policy	-	-	-	75	-	-
Critical Peak Pricing	-	-	-	51	-	-
Grid Code Study	-	-	-	27	-	-
Biofuel Agriculture Crop Research	-	-	-	52	50	50
Biofuel Economic Analysis	-	-	-	-	121	-
Biofuel Co-Firing Project	-	-	-	-	-	649
Maui Electric System Analysis	-	-	-	89	255	75
Oahu Electric System Analysis	-	-	-	-	15	352
Electronic Shock Absorber	151	265	30	23	-	-
Technology Cost Allocation	18	31	31	29	27	34
Local EPRI Matching Funds - Note (3)	377	55	-	260	235	-
Renewable Energy Initiatives - Note (3)	-	77	279	157	119	-
Biofuels/Biomass Initiatives - Note (3)	-	140	(14)	105	100	-
Renewable Energy Recurring Activities	-	4	6	22	34	34
Technology Division	158	275	234	174	108	132
HNEI Fuel Cell Facility License	32	32	32	32	32	32
Other - Note (1)	97	119	51	141	67	104
Estimated GL code reversals - Note (2)	(144)	(135)	(146)	-	-	-
Total R&D	2,823	3,140	1,291	3,268	3,213	3,533

Note: Numbers may not total exactly due to rounding.

Note (1): Amounts include miscellaneous R&D costs of accounts 9302 (activities 730 and 731), account 549, and other various accounts.

Note (2): Refer to Ms. Patsy Nanbu's testimony at HECO T-11 for information related to GL code reversed amounts under account 922 - Administrative Expenses Transferred discussion. For 2007 - 2009, the GL code reversal amounts are allocated to each respective R&D project/activity within that year.

Note (3): For the 2009 test year, the budgets of these activities have been put toward the Biofuel Co-Firing Project.

GE/HNEI Maui Electrical System Analysis

As stated in MECO's IRP-3 Plan filed April 30, 2007, the electric system on Maui is being analyzed in a study conducted similar to Hawaii Energy Roadmap Study for the Big Island of Hawaii, which has been conducted by GE Global Research Center (GEGRC) under contract to the University of Hawaii's Hawaii Natural Energy Institute (HNEI). HNEI/GEGRC proposed, and HECO funded (with U.S. Department of Energy (USDOE) and HNEI cost sharing), a similar effort entitled Maui Electrical System Analysis, which includes initial data collection and preliminary analysis of the suitability of this data for future model (MAPS and PSLF models) development of the Maui grid. MECO is making its data available to support the study and HECO agreed to provide up to \$344,000 to support not only the data collection and analysis but also development and validation of the system models (over the 2007 and 2008 time period).

As part of the electrical system analysis, the impact of current wind turbine energy on the Maui system will be modeled and evaluated. In addition, the study will evaluate the utilization of available mitigating technology to address the effect of wind variability on grid frequency, and the potential impact of additional wind farms being added to the system. This analysis will assist in determining the amount, if any, of additional intermittent generation the system can reasonably accept without unduly impacting the reliability and operability of the island grid.

In Phase 1, a detailed technical and economic model of the existing electrical infrastructure of the MECO grid is being developed, using information and models provided by MECO, to establish a baseline condition. The transient and production cost models will be validated against MECO historical data to achieve confidence in the fidelity of the approach. After completing validation of the baseline model, the project will proceed to a subsequent phase that is yet to be scoped, and may analyze the technical and economic impact of infrastructure expansion scenarios relative to the baseline condition. The scope, parameters and evaluation criteria for the subsequent phase will be formulated jointly by HNEI, GEGRC, HECO and MECO based on the results obtained from prior phase analyses and the needs of MECO.

The GEGRC scoping document notes that the increasing content of renewable energy resources on Maui is creating regulation, load following, dispatch and unit commitment challenges to the operation of the MECO grid. The intermittent nature of the current wind farm's output has identified the need for several system modifications to optimize operations in order to accommodate the wind farm production. The main objective of the proposed effort is to develop a baseline model of the electrical infrastructure on the MECO grid to characterize these challenges today, and to serve as a reference point for future scenario analyses exploring different renewable energy and mitigating measure configurations of interest to the MECO planners. Specifically, the study will develop stability and production cost models to identify the impact on technical performance and operating economics associated with as-available generation on the Maui grid.

The tasks identified for Phase 1 include:

Task 1.0: Data Consolidation and Preliminary Model Feasibility Analysis

Task 2.0: Data Evaluation, Completion and Manipulation

Task 3.0: System Model Development

Task 4.0: Baseline Model Validation

Task 5.0: Preparation of Phase 2 Proposal

According to the scoping document, the data provided by HECO/MECO, and augmented by GEGRC in Task 2, will be used in Task 3 to populate different simulation models to analyze different aspects of the Maui power system. The models are:

1. Transient dynamic system model in PSLF, for
 - Steady-state or load flow analyses,
 - Transient stability analyses, including generation assets and their excitation and governor controls, and
 - Long-term dynamic analyses, especially suited for analysis of the impact of wind generation in the minutes timescale. The model includes governor controls of generating units and the regulation function of AGC.
2. Production cost model, in MAPS, capturing
 - Hourly Dispatch and Unit Commitment,
 - Fuel consumption,
 - NO_x, SO_x, CO₂ Emissions, and
 - Variable cost of production (actual production cost, rather than purchase price from IPPs to MECO).

The system details captured in the PSLF model will include:

- Electrical characteristics of transmission network assets;
- Generator rotor flux transients and inertial effect;
- Generator controls – governor models and excitations systems;
- Relevant characteristics of wind turbines with doubly fed inductions generators and power electronic converters; and
- Relevant characteristics of power electronic interfaced storage devices.

The system details captured in the MAPS model will include:

- Analysis;
- Unit Dispatch and Commitment rules;

- Unit heat rate – variable O&M costs;
- Hourly wind power profiles, by wind plant;
- Hourly load power profiles, by subtransmission node;
- Transmission thermal and other specified constraints; and
- Transmission losses.

According to the scoping document, Task 4 will provide a validation analysis of the model performance. Validation will be performed over three analytical time frames:

1. Regulation (seconds to minutes). Validation of the models in this timeframe will be demonstrated by performing the following comparisons between model predictions and historical results: The PSLF model will be driven with historical wind production and load data. Predicted system frequency will be compared against historical system frequency for the same time window.

2. Load-following (minutes to hours). Validation of the models in this timeframe will be demonstrated by performing the following comparisons between model predictions and historical results: The PSLF model will be driven with historical wind production and load data. Predicted system frequency will be compared against historical system frequency for the same time window. Variation of historical data of power productions of generators will be compared with PSLF results.

3. Unit commitment and dispatch (hours to days). Validation of the models in this timeframe will be demonstrated by performing the following comparisons between model predictions and historical results: The MAPS model will be driven with one year's worth of hourly historical wind production and load data. Predicted system dispatch, energy production, and fuel consumption will be compared against historical system dispatch for the same time window.

In Task 5, GEGRC will work with HNEI, HECO and MECO to establish the parameters and objectives for the Phase 2 analyses.

MECO received the Deliverable for Task 3 on June 10, 2008, and a Tollgate #3 Review was held on June 16, 2008 at MECO. Upon review and acceptance of Task 3 by MECO, HECO, and HNEI, GEGRC will continue work on the model validation. An updated schedule is being developed with a model validation, or Task 4 completion, scheduled for the end of August 2008.

Phase 2 of the project has not been contracted or scheduled. It is anticipated that Phase 2 will commence after Phase 1 is completed.

Hawaiian Electric Company, Inc.
Depreciation and Amortization Expense
For Years 2003 - 2009 (\$ in Thousands)

Line	Recorded 2003	Recorded 2004	Recorded 2005	Recorded 2006	Recorded 2007	(A) Estimate 2008	(B) Test Year Estimate 2009
1 Depreciation Accrual	75,603	78,314	79,826	84,358	88,778	91,663	93,089
2 Less: Depreciation on vehicles	(1,320)	(1,473)	(1,774)	(1,812)	(1,790)	(1,978)	(2,140)
3 Amortization of CIAC	(6,924)	(7,287)	(7,484)	(8,056)	(8,488)	(9,009)	(9,295)
4 Amortization of Federal ITC - Note (1)	(1,020)	(976)	(905)	(847)	(764)	(719)	(644)
5 Amortization of SFAS 109 reg asset- Note (1)	604	697	814	945	1,021	2,033	2,173
6 Depreciation Expense	<u>66,943</u>	<u>69,275</u>	<u>70,477</u>	<u>74,588</u>	<u>78,757</u>	<u>81,990</u>	<u>83,183</u>

Note (1): Amortization of Federal ITC is included in depreciation expense in accordance with the SFAS 109 method of accounting for income taxes as described in Mr. Lon Okada's testimony in HECO T-16.

Source:

See HECO-1410 for Columns A & B, lines 1 and 2.
See HECO-WP-1402 for Columns A & B, line 3.

Hawaiian Electric Company, Inc.
Accumulated Depreciation
For Years 2003 - 2009 (\$ in Thousands)

Line	Recorded 2003	Recorded 2004	Recorded 2005	Recorded 2006	Recorded 2007	(A) Estimate 2008	(B) Test Year Estimate 2009
1	877,401	939,595	988,061	1,050,526	1,122,193	1,174,518	1,242,691
	Plus:						
2	75,603	78,314	79,769	84,358	88,778	91,663	93,089
3	297	279	170	221	198	260	276
	Less:						
4	(9,665)	(25,354)	(10,273)	(7,217)	(29,512)	(17,201)	(16,027)
5	(4,041)	(4,773)	(7,138)	(5,909)	(7,136)	(6,549)	(6,782)
6			(63)	214	(3)		
7	939,595	988,061	1,050,526	1,122,193	1,174,518	1,242,691	1,313,247

2008 UPDATE:

Note (1): Reclassification of accumulated depreciation for E-business from utility to non-utility (approximately \$74K, net) offset by entry to establish ARO accumulated depreciation (approximately \$11K) in 2005. Reclassification of accumulated depreciation for the Interisland Communication System from non-utility to utility (approximately \$214K) in 2006. Reversal of depreciation for hydrogen cylinders which were should have been expensed in 2007.

Note (2): Effective in 2004, retirements include retirement of assets subject to vintage amortization accounting.

Source:

See HECO-WP-1401 for Columns A & B, lines 2 and 4.
See HECO-WP-1403 for Columns A & B, lines 3 and 5.

Hawaiian Electric Company, Inc.
Depreciation and Amortization Accrual
2008-2009 (\$ in Thousands)

Line	Plant Group	(A) Depreciable Plant at 1/1/08	(B) Composite Rate	(C) Estimate 2008 Dep Accr	(D) Depreciable Plant at 1/1/09	(E) Composite Rate	(F) TY Estimate 2009 Dep Accr
1	Production	567,172	1.6891%	9,580	593,704	1.6870%	10,016
2	Transmission	581,274	2.9119%	16,926	596,670	2.9118%	17,374
3	Distribution - Note (2)	1,147,216	4.2988%	49,317	1,186,357	4.2988%	50,999
4	General - Note (1)	173,200	8.0035%	13,862	175,088	7.1735%	12,560
5	Vehicles	27,214	7.2683%	1,978	29,439	7.2693%	2,140
6	TOTAL	2,496,076	3.6723%	91,663	2,581,258	3.6063%	93,089

Note (1): General 2008 and 2009 Dep Accr includes depreciation of leasehold improvements of \$66,000.
Also, the depreciation accrual includes net unrecovered amortization of \$3,298,000 in 2008 and \$1,924,000 in 2009.

Note (2): Distribution depreciable plant includes ARO asset amounting to \$14,000 and \$13,000 at 1/1/08 and 1/1/09, respectively.

Note (3): Note that the depreciable plant balances above exclude land.

Source:
See HECO-WP-1401 for Columns A, C, D and F.

Hawaiian Electric Company, Inc.
Summary of Plant Balances, Accumulated Depreciation
and Annual Dep and Amortization Accruals
For Years 2003 - 2009 (\$ in Thousands)

Line	Year	[A] Dep Plant at Beg of Yr	[B] Depr Accrual Note (1)	[C]=[B]/[A] As % of Plant	[D] Acc Depr at Beg of Yr	[E]=[D]/[A] As % of Plant
1	2003	2,024,963	75,603	3.73%	877,401	43.33%
2	2004	2,085,866	78,314	3.75%	939,595	45.05%
3	2005	2,204,392	79,769	3.62%	988,061	44.82%
4	2006	2,296,683	84,358	3.67%	1,050,526	45.74%
5	2007	2,420,391	88,778	3.67%	1,122,193	46.36%
6	Estimate 2008	2,496,076	91,663	3.67%	1,174,518	47.05%
7	TY Estimate 2009	2,581,258	93,089	3.61%	1,242,691	48.14%

Note (1): Includes amortization and depreciation on leasehold improvements and vehicles

Source:

See HECO -WP-1401 for Columns A, B and D, lines 6 and 7.

Hawaiian Electric Company, Inc.
Account 932 - Maintenance of General Plant
Test Year 2009 Estimate (\$ in Thousands)

		TY 2009
Total estimated annual recurring maintenance (Note 1)		\$ 681
Total estimated non-recurring maintenance (Note 2)		
Ward parking structure ramp repairs - Ewa end	\$ 444	
Ward parking structure ramp repairs - Diamond Head end	628	
Total 2009 non-recurring maintenance projects	<u>1,072</u> [a]	1,072
Non-recurring maintenance normalization adjustment (Note 3)		<u>(188)</u> [d]-[a]
Total 2009 Test Year Maintenance of General Plant		<u>\$ 1,565</u>

Note: Numbers may not total exactly due to rounding.

Note (1): The estimated recurring maintenance amount includes an upward budget adjustment of \$88,000 related primarily to King Street building repairs and maintenance work. This adjustment amount was originally included in account 920/921 but reclassified in accordance with NARUC account guidelines. Refer to corresponding deduction adjustment at Ms Patsy Nanbu's testimony at HECO T-11.

Note (2): The original budget for account 932 did not include these 2009 budgeted Ward parking structure ramp repairs. These amounts were reclassified from account 920/921 in accordance with NARUC account guidelines. Refer to corresponding deduction adjustment at Ms Patsy Nanbu's testimony at HECO T-11.

Note (3): The calculation of a normalized non-recurring general maintenance amount is based on a 3-year average of on-going and budgeted non-recurring general maintenance projects for the 2009 test year estimate. Since the majority of the non-recurring maintenance projects is nonlabor, the normalization adjustment will be reflected in nonlabor at HECO-1401. Calculation of the normalized non-recurring maintenance is as follows:

2008 Non-recurring projects

Ward parking structure covered level improvements	\$ 254	
Ward parking structure ramp wall repairs	626	
Total 2008 non-recurring maintenance projects	<u>880</u> [b]	

2010 Non-recurring projects

Ward cafeteria roof improvements	\$ 85	
Ward parking structure stairwell improvements	177	
Ward fire doors replacement	20	
Ward cafeteria deck coating	7	
Ward parking structure waterproof	60	
King St. building paint/waterproof	351	
Total 2010 non-recurring maintenance projects	<u>700</u> [c]	

Total Normalized Non-recurring projects (3-yr avg, 2008-2010)	<u>884</u> [d]=([a]+[b]+[c])/3
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Hawaiian Electric Company, Inc.
Miscellaneous General Expenses Variances by Account
(Over \$200,000 and 10%)

Acct	Codeblock	2007 Recorded	2009 Budget	Inc/(Dec)	% Inc/ (Dec)	Explanation
928	PNP735PHENENPNPZZZZ901	508,938	759,547	250,609	49	These costs relate to the amortization of rate case expenses. A downward normalization adjustment was applied to the 2009 budget to derive the test year 2009 estimate of \$440,000.
9302	P4V755PHENENPAPRESI501	-	380,550	380,550	-	These costs relate to the Company's estimated 2009 HECO Board of Directors' fees and expenses. Variance is due to the change in codeblock used. See below.
9302	P9V755PHENENPAPRESI501	260,616	-	(260,616)	(100)	These costs relate to the Company's estimated 2007 HECO Board of Directors' fees and expenses. Variance is due to the change in codeblock used. See above.

TESTIMONY OF
FAYE CHIOGIOJI

MANAGER
WORKFORCE STAFFING AND DEVELOPMENT
HAWAIIAN ELECTRIC COMPANY, INC.

Subject: Employee Headcount

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1 INTRODUCTION

2 Q. Please state your name and business address.

3 A. My name is Faye Chiogioji, and my business address is 220 South King Street,
4 Suite 700, Honolulu, Hawaii, 96813.

5 Q. By whom are you employed and in what capacity?

6 A. I am the Manager of Workforce Staffing & Development for Hawaiian Electric
7 Company, Inc. ("HECO"). My educational background and experience are shown
8 in HECO-1500.

9 Q. What is your area of responsibility in this proceeding?

10 A. I am responsible for presenting the Company's total average number of employees
11 budgeted for the test year 2009. In my testimony I will address staffing additions
12 for the following areas:

- 13 1) President's Office (including Corporate Audit and Compliance);
- 14 2) Corporate Excellence;
- 15 3) Finance (except for General Accounting);
- 16 4) Legal/Land and Rights of Way;
- 17 5) Energy Solutions;
- 18 6) Public Affairs;
- 19 7) Corporate Relations; and
- 20 8) Government and Community Affairs.

21 I am also responsible for addressing the employee counts for the offices
22 of the Senior Executive Vice President/Chief Operating Officer, Vice President-
23 Customer Solutions, Senior Vice President-Operations, Vice President-Energy
24 Delivery, and Vice President-Power Supply.

1 Q. Who discusses the need for the additional employees in the other departments?

2 A. The following individual witnesses will address the estimated number of positions
3 required by their departments in their respective testimonies:

4 1) D. Giovanni - Power Supply (HECO T-7);

5 2) R. Young –Energy Delivery (HECO T-8);

6 3) D. Yamamoto - Customer Service (HECO T-9);

7 4) A. Hee - Customer Solutions (HECO T-10); and

8 5) P. Nanbu - General Accounting (HECO T-11).

9 HECO-1501 lists the witnesses who are responsible for discussing
10 employee counts for each respective department.

11 ORGANIZATION STRUCTURE

12 Q. What is the current HECO management organization structure, including reporting
13 relationships among the departmental organizations?

14 A. The management organization chart in HECO-1502 shows the current HECO
15 management organization structure and reporting relationships.

16 Q. Have there been changes in the organization and positions that you reflect in your
17 chart?

18 A. Yes. Within the past year, there have been changes to functional reporting
19 relationships. These changes include:

20 President's Office

- 21 • The Senior Executive Vice President/Chief Operating Officer's
22 ("SEVP/COO") office was established as a direct report to the President to
23 oversee day-to-day utility operations.

1 Senior Executive Vice President/Chief Operating Officer's ("SEVP/COO")
2 Office

- 3 • Senior Vice President Public Affairs position promoted to Executive Vice
4 President Public Affairs; moved from directly reporting to the President to
5 directly reporting to SEVP/COO;
6 • Senior Vice President Operations, Senior Vice President Energy Solutions,
7 and Senior Vice President Finance and Administration (Financial Vice
8 President was promoted to this position, see explanation that follows) moved
9 from direct reports to the President to direct reports to the SEVP/COO.

10 Senior Vice President (SVP) Finance and Administration

- 11 • Financial Vice President promoted to SVP Finance and Administration,
12 directly reporting to the SEVP/COO instead of the President; oversight
13 responsibility expanded to include Vice President/General Counsel's and Vice
14 President Corporate Excellence's areas.

15 These changes were made to better align responsibilities with strategic direction.

16 The various witnesses will discuss staffing based on the management organization
17 chart in HECO-1502

18 TOTAL AVERAGE NUMBER OF EMPLOYEES

19 Q. What is the Company's total average number of employees for the test year 2009?

20 A. The Company's test year 2009 average number of employees totals 1,621 as shown
21 in HECO-1503. The average number of employees was determined for the period
22 from January 1, 2009, through December 31, 2009 by summing the employee count
23 budgeted at the beginning of January and the total number of employees budgeted
24 at the end of each month in the test year, then dividing by 13 (HECO-WP-1500).

1 Q. How did you estimate the January 1, 2009, employee count?

2 A. In the test year, it is assumed that the labor costs for the same number of employee
3 positions are forecast from the first day of each month through the last day of the
4 month. The January 1st employee count is identical to the employee count at the
5 end of the month and is reflected twice in the calculation.

6 Q. Please define “number of employees.”

7 A. The employee count includes regular, temporary and probationary employees, but
8 excludes temporary agency help and other contractors hired on a contractual basis.
9 For purposes of the rate case, it also excludes the employees whose labor expenses
10 are recovered through the Demand-side Management (“DSM”) adjustment
11 surcharge. Further detail on the DSM adjustment may be found in Mr. Alan Hee’s
12 testimony at HECO T-10.

13 Q. How were the estimates of the number of employees developed?

14 A. The estimates were developed as part of the budgeting process. Generally,
15 managers establish the personnel requirements for their organizations by first
16 reviewing factors such as the planned workload (e.g., capital projects, non-capital
17 projects, nonrecurring activities or normal day-to-day activities). This step helps to
18 determine the labor “demand” that will be required to accomplish the work.

19 The manager also reviews what may occur within the existing workforce
20 (e.g., anticipated retirements during the forecast period, in order to determine the
21 supply of labor). When the labor demand exceeds the labor supply available, the
22 individual work activities are prioritized and certain work is identified to be
23 performed on an overtime basis, or contracted out, or performed by temporary
24 personnel, or, in some cases, deferred. If the demands on existing staff are

1 excessive, or if the additional workload is expected to be ongoing, additional staff
2 may be hired.

3 Q. How does the test year average budgeted count of 1,621 compare to HECO's most
4 recent actual employee count?

5 A. As shown in HECO-1503, the actual number of employees on HECO's payroll on
6 March 31, 2008, was 1,500. The 2009 forecasted average test year employee count
7 represents an increase of 121 employees.

8 Q. Why does HECO require these additional employees?

9 A. As explained by the Operations and Maintenance ("O&M") witnesses, HECO
10 requires these additional employees, or their equivalent labor costs, to perform the
11 work that the Company expects to complete in 2009. By reflecting the resource
12 requirements as regular employees, the Company also has forecasted the associated
13 labor costs that are required to perform such work.

14 Q. Can the Company increase overtime in place of hiring additional employees?

15 A. Yes, but only for a limited time. Excessive overtime experienced over a long
16 period of time will lead to employee fatigue which results in lower quality work.
17 Also, it may lead to lower morale and lower productivity and eventually to the
18 employee leaving the Company.

19 Q. Can the Company continue to use contractors and temporary help to complete its
20 work requirements?

21 A. It can to some extent. Where very specialized and nonrecurring tasks are required
22 to be performed, the hiring of contractors or agency workers on a temporary basis
23 may be the most cost effective method for the Company to perform its work. In
24 cases where it has been difficult to fill positions, HECO has had to supplement its
25 workforce through the use of consultants, contractors and agency temps, in addition

1 to increasing overtime for existing staff. But, generally, hiring regular employees
2 to perform the normal, routine, and ongoing duties is more cost efficient and
3 effective than using temporary workers or contractors in the long run.

4 Q. Why would regular employees be more efficient and effective over the long-term?

5 A. The advantages of having regular employees rather than consultants, contractors or
6 temporary workers are that employees will be knowledgeable and conversant with
7 the Company-specific issues, eliminating the learning curve impacts and associated
8 time that is required by outside parties to learn the subject matter. Rather than the
9 Company conducting a search and negotiation for each specific circumstance, the
10 knowledge gained by regular employees on the job will allow the Company to
11 assign and reassign these resources with greater flexibility to various duties and
12 functions. Furthermore, the quality of work produced by regular employees will be
13 more consistent and in line with what management expects because of the direct
14 supervision and daily communication that will take place. Having a more efficient
15 and effective workforce lowers costs in the long-term which is a benefit to the
16 Company and to its ratepayers.

17 Q. What adjustments were made to the employee counts in the Operating Budget to
18 develop the test year estimates?

19 A. There were three adjustments made for the test year. The first adjustment was the
20 elimination of one position from the Safety, Security and Facilities Department
21 (“SSF”). Therefore, the manual reduction in employee count is reflected in
22 HECO-WP-1501, and the corresponding adjustment to labor dollars is discussed by
23 Power Supply witness Dan Giovanni in T-7.

24 The second adjustment was made to transfer one position from the Customer
25 Technology Applications Division to the Energy Services Department.

1 Consequently, the Customer Technology Applications Division will reflect a
2 decrease in employee count by one with a corresponding increase to the Energy
3 Services Department by one as discussed by Alan Hee in HECO T-10.

4 The final adjustment was the net removal of five DSM employees from the
5 Energy Services Department. As Mr. Alan Hee discusses in HECO T-10, the
6 Company has removed the DSM employees whose costs are recovered through the
7 DSM surcharge and have been removed from the test year as well. All of these
8 adjustments are reflected in HECO-WP-1501.

9 Q. The level of employees included in the adjusted budget as of January 1, 2009 is
10 1,621, as shown in HECO-WP-1501. Does HECO expect to have that number of
11 employees on board as of January 1, 2009?

12 A. No. The estimated employee count as of December 31, 2008 (taking into account
13 the DSM adjustment) is 1,570 as shown on HECO-1503.

14 Q. Please explain the purpose of the 2008 Projected End-of-Year estimate.

15 A. The 2008 Projected End-of-Year estimate of 1,570 was developed by the
16 Workforce Staffing and Development Department as part of its internal work plan
17 for the remainder of 2008. It is included to show the Company's best estimate of
18 the number of employees that will be on its payroll at the end of 2008.

19 Q. Please explain why the 2008 Projected End-of-Year estimated employee counts are
20 not used as a surrogate for the January 1, 2009 employee count estimate in the
21 calculation to determine the Company's average test year employee count.

22 A. The 2008 Projected End-of-Year estimate is used for internal work planning and is
23 continually updated as information on retirements, transfers and new positions
24 becomes known. It does not reflect all of the labor resource requirements that are
25 needed to get the work done. As such, it has no relationship to the 2009 test year

1 budget, and it would be inappropriate to include it in the calculation of the average
2 employees in the test year.

3 Q. Why weren't more adjustments made to the test year O&M expenses to reflect the
4 fact that a significant number of positions would not be filled at the beginning of
5 2009?

6 A. The short answer is that that would result in a significant understatement of the
7 O&M expenses expected for 2009, unless upward revisions also were made to
8 reflect the additional overtime, contract services and temporary hires that would
9 have to be incurred or added to supplement the workforce in order to accomplish
10 the expected work load.

11 In each O&M area, witnesses were asked to make such an adjustment if the
12 additional work was expected to be deferred beyond 2009, but not if the work was
13 expected to be accomplished through other means that would result in the
14 incurrence of O&M expenses, or if the additional employees were expected to be
15 hired shortly after the beginning of 2009.

16 Q. Please explain how work is expected to be "accomplished through other means that
17 would result in the incurrence of O&M expenses."

18 A. As discussed by the O&M Witnesses, when work cannot be deferred, departments
19 will increase the use of supplemental labor (hiring of consultants, contract
20 employees or agency temps) and/or schedule its qualified personnel to work greater
21 amounts of overtime.

22 Q. Please discuss how HECO temporarily reassigns work to merit exempt employees
23 in addition to their regular responsibilities.

24 A. Many of HECO's exempt merit employees were promoted from within the
25 Company and possess key knowledge and skills from previous jobs held. At times

1 when a position becomes vacant and an immediate replacement is not found,
2 HECO's exempt merit employees take on additional work to ensure that key duties
3 and tasks are performed, ensuring that reliability and service to customers are not
4 compromised.

5 This practice is, at best, a temporary measure that cannot continue for an
6 indefinite period of time. After a while, if the vacancies are not filled, certain work
7 will not get done and employee morale and effectiveness will decline.

8 Q. Are merit exempt employees paid additional compensation to temporarily take on
9 responsibilities in addition to their regular responsibilities?

10 A. Merit employees classified as exempt are not paid for overtime. This group of
11 exempt employees includes non-bargaining supervisory, professional and
12 managerial level employees who are responsible for overall results of their assigned
13 areas. While many exempt employees work beyond the standard 40-hour work
14 week, no additional compensation is paid to these employees except under extreme
15 circumstances, such as severe storms and when approved by the HECO President.
16 The only exception are merit supervisors of bargaining unit employees who receive
17 extra straight time pay for hours worked in excess of 40 hours per week while
18 directly supervising bargaining unit employees.

19 THE HIRING PROCESS AND RECRUITMENT

20 Q. Please describe HECO's hiring process.

21 A. The hiring process begins when a department submits a Job Vacancy Requisition
22 (JVR) to Workforce Staffing and Development. With the receipt of the JVR,
23 Workforce Staffing and Development then begins the recruitment process which
24 takes a minimum of four weeks.

25 Q. Please explain why it takes a minimum of four weeks to recruit new employees.

1 A. An overview of the hiring process is illustrated in HECO-1504. As described in
2 this exhibit, HECO utilizes a rigorous multi-step recruitment process and each step
3 requires a certain time to complete. And, although the process has not changed
4 within the past few years, the Company has significantly decreased the minimum
5 time required to complete the process from six to four weeks.

6 HECO's recruitment process begins with the posting of a vacancy within
7 the Company, followed by or sometimes concurrently with postings at HECO's
8 affiliate companies. External recruitment may also take place during the internal
9 and affiliate posting period.

10 External recruitment includes sending the job vacancy, via fax or e-mail,
11 to the Department of Labor and Industrial Relations, various military organizations,
12 community colleges, and other organizations that ensure equal employment
13 opportunity. HECO advertises its vacancies in local newspapers, on its website, on
14 its telephone employment hotline and will advertise some difficult-to-fill positions
15 in the mainland via various internet sites or professional publications. HECO also
16 recruits at career and job fairs sponsored by the University of Hawaii, community
17 colleges, and various other community organizations.

18 After a pool of applicants is identified, the selection process begins. The
19 hiring supervisor and his or her team must review the applications, conduct
20 interviews, and review job skills test results. These steps may take from a few
21 weeks to several months. Once a selection is made, the hiring supervisor must
22 receive approval on the proposed salary from the Compensation Division, and final
23 approval from within his or her process area before making the job offer.

24 Obtaining this approval may take one to five days.

25 Q. Is this hiring process followed for all HECO positions?

1 A. For the most part. However, for bargaining unit entry-level positions, pre-
2 employment testing is also required. Pre-employment testing assists the Company
3 in screening and evaluating where there may be several hundred applicants for a
4 position. In the case of entry-level positions, HECO draws a large number of
5 applicants, and processing the applications can be time consuming. The greater
6 difficulty, however, lies in identifying qualified applicants with the aptitude for
7 success in the job and the ability to move along lines of progression. The testing
8 program helps to identify such candidates, and for some positions, multiple tests
9 are required. As noted in HECO-1504, this testing may extend the hiring process
10 for an additional three to six weeks.

11 HECO-1505 describes the hiring process for Linemen positions, which
12 begins with hiring Senior Helpers at the entry level, and illustrates the timeframes
13 involved in filling a position. As shown on this exhibit, although a large number of
14 applicants may apply, a much smaller percentage actually makes it to the interview
15 stage.

16 Q. What challenges does HECO face in recruiting qualified candidates for its job
17 openings?

18 A. HECO has experienced several challenges to successful recruitment and hiring.
19 Low unemployment rates, high paying jobs in construction and other industries, a
20 reduction in power engineering graduates nationwide and an industry-wide
21 shortage of skilled utility workers have resulted in strong competition for
22 candidates. During the past three years, Hawaii has experienced low levels of
23 unemployment. The annual average unemployment rate for the state has dropped
24 from 4% in 2002 to 2.5% in 2006, before gradually increasing to 2.7% in 2007
25 (Hawaii Department of Labor & Industrial Relations, Research and Statistics

1 Office, Hawaii Workforce Informer, Historical Unemployment Rates “Seasonally
2 adjusted data, 1976 to present,”
3 <http://www.hiwi.org./admin/uploadedPublications/468_SADJLAUS.pdf>,
4 accessed on May 26, 2008). From May 2006 through the end of 2007, Hawaii
5 remained among one of five states with the lowest unemployment rates in the
6 nation. Hawaii does not have an adequate supply of power engineers and
7 journeypersons in line and power plant maintenance work. For engineers, HECO
8 has expanded its recruitment to the mainland which has extended the time required
9 to fill many of the Company’s engineering vacancies. In 2009, two recruitment
10 trips are planned to colleges specializing in power engineering. For journey-level
11 line and power plant maintenance employees, HECO hires at the entry or less-
12 skilled level and develops these employees through apprenticeship or trainee
13 programs. Mr. Robert Young in HECO T-8 describes the apprenticeship program
14 that develops Linemen from Senior Helpers.

15 Compliance requirements have also increased the time it takes to fill a
16 job. For example, a decision by the Ninth Circuit Court in 2005 (Leonel v.
17 American Airlines, Inc., No.03-15890 (9th Cir. 2005)) resulted in a change to the
18 Company’s post-offer process. That decision clarified for all employers that
19 physical examinations (such as functional capacity tests and drug screens) must be
20 the last step in the hiring process in order to comply with Title 1, 42 U.S.C.,
21 §12112(d)(3) of the Americans with Disabilities Act. Previously, HECO
22 coordinated the background check and physical exam at the same time. Changing
23 from concurrent to sequential procedures has extended the hiring process by at least
24 three days to sometimes up to a month if foreign background checks are required.

1 HECO also experiences delays because there are a limited number of
2 occupational medicine service providers who are able to provide the range of
3 services required, such as post-offer drug screens and physical examinations.
4 These providers have limited staff, a situation which also extends the time involved
5 in processing and hiring a new employee. For example, chest x-rays are required
6 for certain positions. For the past two years, only one x-ray physician at Straub is a
7 “B-Reader,” a certification required by the Occupational Safety and Health
8 Administration (OSHA. 1910.1001, Appendix E: Interpretation and Classification
9 of Chest Roentgenograms (X-Ray)...Mandatory... (a) (b) & (c) ... For workers with
10 asbestos exposure...). Work waits when he is not available. The situation is worse
11 with the other local provider whose service hours are limited. This causes test and
12 exam results to take longer to be received, and results are provided piecemeal,
13 requiring time-consuming tracking and coordination on HECO’s part. It now takes
14 more than a week from the prospective employee's appointment to obtain the
15 examination results, whereas five years ago it took only 2-3 days.

16 As discussed later, HECO has made significant changes to shorten the
17 time to fill a vacancy; however, these strides have been offset by these and other
18 challenges in finding qualified candidates. In 2001, the average time to fill
19 positions was 45 days. The average time to fill positions in subsequent years was
20 as follows:

Average Time to Fill	
Year	Number of Days
2002	55
2003	58
2004	77
2005	67
2006	49
2007	51

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Q. What has HECO done to address its recruitment challenges and reduce the gap of unfilled approved jobs?

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A. HECO continually looks for ways to improve hiring and shorten the time it takes to fill positions while remaining committed to creating and maintaining a safe and productive workforce. In addition to traditional recruitment methods, HECO has implemented new programs and processes to improve and shorten its hiring processes. These programs and process improvements are listed in HECO-1506.

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In 2007 HECO implemented its Beginning Engineer Program (BEP) to provide new engineers (i.e., those with little to no engineering work experience) structured training and developmental experiences to establish a core basis of engineering knowledge, skills, and abilities. The one year entry-level program provides mentoring, job shadowing/rotational assignments, and formal training courses in the areas of planning, transmission and distribution, protection and telecommunications, civil, technical services, project management, substation operations, construction and maintenance operations, customer requests, and power

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1 supply. Mentors and instructors are HECO management employees who
2 participate in this program in addition to carrying out their regular job duties. The
3 three beginning engineers hired in 2007 have completed their program in June 2008
4 and were placed into difficult-to-fill utility skills positions: Protection Engineer,
5 Substation Engineer, and T&D Engineer.

6 Also in 2007, in partnership with Leeward Community College and other
7 companies, HECO participated in the development of the Process Technology
8 Program to teach students practical concepts behind the production of consumer
9 goods, like turning oil into electricity. The training provides students with the basic
10 fundamentals needed to understand chemical and refinery plant operations. Four
11 HECO employees are instructors for the program on their own time and this
12 enables them to preview the students and build relationships with them before
13 graduation. The first group of students is expected to graduate in December 2008
14 and may be eligible to fill entry-level plant operator vacancies.

15 In early 2008, the Power Supply O&M department began the development of
16 its Leadership Development Program. The new program is intended to identify
17 bargaining unit employees interested in becoming Operations supervisors.
18 Bargaining unit employees selected to the program will receive hands-on technical
19 skills and leadership training intended to ensure success in the job. The program is
20 expected to create a pool of more qualified candidates who possess practical
21 supervisory experience and technical knowledge. It will also reduce the time
22 normally taken to fill the supervisory vacancies in Operations. The program is
23 anticipated to launch in late 2008.

24 The Workforce Staffing and Development Department (WSD) is actively
25 involved in HECO's HR Suite Project which moved from planning and contracting

1 to implementation in April 2008. The new system is expected to reduce the
2 number of redundant employment-related transactions and shorten our hiring
3 processes through best-practice technology. HR Suite will also provide hiring staff
4 and managers the ability to better identify qualified applicants through searches of
5 our applicant databases, thereby shortening the time it takes to fill positions. The
6 HR Suite Project is further discussed by Ms. Julie Price in HECO T-13. As will be
7 explained in more detail later, WSD also plans to add two new positions in 2009, a
8 Talent Assessment and Development Specialist and Assessment and Development
9 Coordinator in order to, among other responsibilities, identify and maintain test-
10 qualified applicant pools before actual entry-level vacancies occur. Doing so may
11 accelerate the hiring process for entry-level positions by up to six weeks by
12 eliminating the time normally required to conduct pre-employment testing.

13 Mr. Robert Young in HECO T-8 and Mr. Alan Hee in HECO T-10 describe
14 other steps that the Company has taken to improve hiring and retain employees.

15 POSITION VACANCIES

16 Q. How many positions are vacant in the departments that you support in your
17 testimony?

18 A. There were 44 vacant positions as of March 31 when compared to the employee
19 count of 403 for these departments estimated for the end of the test year. In this
20 section, I will use the term “vacancy” to refer to positions that are budgeted in the
21 test year but were vacant as of March 31, 2008.

22 Q. Please explain why HECO requires these additional positions?

23 A. There are two types of vacancies reflected in the calculated difference between the
24 actual and test year average. As shown in HECO-1507, 25 of the vacancies are for
25 “replacements” which occur with the natural movement of employees into other

1 positions that become open with terminations or transfers of existing employees,
2 both voluntary and involuntary. This type of vacancy is temporary in nature and is
3 required to support the current and historical operations and workload of the
4 Company. As indicated in HECO-1507 and discussed later in my testimony, ten of
5 the 25 replacement vacancies have been filled since March 31, 2008.

6 The second type of vacancy is for “new” positions, of which there are 19, to
7 support the additional workload that is required by the Company in the test year.

8 Q. Why is the 2009 average employee count more representative of the labor resources
9 required to support the current workload as opposed to the most recent actual
10 employee count?

11 A. As I have explained previously, it has become more and more difficult to recruit
12 qualified employees into the Company. 2008 has been very difficult with local
13 applicant levels dropping for non entry-level positions, forcing the Company to
14 extend its recruitment to the mainland and to use different and innovative channels
15 to reach as many qualified candidates as possible. Mass layoffs by other
16 companies in early 2008 increased the number of applicants for HECO’s entry-
17 level positions (for which there is already good response) but resulted in limited or
18 no applicants with the skills or expertise for HECO’s vacant difficult-to-fill
19 positions (e.g., information technology, Sarbanes-Oxley (“SOX”) compliance,
20 financial analysis, power engineering, regulatory relations). A number of
21 candidates were unwilling to accept jobs for which they were qualified because pay
22 rates were significantly lower than what they had been earning.

23 Second, voluntary nonretirement terminations have increased in the recent
24 past due to the highly competitive labor market. In 2004, voluntary nonretirement
25 terminations accounted for only 28% of all terminations. In 2005, voluntary

1 nonretirement terminations accounted for 43% of all terminations, growing to 49%
2 in 2006 and 44% in 2007. The most recent 2008 actual employee counts do not
3 reflect what the departments require to support the current workload nor does it
4 reflect what the departments require to support new business strategies. The 2009
5 test year average counts are more representative of the various departments' 2009
6 requirements.

7 President's Office

8 Q. What areas does the President's Office include?

9 A. As shown in HECO-1507, the President's Office includes the Corporate Audit and
10 Compliance Department in addition to the President's Office itself.

11 Q. How many vacancies were there in the Corporate Audit and Compliance
12 Department as of March 31, 2008?

13 A. There were five vacancies.

14 Q. What are the positions in the Corporate Audit and Compliance area and why are
15 they required?

16 A. Three of the five vacancies are a result of internal employee movement or
17 terminations. Those three replacement positions are as follows: Manager,
18 Department Secretary and IT Auditor. The remaining vacancies are intern
19 positions required to support the heavy workload to meet Sarbanes-Oxley Act
20 requirements. The status of all five vacancies is discussed below.

21 In June of 2007, the department manager left the Company to pursue a new
22 career path. In July of 2007, HEI announced the hiring of David Kostecki as its
23 Internal Auditor with oversight responsibility for the internal audit functions of
24 HECO, HEI and ASB. In light of this hiring, the manager and the already vacant
25 department secretary positions were not filled while reporting relationships were

1 reviewed. In May of 2008, the Audit Committee of HECO, approved the hiring of
2 a department manager, and a secretary to support him or her, to oversee the long
3 term and short term activities of the department, serve as a liaison with HEI, senior
4 management and external auditors, and ensure that administrative responsibilities
5 required of all departments, such as approving payroll and setting budgets, are
6 carried out.

7 The IT Auditor position became vacant when the incumbent left HECO on
8 March 8, 2008. The IT Auditor spends much of his/her time on testing Sarbanes-
9 Oxley IT controls and possesses unique and uncommon skills needed for the
10 department to fulfill its SOX and other audit obligations. The department is in the
11 process of backfilling this position.

12 To manage the seasonal workload caused by SOX reporting deadlines, the
13 department plans to hire four interns annually during the summer months (June
14 through August), with two continuing on a part-time basis from September through
15 February of the following year. The department has found this to be an effective
16 strategy to meet SOX compliance requirements. In 2009, the employee count
17 begins at 11 in January, increases to 15 with the addition of four interns beginning
18 in June and, in September, reduces to 13 through the remainder of the year.

19 Q. When does HECO expect to fill these vacancies?

20 A. HECO expects to fill the Manager, Secretary and IT Auditor vacancies by the third
21 quarter of 2008 and the Intern positions by June 2009.

22 Q. The HECO President and Chief Executive Officer (“CEO”) recently announced his
23 plans for retirement, with his last formal day at work as August 1. Will a successor
24 be named by then?

1 A. It is unlikely a successor will be named by August 1. The HECO Board of
2 Directors' chairperson will assume the duties and responsibilities of the CEO
3 during the executive search. The focus of the executive search is to carefully
4 evaluate key candidates for this critical position and find the right executive to lead
5 HECO in its continued work to achieve its vision of the energy future.

6 Senior Executive Vice President and Chief Operating Officer's (SEVP/COO) Office

7 Q. Please describe the new SEVP/COO Office and its two positions.

8 A. The two positions that make up the office are the SEVP/COO and his Executive
9 Secretary. The SEVP/COO office was established on February 1, 2008 to allow the
10 HECO President and Chief Executive Officer (CEO) to put additional focus on
11 strategic planning that integrates the following critical priorities:

- 12 • Play a leadership role in meeting our state's energy needs
- 13 • Move aggressively on generating more energy from renewable sources,
14 achieving more energy conservation and efficiency, while also ensuring
15 reliable service to our customers.

16 As explained in HECO-1508, the SEVP/COO is responsible for leadership of
17 HECO's day-to-day Oahu operations, energy solutions, public affairs, financial and
18 administration areas. These new reporting relationships will allow the HECO
19 President and CEO to focus even more on strategy and vision and provide a strong
20 right hand to help execute the plan.

21 Q. It has been announced that HECO's SEVP/COO has left the Company. Are there
22 plans to replace him?

23 A. Yes. As stated above, the position is necessary to allow the HECO President and
24 CEO to focus even more on strategy and vision and to provide a strong right hand
25 to help execute the plan. A strong right hand person will be even more critical to a

1 new HECO President and CEO. As discussed in HECO-1509, the strategic work
2 done by the incumbent, and the groundwork he has helped put in place before his
3 departure, remains a top priority for HECO. Given the importance of the
4 relationship between the two positions, the new HECO President and CEO will be
5 involved in the selection of the replacement SEVP/COO.

6 Q. How does HECO plan to manage the vacancies of these two critical leadership
7 positions?

8 A. To facilitate the continued alignment of all areas of the Company, the Executive
9 Vice President for Public Affairs will assume interim operating responsibility for
10 daily operations until a new CEO is named. The Operations Senior Vice President,
11 the Energy Solutions Senior Vice President and the Finance and Administration
12 Senior Vice President will report to the Executive Vice President for Public Affairs
13 who, in turn, will report to the HECO President and CEO and HECO Board of
14 Directors Chairperson. Filling of the SEVP/COO position will await the
15 appointment of a CEO.

16 Q. What is the status of the Executive Secretary position in this office?

17 A. Upon the departure of the SEVP/COO, the incumbent Executive Secretary returned
18 to her former position with Hawaiian Electric Industries. This will enable the next
19 SEVP/COO to select his/her own replacement Executive Secretary.

20 Corporate Excellence

21 Q. What areas does the Corporate Excellence Vice President's Process Area include?

22 A. As shown in HECO-1507, the Corporate Excellence Vice President's Process Area
23 includes the Compensation and Benefits Department; the Industrial Relations
24 Department; the Safety, Security and Facilities Department; and the Workforce

1 Staffing and Development Department in addition to the Corporate Excellence Vice
2 President's Office itself.

3 Q. As of March 31, 2008, there was one vacancy in the Compensation and Benefits
4 Department. Please describe the position and the status of filling it.

5 A. The vacant position is a replacement for the Employee Benefits System
6 Administrator who was promoted and transferred to another department. The
7 Company filled the vacancy on May 12, 2008, and the department is now at its test
8 year employee count of 11.

9 Q. As of March 31, 2008, there were six vacancies reflected in the Safety, Securities
10 and Facilities Department. Please describe these positions and the status of filling
11 them.

12 A. In the Safety, Security and Facilities Department (SSF), five of the six vacancies
13 are a result of internal employee movement or terminations. Those five
14 replacement positions are as follows: Custodian, Security Coordinator (2), Security
15 Officer and Workers' Compensation Coordinator. The sixth vacancy is for an
16 additional Security Officer. The status of each of these vacancies is discussed
17 below.

18 Custodian: The custodian position became vacant due to a retirement. This
19 bargaining unit position is needed to cover both the core daily custodial
20 responsibilities as well as the increasing custodial workload created by the increase
21 in overall staffing, the increased demand on facilities usage, the addition of the new
22 Dispatch Center and the full time conversion of the conference rooms of the
23 Cafeteria to testing sites and office areas for the Customer Information Systems
24 ("CIS") project (see Mr. Darren Yamamoto's testimony in HECO T-9 which
25 describes the CIS project). Currently, the work is covered by increased outside

1 contract services and increased overtime for the existing employees or, work is
2 delayed or not completed in a timely basis.

3 Security Coordinator (two replacements): These positions became vacant
4 due to employees who terminated their employment. The positions are needed to
5 oversee the contract security workforce and ensure that Company standards and
6 procedures are followed. Due to the strong competition for experienced security
7 officers, the Security Division has found it helpful to hire temporary employees,
8 often retired law enforcement officers. Temporary employees who meet or exceed
9 the Company's performance expectations are encouraged to compete for our
10 regular positions. The Company intends to fill the positions by August 2008 with
11 full-time temporary employees.

12 Security Officers (one replacement and one new): The Security Officer
13 position became vacant as a result of an employee transfer to another position. The
14 work is temporarily being covered by increasing outside contract services.
15 Unfortunately, the contract security service is not always able to meet all of
16 HECO's coverage requests, leaving HECO property and personnel vulnerable.
17 (Private security contractors, e.g., AKAL, are experiencing a difficult time in
18 ensuring a continuity of trained officers, due to restricted wages and demand for
19 Security services on Oahu.) Additionally, these contracted security officers are
20 unable to assist HECO with investigations and effective dealings with professional
21 law enforcement agencies. The additional security officer position in 2009 will
22 provide the increased coverage required for the new power plant ("CIP CT-1").
23 There is always a need to have a 'fully trained' Security Officer available for a new
24 plant. While CIP CT-1 will not be operational until July 1, 2009, there will be a

1 major increase in security exposures and needs as it nears a readiness state. Mr.
2 Giovanni discusses the new power plant, CIP CT-1, in his testimony at HECO T-7.

3 Workers' Compensation Coordinator: This position provides
4 administrative support to the Workers' Compensation Division. It became vacant
5 in July 2007 when the incumbent accepted a transfer to another division. Also in
6 July 2007, the Workers' Compensation Division and the Corporate
7 Health/Wellness function moved from the Compensation and Benefits Department
8 to SSF to facilitate a more global approach to improved workplace safety, health
9 and productivity. Thus, SSF took the opportunity to evaluate the position, role,
10 responsibilities, and workload to determine if additions or changes were required to
11 meet ongoing business needs. Bare essential coverage has been provided by an
12 agency temporary since August 2007. The position will be filled by a HECO temp
13 to provide improved and proper coverage - services to both the Workers'
14 Compensation Division and the Employee Health and Wellness Division.

15 Q. There are nine vacancies in the Workforce Staffing and Development Department.
16 Please describe the vacant positions and the status of filling them.

17 A. One vacancy is a replacement for a Human Resources ("HR") Assistant who
18 terminated her employment with the Company on March 24, 2008. The HR
19 Assistant provides critical support to the hiring process and ensures that legally
20 required employee reporting and notice requirements are met. Concurrent
21 internal/external recruitment began in early May with interviews beginning in late
22 May. Unfortunately, the department was unable to identify a candidate whose
23 skills, experience and interest matched the job requirements. Consequently, the
24 department is continuing its recruitment for the position and expects that it will be

1 filled by August 2008. In the meanwhile, two human resources interns were hired
2 on April 28, 2008 to help with the heavy workload.

3 Q. What are the eight new positions in the Workforce Staffing and Development
4 Department?

5 A. The remaining eight vacancies are new positions intended to meet increased
6 workload demands or are part of Company strategic initiatives as follows: Talent
7 Assessment and Development Specialist, Assessment and Development
8 Coordinator, Corporate Interns (2), Corporate Mentors (3) and Organizational
9 Development Consultant. These positions are explained below.

10 Talent Assessment and Development Specialist, and Assessment and
11 Development Coordinator: In 2004, HECO was informed that the aptitude test
12 used for trades and crafts positions would be discontinued by the test publisher.
13 Subsequently, Edison Electric Institute's ("EEI") battery of tests was selected to
14 replace the discontinued test. In addition, EEI's tests were deemed to be superior
15 to certain other existing tests, having been validated in predicting job success by
16 accurately identifying an applicant's aptitude to learn a trade or position specific to
17 the electric utility industry. Consequently, as shown in HECO-1510, by utilizing
18 EEI's tests, the number of different pre-employment tests that HECO administers
19 increased from seven to ten.

20 As mentioned earlier in the testimony, the EEI tests are one strategy HECO
21 has implemented to accelerate and improve hiring. Since EEI test scores are valid
22 for five years (in contrast to one year for the discontinued tests), these tests allow
23 the Company to identify and maintain test-qualified applicant pools before actual
24 vacancies occur. Unfortunately, the department lacks the resources to regularly and
25 proactively carry out this aspect of the hiring process. Implementation has meant

1 more testing for both external applicants and current employees as they move from
2 one position to another in the Company. Where one test was used for several
3 positions, now multiple tests may be required. The workload has also increased
4 because HECO must follow strict protocols to maintain the integrity of EEI's tests.
5 In order to reap the full benefit of the new testing program (better job matches and
6 faster applicant referrals to departments), the Talent Assessment and Development
7 Specialist and Coordinator are needed to administer this more robust testing
8 program. These positions would also be responsible for the day-to-day
9 administration of HECO's testing function, scoring of tests, identifying and
10 resolving technical and ethical problems related to the new tests, and ensuring test
11 security and quality control in the use of these tests according to publisher
12 standards. Additionally, these positions will continue the ongoing evaluation and
13 analysis of current tests and assessments, oversee formal employee career
14 development programs, and allow for the identification of alternative
15 methodologies and tools to build our people resources.

16 Corporate Interns (2): The goal of the Corporate Internship Program ("CIP")
17 is to cultivate the next generation of leaders. HECO's analysis of historical
18 retirements indicates that age is a strong predictor of retirement for management
19 employees and occurs at or around the age of 59. Currently, 47% of the
20 Company's Corporate Leaders (Executives) and 29% of its Enablers (Managers)
21 will be 59 or older within the next three years, making them likely candidates for
22 retirement. Thus, the Company is under pressure to identify and develop future
23 successors. Participants who are chosen as Corporate Interns will rotate into key
24 knowledge areas for up to one year and will be given meaningful
25 assignments/projects that build critical business, people, and technical skills and

1 relationships. By cross-training in-house, Corporate Interns will develop a wider
2 perspective of the Company and obtain technical expertise which may be beneficial
3 for their positions in their "home" departments and/or prepare them for greater
4 responsibility. The CIP also allows the Company the opportunity to closely
5 observe these employees at work, assess the caliber of the employees, and evaluate
6 long term fitness for upper management positions.

7 HECO has succession plans for over 60 leadership positions from Corporate
8 Leader to Facilitator. Although there is a place for traditional classroom learning,
9 there is strong research from the Corporate Executive Board ("CEB") which states
10 that "on-the-job experiences are a key source of informal learning, driving a much
11 greater impact on employee and business performance than formal training"
12 ("Emerging Mandates for the Learning and Development Function: Developing
13 the Business Case for Learning Beyond the Classroom," Learning and
14 Development Roundtable, Corporate Executive Board, 2002, p. vi.). Furthermore,
15 although some development can be accomplished within the department or process
16 area, there are a number of high potential Manager and Executive candidates that
17 require development outside of their area. Specific areas of development identified
18 on existing succession plans are as follows: Regulatory, Corporate Finance, and
19 Production.

20 The CIP selects two high potential candidates from succession plans and
21 places them in positions that match their development need. Candidates for this
22 program are typically the strongest contributors in their respective work groups.
23 Departments have been reluctant to "give up" their top contributor(s) when the
24 workload must be absorbed by the remaining workforce. According to the Society
25 for Human Resource Management (SHRM), the greatest obstacles to knowledge

1 transfer and employee development are as follows: 1) the source and/or the
2 recipient of knowledge do not know what the other knows or needs to know,
3 2) resources (time, budget) necessary for the transfer are not available, 3) there is a
4 lack of an established relationship, and 4) delays are caused by structural rigidity
5 and poor processes (see HECO-1511 for the SHRM White Paper, "Building Social
6 and Intellectual Capital: HR's Contribution to Organizational Effectiveness," June
7 2002). The CIP mitigates these obstacles by providing the developmental goal,
8 resources, structure and process necessary to enable learning and development.
9 Therefore, during the internship, the intern's pay and position count will be
10 reflected under the CIP. This will allow the candidate's department to temporarily
11 backfill, where needed. The CIP is also expected to strengthen the candidate's area
12 one to two management levels deep as others will have the opportunity to develop
13 in vacancies left open by the candidate.

14 Planning for the Corporate Internship program is currently taking place with
15 implementation anticipated to begin in 2009.

16 Corporate Mentors (3): The Corporate Mentoring program ("CMP") is
17 designed to address the current critical shortage of skilled power plant workers and
18 proactively address the steady exodus of the baby boomers and their critical
19 knowledge. Individuals who serve as mentors will advise and train one or more
20 protégés for up to one year and ensure all standard operating procedures are
21 documented. Like the CIP program discussed above, departments are reluctant to
22 allow individuals to provide dedicated time to the program due to their existing
23 workload. So during the mentorship, the mentor's pay and position count will be
24 reflected in the Workforce Staffing and Development area. This will allow the
25 mentor's area to temporarily back-fill his/her position, where needed.

1 Our latest internal critical skills assessment, completed in November 2007,
2 indicates critical shortages in approximately 30 positions. Fourteen of those
3 positions are considered retirement risks and priority will be placed on filling these
4 positions:

5 Principal, Substation and Protection, Engineering

6 Principal, Environmental Scientist, Environmental

7 Sr. Engineer, Power Supply Engineering (2)

8 Manager, Renewable Integration

9 Sr. Technical Analyst, Power Supply O&M

10 Maintenance Supervisor, Power Supply O&M (2)

11 Director, Power Purchase

12 Sr. Regulatory Analyst, Regulatory Affairs

13 Director, Risk Management

14 Superintendent, Technical Services, System Operations

15 Supervisor, Instrument and Control, System Operations

16 Director, Generation Planning, System Planning

17 While we will continue to partner with colleges and engage in job rotations to
18 address the shortage, there is a concurrent need for programs like the CMP to
19 address the short-term need while ensuring the future success of the Company.
20 Planning for the Corporate Mentoring program is currently taking place with
21 implementation anticipated at the beginning of 2009.

22 Organizational Development (OD) Consultant: The OD Division provides
23 organization-wide systems, processes and programs that serve to build a
24 competitive corporate culture, cultivate effective leadership, and increase team
25 effectiveness. Examples of the work overseen by this division include corporate

1 training and development programs, management performance evaluation process,
2 leadership succession planning, corporate culture assessment and group team
3 building facilitation. Annually, the division also coordinates six to seven
4 leadership team meetings on behalf of the President's Office. The division is
5 currently staffed with three positions: a Director, a Consultant and an Assistant.
6 Implementation and oversight of the new Corporate Internship and Corporate
7 Mentorship programs, as described above, cannot be absorbed by the existing staff
8 who is already straining to meet all of the existing training, teambuilding and
9 systems administration needs. This position is necessary to implement and manage
10 these new programs as well as to assist in supporting the current workload.

11 Finance Vacancies

12 Q. What areas does the Financial Senior Vice President's Process Area include?

13 A. As shown in HECO-1507, the Financial Senior Vice President's Process Area
14 includes the Information Technology and Services Department, the Management
15 Accounting and Financial Services Department, and the Risk Management
16 Division in addition to the Financial Senior Vice President's Office itself. The
17 Financial Senior Vice President also oversees the Corporate Excellence and the
18 General Counsel's Process Areas which are discussed separately.

19 Q. Who discusses the vacancy in the General Accounting Department?

20 A. Please refer to HECO T-11, testimony of Patsy Nanbu, for discussion of this
21 vacancy.

22 Q. Please explain the difference between the Information Technology and Services
23 Department ("ITS") March 31, 2008 actual employee counts of 88 and 2009 test
24 year count of 97?

1 A. The difference of nine headcount is due to six vacant replacement positions and
2 three new positions to be added at the beginning of the 2009 test year.

3 Q. Please describe the six vacant positions and the status of filling them.

4 A. The six vacancies are the result of internal employee movement. All positions
5 were vacated during the first quarter of 2008 and the majority will be filled by the
6 end of the second quarter of 2008. The replacement positions include: Senior
7 Development Analyst, Development Analyst, Database Analyst, IT Project
8 Manager/Team Leader and IT Infrastructure Analysts (2).

9 The Senior Development Analyst assists the Development Services Director
10 with the Company's development methodology support and quality oversight. This
11 vacancy has been filled as of May 19, 2008.

12 The Development Analyst position vacancy has already been backfilled to
13 provide enterprise systems' support and related third-party product support and is
14 similar to the above Senior Development Analyst position, except it does not
15 mentor others and generally does not do as much lead activity. An employee from
16 the ITS department was selected to fill this position, beginning on May 12, 2008.

17 The Database Analyst position is a critical position that supports over 100
18 applications using either SQL Server or Oracle databases and develops,
19 administers, manages and maintains corporate data and databases; assists with
20 research and development of database products and services, systems and
21 applications, internal and external IT policies, standards, and procedures; and as
22 required, performs special database projects for customers. The department has
23 been actively recruiting and interviewing for this position since March 2008;
24 however, it has been unsuccessful in finding qualified or interested candidates and,
25 consequently, has expanded its recruitment to include mainland applicants. The

1 department anticipates this position will be filled by an external candidate by
2 August 2008.

3 The IT Project Manager/Team Leader position is essential since it provides
4 project management oversight for a wide variety of system/application
5 development projects. An internal ITS candidate was selected to fill this position
6 on May 12, 2008.

7 The two IT Infrastructure Analyst positions are important backfills to support
8 a wide variety of data center and IT network infrastructure technologies, which are
9 responsible for planning, coordinating, installing, maintaining, optimizing, and
10 enhancing the distributed computing environment, including server/desktop
11 operating systems, network infrastructure, voice and data communication systems;
12 and provides level two technical support to the department and user community.
13 Both positions were filled on May 27, 2008.

14 Q. Please explain the three new positions included in the 2009 Test Year estimates for
15 the ITS Department?

16 A. Three new Development Services Analysts will be added to the ITS Department at
17 the beginning of 2009. These positions are critical to support new enterprise
18 systems' software applications and to support third party software products for new
19 enterprise Unix/Oracle platforms, including configuration/change management,
20 reporting and interface systems. By the end of 2009, HECO will have completed
21 the addition of completely new enterprise systems and multiple new third-party
22 software tools to support the enterprise systems, with no commensurate increase in
23 resources to support them. These new systems that have been or will be added
24 specifically include: Outage Management System ("OMS"), Mobile Workforce
25 Management ("MWM") system, Field Laptops' software, Mobius ("IDARS")

1 archive/reporting software, CA Harvest software (Change control for OMS, CIS,
2 Ellipse, etc.), Apache and Tomcat Servers, MicroFocus COBOL software,
3 WebLogic Applications Server, Business Objects software, and IBM Websphere
4 software. On the short term horizon, there's also new upgraded Ellipse (Unix
5 version) and new Automated Metering Infrastructure ("AMI") Meter Data
6 Management System (MDMS) and Oracle Human Resources (HR suite)
7 systems/applications to be added. Mr. Robert Young discusses the OMS, MWM
8 System, Field Laptops' software, the new AMIMDMS in HECO T-8. Ms. Julie
9 Price discusses the Oracle Human Resources (HR suite) Project in HECO T-13.
10 Further detail on the remaining projects may be found in Ms. Patsy Nanbu's
11 testimony at HECO T-11.

12 Q. As of March 31, 2008, there were two vacancies in the Management Accounting
13 and Financial Services Department. Please describe the vacancies and the status of
14 filling them.

15 A. The vacant positions are replacements for a Senior Financial Analyst and a
16 Management Accounting Analyst.

17 The Senior Financial Analyst position is critical in managing regulatory,
18 legal, and financial risks or requirements by supporting applications before the
19 Commission (including but not limited to rate cases, new projects, purchase power
20 contracts, generic issues, and financings) and representing the Finance Process
21 Area on many cross functional teams. The Senior Financial Analyst develops
22 approaches for economic analysis of very complex transactions and/or alternatives
23 with significant long-term financial impact, ensures appropriate and consistent use of
24 economic methods for evaluating alternatives, and prepares (or assists in the
25 preparation of) and communicates the results of utility economic analysis of

1 alternative proposals and investment decisions. The position became vacant in July
2 2007, and HECO has been recruiting for this somewhat difficult-to-fill position
3 since then. External advertisements for the position were placed in July 2007 and
4 again in February 2008 but did not produce candidates who could meet the
5 Company's requirements. Another ad was placed in the newspaper in May 2008 as
6 we continue our search to fill the position.

7 The Management Accounting Analyst position is critical to coordinating
8 and analyzing budgets and management reports, including: 1) analyzing operating
9 and capital expenditure information needs of internal and external users and
10 creating ways to meet those needs through the use of HECO systems and other
11 sources, and 2) administering the planning and budgeting processes and systems
12 and tools for the operating and capital budgets. The position became vacant in
13 March 2008, and the department has actively recruited for this position. The
14 position was filled on June 30, 2008.

15 General Counsel/Legal Vacancies

16 Q. What areas does the General Counsel's Process Area include?

17 A. As shown in HECO-1507, the General Counsel's Process Area includes the
18 Legal/Land and Rights of Way (LROW) Department in addition to the General
19 Counsel's Office itself.

20 Q. Please describe the vacant position in the Legal/LROW Department and the status
21 of filling it.

22 A. The vacancy was created when the department manager was promoted to Vice
23 President/General Counsel. Rather than replacing the position at the Manager
24 level, the department chose, instead, to backfill the vacancy in April 2008 with
25 another Associate General Counsel to cover the legal caseload previously carried

1 by the Manager. Although outside counsel are available to undertake the legal
2 workload, the in-house attorneys are more familiar with Company issues and
3 processes and can provide timely guidance on issues on a more broad and strategic
4 basis. The department is currently at its test year count of 19.

5 Energy Solutions Vacancies

6 Q. What areas does the Energy Solutions Senior Vice President's Process Area
7 include?

8 A. As shown in HECO-1507, the Energy Solutions Senior Vice President's Process
9 Area includes the Customer Installations Department, the Energy Projects
10 Department and the Technology Division in addition to the Energy Solutions
11 Senior Vice President's Office itself.

12 Q. As of March 31, 2008, there were five vacancies reflected in the Customer
13 Installations Department. Please describe these positions and the status of filling
14 them.

15 A. In the Customer Installations Department, the five vacant positions include the
16 following: Junior Customer Planner (1), Advanced Metering Infrastructure (AMI)
17 Systems Engineers (2), and AMI Project Managers (2). The status of each of these
18 vacancies is discussed below.

19 The Junior Customer Planner is a bargaining unit position responsible for
20 planning the installation of underground and overhead service to residential,
21 commercial, and industrial customers whose demands are 10 KVA and below. It
22 was a replacement position and was filled in April 2008.

23 The two new AMI Systems Engineer positions will be tasked with the design,
24 development, deployment, operation, and support of a new AMI system. Further
25 detail on the AMI project is provided by Mr. Robert Young in HECO T-8.

1 Addition of the AMI Systems Engineers in advance of full-scale AMI deployment
2 is critical from several perspectives: 1) development of the PUC application; and
3 2) acquisition of specialized knowledge and gaining a detailed understanding of
4 AMI technology, deployment, and operation as a prerequisite to full-scale AMI
5 deployment. Both AMI Systems Engineers will provide technical expertise and
6 operational support to the AMI project managers. The position descriptions are in
7 the process of being finalized.

8 The two AMI Project Managers are new positions that will be filled by
9 HECO to manage the implementation and integration of the new AMI system,
10 including the initiation and implementation of AMI pilot projects, at MECO and
11 HELCO. These two new positions will work in parallel with the present AMI
12 Project Manager for HECO.

13 Q. When will the four new positions be staffed?

14 A. The Company anticipates that the new positions will be staffed at the beginning of
15 2009.

16 Public Affairs Vacancies

17 Q. What areas does the Public Affairs Executive Vice President's Process Area
18 include?

19 A. As shown in HECO-1507, the Public Affairs Executive Vice President's Process
20 Area includes the Government Relations Department, the Integrated Resource
21 Planning function, and the Public Affairs Executive Vice President's Office itself.

22 Q. As of March 31, 2008, there was one vacancy in the Integrated Resource Planning
23 function. Please describe the vacant position and the status of filling it.

1 A. The vacancy was a replacement for a Senior Resource Planning Analyst who
2 transferred to another department in 2007. The Company filled the position on
3 April 28, 2008, and the function is now at its test year employee count of six.

4 Government and Community Affairs Vacancies

5 Q. What areas do the Government and Community Affairs Vice President's Process
6 Area include?

7 A. As shown in HECO-1507, the Government and Community Affairs Vice
8 President's Process Area includes the Education and Consumer Affairs Division,
9 the Government Relations Division, and the Regulatory Affairs Division in
10 addition to the Government and Community Affairs Vice President's Office itself.

11 Q. Ms. Chiogioji, please explain the anticipated increase of five employees in the
12 Regulatory Affairs area from March 31, 2008 to January 1 in the 2009 test year.

13 A. The Regulatory Affairs group has estimated the need to increase its employee count
14 by five in this time period to meet the heavy regulatory workload which began in
15 the last few years and is anticipated to continue in the future.

16 Q. Please describe how the regulatory workload has increased recently.

17 A. The Regulatory Affairs Division has had a significantly increased level of activity
18 in the last few years. In addition to this proceeding, Regulatory Affairs has
19 managed and been involved in the following major proceedings since 2007:

20

Docket No.	Description
03-0253	HECO IRP-3
03-0372	Competitive Bidding
04-0046	HELCO IRP-3
04-0077	MECO IRP-3

04-0113	HECO 2005 Test Year Rate Case
05-0315	HELCO 2006 Test Year Rate Case
2006-0386	HECO 2007 Test Year Rate Case
2006-0387	MECO 2007 Test Year Rate Case
2006-0425	Solar Water Heating Program
2006-0497	Standby Service and Interconnection Tariffs
2007-0008	Renewable Portfolio Standards Examination
2007-0084	HECO IRP-4
2007-0176	Intragovernmental Wheeling Investigation
2007-0323	Public Benefits Fund
2007-0331	Competitive Bidding for Renewable Energy on Oahu
2007-0341	DSM Reports and Program Modification Requests
2007-0346	Biodiesel Contract with Imperium Services
2007-0403	Competitive Bidding for Firm Capacity on Maui
2007-0416	Renewable Energy Infrastructure Program
2008-0061	Waivers of Renewable Energy Projects from Competitive Bidding
2008-0063	Exemption/Waiver of PGV from Competitive Bidding
2008-0074	Dynamic Pricing Pilot Program

1
2
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7

The Company has filed numerous other applications and requests for a wide variety of areas including capital improvement projects, overhead/underground transmission lines, underground conversions, DSM program modifications and property transfers. These filings were in addition to the Regulatory Affairs’ staff “normal” functions of handling Commission compliance reports and customer complaints.

1 Q. Why does Regulatory Affairs need more employees now?

2 A. In the past, the Regulatory Affairs Division has managed to support these filings
3 through the use of merit overtime and in its recent rate cases through the use of
4 consultants. Because of the quantity of filings and the increasing complexity of
5 these filings, the Regulatory Affairs staff is now working significant amounts of
6 overtime as a matter of course, rather than on an infrequent or emergency basis.
7 This situation should not continue much longer in the future since it may lead to
8 deterioration of the quality of work produced and dissatisfaction of the staff, which
9 may then leave for other positions in and outside of the Company. Because of the
10 knowledge and experience required to perform regulatory work for the Company,
11 the loss of such employees would be a blow to the Company as a whole and
12 ultimately to its ratepayers and should be avoided.

13 Q. Why doesn't the Regulatory Affairs group use consultants and contractors on an as-
14 needed basis to supplement its current workforce?

15 A. As I mentioned above, Regulatory Affairs has only recently hired regulatory
16 consultants to specifically support rate cases, as opposed to consultants whose role
17 is to testify as subject matter experts. However, because the Company will be
18 filing rate cases on a regular basis along with rate cases for HELCO and MECO,
19 hiring regular employees who are familiar with the Company-specific regulatory
20 issues will be more efficient and effective over the long-term.

21 Q. Why would regular employees be more efficient and effective over the long-term?

22 A. The advantages of having regular employees rather than consultants are that
23 employees will be knowledgeable and conversant with the Company-specific
24 regulatory issues, eliminating the learning curve impacts and associated time that is
25 required by consultants to learn the subject matter. The need for the department to

1 conduct a search and negotiate with consultants for each specific case will be
2 eliminated since the knowledge gained by regular employees on the job will allow
3 the Company to assign and reassign these resources with greater flexibility to
4 various proceedings for the Company, HELCO, and MECO within very short
5 timeframes; and the quality of work produced by regular employees will be more
6 consistent and in line with what management expects because of the direct
7 supervision and daily communication that will take place.

8 Q. What are the five positions that constitute the difference between the March 31,
9 2008 employee count and that estimated for beginning of year 2009?

10 A. The five positions include three analyst positions and two director positions. The
11 division has interviewed for the three analyst positions and anticipates filling these
12 and the two director positions by the end of 2008.

13 Q. Is the increase in employees in Regulatory Affairs warranted?

14 A. Yes. Given the need to file timely and accurate documentation with the
15 Commission and to support the Company with its operational initiatives in the
16 future, the staffing of the additional five positions will significantly reduce the
17 overtime being experienced by the current staff and the consultants' costs and allow
18 Regulatory Affairs to maintain the high quality of work going into the future.

19 Other Departments

20 Q. Please confirm that the offices of the Vice President-Customer Solutions, the
21 Senior Vice President-Operations, the Vice President-Energy Delivery, the Vice
22 President-Power Supply, and the Vice President Corporate Relations have not
23 included additional employees for the test year period from the count that is
24 reflected at the end of March 2008.

1 A. These departments and offices have not included additional employees in 2009
2 compared to their employee counts at the end of March 2008.

3 SUMMARY

4 Q. Please summarize your testimony.

5 A. The total average number of employees estimated by the Company for the test year
6 2009 is 1,621. With increasing demand for electrical service and power generation,
7 as well as increased governmental regulations and requirements, HECO must
8 increase its staffing level in order to provide the level of service required for its
9 customers.

10 Q. Does this conclude your testimony?

11 A. Yes, it does.

Hawaiian Electric Company, Inc.

FAYE CHIOGIOJI

EDUCATIONAL BACKGROUND AND EXPERIENCE

Business Address: Hawaiian Electric Company, Inc.
200 S King Street, Suite 700
Honolulu, HI 96813

Position: Manager
Workforce Staffing & Development

Education: Bachelor of Arts, English, University of Hawaii at Manoa
Masters in Business Administration with distinction,
HR Management, Hawaii Pacific University
Zenger Miller/Achieve Global Master Trainer, 1994
Senior Professional in Human Resources (SPHR) life
certification, Human Resources Certification
Institute/Society for Human Resource Management,
1995
Advanced HR Generalist Certification Program, Society for
Human Resource Management, 1997

Experience: Hawaiian Electric Company, Inc.

1998 - Present
Manager
Workforce Staffing and Development

1995 - 1998
Director
Workforce Staffing and Development

1992 - 1995
Director
Human Resource Development

1991 - 1992
Training Administrator
Human Resource Development

Experience:
(continued)

State Of Hawaii – Department Of Personnel Services

1988 - 1991

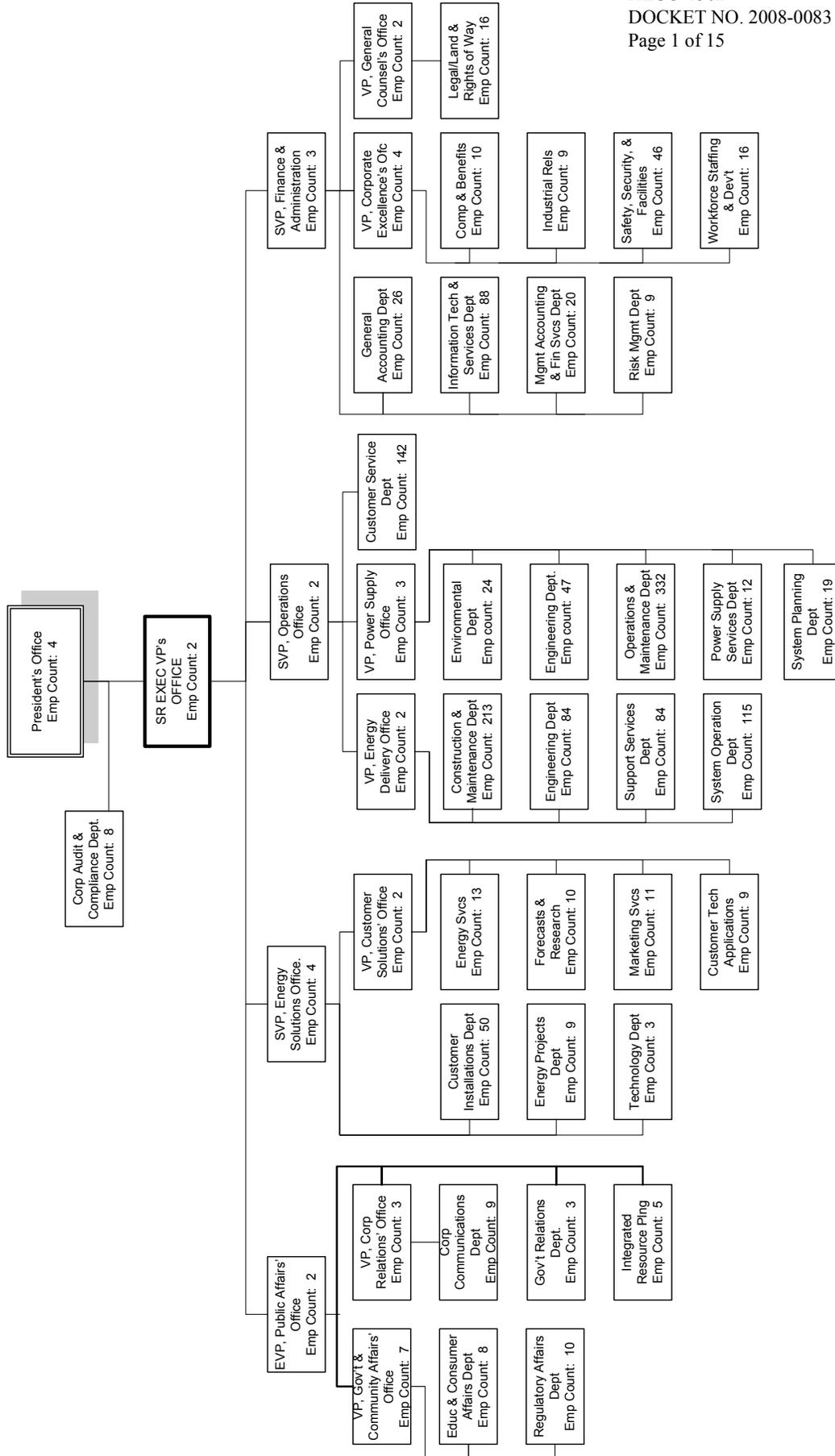
Personnel Management Specialist V, Employee Assistance
Branch

1986 - 1988

Personnel Management Specialist IV, Training Branch

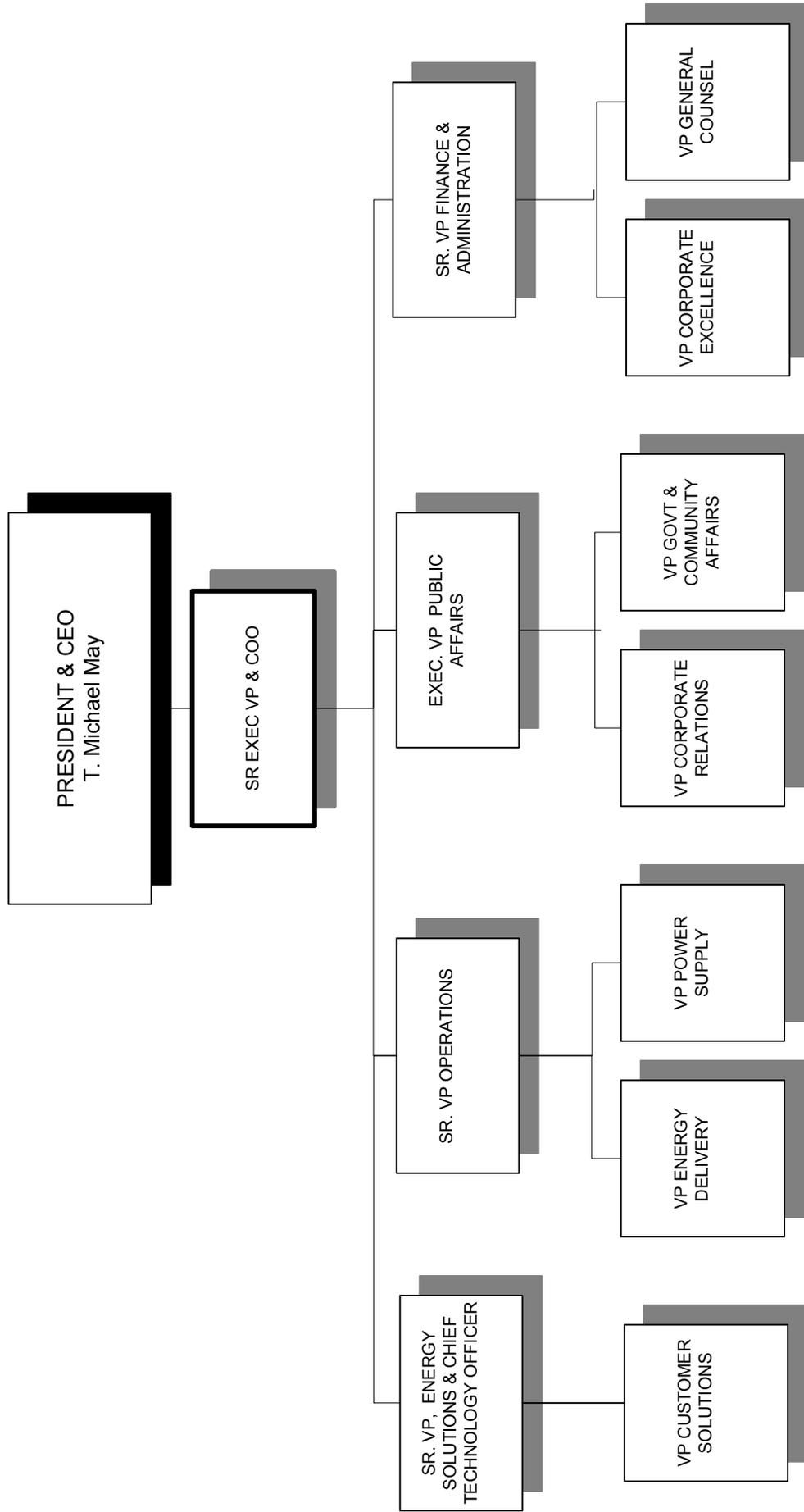
Organization	Department	Witness
President's Office		
	Corporate Audit & Compliance (Formerly Internal Audit)	Faye Chiogioji - HECO T- 15
	President's Office	" "
Sr. Exec VP		Faye Chiogioji - HECO T- 15
VP-Corporate Excellence		
	Compensation & Benefits	Faye Chiogioji - HECO T- 15
	Industrial Relations	" "
	Safety, Security & Facilities	" "
	Workforce Staffing & Development	" "
	VP-Corporate Excellence's Office	" "
Sr. VP-Finance		
	General Accounting	Patsy Nanbu - HECO T-11
	Information Technology & Services	Faye Chiogioji - HECO T-15
	Management Accounting & Fin Svcs	" "
	Risk Management	" "
	Financial VP/Treasurer's Office	" "
VP-General Counsel		
	Legal/Land and Rights of Way	Faye Chiogioji - HECO T- 15
	VP-Gen Counsel's Office	" "
Sr. VP-Energy Solutions		
	Customer Installations Dept.	Faye Chiogioji - HECO T- 15
	Energy Projects	" "
	Technology	" "
	Sr. VP-Energy Solutions' Office	" "
VP-Customer Solutions		
	Customer Technology Applications	Alan Hee - HECO T- 10
	Energy Services**†	" "
	Forecasts & Research†	" "
	Marketing Services	" "
	VP-Customer Solutions' Office	Faye Chiogioji - HECO T- 15
Sr. VP-Operations		
	Customer Service	Darren Yamamoto - HECO T- 9
	Sr. VP-Operations' Office	Faye Chiogioji - HECO T- 15
VP-Energy Delivery		
	Construction & Maintenance	Robert Young - HECO T- 8
	Engineering	" "
	Support Services	" "
	System Operation	" "
	VP-Energy Delivery's Office	Faye Chiogioji - HECO T- 15
VP-Power Supply		
	Environmental	Dan Giovanni - HECO T- 7
	Power Supply Engineering (formerly Planning & Engrng)	" "
	Power Supply Operations & Maintenance	" "
	Power Supply Services	" "
	VP-Power Supply 's Office	Faye Chiogioji - HECO T- 15
Exec. VP-Public Affairs		
	Governmental Relations	Faye Chiogioji - HECO T- 15
	Integrated Resource Planning	" "
	EVP-Public Affairs' Office	" "
VP-Corporate Relations		
	Corporate Communications	Faye Chiogioji - HECO T- 15
	VP-Corporate Relations' Office	" "
VP-Government & Community Affairs		
	Education & Consumer Affairs	Faye Chiogioji - HECO T- 15
	Regulatory Affairs	" "
	VP-Gov't & Comm Affairs' Office	" "

HAWAIIAN ELECTRIC COMPANY, INC.
Actual employee count as of 3/31/08

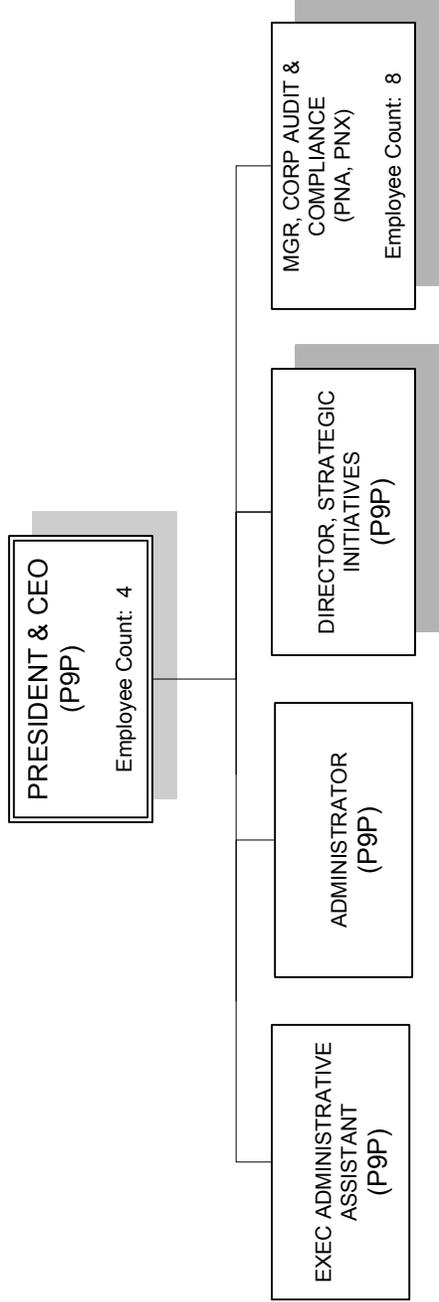


*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

HAWAIIAN ELECTRIC COMPANY, INC.

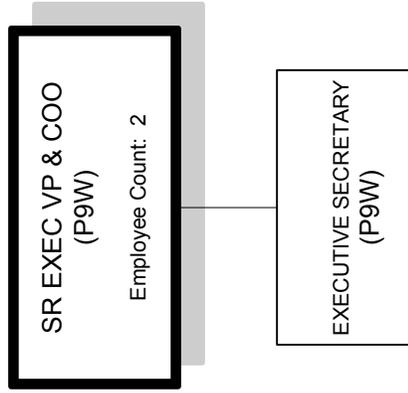


PRESIDENT – HECO
Actual employee count as of 3/31/08

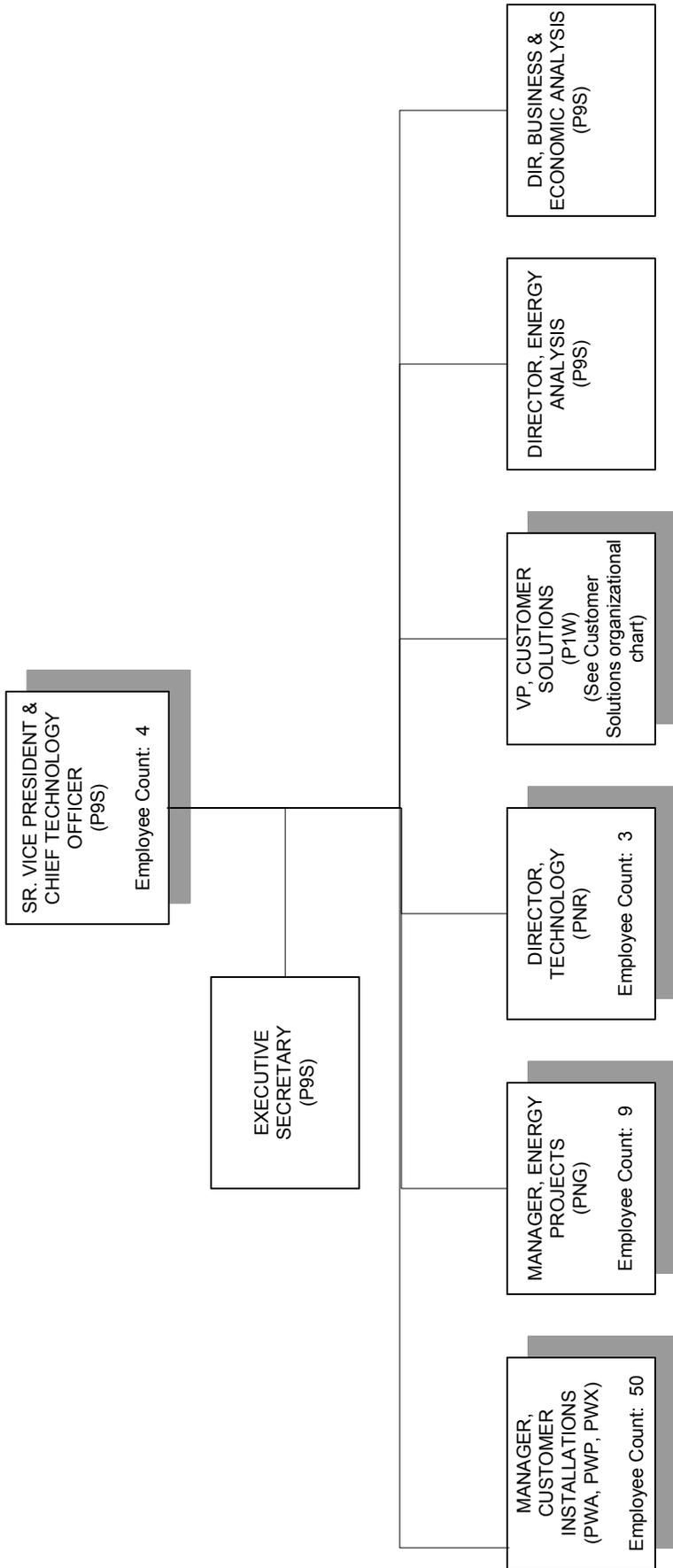


*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

SENIOR EXECUTIVE VP AND CHIEF OPERATING OFFICER
Actual employee count as of 3/31/08

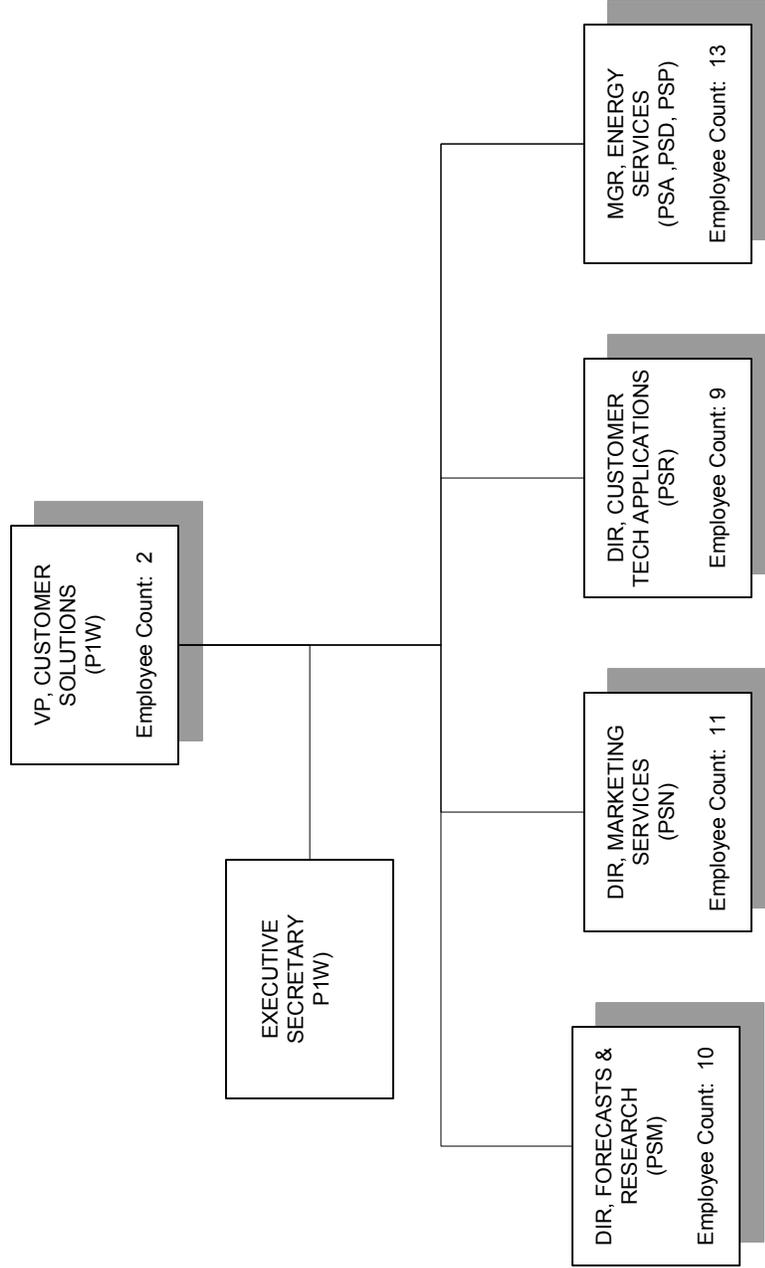


SR. VICE PRESIDENT ENERGY SOLUTIONS
Actual employee count as of 3/31/08



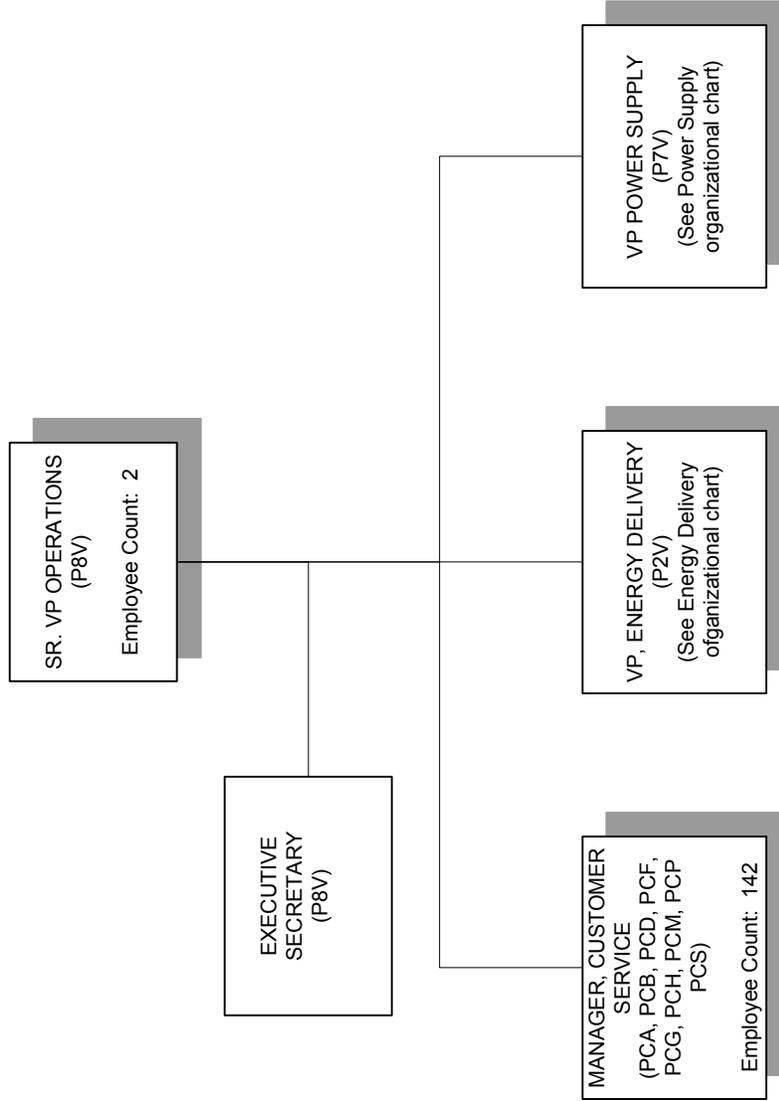
*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

Customer Solutions
Actual employee count as of 3/31/08



*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

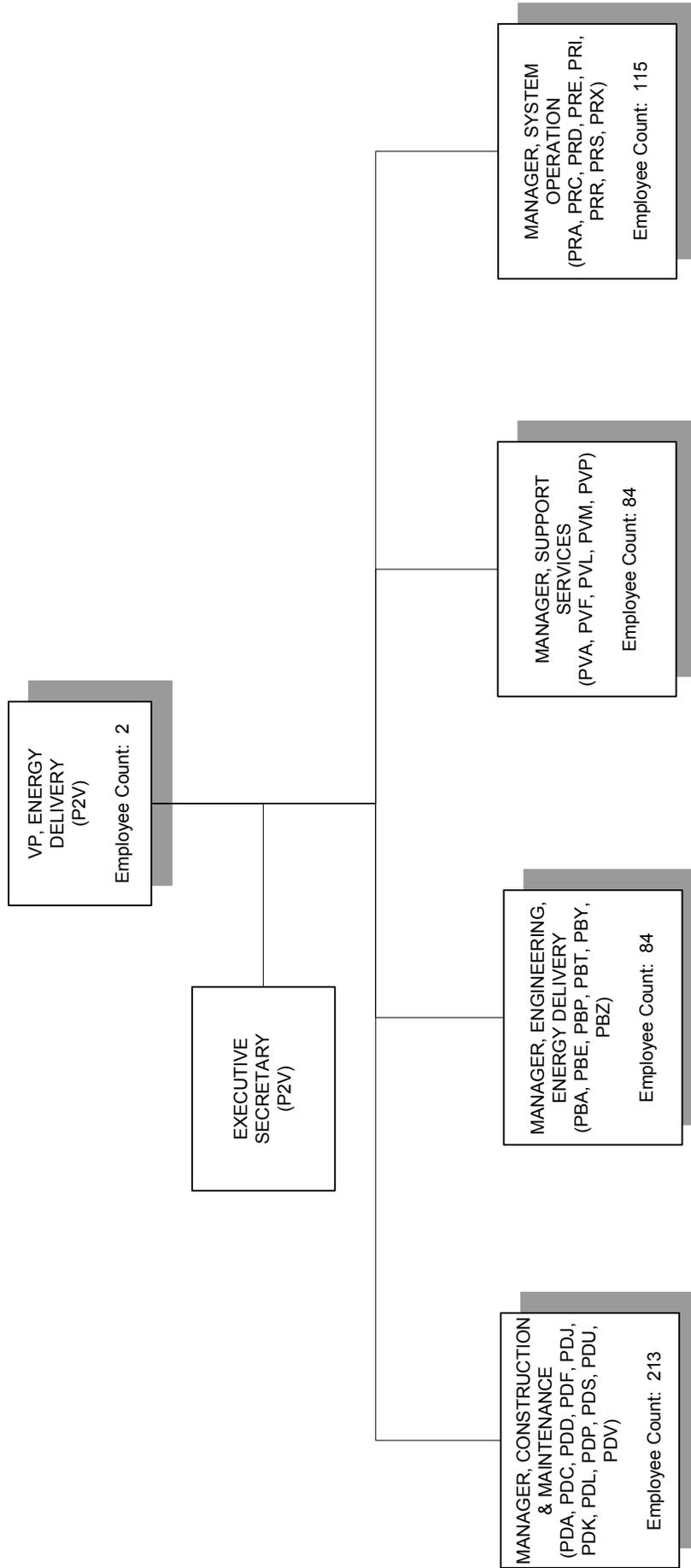
SR. VICE PRESIDENT OPERATIONS
 Actual employee count as of 3/31/08



*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

ENERGY DELIVERY

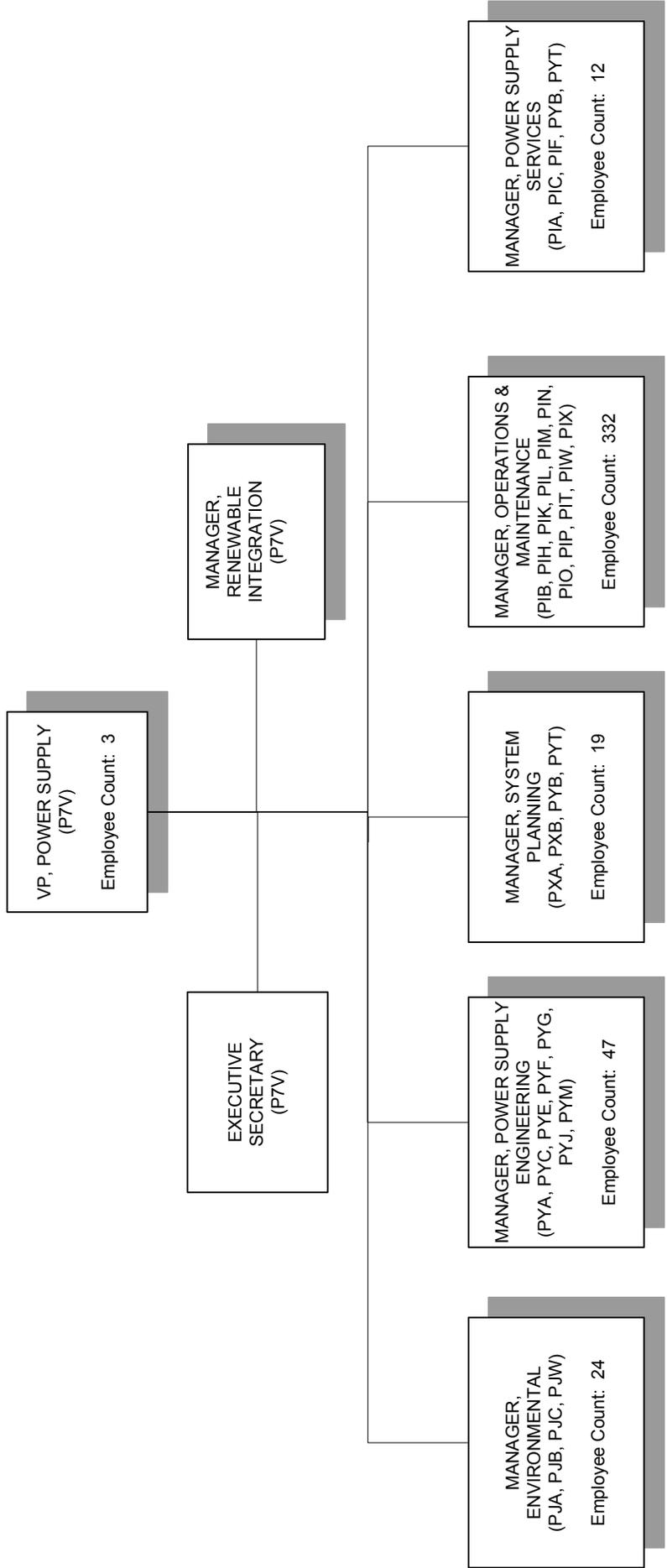
Actual employee count as of 3/31/08



*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

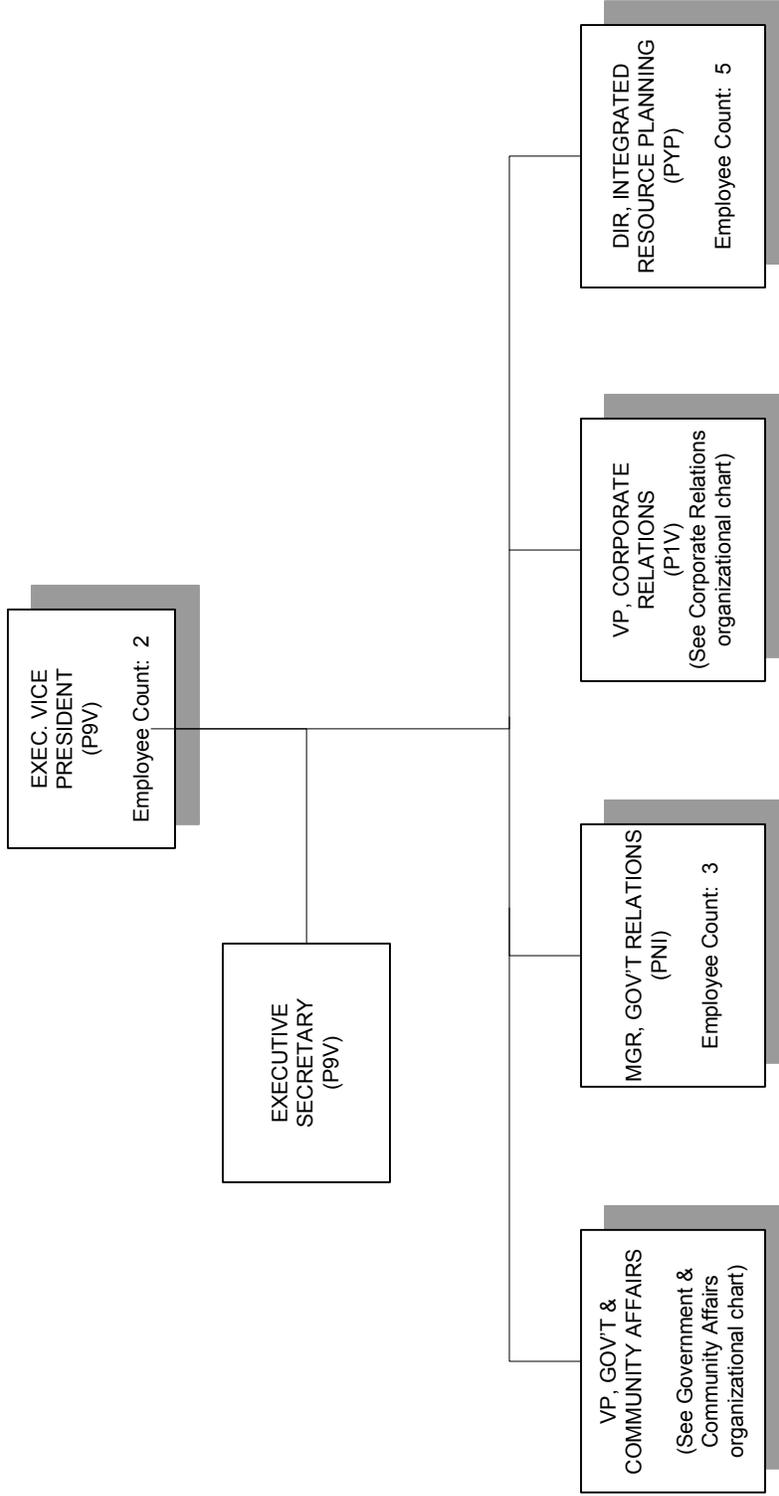
POWER SUPPLY

Actual employee count as of 3/31/08



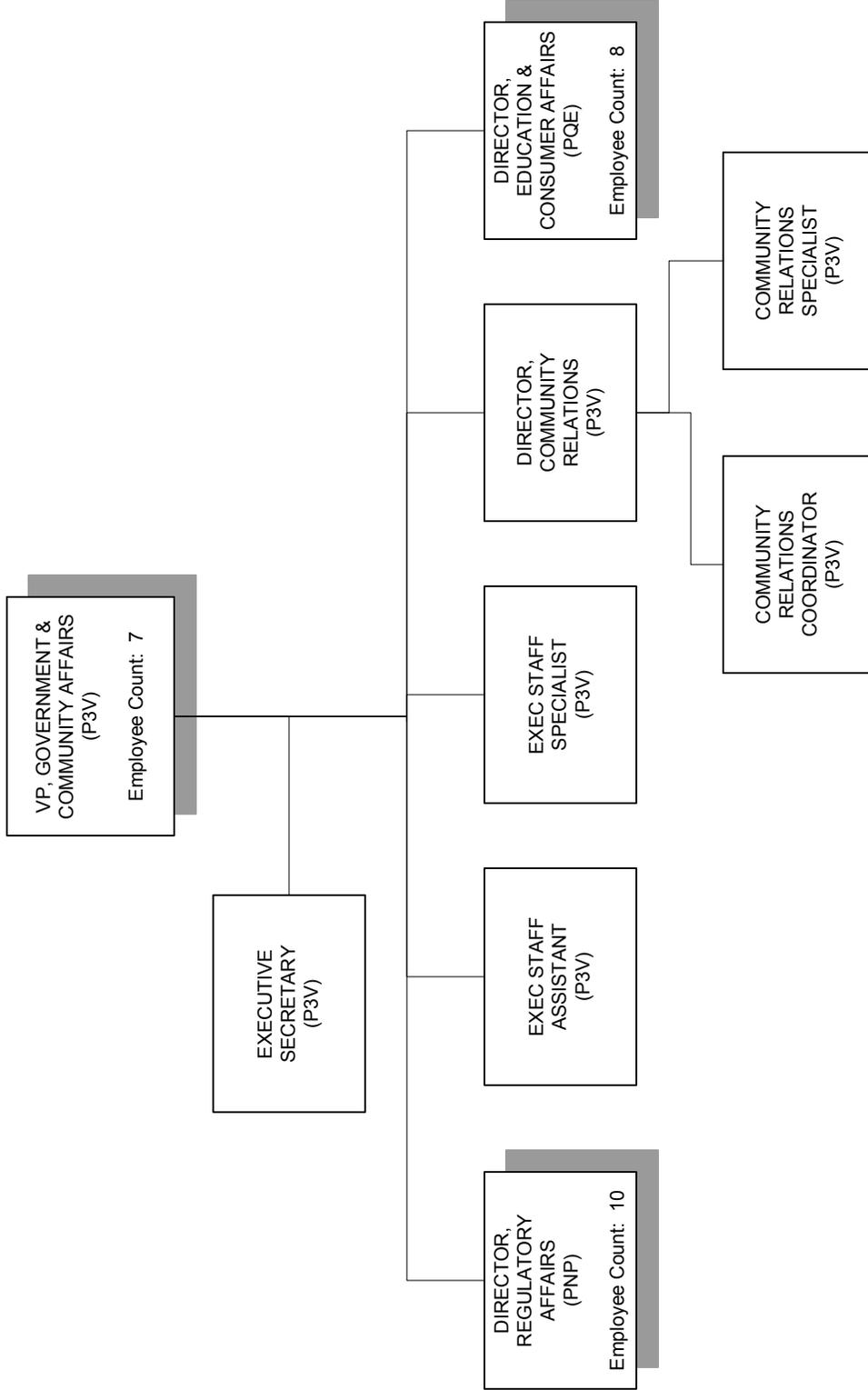
*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

SR. VICE PRESIDENT PUBLIC AFFAIRS
 Actual employee count as of 3/31/08



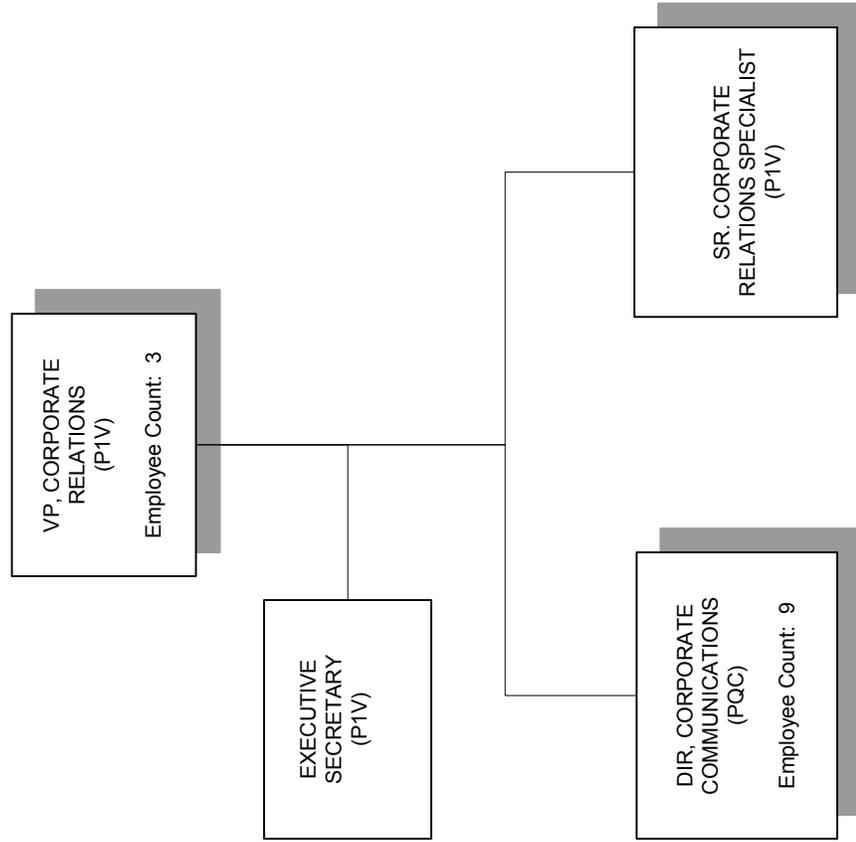
*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

GOVERNMENT & COMMUNITY AFFAIRS
 Actual employee count as of 3/31/08



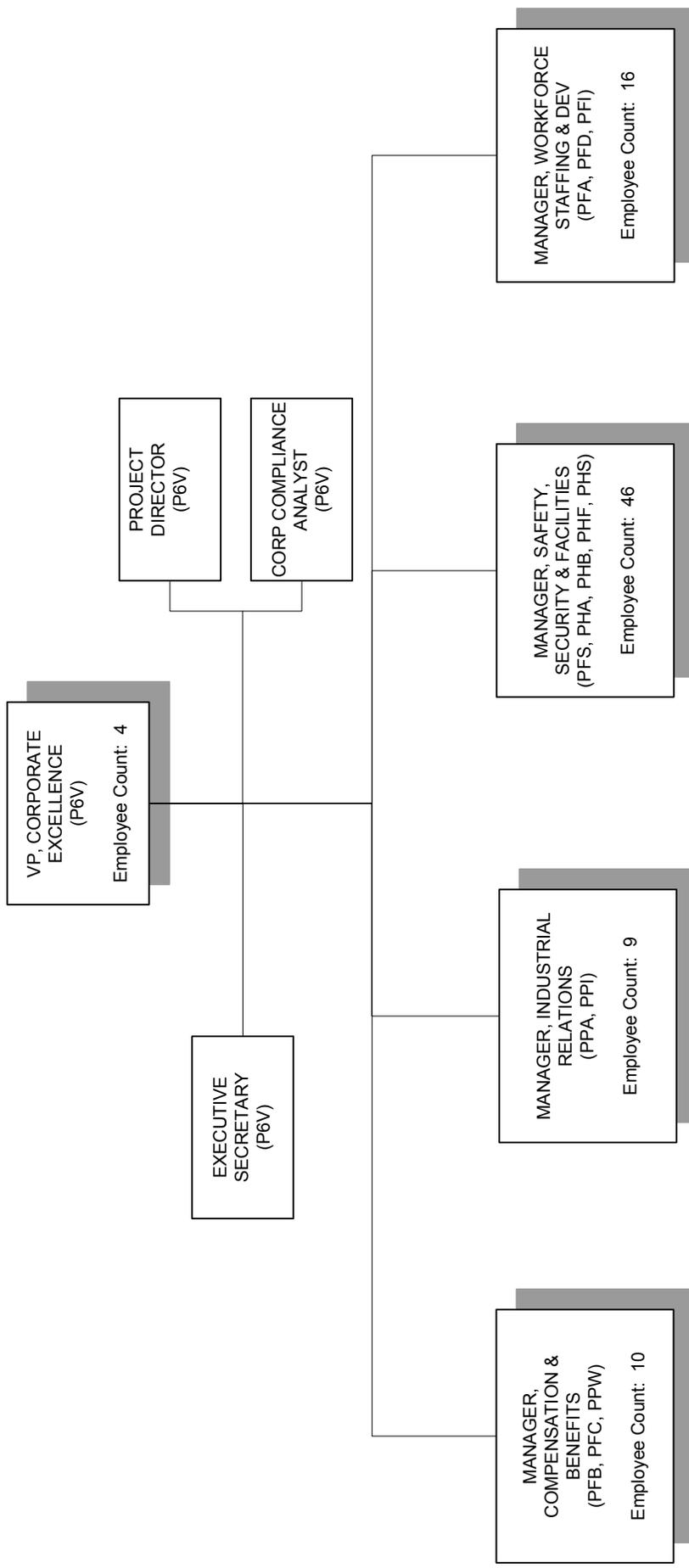
*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

CORPORATE RELATIONS
Actual employee count as of 3/31/08



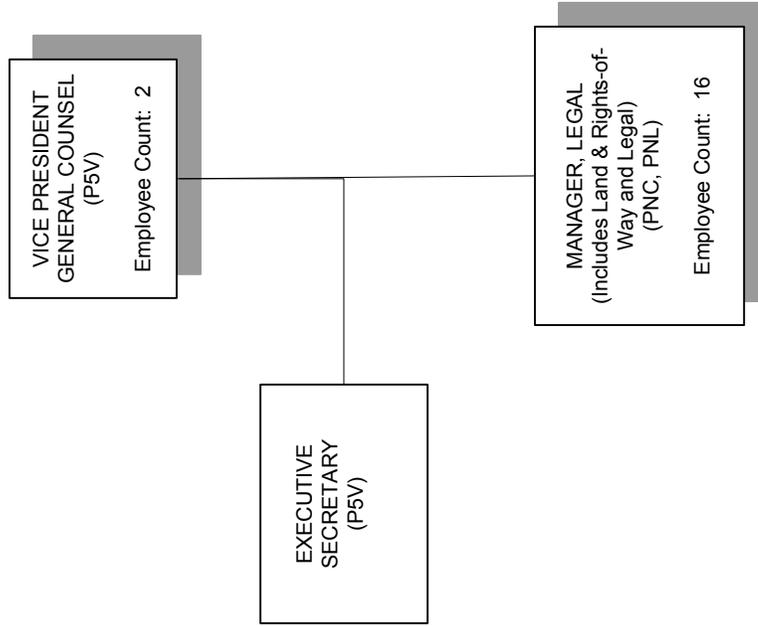
*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

CORPORATE EXCELLENCE
Actual employee count as of 3/31/08



*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

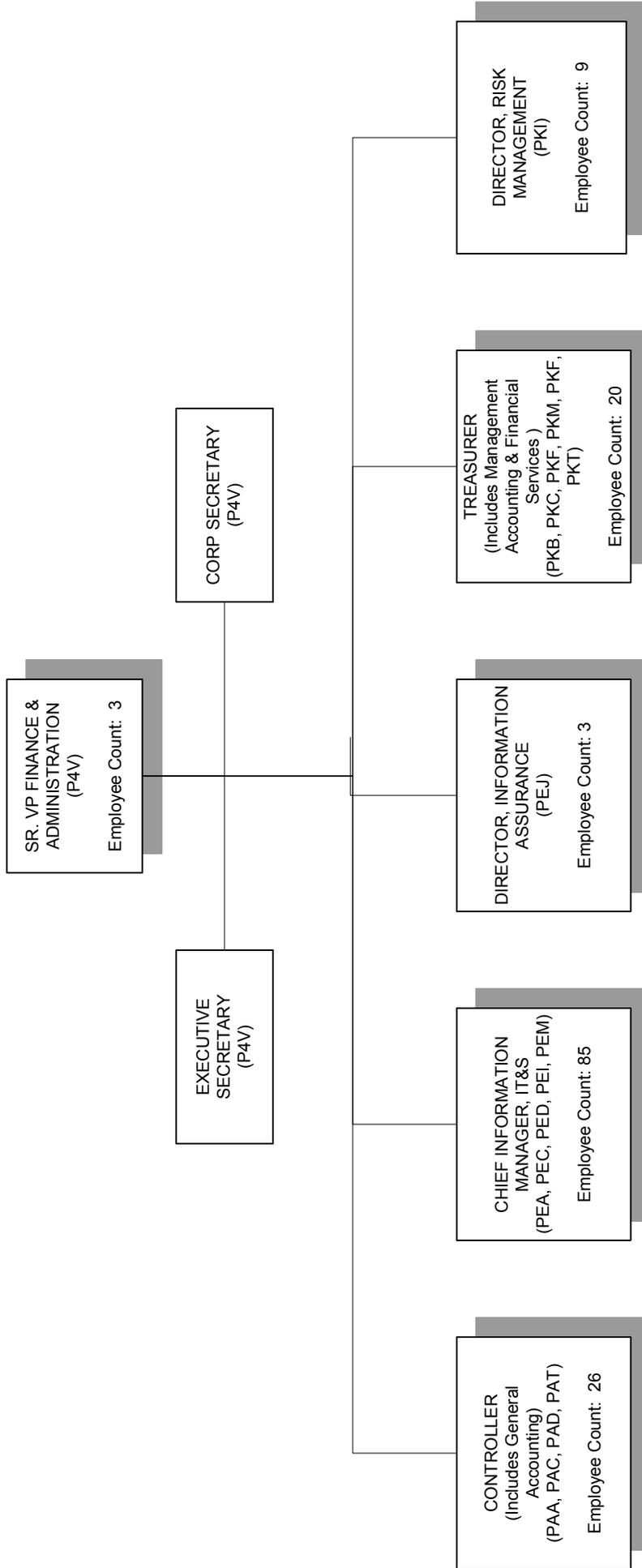
GENERAL COUNSEL
Actual employee count as of 3/31/08



*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

FINANCE

Actual employee count as of 3/31/08



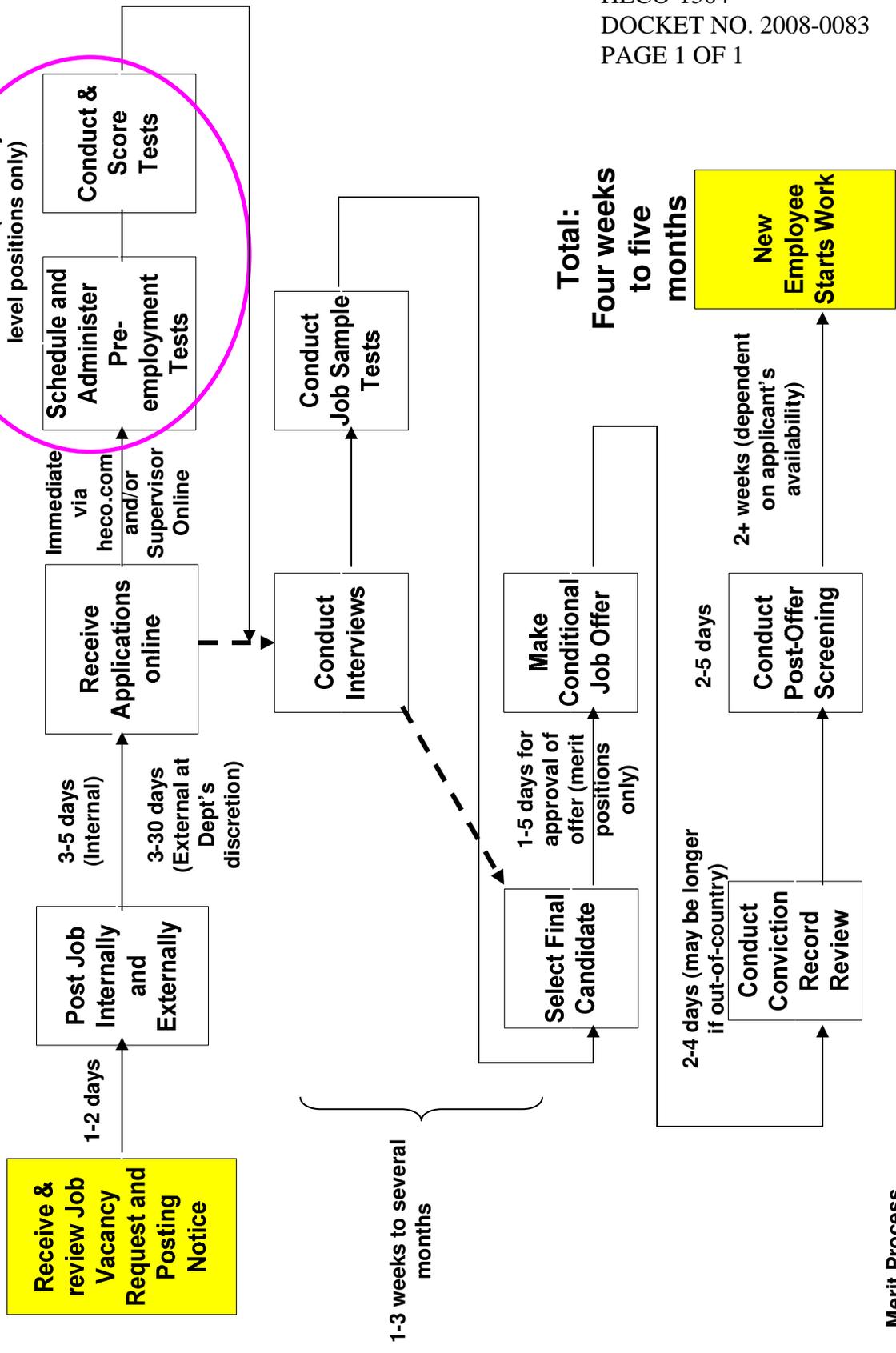
*Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge

	A	B	C	D	E	F	G	H	I
	2006 Recorded EOY	2006 Year Average	2007 Recorded EOY	2007 Year Average	2008 YTD Recorded 3/31/08	2008 Projected EOY	2008 EOY Budget	2009 EOY Test Year	2009 TEST YEAR Average
President's Office									
Corporate Audit & Compliance (Formerly Internal Audit)	10	11	9	10	8	11	11	13	13
President's Office	2	3	3	3	4	4	3	4	4
Subtotal	12	14	12	13	12	15	14	17	17
Sr. Exec VP					2	2	0	2	2
VP-Corporate Excellence									
Compensation & Benefits	13	13	10	12	10	11	11	11	11
Industrial Relations	9	9	9	8	9	9	9	9	9
Safety, Security & Facilities	42	45	47	44	46	51	51	52	52
Workforce Staffing & Development	16	16	17	3	16	17	18	25	25
VP-Corporate Excellence's Office	2	2	4	17	4	5	5	4	4
Subtotal	82	85	87	84	85	93	94	101	101
SVP-Finance									
General Accounting	26	26	26	25	26	26	26	27	27
Information Technology & Services	95	93	89	92	88	96	94	97	97
Management Accounting & Fin Svcs	22	22	20	21	20	22	22	22	22
Risk Management	9	9	9	9	9	9	9	9	9
Financial VP/Treasurer's Office	4	3	3	4	3	3	3	3	3
Subtotal	156	153	147	151	146	156	154	158	158
VP-General Counsel									
Legal/Land and Rights of Way	16	16	15	16	16	17	18	17	17
VP-Gen Counsel's Office	2	2	2	2	2	2	2	2	2
Subtotal	18	18	17	18	18	19	20	19	19
Sr. VP-Energy Solutions									
Customer Installations	44	47	50	46	50	51	53	55	55
Energy Projects	8	8	9	9	9	9	9	9	9
Technology	3	3	3	3	3	3	3	3	3
Sr. VP-Energy Solutions' Office	4	4	4	4	4	4	4	4	4
Subtotal	59	62	66	62	66	67	69	71	71
VP-Customer Solutions*									
Customer Technology Applications	8	8	9	9	9	9	9	9	9
Energy Services*	17	16	12	11	13	13	13	15	15
Forecasts & Research*	9	10	10	10	10	10	10	10	10
Integrated Resource Planning**	6	5	Moved to EVP Public Affairs as of 3/15/07						
Marketing Services	11	11	11	12	11	11	12	12	12
VP-Customer Solutions' Office	2	2	2	2	2	2	2	2	2
Subtotal	53	52	44	44	45	45	46	48	48
Sr. VP-Operations									
Customer Service	126	127	136	132	142	147	147	148	148
Sr. VP-Operations' Office	3	3	2	2	2	2	2	2	2
Subtotal	129	130	138	134	144	149	149	150	150
VP-Energy Delivery									
Construction & Maintenance	220	212	215	216	213	220	220	220	220
Engineering	84	85	83	86	84	85	88	85	85
Support Services	80	80	84	82	84	85	85	85	85
System Operation	105	108	114	110	115	118	118	118	118
VP-Energy Delivery's Office	2	2	2	2	2	2	2	2	2
Subtotal	491	487	498	496	498	510	513	510	510
VP-Power Supply									
Environmental	22	22	24	22	24	24	24	25	25
Power Supply Engineering (formerly Planning & Engineering)	40	38	46	44	47	47	47	52	52
Power Supply Operations & Maintenance	315	307	332	326	332	350	354	375	375
Power Supply Services	28	29	13	12	12	15	15	15	15
System Planning	0	0	19	19	19	22	22	22	22
VP-Power Supply's Office	2	2	2	2	3	3	2	3	3
Subtotal	407	398	436	425	437	461	464	492	492
VP-Special Projects	3	3	Special Projects Department dissolved in January of 2007						
Exec. VP-Public Affairs									
Governmental Relations	2	3	3	3	3	3	3	3	3
Integrated Resource Planning			5	5	5	5	6	6	6
EVP-Public Affairs' Office	3	2	3	3	2	2	3	2	2
Subtotal	5	5	11	11	10	11	12	11	11
VP-Corporate Relations									
Corporate Communications	8	12	9	8	9	9	10	9	9
VP-Corporate Relations' Office	3	2	3	3	3	3	3	3	3
Subtotal	11	14	12	11	12	12	13	12	12
VP-Government & Community Affairs									
Education & Consumer Affairs	8	8	8	7	8	8	8	8	8
Regulatory Affairs	7	7	9	9	10	15	15	15	15
VP-Gov't & Comm Affairs' Office	7	7	7	7	7	7	7	7	7
Subtotal	22	22	24	23	25	30	30	30	30
Company Total	1448	1443	1498	1477	1500	1570	1578	1621	1621

* Employee counts include interns and temporary employees on HECO payroll, but exclude employees covered under the DSM surcharge adjustment docket from all year

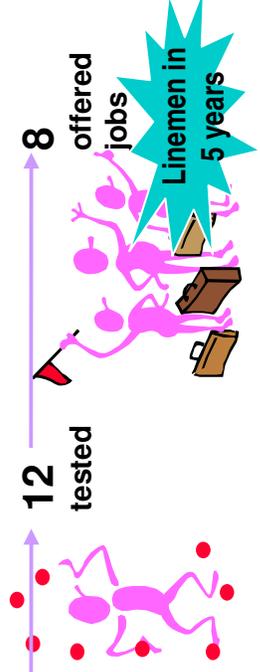
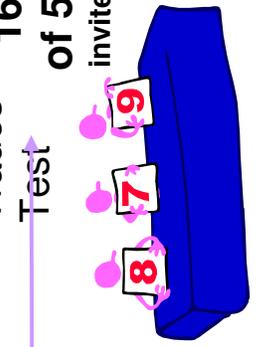
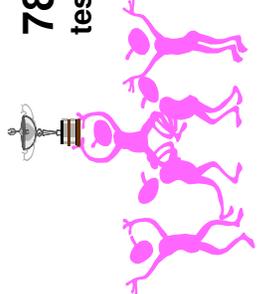
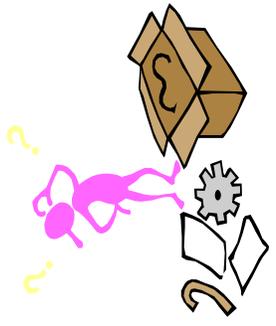
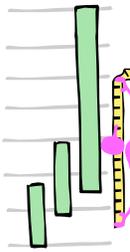
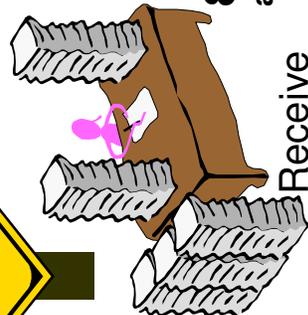
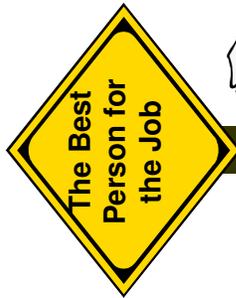
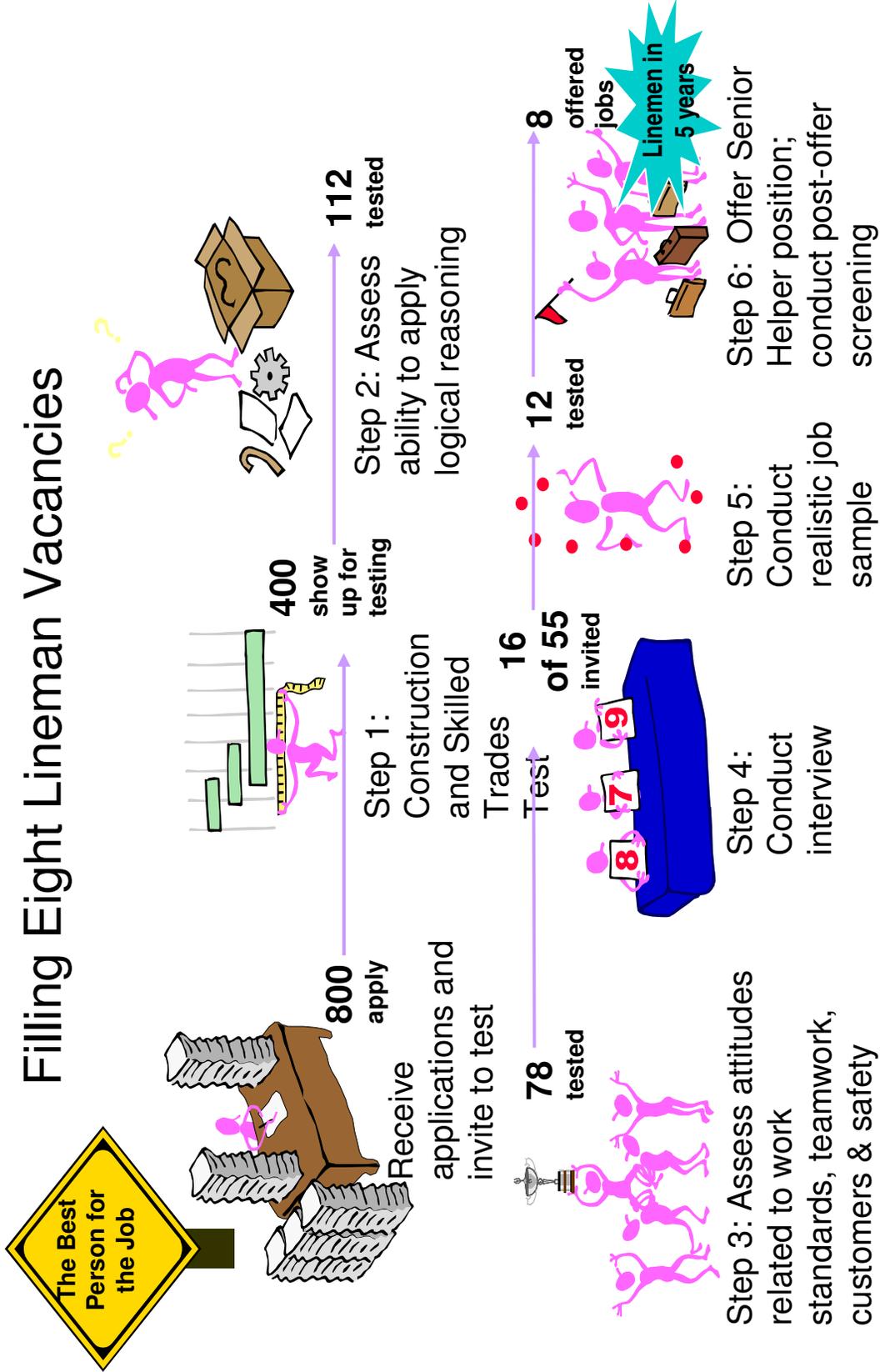
The Hiring Process

3 to 6 weeks (BU entry-level positions only)



-- -- Merit Process

Filling Eight Lineman Vacancies



Programs to Accelerate Hiring



Hawaiian Electric Company, Inc.
Vacant Positions as of March 31, 2008
HECO T-15

	2008 YTD Recorded 3/31/08	2009 EOY Test Year	Diff EOY Test Year vs 3/31/08 Recorded	Replacement	New	
President's Office						
Corporate Audit & Compliance (Formerly Inte	8	13	5	Manager, Dept. Secretary, IT Auditor	3	Part-time Interns to meet SOX deadlines (annually Sept thru Feb)
President's Office	4	4	0			
Subtotal	12	17	5			
Sr. Exec VP	2	2	0			
VP-Corporate Excellence						
Compensation & Benefits	10	11	1	Ee Benefits Systems Administrator (filled 5/12/08)	1	
Industrial Relations	9	9	0			
Safety, Security & Facilities	46	52	6	Custodian, Security Coordinator (2), Security Officer, WC Coordinator (currently filled by unbudgeted agency temp)	5	Security Officer
Workforce Staffing & Development	16	25	9	HR Assistant	1	Testing Specialist, Testing Coordinator, OD Consultant, Corporate Interns (2), Corporate Mentors (3)
VP-Corporate Excellence's Office	4	4	0			
Subtotal	85	101	16			
SVP-Finance						
Information Technology & Services	88	97	9	Senior Development Analyst (filled 5/19/08), Development Analyst (filled 5/12/08), Database Analyst, IT Project Manager/Team Leader (filled 5/12/08), IT Infrastructure Analyst (2) (both filled 5/27/08)	6	Development Services Analysts
Management Accounting & Fin Svcs	20	22	2	Sr. Financial Analyst, Mgmt Acctg Analyst (filled 6/30/08)	2	
Risk Management	9	9	0			
Financial VP/Treasurer's Office	3	3	0			
Subtotal	120	131	11			
VP-General Counsel						
Legal/Land and Rights of Way	16	17	1	Backfill manager with Assoc. Genl Counsel (filled 4/28/08)	1	
VP-Gen Counsel's Office	2	2	0			
Subtotal	18	19	1			

Hawaiian Electric Company, Inc.
Vacant Positions as of March 31, 2008
HECO T-15

	2008 YTD Recorded 3/31/08	2009 EOY Test Year	Diff EOY Test Year vs 3/31/08 Recorded	Replacement	New	
Sr. VP-Energy Solutions***						
Customer Installations	50	55	5	Jr. Customer Planner (filled 4/21/08)	AMI Systems Engr (2), 1 AMI Project Mgr (2)	4
Energy Projects	9	9	0			
Technology	3	3	0			
Sr. VP-Energy Solutions' Office	4	4	0			
Subtotal	66	71	5			
VP-Customer Solutions***						
VP-Customer Solutions' Office	2	2	0			
Sr. VP-Operations						
Sr. VP-Operations' Office	2	2	0			
VP-Energy Delivery						
VP-Energy Delivery's Office	2	2				
VP-Power Supply						
VP-Power Supply 's Office	3	3	0			
Exec. VP-Public Affairs						
Governmental Relations	3	3	0			
Integrated Resource Planning	5	6	1	Sr Resource Planning Analyst (filled 4/28/08)	1	
EVP-Public Affairs' Office	2	2	0			
Subtotal	10	11	1			
VP-Corporate Relations						
Corporate Communications	9	9	0			
VP-Corporate Relations' Office	3	3	0			
Subtotal	12	12	0			
VP-Government & Community Affairs						
Education & Consumer Affairs	8	8	0			
Regulatory Affairs	10	15	5	Director, Analyst II (2), Sr. Analyst	4 Director	1
VP-Gov't & Comm Affairs' Office	7	7	0			
Subtotal	25	30	5			
Total Vacancies in T-15:	359	403	44		25	19

January 25, 2008

Contact: Suzy P. Hollinger
Manager, Treasury and Investor Relations

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HECO Vice President Corporate Relations

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HAWAIIAN ELECTRIC INDUSTRIES, INC. ANNOUNCES EXECUTIVE APPOINTMENTS

HONOLULU -- Hawaiian Electric Industries, Inc. (**NYSE - HE**) today announced that Eric K. Yeaman, HEI Financial Vice President, Treasurer and Chief Financial Officer (CFO), has been named Senior Executive Vice President and Chief Operating Officer (COO) of its utility subsidiary Hawaiian Electric Company, Inc. (HECO). Mr. Yeaman will report to HECO President and Chief Executive Officer, T. Michael (Mike) May.

“We are pleased to have one of our outstanding leaders assume a key operating role at our major electric utility subsidiary,” said Constance H. Lau, HEI President and Chief Executive Officer and Chairman of the HECO Board. “Helping solve Hawaii’s energy issues has become increasingly important and complex, and Eric’s leadership of the day-to-day responsibilities of our Oahu utility will enable Mike to give even greater focus to our ongoing efforts to develop a balanced, comprehensive energy plan for Hawaii’s future—one that considers reliability, energy security, the environment and the needs of the communities we serve,” Lau added.

Page 2

In his capacity as COO, Mr. Yeaman will be responsible for overseeing the Oahu utility's day-to-day operations, energy solutions, public affairs and financial/administrative process areas. Mr. May will continue overall leadership responsibility for the entire utility organization, including subsidiaries, Hawaii Electric Light Company, which serves the island of Hawaii, and Maui Electric Company which serves the islands of Maui, Molokai and Lanai.

“Eric brings strong leadership skills and experience that will help us further develop and advance our plans for Hawaii's energy future,” said May.

Prior to joining HEI in 2003, Mr. Yeaman served as COO for Kamehameha Schools, Hawaii's largest land trust, where he led numerous change management initiatives and developed and implemented new financial, investment and operational strategies to improve organizational effectiveness and efficiency.

He is a board member of The Nature Conservancy of Hawaii, Hawaii Community Foundation, Queen's Health Systems, Queen's Medical Center, Queen Emma Land Company, Enterprise Honolulu, Hawaii Pacific University and the Asia-Pacific Center for Security Studies Foundation.

Replacing Yeaman as HEI Acting Financial Vice President, Treasurer and Chief Financial Officer is Curtis Y. Harada, currently HEI Controller, a position he will retain.

Because of the heightened importance of ensuring community input in planning for the future, Hawaiian Electric Company also named Robert (Robbie) Alm as Executive Vice President for Public Affairs. Alm previously held the position of Senior Vice President for Public Affairs.

“Under Robbie's leadership we have worked hard to improve on the process by which we make decisions, ensuring that the concerns of the community are considered upfront,” said Lau.

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“Our strategic success takes the ability to work through complex regulatory, government and community issues and Robbie has successfully brought those skills to the table.”

Tayne S. Y. Sekimura, currently Hawaiian Electric Company Financial Vice President, will be promoted to Senior Vice President, Finance and Administration. In her new role, Sekimura will oversee HECO’s financial, human resources, legal and corporate administration areas.

All appointments are effective February 1, 2008.

HEI supplies power to over 400,000 customers or 95% of Hawaii’s population through its electric utilities, Hawaiian Electric Company, Hawaii Electric Light Company and Maui Electric Company, and provides a wide array of banking and other financial services to consumers and businesses through American Savings Bank, the state’s third largest financial institution based on year-end asset size.

FORWARD-LOOKING STATEMENTS

This release may contain “forward-looking statements,” which include statements that are predictive in nature, depend upon or refer to future events or conditions, and usually include words such as expects, anticipates, intends, plans, believes, predicts, estimates or similar expressions. In addition, any statements concerning future financial performance (including future revenues, expenses, earnings or losses or growth rates), ongoing business strategies or prospects and possible future actions, which may be provided by management, are also forward-looking statements. Forward-looking statements are based on current expectations and projections about future events and are subject to risks, uncertainties and assumptions about HEI and its subsidiaries, the performance of the industries in which they do business and economic and market factors, among other things. These forward-looking statements are not guarantees of future performance.

Forward-looking statements in this release should be read in conjunction with the “Forward-Looking Statements” discussion (which is incorporated by reference herein) set forth on page iv of HEI’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2007, and in HEI’s future periodic reports that discuss important factors that could cause HEI’s results to differ materially from those anticipated in such statements. Forward-looking statements speak only as of the date of this release.

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From: May, Mike
Sent: Thursday, May 08, 2008 3:00 PM
To: zz\$All HECO; zz%All HELCO; zz\$All MECO
Cc: Lau, Connie
Subject: HECO Executive News

It is with mixed emotion that I share this important announcement with all of you:

Today, it is being announced that Eric Yeaman, HECO's Senior Executive VP and Chief Operating Officer, has been appointed the new President and CEO of Hawaiian Telcom.

The appointment is clearly a testament to Eric's recognized management and leadership skills and the broad experience he can bring to an organization. We've seen these skills demonstrated firsthand through his years at HEI and in the brief time he's been on board with us in his current position, where he hit the ground running to transition into his COO role. While this is an obvious loss for our organization, it is an opportunity of a lifetime for Eric and in the broader sense, a move to help restore local leadership to a critical utility company in our community.

The important strategic work that Eric has been involved in remains a top priority for our company and with the groundwork he has helped put in place be assured that momentum will continue. Eric will transition to Hawaiian Telcom at the end of this month. Because this opportunity arose unexpectedly, plans have not been finalized for Eric's replacement, but we will keep you informed.

In the meantime, please join me in congratulating Eric on this tremendous achievement!

** Please share this email with employees who do not have access to email **

HECO Pre-Employment Testing Program

Continuing:	
	1. BAPT (Berger Aptitude for Programming Test) – Sr. Helper
	2. POSS (Plant Operator Selection System) – Power Plant Operators
	3. REID with Service Relations – All BU Implementors
	4. Employee Safety Inventory – All BU Implementors
	5+. Skill Tests (Oral & Written Directions, Typing, etc.)
From	To New in 2006
6. DAT (Differential Aptitude Test) –Sr. Helper –Auto Mechanic –Drafters	6. MASS (Plant Maintenance Selection System) –Plant Maintenance Helper, Sr. Helper 7. CAST (Construction & Skilled Trades) –Sr. Helper, Automotive Mechanic 8. TECH (Technicians) –Jr. Customer Planner, Drafters, Communications
7. GCT (General Clerical Test) –Acct Svcs. Clerk –Mail Clerk –Meter Reader	9. SASS (Support & Administrative Selection System) - Account Services Clerk, Mail Clerk, Clerk Typists, Meter Readers 10. Customer Service Representative Test (2008 go-live) - Customer Service Representatives

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PAPER

BUILDING SOCIAL AND INTELLECTUAL CAPITAL: HR'S CONTRIBUTION TO ORGANIZATIONAL EFFECTIVENESS

[\(click here for Spanish version\)](#)

By Robert J. Greene, PhD, SPHR, CCP, CBP, GRP

Revised June 2002

Abstract

An organization's social and intellectual capital are increasingly potent sources of competitive advantage. The most effective tools for leveraging social and intellectual capital to produce maximum impact on organizational performance are the management of culture, organizational design, staffing strategy, development strategy, performance management strategy and rewards strategy, all of which do or should fall within the realm of the human resource function. Human resources must take the lead by formulating strategies and designing programs that will produce alignment and cohesiveness and that will encourage the creation, dissemination and application of knowledge to the organization's advantage. By asking for, measuring, recognizing and rewarding behavior that effectively leverages social and intellectual capital, human resources becomes a vital contributor to organizational success.

Part one deals with concepts underlying effective management of social and intellectual capital and part two discusses specific applications of these concepts.

Part One

Introduction

Nations and unions of nations are Balkanizing into new entities, others are changing their names/identities and still others are forming new unions. One of the primary reasons for success or failure of any entity seems to be the existence of social capital that serves as a glue to hold diverse constituencies together (Fukayama). The World Bank definition of social capital that can be applied to countries, societies or organizations is: "norms and social relations imbedded in social structures that enable people to coordinate actions and achieve desired goals." The social capital exists in the relationships, not in the agents themselves; it requires mutual commitment, since if one party withdraws it disappears. Social capital can also be defined in a manner that fits a prevalent definition of organizational culture: "how an organization deals with the problems associated with external adaptation and internal integration" (Schein). Social capital and culture are different, albeit closely related. Culture is the software that enables an entity to create social capital and to apply it in a manner that produces value. Since abundant and appropriate social capital promotes shared values, commitment, collaboration, engagement and loyalty, it sets the stage for a citizen mindset, rather than a free agent mindset. This makes social capital a necessary but not sufficient prerequisite for effectively using human resources (a.k.a. intellectual capital).

In the commercial world, organizations are appearing/ disappearing, changing their names/identities, Balkanizing, combining and forming alliances at an unprecedented rate. Much as with nations, organizations survive and prosper when there is something to align people's beliefs, values, priorities and goals (Cohen and Prusak). There are management theorists proposing the virtual organization as the model for success in today's kind of environment. But many others are uneasy about this "film crew management" approach as a way to build organizational value and sustain it. When all of an organization's assets (its intellectual capital) go home on Friday and are free not to come back on Monday, investment analysts wonder what the organization really possesses. As many organizations see their market value at many times their book value, they struggle to identify ways of effectively managing the intangibles that account for the majority of their value (Lev; Edvinsson). Investment analysts currently base a significant portion of their valuation of organizations on intangible assets or capital that the accountants do not enter into their books. And there is widespread agreement that current accounting rules requiring investments in intangibles (such as R&D and employee training) to be treated as current expenses both discourage these investments and understate the value of organizations (Becker, Huselid and Ulrich; Lev; Edvinsson).

Much of this intangible value of organizations is in the form of intellectual capital. It can be used to gain competitive advantage and many organizations find it is their only sustainable competitive advantage. For it to act as a sustainable advantage, however, an organization's intellectual capital must be of value to customers, be difficult to imitate, be superior to that of competitors, produce the needed products, be capable of being diffused throughout the organization and remain useful in the future (Leonard and Swap). Those suggesting that intellectual capital is the only form of organizational capital that can produce a sustainable competitive advantage point out that the traditional forms of capital (financial, brand, operational and customer) can be duplicated easily by competitors or be bypassed by strategies such as early emulation or being a low cost provider (Sullivan; Steward; Klein).

Effective Management of Intellectual Capital

Effective management of intellectual capital requires that the knowledge critical to organizational success be created/captured, organized/analyzed, disseminated and applied to produce the desired results, thereby enabling the organization to know what it needs to know to remain viable. And organizations must have the learning capacity to expand intellectual capital as required, as well as to use it in a manner that enables external adaptation and internal integration (Argyris and Schon; Chawla; Botkin; Davenport and Prusak; Schein; Neef). The management of intellectual capital appears in the literature most frequently under the heading of "knowledge management." But there is confusion over the definition of knowledge management, since most of the literature is focused on the technology used to transfer information (VonKrogh, Ichijo and Nonaka). A recent McKinsey and Co. global survey of knowledge management practices suggests this is far too narrow a focus (Kluge, Stein and Licht). This article uses a broader interpretation of intellectual capital, encompassing both legally protectable intellectual property and the knowledge, skills and behaviors that can be used to an organization's advantage, but that can also be learned and used by other organizations since they lack legal protection (see Figure 1). Technology will be treated here as an enabler--a necessary but not sufficient prerequisite for the effective management of knowledge. The emphasis will be on human resource management strategies and programs that can effectively leverage intellectual capital. This is not intended to diminish the importance of technology for transmitting information, but only to recognize that having technology does not mean people will utilize it to effectively leverage intellectual capital, it only makes it possible.

The critical challenges associated with effectively managing intellectual capital are:

- Defining what the organization needs to know/be able to do and who needs to know it/do it.
- Determining what the organization does know/can do and who knows it/can do it.
- Identifying "need to know--know" and "need to do--able to do" gaps.
- Formulating a strategy to close these gaps.
- Creating the vision/mission, culture, environment, strategy, structure and human resource strategies/programs that will facilitate effectiveness in the short run and sustain it over the long term through continuous learning.

The appropriate human resource strategies/programs must be in place to encourage people to produce the desired results. The potential contributions of the human resources function to effectively managing intellectual

capital are in the following areas:

1. Defining, evaluating and shaping culture.
2. Designing the organizational structure and defining employee roles.
3. Formulating staffing and development strategies and designing programs.
4. Formulating performance management strategies and designing programs.
5. Formulating rewards strategies and designing programs.

An effective human resource strategy must fit the context within which it will be used, facilitate realizing the mission and meeting the objectives and enable the organization to attract, retain and engage the right people with the right skills and the right motivation (see Figure 2). Although culture and organization design frequently do not fall within the domain assigned the HR function, there are strong arguments that they should. Too many organizations let their culture happen rather than consciously shaping it and continually reassessing it for effectiveness and appropriateness. And rarely is any function responsible for making decisions relative to organizational design, leaving this critical area to people with no training. It is therefore suggested that HR strategies, programs and processes are the most powerful tools to drive effective management of intellectual capital (Leonard; O'Dell and Grayson).

Cultural Definition, Evaluation and Shaping

Effective management of intellectual capital requires a supportive culture. Knowledge is first and foremost cultural and only then technological (Boisot). The culture must be such that knowledge sharing is asked for and rewarded, people are given resources to facilitate it, people are trained in the skills required to do it and the structure, role design and staffing levels enable it to happen (Rogers; Prusak; Ulrich). A key cultural characteristic, whether an organization views its people as costs or as assets, will profoundly impact how committed it will be to invest in ensuring intellectual capital is a high priority and that people are equipped to manage it well.

Performing a cultural assessment is a critical step for an organization towards ensuring that its culture nurtures effective creation, dissemination and application of intellectual capital (Greene, 1995). A culture that facilitates widespread employee involvement is more apt to prompt widespread sharing of knowledge and more apt to instill the view that all employees, customers, suppliers and other constituencies are potential sources of valuable knowledge. And if managers consider the effect of their decisions and actions on overall organizational results, rather than only on their own unit, knowledge is more likely to be shared across units, maximizing its value to the organization. But if the culture encourages silence and conformity to minimize conflict and/or if management believes that decisions should be centralized at the upper levels of the organization, the flow of communication and the creation, dissemination and application of knowledge will be impeded (Morrison and Milliken). Tools such as the Army's After Action Reviews, GE's Work Outs, Sears Town Hall Meetings, Shell's Trade Shows and Monsanto's Town Hall Meetings herald the values of sharing the organization's objectives and pooling knowledge gained by units to the benefit of the overall organization and its workforce.

Although most children in their formative years are taught to share their possessions with others, they have historically then learned other lessons in U.S. schools. This retraining is accomplished by making it clear that it is a competitive world, that it is better to be first in your class than to be last and that the way to gain a competitive advantage over others is to know more. Sharing knowledge is often termed "cheating" and punishment is the typical result. Additionally, the Anglo Saxon cultures place great emphasis on being right and not looking ignorant or uninformed, which discourages people from requesting information they need and keeps them from engaging in true and open dialogue. And the fear of being wrong or of being thought inadequate often impedes the information flow between parties. It is easy to get people to speak about their successes but few will offer in-depth descriptions of the disasters they perpetrated.

An organization's culture can encourage a "share your knowledge for the common good" mindset or it can reinforce the "keep the best of what you have to look better relative to others" approach learned during school years. Organizations that use hierarchical structures and career management principles predicated on competition at the individual level throw a significant cultural hurdle in the path to effective knowledge management. The prevailing business culture in the U.S. is individualistic, especially after the downsizing and reengineering binges of the last decade, which left most people with a "survival of the fittest" mindset (Pfeffer

and Sutton). Interpersonal skills are often not emphasized in training programs, at least not relative to analytical and problem solving skills. Effective communicators are usually thought to be those who can deliver a speech well and who can persuade others to accept their ideas. The celebration of those who are always right and criticism of those found to be wrong makes it hard to convince people to make others as effective as they can be, to the betterment of the overall organization.

This kind of culture can result in managers being reluctant to hire people more capable than they are and can also lead to them controlling the effectiveness of their top subordinates by metering the flow of critical information. Technology using databases and expert systems can increase access to information needed for effectiveness (Zuboff). But if managers control access to the knowledge through the use of hierarchy and rules, they negate the potential knowledge leveraging capabilities of the technology. Another challenge facing many organizations is the existence of a strong "NIH" (not invented here) bias imbedded in the culture. This goes beyond the "we have always done it this way" counter to proposed change. NIH thinking presents a real barrier to having new knowledge and approaches imported from the outside. This mindset can impede honest consideration of best practices discovered through benchmarking and even impede transfer of practices and ideas from other parts of the same organization (Dixon). In an attempt to provide an antidote to this malady, Raychem has instituted an NIH award that goes to those using knowledge from within the organization, and the source of the knowledge receives a certificate saying, "I had a great idea and X is using it" (Leonard and Swap).

Motorola developed a program that delivered rewards and recognition to teams through its Total Customer Satisfaction Contests when they could demonstrate the innovativeness of their approach and how it positively impacted customer satisfaction. Other teams evaluating contributions did so based on how much they themselves could learn and benefit. The organization has changed the focus recently with its Teaming For Excellence program that uses a knowledge management navigator site for teams to share experiences; recognition and rewards for teams are now based on a performance scorecard. IBM increased sales by 20 percent by changing its internal sales force contests, rewarding those who learned the most from customers and who shared it with others, rather than those who increased their own sales the most.

Additional challenges are created when organizations utilize cross-functional and cross-cultural teams to perform critical functions such as product design. Individualistic cultures such as the U.S. or Australia will not be as friendly to knowledge dissemination as will collectivist cultures such as Japan and China (Trompenaars and Hamden-Turner; Greene, 1995). Mixing people from different cultures raises issues concerning the appropriate team structure and culture. Occupational differences (e.g., specialized knowledge, different priorities and processes) also complicate the knowledge transfer process, as do generational differences (Greene, 1999).

Linguistic and cultural differences are obvious impediments to effective interaction when borders are crossed and these differences often offset the advantages of a team-based structure that includes greater creativity, broader perspectives and a wider range of approaches (Adler). Technology can be an enabler but these obstacles just cited must be dealt with in order for these "global relay teams" to be effective (O'Hara-Deveraux and Johanson; Marquardt and Reynolds).

As mentioned earlier, there is generally no position or function charged with defining, evaluating and shaping the organization's culture. Human resources is the most logical function to assume this responsibility, guided and supported by executive management. Defining the culture, assessing its effectiveness in light of the organizational context and formulating strategies for reshaping it naturally fall within the purview of HR. Selecting, developing and rewarding people in a manner that facilitates the creation of the desired culture is the key to getting the job done well and these strategies/programs are shaped by HR. Direction from executive management in the form of a clear vision and articulated values is also needed, but it will be the HR strategies and programs that will set the stage for developing and maintaining an appropriate and effective culture.

Organizational, Workplace and Role Design

Organization structure can be defined as a temporary, continuously evolving response to the organization's needs to adapt to its environment and to integrate its internal processes (Schein). An effective structure in a rapidly changing context can be likened to a client server network approach to information processing. Structures that operate like client server networks enable the organization to perform all work at the most efficient level, to fully utilize agent capabilities, to enable continuous and instantaneous self-organization and to facilitate economic, informational and emotional exchange both within the organization and with the environment. At each level within the network, the goals, roles and relationships of each agent are defined, subject to change when necessitated by changes in the context.

To continue with another analogy borrowed from information technology, organizational units can be viewed as

objects, performing their assigned responsibilities and calling upon other units to supplement their capabilities. Complexity science has pointed out that behavior at any level is emergent; it is not the predictable sum of all of its components, but rather the result of the interactions between all parties (Wheatley). Therefore, the level of connectivity within that network will be determined by the density and the quality of the relationships between the people (Noria and Eccles; Pasternak and Viscio; Dixon; Leonard).

If the network metaphor is applied to organizational design it results in strategies that differ from those produced by the efficiency mindset underlying hierarchical approaches to structure. For example, reengineering and its constant companion downsizing aim at an end state involving no redundancy of knowledge, skills or headcount. As a result, people who need to work together and to integrate their knowledge attempt to do so without sharing and without having any slack time to do it in or official sanction to do it. The 3M culture includes story telling and behavioral modeling that encourages people to do their best to innovate and to work cooperatively with others to expand their capabilities. Relative to its staffing levels and structure, Bill Coyne, head of R&D, says of their rule that allows everyone 15 percent of their time to work on their own interests that "the 15% is meaningless... the number is not as important as the message, which is *that there is slack in the system*. If you have a good idea and the raw nerve to skirt your lab manager's expressed desires, then go for it" (Grundling).

Much knowledge is "tacit" and must be transmitted person-to-person (such as in a master-apprentice type of relationship) because it cannot be rendered explicit by writing it down (Nonaka and Takeuchi). Expert systems have been limited by the extent to which the experts can codify the decision rules and techniques they use to do their work and much of the work today requires exhibiting job-related behaviors that are the result of internalized learning, resulting in heuristics that cannot be expressed directly. Therefore, "slack" is not synonymous with waste, but a necessary condition for transferring tacit knowledge.

Research by Szulanski at INSEAD has identified the chief inhibitors to the flow of knowledge to be: 1) the source and/or the recipient of knowledge do not know what the other knows or needs to know, 2) resources (time, budget) necessary for the transfer are not available, 3) there is a lack of an established relationship and 4) delays are caused by structural rigidity and poor processes. In addition to these factors a lack of mutual trust will inhibit the free flow of knowledge. The inhibitor leading Szulanski's list is the lack of knowledge about who knows/does not know and who needs to know what someone else has to offer. One of the tools that have been used to remedy this defect is a "knowledge yellow pages." A wide range of knowledge types (knows about, knows how, knows why) can be included in an accessible database and individuals/groups possessing the required knowledge can be indexed to a topic list. Indexes can be created and software tools can be utilized to facilitate searches and to make contacting appropriate parties less difficult. An example of the "yellow pages" approach is a fifty year-old utility with a wide variety of technologies, methods and processes. The utility found great value in identifying people who were competent to work with the older, rarely used equipment and systems. When a less experienced staff member needed to know "how this stuff really works," rather than what the operating manuals (when they exist) say, an inquiry could quickly and easily be directed to the appropriate party. In addition to increasing productivity and speed, the recognition associated with being listed as an expert was also found to be a source of significant job satisfaction.

Increasingly organizations are outsourcing functions, using contractors and consultants to supplement their workforce and entering into alliances/ventures with other organizations. The structure used to accomplish work and assign roles to the various players will have a major impact on how effectively work is done. The free flow of knowledge to and from contractors is difficult to achieve, since contractors often view their knowledge as their "product" and sharing that knowledge can create competitors. Organizations are also often hesitant to share their intellectual capital (processes and technology) with outsiders, particularly if it is not possible to protect its value by turning it into intellectual property through patents and copyrights (Stewart; Edvinsson and Malone). Joint ventures therefore pose difficult integration issues, which are often overlooked until the desired results do not materialize and the cause is identified too late in the venturing/contracting process. An inter-organizational example of the "yellow pages" approach is the Fuji-Xerox alliance. Both organizations have committed to identifying where relevant expertise resides within the two entities and to pooling intellectual capital across organizational boundaries.

Obstacles to the free flow of knowledge also exist when temporary and part-time personnel are used. Organizations often do not recognize the benefits of training these people and of informing them fully, particularly when it is felt that they are just passing through or that they have their heads and hearts somewhere else. But if these depictions are indeed true it argues for reconsidering using such personnel to serve customers or to perform important work. But even if their importance is recognized there must also be an economic justification for investing in training temporaries and part-timers, particularly considering today's mobility among skilled people. Organizations relying on knowledge management as a competitive advantage will be more likely to recognize these people as important participants in the workforce, since information will

typically be broadly disseminated and everyone will be viewed as potential contributors of new knowledge and will be required to use knowledge effectively, as long as both the culture and the structure support it.

Organizational entities termed "communities of practice" are increasingly being used to deal with some of the knowledge creation/dissemination challenges just discussed. These are primarily social entities that do not appear on organization charts and are typically voluntary in nature--"shadow units" with no department number or name. Membership consists of a defined knowledge domain, a community that operates within that domain and a shared practice. The purpose of these communities of practice is to promote knowledge, competence and motivation (Wenger). They co-exist with the formal structure but are based on collegial relationships, rather than formal reporting relationships. COPs preserve their identity by adhering to norms and values and rely on social capital that creates a level of trust enabling open sharing. Effective operation requires that authority in any matter follow expertise rather than organizational power/position. Examples of COPs include Hewlett-Packard "learning communities" and Daimler-Chrysler "tech clubs." To effectively nurture these entities organizations must support and encourage them, rather than attempting to manage them.

As with culture, HR must play a central role in creating a structure that facilitates effective leveraging of intellectual capital. The structure of the organization and the design of work roles must be managed with knowledge creation and dissemination in mind. The human resources function is the most logical one to control this activity, particularly if an effective organizational development capability exists within HR. Managers may still make local decisions, but these should be guided by global principles established by those with the knowledge and skill to formulate them (Davis and Botkin; Klein; Myers).

Staffing and Development Strategies/Programs

A workforce capable of developing the required pool of intellectual capital can be built by staffing the organization with the right people and training them to act in a manner conducive to creating, disseminating and applying knowledge. Competencies that support effective intellectual capital management can be identified, defined and used to select personnel. People who "share their toys" can be identified through a number of selection instruments and the interviewing process can incorporate criteria related to knowledge sharing. It is also possible to increase the range of personal approaches to problem solving, through the use of focused staffing criteria. Mixing "left-brained" and "right-brained" people can produce a "whole-brained" workforce. Additionally, diversity relative to points of view, experience and training should be incorporated in staffing strategies, to ensure that sufficiently different viewpoints are considered when the workforce engages in dialogue.

Staffing levels should be evaluated to ensure there is sufficient knowledge overlap between people (horizontally and vertically) and that an appropriate amount of slack resources (time; budget) exist to facilitate knowledge sharing. This runs counter to one of the cultural icons within Anglo-Saxon business culture--the principle of efficiency. The loathing of redundancy or overlap throws an obstacle in the path to knowledge sharing and the absence of overlap in U.S. organizations impedes knowledge flow. Many successful Asian companies find it easier to disseminate and even create the necessary knowledge, even though they might appear to be over-staffed in the eyes of North American management thinkers, because overlap and redundancy of knowledge are viewed as enablers for knowledge transfer, rather than sources of inefficiency (Nonaka and Takeuchi). Employment security is also an issue. Its existence encourages stretching and sharing, while its absence impedes transfer. This notion of security does not translate to a job for life, but it does mean that dramatic improvements in one's productivity and quality of work will result in positive, not negative consequences. If all gains go to shareholders and executives and result in less job security for everyone else, it will be difficult to get employees enthusiastic about initiatives such as re-engineering (a.k.a. downsizing) or total quality management. A frequent consequence of getting "lean" is the loss of crucial institutional memory. A national research laboratory involved in the Manhattan Project found it necessary to bring back people who had taken advantage of early retirement incentives to convey the tacit knowledge that had not been rendered explicit by writing it down in formal operating procedures. It turned out that a lot of the steps appearing only between the lines in the procedure manuals were critical components of processes.

Training programs can develop the interpersonal skills of employees. Behaviors supporting effective intellectual capital creation and sharing can be modeled by the leadership of the organization, encouraging employees to use these interpersonal skills. Federal Express now spends four to five percent of payroll on training/ development, with emphasis on training to create the necessary knowledge, testing for competence and retraining to replace or supplement existing knowledge so it fits the evolving environment. The organization assigns a weight of 12 percent to job knowledge test scores when conducting performance reviews, thereby establishing consequences related to knowing what is needed to be effective. Training personnel in the use of technological tools that facilitate knowledge transfer is a prerequisite for realizing their potential. Allowing longer-service managers and employees to skip the computer/email fad seriously reduces the potential of knowledge networks and also

impedes the integration of work, particularly when process participants are not geographically co-located.

Career management programs that recognize and reward those who do contribute to the effectiveness of others through knowledge sharing can be very effective in motivating behavioral change. Promotions accompanied with clear explanations as to why a promotion occurred can be used to celebrate the value of knowledge sharing and supportive behavior. Writing behavioral competencies into career ladder definitions can communicate to employees what it takes to be successful and can encourage them to exhibit the desired behaviors. If employees think success means looking better than others, rather than making others more effective, they will be likely to behave in a counter-productive, self-serving manner.

Once again, the critical tools fall within the purview of HR. By assuming the responsibility for the end objective of effective intellectual capital management, HR can integrate and align the strategies/programs that will facilitate success.

Performance Management Strategies/Programs

What an organization measures and rewards is likely to happen. Once role specifications and competency models are developed and used to select, place and develop people who are capable of effectively creating and disseminating knowledge the next step is to define performance using criteria that encourage employees to turn capabilities into action. The most commonly used performance criteria are productivity, quality of work and dependability. Although these criteria will promote individual effectiveness, they overlook the contributions of an individual to making others and the unit more effective. Coaches often point out the difficulty of making all-star basketball teams play well together. Inevitably each of the five people on the floor is used to having the ball in their hands one-third to one-half of the time, a mathematical impossibility for an all-star unit. Also, the members were selected for being individual standouts--a questionable selection strategy if interdependent behavior is required.

Increasingly, organizations are adding additional factors to the performance appraisal that measure "contribution to the effectiveness of others" and "contribution to unit/ organizational effectiveness." This is happening even in job-based structures where work teams are not used as a form of organization, recognition that "teamwork" is needed even among relatively independent individual jobholders. The use of such criteria increases the likelihood that knowledge creation/dissemination will occur, since evaluations on these factors will influence the performance appraisal. That also impacts behaviors because the criteria have been formally declared to be important and desirable. As an example, one fifth of the performance evaluation of Ernst and Young consultants is based on the extent to which they have expanded, captured and shared knowledge with colleagues (Neef). When contributions to the effectiveness of others are being measured the use of multi-rater assessment may become desirable. Having the co-workers, subordinates, customers and superiors provide input into performance evaluation can provide a multi-perspective, broader view of how well the employee helps others to be more effective. It also lets the employee know that the views of these parties are valued and that they are considered in the evaluation process.

A final step is to recognize contributions to creating intellectual capital and turning intellectual capital into intellectual property as a dimension of performance. Most organizations underutilize their patents and other forms of intellectual property. There are numerous stories of organizations doing simple reviews of their intellectual property inventories and realizing millions by selling unused patents and reactivating the use of those having application to current or new products. It is rare however for organizations to do assessments of the full range of their intellectual capital, to determine what can be converted into intellectual property. Existing methods and processes often contain technology (e.g., equipment modifications or unique processes) that could be rendered explicit and protected, potentially making them salable or licensable products. To encourage this activity it should be made clear that this is an important value adder and that these contributions will be measured as a part of performance management and that they will be recognized through the rewards programs.

Once again stating the theme of this paper, HR should be capable of taking a leadership role in ensuring the performance management strategies and programs fit the organizational context and contribute to the attainment of its objectives.

Rewards Strategies/Programs

Contributions to creating new knowledge and/or more effectively disseminating and applying existing knowledge can be rewarded if compensation programs are designed appropriately. The most popular reward for performance in U.S. organizations is merit pay, even among the elite Malcolm Baldrige award winners. Merit

pay can potentially be effective in encouraging effective management of intellectual capital if the performance metrics related to making others effective are built into the performance appraisals and if the appraisals impact rewards. However, many merit pay programs are set up as a fixed sum game (e.g., each manager has five percent of payroll to use for salary increases). This has the unfortunate effect of putting individuals in competition with each other, thereby retarding the propensity to share knowledge and to make others effective. After all, why would anyone behave in a manner that made competitors more effective? The use of various forms of "person-focused" pay can encourage acquisition of skill and knowledge without putting employees in competition with each other and the prevalence of these programs has increased significantly for occupations that fit this approach (Greene, 1993).

One pronounced trend today is the increased use of individual, group and organization-wide variable pay plans (Greene, 1997). Funds for variable pay tend to flex based on results, rather than being a fixed budgetary item. That means that collective success may create a "we won" attitude, since the funds available for rewards are larger and everyone can share in success. Promoting a sense of shared destiny is typically one of the main objectives of profit-sharing, employee stock ownership and group incentive plans. These plans also increase alignment between individuals and groups, by creating shared performance criteria, standards and measures, and by tying the size of reward funds available to realized performance.

It has been argued that a weakness of aggregated measures is that they do not provide a line of sight between what an individual does and what the eventual outcomes are at the group/organization-wide level. But organizations have successfully linked performance measures at all levels together to ensure they are integrated (Stack). Individual merit pay has not been made obsolete by incentive programs; instead, merit-based base pay and variable pay are being used in conjunction with each other to elicit multiple behaviors through a balance between individual success and group/organizational success measures.

Recognition programs can also provide a source of valued rewards. If having a reputation of being an innovator, a mentor or a contributor to organizational effectiveness brings honor and prestige to the person there is an incentive to be viewed in this manner. Money is usually not expected for all forms of contributions, such as making others more effective, and the satisfaction produced by sincere recognition and thanks can be even more potent.

Employee ownership programs seem to offer the ultimate incentive to create, disseminate and apply knowledge effectively, particularly as knowledge increasingly is becoming the key to sustained competitive advantage and increased organizational value. Stock-based programs have the advantage of aligning the economic interests of all the constituencies within the organization. Assuming that people share equally or proportionately in total shareholder return (price appreciation plus dividends) there is a common interest in creating the performance that will increase that return. Broad eligibility for equity-based programs does have its dangers, since many employees do not understand the equity markets or the implications of stock ownership.

But most organizations willing to invest in at least the minimum amount of education required have found that these obstacles can be overcome. And stock programs do not require the organization to fund employee rewards out of operating earnings. The equity markets provide that wealth through stock price appreciation.

The turbulent nature of the equity markets recently mandates that organizations honestly portray what stock ownership is apt to mean to employees in economic terms. Many of the high-tech start-ups have expected employees to forsake the security of competitive salaries and benefits for the prospect of wealth through initial public offerings or stock price appreciation. Some of them have found that when success was not forthcoming in the short run the defections by key players left the organization without the required skills. Others have found that employees did not see the connection between performing in a manner that leads to sustainable success and equity market price levels, thereby causing them to concentrate on short-term results. Despite the limitations, the message that everyone is in the game together makes stock-based programs a potentially powerful tool for facilitating cooperative behavior.

Summary Of Social/Intellectual Capital Management Concepts

The concepts presented thus far provide a model for effectively managing social and intellectual capital. Not "managing" in a top-down, control-oriented manner, but rather building and leveraging these forms of human capital in a way that increases organizational effectiveness in the short term and its viability in the future.

Part Two of this paper addresses some of the organizational initiatives that have been most commonly employed of late, as well as some of the challenges created by environmental and organizational change. In each case the benefits of effectively managing social and intellectual capital are discussed as they apply to the specific

initiative/challenge.

Part Two

Applications Of These Concepts

Organizations have faced continuous, rapid environmental change and to remain viable they have merged/acquired, formed alliances, digitized customer relationships, responded to economic downturns and globalized. Each of these initiatives creates new challenges associated with effectively managing the organization's social and intellectual capital.

Mergers & Acquisitions

The expanded role for human resources described in this paper can help organizations cope with the current blizzard of activity in mergers and acquisitions. Given the frequency with which these organizational "blends" fail to last and/or meet their objectives, increasing the success rate will have a major impact on the effectiveness of the organizations pursuing them.

The most significant obstacles to successful M&As directly relate to social and intellectual capital issues, according to a 2001 survey conducted by Towers Perrin and the SHRM Foundation. These obstacles are: loss of productivity, incompatible cultures, loss of key talent, clash of management styles, the inability to manage change, the inability to sustain financial performance and the failure to ensure the objectives and synergies sought were well understood by all parties. It is evident that most of these obstacles can be related to culture and to human resource management, making social and intellectual capital a critical concern in mergers and acquisitions.

The extent to which cultural and human resource management issues will be encountered should certainly be determined during the pre-deal and due diligence phases of mergers and acquisitions. However, the TP/SHRM Foundation study found that HR was involved very little or not at all in a majority of the M&As studied until the final stages. What is striking about the study results is that HR was involved in these early stages twice as often in the successful M&As than in the unsuccessful ones.

By assigning a leadership role in cultural shaping, organizational design and the components of HR strategy (staffing, development, performance management and rewards) the HR function can ensure that it will be involved from the inception of these initiatives, thereby increasing the probability of success by avoiding or managing the common obstacles to success.

Alliances

Many organizations successful in creating new knowledge derive little economic value from their innovations. Xerox PARC invented but did not capitalize on several breakthrough technologies. Other organizations such as Dow have carefully managed knowledge and processes, turning it into intellectual property where possible, thereby increasing the opportunities to benefit commercially.

For organizations that can create knowledge, turn it into intellectual property, create a saleable product and take it to market directly, alliances typically are not required. In an increasingly complex environment, however, there is a need for complementary knowledge and/or capabilities not available within a single organization. It is here that alliances can help an organization exploit their knowledge. But much as with mergers and acquisitions, creating alliances requires more than finding what seems to be good product/customer/technology synergism.

Culture can be a major challenge, just as it is within a single organization when cross-functional and cross-business unit cooperation is the key to success. If people from different parts of the world and from different cultural heritages manage alliance partners, the challenge to find an alliance culture that will be effective is magnified further. Additionally, the human resource strategies and processes must not motivate people to behave in ways that reduce the effectiveness of the alliance. For example, if individual, group and organizational incentive plans reward profit maximization, each party will be inclined to fight for a larger share of the revenues realized by the venture. Unless there is also an incentive to cooperate with alliance partners to maximize the aggregated performance competitive and self-serving behavior is likely.

Digitizing Customer Relationships

The explosion of communication technology has precipitated a tsunami of service digitization. Electronic airline tickets and reservations are more or less accepted by many, but for those willing to wait out a recorded voice plea to use the airline website there is still the prospect of a real person at the end. Other organizations have designed entirely electronic interfaces with customers, denying the customer any practical access to a member of the organization. As the service strategies evolve there is a critical need for each organization to decide what their customer interfaces should look like and it takes an understanding of the customer to make intelligent decisions. "Customer capital" was mentioned in the introduction, and an organization that has high quality relationships with the customers it needs to succeed will benefit from them. But customer loyalty is fragile and inappropriately digitizing contacts with the customer, even partially, could quickly erode their inclination to remain with the organization.

People must make the decisions about the nature of the interface with the customer. To make good decisions they must understand the customer's needs/priorities, the organization's value proposition to the customer and the culture, strategy and structure of the organization. They must also use judgment to determine if digitizing service will turn the organization's offerings into a commodity, rather than being viewed as a unique or at least differentiated product. Use of an ISO9000 type of model to fashion service has been a failure, mechanizing service and depersonalizing the organization in the eyes of the customer.

Even the appropriate customer interface has to be well executed and this requires the right people doing the right things in the right way. Employee attitude impacts customer satisfaction and the existence of the appropriate culture for building social capital will have a positive effect on attitudes and satisfaction levels of employees. HR strategy is the key to creating the right setting and to selecting, developing and rewarding people in the right way.

Organizational Responses To Economic Downturns

Drops in revenue associated with macroeconomic downturns have historically prompted short-term cost reductions as the first response. Since most U.S. organizations rely on the equity markets for a significant portion of their financial capital, the impatience of institutional investors prompts such a response. And since people costs have traditionally been virtually all fixed (except for executives and direct sales personnel), the first step is often headcount reduction. If social and intellectual capital are critical to organizational success and future viability, this expendable-unit view of employees is dysfunctional. By continuously reminding executive management of the criticality of social and intellectual capital some of the instant layoffs can perhaps be reconsidered, balancing the supposed benefits with the eventual costs. By building variable compensation into the total compensation package, employee interests can be better aligned with those of the organization.

Broad-based ownership programs are an example of a compensation program that communicates "we are in this together." However, strategists must also ensure that one form of compensation is not overly prominent in the total package. Many firms that relied heavily on stock options, thinking them to be a free lunch (wealth creation without charging earnings), recently learned that they also can have a dark side when equity markets correct downward. On the other hand, using programs that create shared ownership can result in employee willingness to ride out the troughs, knowing they will participate fully during the peaks.

Economic education and the message that everyone shares proportionately in the same rewards can help the organization create social capital, thereby enabling it to effectively leverage its intellectual capital.

Globalizing

Deploying an organization's products, services and capabilities across the globe magnifies the challenges associated with building and leveraging social and intellectual capital. The cultural and structural challenges associated with merging people who have been socialized and educated in dramatically different ways are even more monumental than those faced during mergers and acquisitions. Many organizations using cross-cultural/geographical teams have experienced the barriers presented by different languages, beliefs, values and norms. Organizations who compete based on innovation have found that their primary need is to effectively discover new knowledge in all parts of the world and then to integrate it across the organization, spanning large cultural and geographic differences--"learning from the world" as a core capability (Doz, Santos and Williamson). Silicon Valley is still innovating, but so are Cambridge, Bangalore, Tel Aviv, Taipei, Singapore and Tokyo, and to win it is necessary to gather, merge and apply that knowledge in an intensely competitive environment.

Staffing the organization with the right people, developing them appropriately, managing their performance effectively and rewarding them adequately are mandatory. Human resources can contribute greatly to the likelihood of success by developing the strategies and programs required to produce a workforce that can make

globalization a success.

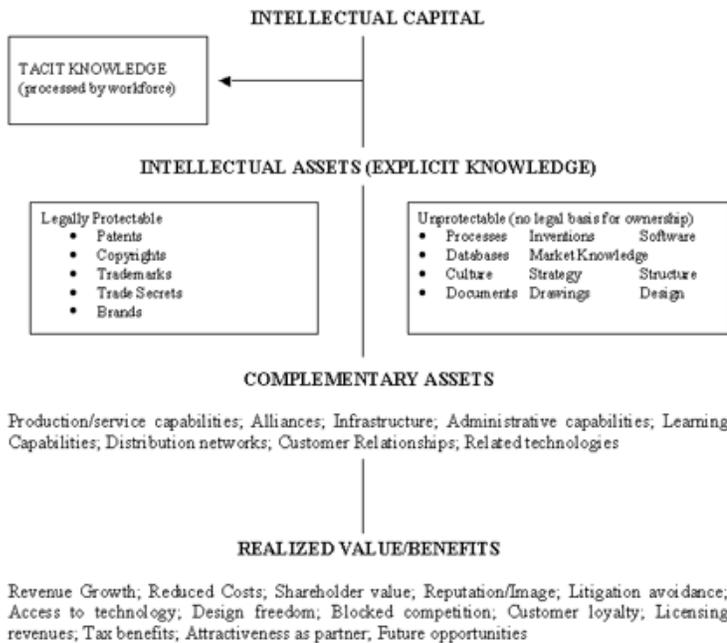
Conclusion

All of the tools that have been discussed in part one fall or should fall within the realm of human resources management. Although much of the responsibility for managing human resources is dispersed throughout the organization, the human resources function has an opportunity to assume leadership in the integration and alignment of strategies/programs that impact on building and managing social and intellectual capital. As discussed in part two cultural shaping and organizational design become critically important during merger and acquisition activity, as well as during other major organizational change initiatives, which illustrates how important culture and structure are in making them work. It is obvious someone needs to step up and lead in these areas and the argument has been that HR should be the designated function.

It takes an entire organization to raise an idea. Creating knowledge is easier in a culture that communicates everyone is important and capable of contributing. Disseminating knowledge is facilitated when organizational structure and role design provide the necessary resources and the mechanisms for sharing knowledge. Disseminating and applying knowledge becomes a priority for employees when they are selected, trained and rewarded for doing so. Effectively managing intellectual capital means more than creating an intranet site and asking employees to post ideas and to learn what they need to know. Technology can be an enabler, but for it to improve knowledge dissemination, employees must both want and know how to share the knowledge they have. The primary mechanisms for providing the impetus lie within the organization's human resources strategies and programs. If these strategies and programs serve the organization well, human resources becomes a major contributor to a critical source of sustainable competitive advantage.

FIGURE 1

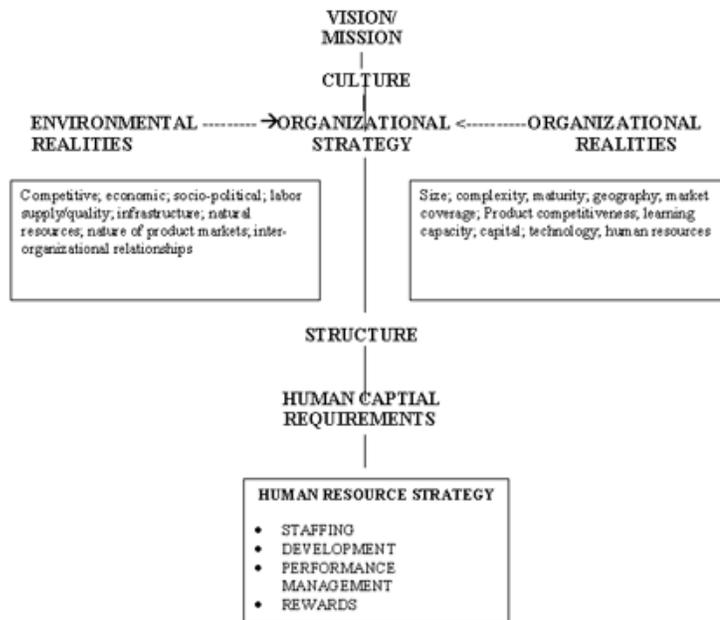
INTELLECTUAL CAPITAL: COMPONENTS & VALUE CHAIN



Adapted from: Knowledge Assets, Boisot, M.

FIGURE 2

ALIGNING HUMAN RESOURCE STRATEGY WITH ORGANIZATIONAL CONTEXT



Bibliography

- Adler, N. *Intl. Dimensions of OB*, 2d Ed. Cincinnati, Ohio: Wadsworth, 1991.
- Argyris, C. and D. Schon. *Organizational Learning II*. Reading, Mass: Addison-Wesley, 1996.
- Barclay, R. and S. Kaye. "Knowledge Management and Intelligence Functions." *Millenium Intelligence*. J. Miller, Editor. Medford, NJ: CyberAge Books, 2000.
- Becker, B., M. Huselid and D. Ulrich. *The H.R. Scorecard*. Boston, Mass.: HBS Press, 2001.
- Boisot, M. *Knowledge Assets*. New York: Oxford University Press, 1998.
- Botkin, J. *Smart Business*. New York: The Free Press, 1999.
- Cohen, D. and L. Prusak. *In Good Company*. Boston, Mass.: HBS Press, 2001.
- Chawla, S., Editor. *Learning Organizations*. Portland, OR: Productivity Press, 1995.
- Davenport, T. and L. Prusak. *Working Knowledge*. Boston, Mass.: HBS Press, 1998.
- Davis, S. and J. Botkin. *The Monster Under The Bed*. New York: Simon-Schuster, 1994.
- DeGeus, A. *The Living Company*. Boston, Mass.: HBS Press, 1997.
- Dixon, N. *The Organizational Learning Cycle*. London; New York: McGraw-Hill, 1994.

- Dixon, N. *Common Knowledge*. Boston, Mass.: HBS Press, 2000.
- Doz, Y., J. Santos and P. Williamson. *From Global To Metanational*. Boston, Mass.: HBS Press, 2001.
- Edvinsson, L. and M. Malone. *Intellectual Capital*. New York: Harper Business, 1997.
- Fukuyama, F. *The Great Disruption*. New York: Simon & Schuster, 1999.
- Greene, R. "Chaos Systems." *ACA Journal*, Winter 1992/3.
- Greene, R. "Culturally Compatible Rewards Strategies." *ACA Journal*, Autumn 1995.
- Greene, R. "Cultural Diversity & Rewards Strategies." *ACA Journal*, Spring 1995.
- Greene, R. "Generation X-Compatible Rewards Strategies." *ACA Journal*, 1Q, 1999.
- Greene, R. "The Impact Of Occupational Culture On Rewards Strategies." *ACA Journal*, 3Q, 1999.
- Greene, R. "Effective Variable Compensation Plans." *ACA Journal*, Autumn 1997.
- Greene, R. "Person-Focused Pay." *Compensation & Benefits Management*, 3Q, 1993.
- Grundling, E. *The 3M Way To Innovation*. Japan: Kodansha Intl., 2000.
- Klein, D. *The Strategic Management of Intellectual Capital*. Boston, Mass.: Butterworth, 1998.
- Isaacs, W. *Dialogue*. New York, NY: Doubleday, 1999.
- Kluge, J., W. Stein and T. Licht. *Knowledge Unplugged*. New York, NY: McKinsey & Co., 2002.
- Lipnack, J. and J. Stamp. *Virtual Teams*. New York: John Wiley, 1997.
- Leonard, D. *Wellsprings of Knowledge*. Boston, Mass.: HBS Press, 1998.
- Leonard, D. and W. Swap. *When Sparks Fly*. Boston, Mass.: HBS Press, 1999.
- Lev, B. *Intangibles*. Washington, D.C.: Brookings Institute, 2001.
- Marquardt, M. and A. Reynolds. *The Global Learning Organization*: Burr Ridge, Ill.: Irwin, 1994.
- Myers, P. *Knowledge Management & Org Design*. Boston, Mass.: Butterworth, 1996.
- Neef, D. et al. *The Economic Impact of Knowledge*. Boston, Mass.: Butterworth, 1998.
- Neef, D. *A Little Knowledge Is A Dangerous Thing*. Boston, Mass.: Butterworth, 1999.
- Nonaka, I. and H. Takeuchi. *The Knowledge Creating Company*. New York: Oxford Press, 1995.
- Nohria, N. and R. Eccles, Editors. *Networks & Organizations*. Boston, Mass.: HBS Press, 1992.
- O'Dell, C. and C. Grayson. *If Only We Knew What We Know*. New York: Free Press, 1998.
- O'Hara-Devereaux, M. and R. Johansen. *Global Work*. San Francisco, CA: Jossey Bass, 1994.

- Pasternack, B. and A. Viscio. *The Centerless Corporation*. New York, NY: Simon & Schuster, 1998.
- Pfeffer, J. and R. Sutton. *The Knowing-Doing Gap*. Boston, Mass.: HBS Press, 1999.
- Prusak, L. *Knowledge In Organizations*. Boston, Mass.: Butterworth, 1997.
- Rogers, E. *Diffusion Of Innovations*. New York: The Free Press, 1995.
- Stack, J. *The Great Game Of Business*. New York: Currency Doubleday, 1992.
- Stewart, T. *Intellectual Capital*. New York: Currency Doubleday, 1997.
- Sullivan, P.H. *Value-Driven Intellectual Capital*. New York: John Wiley & Sons, 2000.
- Sullivan, P.H. *Profiting From Intellectual Capital*. New York: John Wiley & Sons, 1998.
- Sveiby, K. *The New Organizational Wealth*. San Francisco, CA: Barrett-Koehler, 1997.
- Trompenaars, F. and C. Hamden-Turner. *Riding The Waves Of Culture*. New York, NY: Nicholas Breatley Publishing Ltd, 1997.
- Ulrich, D., J. Zenger and N. Smallwood. *Results-Based Leadership*. Boston, Mass.: HBS Press, 1999.
- VonKrogh, Ichijo and Nonaka. *Enabling Knowledge Creation*. Oxford; New York: Oxford Press, 2000.
- Wenger, E., R. McDermott and W. Snyder. *Cultivating Communities of Practice*. Boston, Mass.: HBS Press, 2002.
- Wheatley, M. *Leadership & The New Science*, 2d Ed. San Francisco, CA: Barrett-Koehler, 1999.
- Zuboff, S. *In The Age Of The Smart Machine*. New York: Basic Books, 1988.

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TESTIMONY OF
LON K. OKADA

MANAGER
CORPORATE TAXES
HAWAIIAN ELECTRIC INDUSTRIES, INC.

Subject: Taxes Other Than Income Taxes
Income Tax Expense
Unamortized Net SFAS 109 Regulatory Asset
Unamortized Investment Tax Credits
Accumulated Deferred Income Taxes
Recent Tax Developments

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1 INTRODUCTION

2 Q. Please state your name and business address.

3 A. My name is Lon K. Okada and my business address is 900 Richards Street,
4 Honolulu, Hawaii.

5 Q. By whom are you employed and in what capacity?

6 A. I am employed by Hawaiian Electric Industries, Inc. (“HEI”) and my title is
7 Manager of Corporate Taxes. HECO-1600 provides my educational background
8 and work experience.

9 Q. What are your areas of responsibility in this proceeding?

10 A. My testimony will cover the following areas for the 2009 test year for Hawaiian
11 Electric Company, Inc. (“HECO” or “Company”):

- 12 1) Taxes Other Than Income Taxes,
- 13 2) Income Tax Expense,
- 14 3) Unamortized Net SFAS 109 Regulatory Asset,
- 15 4) Unamortized Investment Tax Credits,
- 16 5) Accumulated Deferred Income Taxes, and
- 17 6) Recent Tax Developments.

18 Q. Please explain the terms “under present rates”, “under current effective rates” and
19 “under proposed rates” as used in this testimony.

20 A. Some of the test year estimates covered in this testimony, such as Taxes Other
21 than Income Taxes, are affected by rates charged by HECO to its ratepayers. For
22 these estimates, test year amounts are provided based on rates approved by the

1 Commission in HECO's test year 2005 rate case (Docket No. 2004-0113)
2 ("present rates"), based on HECO's 2005 rate case rates plus the surcharges for
3 the interim rate increase that the Commission approved in HECO's 2007 test year
4 rate case (Docket No. 2006-0386) ("current effective rates"), and based on rates
5 proposed by the Company in this instant docket ("proposed rates").

6 Q. Please describe the three scenarios in the Company's proposed rates.

7 A. The three scenarios are based on different treatments of the capital additions and
8 operations and maintenance ("O&M") expenses associated with the Company's
9 Campbell Industrial Park Generation Station and Transmission Project ("CIP
10 CT-1"): 1) base case, 2) interim increase, and (3) CIP CT-1 Step. The rationale
11 for these three proposed scenarios is discussed in Mr. Robert Alm's testimony in
12 HECO T-1 and further discussed by Mr. William Bonnet in HECO T-23.

13 Q. Please describe the base case.

14 A. The base case includes one-half of the capital additions and five months (August
15 to December) of test year 2009's O&M expenses associated with CIP CT-1.

16 Q. Please describe the interim increase.

17 A. The interim increase does not include any of the capital additions or O&M
18 expenses associated with CIP CT-1. This is intended to be the interim increase,
19 while the CIP CT-1 Step is being reviewed.

20 Q. Please describe the CIP CT-1 Step.

21 A. The CIP CT-1 Step includes all of the capital additions and annualized test year
22 2009 O&M expenses for CIP CT-1.

1 Q. How is this amount determined?

2 A. For each of these scenarios, the test year 2009 FICA/Medicare tax expense
3 includes two elements, the FICA portion and the Medicare portion. Both are
4 based on taxable wages. The FICA portion has an estimated per employee
5 maximum taxable wage base of \$106,500 at a rate of 6.2%. The Medicare portion
6 is based on a rate of 1.45% with no wage base limitation. The test year estimate
7 of FICA/Medicare taxes was obtained by applying the effective tax rates actually
8 experienced by HECO for each pay period in 2007 to the 2009 test year estimates
9 of gross pay by pay period. The tax rates trend downward as the year progresses
10 as employees reach the FICA maximum wage base. See HECO-WP-1601, page 3
11 for the calculation of the FICA/Medicare taxes.

12 Q. How is the total FICA/Medicare tax allocated to operations, capital projects and
13 billable projects?

14 A. The total FICA/Medicare tax is calculated and then allocated among operations,
15 capital projects and billable projects based on the estimated division of labor
16 charges to these three categories. See HECO-WP-1601, page 2. The amount
17 allocated to operating expenses is included in Taxes Other than Income Taxes.

18 The amount allocated to capital projects represents charges to construction
19 work in progress that eventually are booked to plant in service. The cost of these
20 payroll taxes is recovered through depreciation of plant in service. The amount
21 allocated to billable projects is recovered through outside billings to third parties
22 with no net cost or benefit to the Company.

1 Q. Why is this allocation methodology reasonable?

2 A. As previously explained, total FICA/Medicare tax is equal to the applicable tax
3 rate times test year wages. These wages are essentially equivalent to total labor
4 charges. Therefore, allocating FICA/Medicare tax charges according to where
5 labor is charged is a reasonable method of allocation. This methodology was
6 approved by the Commission in Decision and Order No. (“D&O”) 24171 issued
7 on May 1, 2008 in Docket No. 04-0113 for the HECO 2005 test year and is
8 consistent with the 2007 test year methodology used in Docket No. 2006-0386.

9 2) FUTA Tax

10 Q. What is the 2009 test year FUTA tax expense?

11 A. The Company's FUTA tax expense for the 2009 test year is \$66,000 as shown on
12 HECO-1601.

13 Q. How is this amount determined?

14 A. This amount is based on a taxable wage base of \$7,000 per employee and a net tax
15 rate of 0.8% in accordance with Internal Revenue Code (“IRC”) § 3301 and
16 § 3302. The allocation of this tax cost between operations, capital, and billable
17 projects is identical to the methodology used for the FICA/Medicare tax explained
18 above. This methodology was used by HECO to derive the FUTA tax test year
19 estimates in Docket No. 04-0113 (HECO’s 2005 test year rate case) that are
20 embedded in the test year revenue requirements that the Commission approved in
21 its final D&O 24171. In its 2007 test year rate case, Docket No. 2006-0386,
22 HECO used the same methodology to derive its FUTA tax test year estimates,

1 which were included in the revenue requirements to determine the interim rate
2 increase approved by the Commission in Interim D&O 23749.

3 3) SUTA Tax

4 Q. What is the 2009 test year SUTA tax expense?

5 A. The Company's SUTA tax expense for the 2009 test year is estimated to be \$0 as
6 shown on HECO-1601. The Company's test year estimate is based on a rate of
7 0.0% and a wage base of \$13,000. The rate and taxable base are determined
8 annually by the State of Hawaii Department of Labor and Industrial Relations, and
9 the rate is based on a ratio determined by the Company's latest three-year average
10 taxable payroll and accumulated reserve.

11 Q. How did the Company estimate the 2009 test year wage base and tax rate?

12 A. The test year base of \$13,000 is the result of a recent law change (2007 Act 110;
13 HB 1500 HD2 SD2) temporarily reducing the SUTA wage base for all employers
14 to \$13,000 for the years 2008 through 2010. The Company estimated that the
15 2009 rate would be identical to the 2008 approved rate of 0.0%.

16 4) PSC Tax

17 Q. What is the 2009 test year PSC tax expense?

18 A. The PSC tax expense for the 2009 test year is: \$105,233,000 under present rates,
19 \$109,781,000 under current effective rates, \$114,791,000, under the base case,
20 \$114,078,000 under the interim increase, and \$115,486,000 under the CIP CT-1
21 Step. See HECO-1601, pages 1 and 2.

1 Q. How is the PSC tax determined?

2 A. The tax is imposed on the gross utility revenues of the Company at a base rate of
3 5.885% in accordance with Hawaii Revised Statutes (“HRS”) § 239-5. The tax
4 rate increases by an incremental percentage if the ratio of PSC net income to PSC
5 gross taxable revenue exceeds 15%. However, in recent years, the Company’s
6 ratio has been below the 15% threshold. The test year’s ratio will also be less than
7 15% based on the projected PSC net income to PSC gross taxable revenue ratio.
8 Accordingly, the Company has applied the 5.885% minimum rate in calculating
9 its 2009 test year PSC tax expense for all the scenarios. HRS § 239-5 also
10 provides that the tax in excess of the tax at 4% will be paid to the county in which
11 the Company generates its taxable revenue. In this case, the excess calculated at
12 the rate of 1.885% will be the portion payable to the City and County of Honolulu.
13 HECO has consistently used the 5.885% rate to calculate test year PSC tax
14 expense in its recent rate cases.

15 5) PUC Fee

16 Q. What is the 2009 test year PUC fee expense?

17 A. The 2009 test year PUC fee expense is: \$8,941,000 under present rates,
18 \$9,327,000 under current effective rates, \$9,753,000 under the base case,
19 \$9,692,000 under the interim increase, and \$9,812,000 under the CIP CT-1 Step.
20 See HECO-1601, pages 1 and 2.

21 Q. How is the PUC fee determined?

1 A. The fee is determined by multiplying gross utility revenues by a statutory
2 semiannual rate of 0.25%, or 0.5% annually as set forth in HRS § 269-30(b).

3 6) Franchise Tax

4 Q. What is the 2009 test year Franchise tax expense?

5 A. The 2009 test year Franchise tax expense is: \$44,593,000 under present rates,
6 \$46,524,000 under current effective rates, \$48,649,000 under the base case,
7 \$48,346,000 under the interim increase, and \$48,944,000 under the CIP CT-1
8 Step. See HECO-1601, pages 1 and 2.

9 Q. How is the Franchise tax determined?

10 A. The Franchise tax is computed by multiplying gross receipts from the sale of
11 electricity by a rate of 2.5% in accordance with HECO's franchise and
12 HRS § 240-1.

13 INCOME TAX EXPENSE

14 Q. What is the 2009 test year income tax expense?

15 A. The 2009 test year income tax expense is: (\$4,751,000) under present rates,
16 \$22,648,000 under current effective rates, \$52,829,000 under the base case,
17 \$49,989,000 under the interim increase, and \$55,659,000 under the CIP CT-1
18 Step. See HECO-1602, pages 1 and 2. All calculations of income taxes use a
19 composite rate of 38.9097744%. This rate assumes the top marginal Federal
20 income tax rate of 35% and a State income tax rate of 6.4%. This combined rate
21 was the result of the enactment of the Revenue Reconciliation Act of 1993, which

1 increased the Federal rate from 34% to 35%. The calculations are shown on
2 HECO-WP-1602, page 1.

3 Q. What method did HECO use to compute the test year income tax expense?

4 A. HECO calculated the test year income tax expense based on the “short form”
5 method that has consistently been used in previous HECO rate cases. The
6 Commission has consistently approved test year revenue requirements in previous
7 rate cases, in which this method was used to compute income tax expense,
8 including HECO’s last final D&O 24171 issued on May 1, 2008 in Docket
9 No. 04-0113.

10 “Short Form” Income Tax Methodology

11 Q. What is the “short form” method of calculating income tax expense?

12 A. The “short form” method is used for ratemaking purposes and calculates the total
13 income tax expense in one step. It does not calculate the current and deferred
14 components of income tax expense separately.

15 Q. Why is the “short form” method used?

16 A. This method simplifies the calculation of income tax expense and was used as the
17 income tax calculation methodology for ratemaking purposes in recent rate case
18 decisions for HECO, HELCO and MECO.

19 Q. How does the “short form” method simplify the calculation of income tax
20 expense?

21 A. The “short form” method simplifies the calculation of income tax expense by
22 using net operating income before income taxes, with certain adjustments which

1 are explained below. This adjusted net operating income is the taxable income
2 for ratemaking purposes.

3 Taxable income for ratemaking purposes is multiplied by the composite
4 Federal/State income tax rate of 38.9097744%. This resulting amount is the
5 income tax expense used in deriving net operating income for ratemaking
6 purposes.

7 Adjustments to Derive Taxable Income for Ratemaking Purposes

8 Q. Please explain the calculation of net operating income before income taxes?

9 A. Net operating income before income taxes is equal to operating revenues less
10 O&M expenses, depreciation expense, amortization of State capital goods credit
11 (“State ITC”), taxes other than income taxes, and interest expense on customer
12 deposits.

13 Q. What types of adjustments are made to net operating income before income taxes
14 to derive test year taxable income for ratemaking purposes?

15 A. There are two categories of adjustments:

- 16 1) Interest expense related to operations, and
17 2) Permanent book/tax differences.

18 Interest Expense Related to Operations

19 Q. Why does interest expense related to operations reduce taxable income for the
20 calculation of income taxes?

21 A. For ratemaking purposes, interest expense related to operations is recovered in
22 rates as a component of the allowed rate of return on rate base (specifically, the

1 debt rate embedded in the weighted cost of capital) which is expressed on a pretax
2 basis. The interest component, however, is tax deductible and must therefore be
3 included in the calculation of income tax expense in order to account for the tax
4 benefit related to the deductible interest.

5 Q. What is the 2009 test year interest expense?

6 A. The 2009 test year interest expense is \$31,837,000 under the base case,
7 \$30,062,000 under the interim increase, and \$33,637,000 under the CIP CT-1
8 Step, as shown on HECO-1602, pages 1 and 2.

9 Q. How is this interest expense calculated?

10 A. The 2009 test year interest expense for each scenario is calculated based on the
11 interest synchronization methodology approved by the Commission in
12 D&O 24171 (May 1, 2008) in Docket No. 04-0113 in determining HECO's
13 revenue requirements in that docket.

14 This method attempts to match the interest deduction in calculating the
15 income tax expense to HECO's rate base and cost of debt for the test year. The
16 interest deduction is derived by applying HECO's estimated weighted cost of debt
17 to its estimated rate base at proposed rates for each scenario as shown on
18 HECO-WP-1602, page 2.

19 Permanent Book/Tax Differences

20 Q. What are "permanent book/tax differences"?

1 A. Permanent book/tax differences are items that are recognized in the calculation of
2 regulatory and book net income that will never be recognized in taxable income or
3 vice versa.

4 Q. What is the total amount of the permanent book/tax differences accounted for in
5 2009 test year?

6 A. For the 2009 test year, the permanent book/tax difference totaled \$78,000 as
7 shown on HECO-WP-1602, page 3.

8 Q. What permanent book/tax differences are reflected in determining HECO's 2009
9 test year income tax expense?

10 A. For the 2009 test year, the only permanent book/tax difference relates to meals
11 and entertainment expenses. Such amounts are reasonable costs of doing
12 business. However, only 50% of these expenses are deductible for tax purposes
13 and recognized in the calculation of taxable income. This is consistent with
14 HECO's determination of income taxes in prior rate cases, including Docket
15 Nos. 2006-0386 and 04-0113. See HECO WP-1602, page 3, for the calculation of
16 the meals and entertainment disallowance.

17 Adjustments to Income Tax Expense

18 Q. Why are adjustments to income tax expense required?

19 A. HECO adjusts income tax expense when a deduction is applicable to the Federal
20 tax calculation only and not the State. This methodology is necessary because the
21 tax calculation in the revenue requirement model automatically applies a Federal
22 and State composite tax rate to taxable income. The special treatment of Federal

1 only deductions ensures that income tax expense for ratemaking purposes is not
2 overstated by the State effect.

3 Domestic Production Activities Deduction

4 Q. What is the domestic production activities deduction?

5 A. IRC § 199 was enacted under the American Jobs Creation Act of 2004 and
6 provides tax relief, in the form of the domestic production activities deduction
7 (“DPAD”), for domestic manufacturers. This deduction is calculated as a
8 percentage of income from qualified activities. Eligible taxpayers may claim a
9 6% deduction from 2007 through 2009. The full 9% deduction is available in
10 2010 and thereafter. Hawaii has not adopted this Federal DPAD deduction for
11 Hawaii income tax purposes.

12 Q. How does DPAD apply to HECO?

13 A. One of those qualified activities is the production of electricity. As an integrated
14 producer of electricity, HECO generates and delivers electricity to customers.
15 IRC § 199 and its related regulations specify that only the production of electricity
16 is an eligible activity, and income from the transmission or distribution of
17 electricity will not qualify. Consequently, HECO is entitled to take this DPAD
18 deduction as a percentage of income attributable only to the generation of
19 electricity.

20 Q. How does the Company determine this income and segregate it from the income
21 attributable to the Company’s other activities?

1 A. The Treasury regulations state that an integrated producer, such as HECO, that
2 produces and delivers electricity, must allocate its gross receipts between
3 1) production, which qualifies as domestic production gross receipts (“DPGR”),
4 and 2) distribution and transmission, which do not qualify as DPGR. Any
5 “reasonable method” that is satisfactory to the IRS may be used, based on the
6 facts and circumstances. HECO allocates the gross receipts based on the latest
7 cost of service study performed for ratemaking purposes. The Treasury
8 regulations further provide that cost of goods sold must be allocated specifically to
9 the qualified gross receipts and all other indirect costs should be allocated or
10 apportioned using the guidelines set forth in IRC § 861. Based on this guidance,
11 indirect costs are allocated based on the DPGR as a percentage of total gross
12 receipts, and interest expense is allocated based on the tax basis of generation
13 assets relative to the tax basis of all assets.

14 Q. What is the Company’s estimate of the impact of DPAD on income tax expense?

15 A. The DPAD deduction reduces income tax expense by \$1,028,000 under the base
16 case, \$908,000 under the interim increase, and \$1,182,000 under the CIP CT-1
17 Step. See HECO-WP-1602, pages 4 - 9.

18 Preferred Stock Dividend Deduction

19 Q. Why does the Company adjust income tax expense for preferred stock dividends?

20 A. IRC § 247 allows a deduction for dividends paid on certain preferred stock of
21 public utilities issued before October 1, 1942 or preferred stock issued after such
22 date if issued to refund or replace the previously qualified preferred stock.

1 HECO preferred stock series C and I qualify for this deduction in the amount of
2 \$66,000. Since this Federal rule does not apply for Hawaii income tax purposes,
3 the Federal tax effect of \$23,000 serves to reduce income tax expense. See
4 HECO-WP-1602, page 10.

5 Accounting for the State Capital Goods Excise Tax Credit

6 Q. What is the 2009 test year amortization of State ITC?

7 A. The 2009 test year amortization of the State ITC is \$1,462,000. See HECO-1604.

8 Q. What is the State ITC?

9 A. The State ITC was enacted in 1987 under HRS § 235-110.7 and was designed to
10 promote capital investment and to mirror the qualification rules of the old Federal
11 investment tax credit (“ITC”). The four percent credit applies to qualifying
12 equipment purchased and placed into service by businesses in Hawaii.

13 For book and ratemaking purposes, the credit is deferred in the year earned
14 and subsequently amortized over the estimated useful life of the associated asset
15 as was done with the Federal ITC. The amortization on new additions begins
16 when the book depreciation commences on those additions.

17 Q. How is the 2009 test year amortization of State ITC presented?

18 A. Consistent with Docket Nos. 2006-0386 and 04-0113, State ITC is presented as a
19 pretax amortization which increases operating income for ratemaking purposes.
20 The Federal and State income tax expense related to the State ITC is incorporated
21 in the income tax calculation for ratemaking purposes. This presentation is used

1 since it is consistent with the financial presentation under SFAS 109, which favors
2 a “gross of tax” presentation.

3 Accounting for Federal Investment Tax Credit

4 Q. What is the 2009 test year amortization of Federal ITC?

5 A. The 2009 test year amortization of Federal ITC (“ITC”) is \$644,000. See
6 HECO-1603. For ratemaking purposes, the credits earned and taken in prior
7 years’ income tax returns are amortized over 30 years, which is the approximate
8 composite useful life of the assets giving rise to the credits. The amortization of
9 Federal ITC (formerly included as an adjustment to income tax expense prior to
10 SFAS 109) is now included as an adjustment in determining depreciation expense.
11 See HECO-1408.

12 Q. What is the 2009 test year amortization of the regulatory liability related to
13 Federal ITC?

14 A. The 2009 test year amortization of the regulatory liability related to Federal ITC is
15 \$410,000. See HECO-WP-1606.

16 Q. What is the relationship between Federal ITC and this regulatory liability?

17 A. As mandated by SFAS 109, Accounting for Income Taxes, the regulatory liability
18 represents the “gross-up” for the tax effect of the ITC amortization as well as the
19 tax on tax. The amortization of the regulatory liability (credit to depreciation
20 expense) has no impact on revenue requirements or net income because this
21 amortization is offset by a corresponding increase (debit) to deferred income tax

1 expense. The regulatory liability is amortized over the same period as the related
2 Federal ITC.

3 Q. How is the amortization of Federal ITC treated?

4 A. Under SFAS 109, the amortization of Federal ITC is considered a temporary
5 difference on which a deferred tax must be provided. A regulatory liability is
6 established as the equal and offsetting credit to the deferred income tax asset.
7 This is an artificial creation of SFAS 109 since Federal ITC never entered into the
8 computation of taxable income for Federal income tax return purposes. Federal
9 ITC was a credit (as opposed to a deduction) that reduced the calculated income
10 tax liability, dollar for dollar.

11 Consequently, the amortization of this regulatory liability increases net
12 operating income by the identical amount of income tax expense calculated on the
13 combined amortization of ITC and of the related regulatory liability. The
14 amortization of the regulatory liability and the additional income tax expense are
15 equal and offsetting, resulting in the same revenue requirements impact of Federal
16 ITC before SFAS 109. In the 2009 test year, the debit to the regulatory liability of
17 \$410,000 offsets the credit to the Federal ITC deferred tax asset of \$410,000.
18 These amounts can be verified by taking the change in the year-end balances of
19 the regulatory liability and the Federal ITC deferred tax asset. See HECO-1607.

20 UNAMORTIZED NET SFAS 109 REGULATORY ASSET

21 Q. What is the 2009 test year average net unamortized SFAS 109 regulatory asset?

1 A. The 2009 test year average unamortized net SFAS 109 regulatory asset is
2 \$61,310,000 as shown on HECO-1606, page 2. This represents the “gross up” of
3 taxes required under SFAS 109. The equal and offsetting accumulated deferred
4 income tax liabilities are provided in HECO-1607.

5 Q. How was the 2009 test year average net unamortized SFAS 109 regulatory asset
6 calculated?

7 A. The Company calculated this amount by taking the average of the SFAS 109
8 regulatory asset at the beginning and end of the test year. The balance at the
9 beginning of the test year was derived by utilizing the recorded balance as of
10 December 31, 2007 and adding the 2008 estimate of the gross up of Allowance for
11 Funds Used During Construction (“AFUDC”) equity incurred and subtracting the
12 2008 estimated amortization of the net SFAS 109 regulatory asset. The balance at
13 the end of the test year was similarly derived by adjusting the December 31, 2008
14 estimated balance for the 2009 estimates for the AFUDC gross up and
15 amortizations. See HECO-1606, page 2.

16 Excess Deferred Income Taxes

17 Q. How does the Company's adoption of SFAS 109 alter the presentation of excess
18 deferred income taxes?

19 A. SFAS 109 requires that deferred tax liabilities and assets be established to reflect
20 changes in income tax rates. Consequently, the income tax rate reduction enacted
21 by the 1986 Tax Reform Act (“TRA”) required an adjustment to the Company's
22 deferred income tax balance as of January 1, 1993. Consistent with SFAS 109's

1 focus on the balance sheet, the portion of the deferred tax balance (established
2 prior to 1987 at higher rates) in excess of that which is required to satisfy future
3 tax liabilities at the 1986 TRA 34% rate represents excess deferred taxes. This
4 excess was carved out and classified as a regulatory liability.

5 In addition, the amount carved out as a regulatory liability was grossed up to
6 reflect the fact that the amortization of this regulatory liability represents current
7 and future revenue reductions which have a related tax effect. Mechanically, this
8 is accomplished by computing the tax effect of the regulatory liability plus the tax
9 thereon (i.e., tax on tax). This “gross up” amount serves to increase the regulatory
10 liability with an equal and offsetting debit to accumulated deferred income tax
11 liability.

12 Q. How does the SFAS 109 book treatment affect the ratemaking presentation of
13 excess deferred income taxes?

14 A. Because the future financial statement impact of the excess deferred taxes is now
15 reflected in the resulting regulatory liability, the reduction of test year income tax
16 expense is now accomplished in two pieces: 1) through the amortization of the
17 “grossed up” regulatory liability included in operating income, and 2) the income
18 taxes calculated on the amortization. For ratemaking purposes, the net operating
19 income impact is equivalent to the former adjustment to income tax expense for
20 excess deferred taxes in the calculation of income tax expense.

21 Q. What is the 2009 test year amortization of the regulatory liability related to excess
22 deferred income taxes?

1 A. The 2009 test year amortization of the regulatory liability related to excess
2 deferred taxes is \$58,000. See HECO-1606, page 2. This amount was calculated
3 by determining that amount of excess deferred income tax benefit flowing back to
4 ratepayers. This is consistent with the treatment of excess deferred taxes in
5 Docket Nos. 2006-0386 and 04-0113.

6 Q. Please describe the background of excess deferred income taxes and the
7 methodology used in determining the flow back.

8 A. The TRA of 1986 contained a provision which reduced the top corporate income
9 tax rate from 46% to 40% in 1987 and to 34% in 1988 and subsequent years. In
10 years prior to 1987, deferred income taxes were calculated and established at the
11 then current 46% rate under the assumption that the taxes would be paid at the
12 higher 46% rate in the future when the underlying timing differences “turned
13 around.”

14 The change to these lower rates created the excess deferred taxes, and the
15 law required that regulated utilities normalize those excess deferred income taxes
16 related to accelerated depreciation. Under SFAS 109, the amortization of the
17 regulatory liability accomplishes what was previously accomplished via the
18 amortization of excess deferred income taxes, and accordingly, the methodology
19 for the amortization of this regulatory liability closely follows the methodology
20 previously used for excess deferred income taxes.

21 Q. How was the amortization of the regulatory liability related to excess deferred
22 income taxes calculated?

1 A. The amortization of the regulatory liability related to the excess deferred income
2 taxes can be divided into two categories. The first category deals with excess
3 deferred income taxes related to accelerated depreciation in account 282. The
4 second category includes excess deferred income taxes in account 283, which are
5 for all items other than accelerated depreciation.

6 Under the 1986 TRA, regulated companies must use the average rate
7 assumption method in calculating the normalized amount of excess deferred
8 income taxes related to accelerated depreciation for all vintages subject to the
9 normalization rules of the tax code. SFAS 109 does not change the normalization
10 requirement contained in the TRA of 1986.

11 The average rate assumption method is used for all vintages after 1970.
12 Excess deferred income taxes related to accelerated depreciation on pre-1971
13 vintages were completely amortized by 1993. As of December 31, 2008, the
14 regulatory liability related to the excess deferred income taxes for accelerated
15 depreciation was fully amortized.

16 Q. How does the Company calculate the amortization of the regulatory liability
17 related to all other excess deferred income taxes other than those related to
18 accelerated depreciation?

19 A. The regulatory liability related to all other excess deferred income taxes other than
20 those related to accelerated depreciation is being amortized over the estimated
21 remaining life of the underlying timing differences. This amortization method
22 was used in HECO's previous rate cases, including Docket Nos. 2006-0386

1 and 04-0113. The amortization of the regulatory liability, under SFAS 109, has
2 the same effect and result on revenue requirements as the amortization of excess
3 deferred income taxes under the superseded Accounting Principles Board
4 (“APB”) 11.

5 Q. Why are the revenue requirements the same under the old and new accounting
6 rules?

7 A. Under the old APB 11 rules, excess deferred income taxes were treated as a direct
8 adjustment to income tax expense, and the amortization of excess deferred income
9 taxes reduced income tax expense dollar for dollar.

10 Under SFAS 109, the grossed up excess deferred income taxes are
11 amortized into operating income, and income taxes are calculated on that
12 amortization. The impact on operating income is exactly the same as under
13 APB 11 since the grossed up number net of its tax effect is equal to the excess
14 deferred tax amortization before gross up.

15 Q. How does the Company's adoption of SFAS 109 impact rate base?

16 A. SFAS 109 has no impact on rate base. Although SFAS 109 requires HECO to
17 establish certain tax-related regulatory assets and liabilities, equal and offsetting
18 increases are made to accumulated deferred income taxes.

19 Q. How does the Company handle the amortization of excess State deferred income
20 taxes?

21 A. HECO amortizes State excess deferred income taxes in the same manner as
22 Federal excess deferred income taxes.

1 Deficit Deferred Income Taxes

2 Q. How does the 1993 Omnibus Budget Reconciliation Act (“1993 Tax Act”) affect
3 the deferred income tax balances for the 2009 test year?

4 A. The 1993 Tax Act increased the income tax rate by one percent, from 34% to
5 35%. As a result, the Federal deferred income tax liability balances were deficient
6 by that one percent since the underlying temporary differences are expected to
7 reverse at the current 35% rate.

8 Q. What does SFAS 109 require in this instance where the income tax rate increases?

9 A. Under SFAS 109's balance sheet orientation, HECO must provide the additional
10 deferred income taxes to cover this one percent deficit since the deferred tax
11 liability balances were adjusted at the beginning of 1993 to provide for future
12 taxes at the lower 34% rate. The 1993 Tax Act was signed into law later in the
13 year and provided for the higher 35% rate.

14 Q. What accounting adjustments were made upon the enactment of the higher 1993
15 income tax rate?

16 A. Consistent with the treatment of excess deferred income taxes, the one percent
17 deficit deferred income tax was calculated and grossed up for the tax on tax effect.
18 This amount was then set up as additional deferred income tax liability with an
19 offsetting regulatory asset. In effect, this adjustment reinstates a portion of the
20 excess deferred income taxes, previously carved out and placed into the regulatory
21 liability account.

1 Q. What is the 2009 test year amortization of the regulatory asset related to deficit
2 deferred income taxes?

3 A. The 2009 test year amortization of the regulatory asset related to deficit deferred
4 income taxes is (\$111,000). See HECO-1606, page 2. This amount was
5 calculated using a method similar to how excess deferred income taxes were
6 computed.

7 Q. Why is the amortization of the regulatory asset related to deficit deferred income
8 taxes included in the depreciation expense calculation?

9 A. The amortization of this regulatory asset related to deficit deferred income taxes is
10 the converse of the amortization of the regulatory liability related to excess
11 deferred income taxes. Whereas excess deferred income taxes resulted from the
12 tax rate decrease contained in the TRA of 1986, deficit deferred taxes are caused
13 by the tax rate increase contained in the 1993 Tax Act. This amortization has the
14 effect of increasing cost of service for deferred income taxes, which were
15 established at a 34% rate upon the adoption of SFAS 109 at the beginning of
16 1993, in order to meet the expected future liability at the higher current rate
17 of 35%.

18 UNAMORTIZED INVESTMENT TAX CREDITS

19 Q. What is the 2009 test year estimate of the average unamortized Federal and State
20 investment tax credits?

21 A. The 2009 test year estimate of the average unamortized investment tax credits is
22 \$32,831,000 under the base case, \$31,091,000 under the interim increase, and

1 \$34,571,000 under the CIP CT-1 Step. See HECO-1604. The entire balance is
2 made up of the State ITC. The Federal ITC originating in years prior to 1971 was
3 fully amortized as of December 31, 2000.

4 Q. How is the 2009 test year average unamortized investment tax credit calculated?

5 A. The Company calculated this amount by taking the average of the State ITC at the
6 beginning and end of the test year. The balance at the beginning of the test year
7 was derived by utilizing the recorded unamortized State ITC as of December 31,
8 2007 subtracting the 2008 estimated amortization of State ITC and adding the
9 2008 vintage estimated State ITC. The balance at the end of the test year was
10 similarly derived by utilizing the comparable 2009 test year estimates of State ITC
11 amortization and vintage additions. See HECO-1604.

12 Q. Why is average State ITC different for the base case, interim increase and CIP
13 CT-1 Step scenarios?

14 A. Under the base case, State ITC on CIP CT-1 is included as a 2009 addition, and
15 thus is included only in the end of year balance. Under the interim increase, State
16 ITC on CIP CT-1 is not included in the beginning or end of year balance. Under
17 the CIP CT-1 Step, State ITC on CIP CT-1 is included in both the beginning of
18 year and end of year balances.

19 Q. What is the Company's position regarding the regulatory treatment of benefits due
20 to the State ITC?

21 A. Because there are no laws or regulations that require the sharing of the State ITC
22 benefits between ratepayers and shareholders, the Company passes all of the

1 benefits of the State ITC to the ratepayers. Thus, the unamortized balance serves
2 to reduce rate base and the annual amortization reduces the income tax expense.
3 This treatment of the State ITC benefit was used by the Commission in
4 determining HECO's revenue requirement in prior rate cases, including Docket
5 Nos. 2006-0386 and 04-0113.

6 ACCUMULATED DEFERRED INCOME TAXES

7 Q. What is the 2009 test year estimate of the average accumulated deferred income
8 taxes ("ADIT")?

9 A. The 2009 test year estimate of the average ADIT is \$135,277,000 under the base
10 case, \$134,856,000 under the interim increase, and \$134,600,000 under the CIP
11 CT-1 Step, as shown on HECO-1605, pages 1 and 2.

12 Q. Why do the amounts in the three scenarios differ?

13 A. The differences are due to the various scenarios for CIP CT-1 generating unit and
14 their impact on State ITC earned and tax depreciation.

15 Q. How does the ADIT balance affect rate base?

16 A. HECO's net positive ADIT balance (which is a credit to liability) serves to reduce
17 rate base.

18 Q. How did the Company calculate the average ADIT balance?

19 A. The Company calculated this amount by taking the average of the accumulated
20 Federal and State deferred tax balances at the beginning and end of the test year.
21 The balance at the beginning of the test year was derived by utilizing the April 30,
22 2008 recorded deferred Federal and State income tax balances and adding the

1 estimated deferred income tax expense for the last eight months ending December
2 31, 2008. The balance at the end of the test year was derived by utilizing the
3 estimated deferred Federal and State income tax balances as of December 31,
4 2008 and adding the estimated deferred income tax expense for the 2009 test year.
5 The deferred taxes for items excluded in determining HECO's revenue
6 requirements in the Commission's D&O 24171 issued on May 1, 2008 in Docket
7 No. 04-0113 for HECO's 2005 test year have been excluded from the deferred tax
8 balance for the 2009 test year. See HECO-WP-1605.

9 Status of Application to the IRS for Change in Accounting Method

- 10 Q. What is the status of the application to the IRS for a change in accounting method
11 related to the overhead costs allocated to self-constructed assets—i.e., the
12 simplified service cost method (“SSCM”)?
- 13 A. On February 9, 2007, the Company received a letter from the IRS granting
14 permission to change its method of accounting to the SSCM, subject to the
15 guidance in Revenue Ruling 2005-53 and any other administrative guidance or
16 directives subsequently issued by the IRS. The background of this application
17 process was fully explained in my testimony for HECO in Docket Nos. 2006-0386
18 (see HECO T-15, pages 22-24) and 04-0113 (see HECO T-17, page 22 and HECO
19 RT-17, pages 11-14), as well as my testimony (see MECO T-13, pages 23-27) and
20 response to CA-IR-381 in the MECO 2007 test year rate case (Docket
21 No. 2006-0387).

1 Q. What actions were taken as a result of the IRS granting permission for HECO to
2 change its accounting method?

3 A. HECO filed an amended 2001 tax return as part of HEI's consolidated income tax
4 return, in which HECO claimed a deduction of \$127 million related to the SSCM
5 change in accounting method. This protective claim was made in response to the
6 IRS approval for the method change and with consideration to the results of "test
7 case" settlements.

8 Q. What was the result of the settlement of these test cases?

9 A. The IRS Appeals Office reached agreement on their "test cases," and settlement
10 guidelines were circulated internally to their examination teams addressing the
11 hazards of litigating the "routine and repetitive" issue under the SSCM. These
12 guidelines have not been published, but it appears that the IRS has established
13 settlement percentages for each utility property account. These guidelines only
14 address the "routine and repetitive" issue and do not address the "base" to which
15 these percentages would be applied. This "base" is comprised of the pool of
16 qualified allocable overhead costs, which are generally referred to as "mixed
17 service costs." The IRS examination team reviewed HECO's mixed service costs,
18 and they have denied HECO's refund claims related to the SSCM change in
19 accounting method. HECO expects to oppose this disallowance by filing an
20 appeal to the IRS Appeals Office. Due to this continued uncertainty, HECO
21 cannot yet calculate an estimate of the potential benefit.

1 Impact of the Simplified Service Cost Method

2 Q. How does any potential benefit related to SSCM deduction manifest itself in this
3 rate proceeding?

4 A. Based on the IRS guidance to date, HECO's estimated 2009 test year ADIT
5 should not include any adjustment for the potential change in accounting method
6 described above because any SSCM deduction allowed will never result in a
7 deferral of income taxes in the test year.

8 In addition to the previously mentioned uncertainty of resolution, the new
9 regulations require the recapture (give back) of any prior year tax return benefits
10 received from the SSCM change. This recapture must be completed by the tax
11 year ended December 31, 2006. Thus, any potential deferred income taxes
12 created by SSCM would have to be completely reversed as of December 31, 2006.

13 Q. What other options are available to HECO in this regard?

14 A. In January 2006, the Company filed a protective application for change in
15 accounting method to a facts and circumstances method for allocating overhead
16 costs to self-constructed assets, effective for 2005. The Company and its
17 consultants believed that this protective application would provide HECO more
18 options in determining its prospective cost allocation method, at such time when
19 the issues in the original application for the simplified service cost method were
20 resolved. The Company filed its 2005 income tax return without making any
21 adjustment for any new method since the adjustment is dependent on the
22 resolution of the 2001 application for the simplified service cost method.

1 Q. What is HECO's current expectation of adopting this new method?

2 A. Due to the drawn-out controversy and uncertainty that the SSCM has created, it is
3 more prudent to observe the positions to be taken by the IRS in the examination of
4 other taxpayers. Only after the facts and circumstances method develops an audit
5 track record would HECO evaluate and consider the viability of another
6 accounting method change.

7 FASB Interpretation No. 48, Accounting for Uncertainty in Income Taxes

8 Q. How does the FASB Interpretation No. 48 (FIN 48), Accounting for Uncertainty
9 in Income Taxes, affect ADIT?

10 A. FIN 48 provides specific guidance on how to evaluate and quantify income tax
11 uncertainty. The FIN 48 adjustments represent management's estimate of the
12 difference between the recognizable income tax benefits for book purposes and
13 the benefits claimed on the Company's tax returns. These differences are
14 basically a "discount" factor to the tax benefits claimed on the income tax returns.
15 To the extent that these tax benefits are associated with temporary differences,
16 FIN 48 requires this "discount" portion of the tax benefit to be carved out and
17 separately presented as an "other tax liability."

18 Q. Please explain the background of FIN 48 and the mechanics of how these
19 adjustments are calculated.

20 A. This was fully explained in my testimony (HECO T-15) in Docket No. 2006-0386
21 on pages 29-32.

1 Q. How does HECO propose to treat the FIN 48 adjustment to ADIT for the 2009
2 test year?

3 A. HECO proposes to reverse the effects of the FIN 48 adjustment in ADIT since
4 they represent only an estimate of what income taxes may eventually be paid as a
5 result of the government examination of the returns filed or to be filed.

6 Q. What is the effect of reversing the FIN 48 adjustments in ADIT?

7 A. The reversal of the FIN 48 adjustments will keep the post-FIN 48 ADIT
8 measurement consistent with the pre-FIN 48 measurement. This presentation of
9 ADIT maintains the consistency of our income tax returns with our deferred
10 income taxes.

11 Q. What is the amount of the FIN 48 adjustment that is excluded from the ADIT
12 balance for the 2009 test year?

13 A. The amount of the FIN 48 adjustment for the beginning and ending of 2009 test
14 year is (\$3,898,000) since no change to the uncertain issues is projected for the
15 test year. See HECO-WP-1605.

16 Q. What other impacts does FIN 48 have on the financial statements?

17 A. Under FIN 48, a taxpayer is required to accrue interest and penalties for which,
18 under relevant law, the taxpayer would be liable, based on the FIN 48
19 adjustments. FIN 48 allows the taxpayer to classify the interest and penalties as
20 part of the FIN 48 tax liability or as a discrete item separate from the related taxes.
21 HECO has accrued interest separate from the related FIN 48 tax liabilities.

22 Q. How does this accrued interest affect HECO's 2009 test year ADIT?

1 A. Since the FIN 48 interest is basically an estimated reserve, HECO cannot deduct
2 this interest on its income tax returns. Consequently, this is a temporary
3 difference for which deferred income taxes are provided, and HECO has excluded
4 these deferred income taxes from the test year ADIT, consistent with the treatment
5 of the FIN 48 adjustments to ADIT.

6 Q. How does the Company propose to treat a FIN 48 liability or asset that is created
7 by a permanent difference?

8 A. In a small number of cases, the FIN 48 adjustment may be derived from a
9 permanent difference, which is an item of income or expense that is permanently
10 included for book and not for tax, or vice versa. In this instance, the difference
11 would not be temporary over time, and there would not be an offsetting entry to
12 deferred income taxes. Consequently, the tax effect will flow through income as
13 an estimated reserve item and rate base should not include the associated non-
14 current liability or asset. This estimate is not included in HECO's test year
15 income tax expense nor is it included in rate base, consistent with the treatment of
16 FIN 48 temporary differences discussed above.

17 Q. What is the amount of FIN 48 liability associated with permanent differences
18 excluded from rate base?

19 A. The FIN 48 liability excluded from rate base is \$239,000, related to research and
20 development credits claimed in prior years.

1 eligible for this bonus depreciation are the same as those included in the previous
2 depreciation packages provided in the 2001 through 2004 time frame. Thus, most
3 utility property with recovery periods not exceeding 20 years qualify, provided
4 that they are acquired and placed into service in 2008. Certain long-production-
5 period property may also qualify for this bonus depreciation even if not placed
6 into service by December 31, 2008. Conversely, long-production-period property
7 that begins production prior to January 1, 2008, generally will not qualify for
8 bonus depreciation.

9 Q. How does this bonus depreciation affect 2009 test year estimates?

10 A. HECO has incorporated these changes into its estimates of tax depreciation and
11 accumulated deferred income taxes for the test year.

12 Q. Does this conclude your testimony?

13 A. Yes, it does.

LON K. OKADA

EDUCATION AND EXPERIENCE BACKGROUND

Business Address: Hawaiian Electric Industries, Inc.
900 Richards Street
Honolulu, Hawaii 96813

Current Position: Manager of Corporate Taxes
(18 years)

Previous Positions: Manager of Taxes and Depreciation
Hawaiian Electric Company, Inc.
(1 year)

Director of Taxes and Depreciation
Hawaiian Electric Company, Inc.
(5 years)

Tax Manager, Coopers & Lybrand
(5 years)

Senior Assistant Accountant, Deloitte Haskins & Sells
(2 years)

Education: Bachelor of Science, Business Administration
Graduated Magna Cum Laude
University of Southern California

Juris Doctor
Hastings College of the Law, University of California

Other Qualifications: Certified Public Accountant, Hawaii and California

Member of the State Bar, Hawaii and California

Previous Testimony: Docket No. 5658--Depreciation Adjustment
Income Tax Calculation

Docket Nos. 6432, 6531, 6998, 6999, 7000, 7764, 99-0207,
04-0113, 2006-0386 and 2006-0387 – HECO, HELCO, and MECO
Taxes Other than Income Taxes, Income Tax Expense,
Unamortized Investment Tax Credits, Accumulated
Deferred Income Taxes and Net SFAS 109 Regulatory
Assets

**HAWAIIAN ELECTRIC COMPANY, INC.
TAXES OTHER THAN INCOME TAXES
CHARGED TO OPERATIONS**

**PRESENT RATES
TEST YEAR 2009**

(\$ Thousand)

	BASE CASE (A+B)			INTERIM INCREASE (D+E)			CIP CT-1 STEP (G+H)		
	A Present Rates	B Adjustment	C Proposed Rates	D Present Rates	E Adjustment	F Proposed Rates	G Present Rates	H Adjustment	I Proposed Rates
PAYROLL TAXES									
1	7,267	-	7,267	7,226	-	7,226	7,313	-	7,313
2	66	-	66	66	-	66	66	-	66
3	-	-	-	-	-	-	-	-	-
4	7,333	-	7,333	7,292	-	7,292	7,379	-	7,379
REVENUE TAXES									
5	105,233	9,558	114,791	105,233	8,845	114,078	105,233	10,253	115,486
6	8,941	812	9,753	8,941	751	9,692	8,941	871	9,812
7	44,593	4,056	48,649	44,593	3,753	48,346	44,593	4,351	48,944
8	158,767	14,426	173,193	158,767	13,349	172,116	158,767	15,475	174,242
9	166,100	14,426	180,526	166,059	13,349	179,408	166,146	15,475	181,621

SOURCE: HECO-WP-1601

**HAWAIIAN ELECTRIC COMPANY, INC.
TAXES OTHER THAN INCOME TAXES
CHARGED TO OPERATIONS**

**CURRENT EFFECTIVE RATES
TEST YEAR 2009**

(\$ Thousand)

	BASE CASE (A+B)			INTERIM INCREASE (D+E)			CIP CT-1 STEP (G+H)		
	A Present Rates	B Adjustment	C Proposed Rates	D Present Rates	E Adjustment	F Proposed Rates	G Present Rates	H Adjustment	I Proposed Rates
PAYROLL TAXES									
1	7,267	-	7,267	7,226	-	7,226	7,313	-	7,313
2	66	-	66	66	-	66	66	-	66
3	-	-	-	-	-	-	-	-	-
4	7,333	-	7,333	7,292	-	7,292	7,379	-	7,379
REVENUE TAXES									
5	109,781	5,010	114,791	109,781	4,297	114,078	109,781	5,705	115,486
6	9,327	426	9,753	9,327	365	9,692	9,327	485	9,812
7	46,524	2,125	48,649	46,524	1,822	48,346	46,524	2,420	48,944
8	165,632	7,561	173,193	165,632	6,484	172,116	165,632	8,610	174,242
9	172,965	7,561	180,526	172,924	6,484	179,408	173,011	8,610	181,621

SOURCE: HECO-WP-1601

**HAWAIIAN ELECTRIC COMPANY, INC.
COMPUTATION OF INCOME TAX EXPENSE**

**PRESENT RATES
TEST YEAR 2009**

(\$ Thousand)

	A BASE CASE		B		C		D		E		F		G		H		I		References	
	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment	Present Rates	Adjustment		
1 Total Operating Revenues	1,790,053	162,526	1,952,579																	
Operating Expenses:																				
2 Fuel Oil and Purchased Power	1,293,709		1,293,709																	
3 Other Operation & Maint Exp	225,801	117	225,918																	
4 Depreciation & Amortization	83,183		83,183																	HECO-1408
5 Amortization of State ITC	(1,462)		(1,462)																	HECO-1604
6 Taxes Other Than Income Taxes	166,100	14,426	180,526																	HECO-1601
7 Other Interest, Net	471		471																	
8 Total Operating Expenses	1,767,802	14,543	1,782,345																	
9 Operating Income Before Taxes	22,251	147,983	170,234																	
Tax Adjustments:																				
10 Interest Expense	(31,837)		(31,837)																	
11 Meals & Entertainment	78		78																	
12 Total Tax Adjustments	(31,759)	-	(31,759)																	
13 Taxable Income for Rate-Making	(9,508)	147,983	138,475																	
14 Composite Effective Income Tax Rate	38.9097744%	38.9097744%	38.9097744%																	
15 Total Income Tax Expense	(3,700)	57,580	53,880																	
16 Tax benefit of Domestic Production Activities Deduction	1,028		1,028																	
17 Tax Benefit of Deductible Preferred Stock Dividends	23		23																	
18 INCOME TAX EXPENSE	(4,751)	57,580	52,829																	

NOTE: Totals may not add exactly due to rounding.

**HAWAIIAN ELECTRIC COMPANY, INC.
COMPUTATION OF INCOME TAX EXPENSE**

**CURRENT EFFECTIVE RATES
TEST YEAR 2009**

(\$ Thousand)

	A BASE CASE		B Adjustment		C Proposed Rates		D INTERIM INCREASE			E Adjustment			F Proposed Rates			G Current Eff Rates			H Adjustment			I Proposed Rates			References	
	Current Eff Rates	Adjustment	Adjustment	Proposed Rates	Current Eff Rates	Adjustment	Adjustment	Proposed Rates	Current Eff Rates	Adjustment	Adjustment	Proposed Rates	Current Eff Rates	Adjustment	Adjustment	Proposed Rates	Current Eff Rates	Adjustment	Adjustment	Proposed Rates	Current Eff Rates	Adjustment	Adjustment	Proposed Rates		
1 Total Operating Revenues	1,867,390	85,188	85,188	1,952,578	1,867,390	73,064	73,064	1,940,454	1,867,390	1,867,390	97,011	97,011	1,867,390	1,867,390	97,011	1,964,401										
Operating Expenses:																										
2 Fuel Oil and Purchased Power	1,293,709			1,293,709	1,293,709			1,293,709	1,293,709				1,293,709	1,293,709		1,293,709										
3 Other Operation & Maint Exp	225,857	61	61	225,918	224,243	52	224,295	224,295	224,243	52	224,295	224,295	224,243	52	224,295	224,295	224,243	52	224,295	224,243	52	224,295	224,295	224,243	52	224,295
4 Depreciation & Amortization	83,183			83,183	83,183			83,183	83,183				83,183	83,183		83,183										
5 Amortization of State ITC	(1,462)			(1,462)	(1,462)			(1,462)	(1,462)				(1,462)	(1,462)		(1,462)										
6 Taxes Other Than Income Taxes	172,965	7,561	7,561	180,526	172,924	6,485	179,409	179,409	172,924	6,485	179,409	179,409	172,924	6,485	179,409	179,409	172,924	6,485	179,409	172,924	6,485	179,409	179,409	172,924	6,485	179,409
7 Other Interest, Net	471			471	471			471	471				471	471		471										
8 Total Operating Expenses	1,774,723	7,622	7,622	1,782,345	1,773,068	6,537	1,779,605	1,779,605	1,773,068	6,537	1,779,605	1,779,605	1,773,068	6,537	1,779,605	1,779,605	1,773,068	6,537	1,779,605	1,773,068	6,537	1,779,605	1,779,605	1,773,068	6,537	1,779,605
9 Operating Income Before Taxes	92,667	77,566	77,566	170,233	94,322	66,527	160,849	160,849	94,322	66,527	160,849	160,849	94,322	66,527	160,849	160,849	94,322	66,527	160,849	94,322	66,527	160,849	160,849	94,322	66,527	160,849
Tax Adjustments:																										
10 Interest Expense	(31,837)			(31,837)	(30,062)		(30,062)	(30,062)	(30,062)				(30,062)	(30,062)		(30,062)										
11 Meals & Entertainment	78			78	78		78	78	78				78	78		78										
12 Total Tax Adjustments	(31,759)	-	-	(31,759)	(29,984)	-	(29,984)	(29,984)	(29,984)	-	(29,984)	(29,984)	(29,984)	(29,984)	-	(29,984)										
13 Taxable Income for Rate-Making	60,908	77,566	77,566	138,474	64,338	66,527	130,865	130,865	64,338	66,527	130,865	130,865	64,338	66,527	130,865	130,865	64,338	66,527	130,865	64,338	66,527	130,865	130,865	64,338	66,527	130,865
14 Composite Effective Income Tax Rate	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%	38.9097744%
15 Total Income Tax Expense	23,699	30,181	30,181	53,880	25,034	25,886	50,920	50,920	25,034	25,886	50,920	50,920	25,034	25,886	50,920	50,920	25,034	25,886	50,920	25,034	25,886	50,920	50,920	25,034	25,886	50,920
16 Tax benefit of Domestic Production Activities Deduction	1,028			1,028	908		908	908	908				908	908		908										
17 Tax Benefit of Deductible Preferred Stock Dividends	23			23	23		23	23	23				23	23		23										
18 INCOME TAX EXPENSE	22,648	30,181	30,181	52,829	24,103	25,886	49,989	49,989	24,103	25,886	49,989	49,989	24,103	25,886	49,989	49,989	24,103	25,886	49,989	24,103	25,886	49,989	49,989	24,103	25,886	49,989

NOTE: Totals may not add exactly due to rounding.

HECO-WP-1602, page 2
HECO-WP-1602, page 3

HECO-WP-1602, pages 4-9

HECO-WP-1602, page 10

HECO-1408

HECO-1604

HECO-1601

**HAWAIIAN ELECTRIC COMPANY, INC.
FEDERAL INVESTMENT TAX CREDIT
FOR THE YEARS 2004 - 2009**

(\$ Thousand)

	A	B	C	D	E	F	
	Actual 2004	Actual 2005	Actual 2006	Actual 2007	Estimate 2008	Test Year 2009	
1971 REVENUE ACT							
1	Beginning Balance	6,602	5,633	4,728	3,881	3,117	2,398
2	Amortizations	(969)	(905)	(847)	(764)	(719)	(644)
3	Additions (Net of Recap)						
4	Other Adjustments						
5	Ending Balance	<u>5,633</u>	<u>4,728</u>	<u>3,881</u>	<u>3,117</u>	<u>2,398</u>	1,754
6	Average Balance						2,076

HECO-1408

SOURCE: HECO-WP-1603

**HAWAIIAN ELECTRIC COMPANY, INC.
STATE CAPITAL GOODS EXCISE TAX CREDIT
FOR THE YEARS 2004 - 2009**

(\$ Thousand)

	A	B	C	D	E	F	G	(F+G)	(F+G)	I	(F+I)
	Actual	Actual	Actual	Actual	Estimate	BASE	Adjustment	INTERIM	Test Year	Adjustment	CIP CT-1
	2004	2005	2006	2007	2008	CASE		INCREASE	2009		STEP
						Test Year		Test Year	2009		Test Year
						2009		2009			2009
1 Beginning Balance	22,444	24,759	26,481	28,478	29,548	30,531		30,531	3,480	3,480	34,011
2 Amortizations	(996)	(1,117)	(1,201)	(1,301)	(1,383)	(1,462)		(1,462)			(1,462)
3 Additions (Net of Recap)	3,311	2,839	3,198	2,371	2,366	6,061	(3,480)	2,581	(3,480)	(3,480)	2,581
4 Ending Balance	24,759	26,481	28,478	29,548	30,531	35,130	(3,480)	31,650	-	-	35,130
5 Average Balance						32,831		31,091			34,571

HAWAIIAN ELECTRIC COMPANY, INC.
SUMMARY OF DEFERRED INCOME TAX LIABILITY
BALANCES FOR RATE BASE PURPOSES
FEDERAL AND STATE

(\$ Thousand)

	A	B	C	D	E
	Actual Balance 12/31/2005	Actual 2006 Adds (Amort), Net	Actual Balance 12/31/2006	Actual 2007 Adds (Amort), Net	Actual Balance 12/31/2007
Accelerated Depreciation over Straight Line					
1 FEDERAL	61,335	(2,120)	59,215	(2,842)	56,373
2 STATE	7,191	(409)	6,782	(228)	6,554
3 Subtotal	68,526	(2,529)	65,997	(3,070)	62,927
All Other Items					
4 FEDERAL	56,119	447	56,566	(6,727)	49,839
5 STATE	9,967	200	10,167	(1,030)	9,137
6 Subtotal	66,086	647	66,733	(7,757)	58,976
7 TOTAL	134,612	(1,882)	132,730	(10,827)	121,903

8 AVERAGE BALANCE

	Actual Balance 12/31/2007	Estimate 2008 Adds (Amort), Net	BASE CASE Estimate Balance 12/31/2008	Estimate 2009 Adds (Amort), Net	BASE CASE Estimate Balance 12/31/2009
Accelerated Depreciation over Straight Line					
9 FEDERAL	56,373	3,203	59,576	(1,498)	58,078
10 STATE	6,554	(499)	6,055	45	6,100
11 Subtotal	62,927	2,704	65,631	(1,453)	64,178
All Other Items					
12 FEDERAL	49,839	8,370	58,209	2,624	60,833
13 STATE	9,137	1,473	10,610	483	11,093
14 Subtotal	58,976	9,843	68,819	3,107	71,926
15 TOTAL	121,903	12,547	134,450	1,654	136,104

16	AVERAGE BALANCE - BASE CASE				135,277
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HAWAIIAN ELECTRIC COMPANY, INC.
SUMMARY OF DEFERRED INCOME TAX LIABILITY
BALANCES FOR RATE BASE PURPOSES
FEDERAL AND STATE

(\$ Thousand)

	F	G	H	I	J
	Actual	Estimate	INTERIM	Estimate	INTERIM
<u>INTERIM</u>	Balance	2008 Adds	INCREASE	2009 Adds	INCREASE
<u>INCREASE</u>	12/31/2007	(Amort), Net	Balance	(Amort), Net	Balance
			12/31/2008		12/31/2009
Accelerated Depreciation over Straight Line					
1 FEDERAL	56,373	3,203	59,576	(3,356)	56,220
2 STATE	6,554	(499)	6,055	(294)	5,761
3 Subtotal	62,927	2,704	65,631	(3,650)	61,981
All Other Items					
4 FEDERAL	49,839	8,370	58,209	3,769	61,978
5 STATE	9,137	1,473	10,610	693	11,303
6 Subtotal	58,976	9,843	68,819	4,462	73,281
7 TOTAL	121,903	12,547	134,450	812	135,262
8	AVERAGE BALANCE - INTERIM INCREASE				134,856
			CIP CT-1 STEP		CIP CT-1 STEP
	Actual	Estimate	Estimate	Estimate	Estimate
<u>CIP CT-1 STEP</u>	Balance	2008 Adds	Balance	2009 Adds	Balance
	12/31/2007	(Amort), Net	12/31/2008	(Amort), Net	12/31/2009
Accelerated Depreciation over Straight Line					
9 FEDERAL	56,373	3,203	59,576	(1,498)	58,078
10 STATE	6,554	(499)	6,055	45	6,100
11 Subtotal	62,927	2,704	65,631	(1,453)	64,178
All Other Items					
12 FEDERAL	49,839	7,225	57,064	3,769	60,833
13 STATE	9,137	1,263	10,400	693	11,093
14 Subtotal	58,976	8,488	67,464	4,462	71,926
15 TOTAL	121,903	11,192	133,095	3,009	136,104
16	AVERAGE BALANCE - CIP CT-1 STEP				134,600

HAWAIIAN ELECTRIC COMPANY, INC.
SFAS 109 RECONCILIATION
REGULATORY ASSETS AND LIABILITIES

(\$ Thousand)

	A	B	C	D	E	F	G
	Actual	Actual	Actual	Actual	Actual	Actual	Actual
	Balance	2006	2006	Balance	2007	2007	Balance
	12/31/2005	Amort	Adds	12/31/2006	Amort	Adds	12/31/2007
1 CWIP Equity Transition (#18673100)	1,850	(87)		1,763	(75)		1,688
2 SFAS 109 Flow Through (#18673200)	3,264	(326)		2,938	(326)		2,612
3 Plant Transition (#18673300)	20,459	(1,023)		19,436	(1,023)		18,413
4 CWIP Equity Ongoing (#18673400)	30,280	(893)	2,585	31,972	(932)	2,805	33,845
5 Federal ITC (#18673500)	(3,011)	539		(2,472)	487		(1,985)
Excess Deferred Taxes							
6 (#18673110 - Acct 282)	(1,809)	904		(905)	904		(1)
7 (#18673900 - Acct 283)	(1,414)	58		(1,356)	58		(1,298)
8 Subtotal	(3,223)	962	-	(2,261)	962	-	(1,299)
Deficit Deferred Taxes							
9 (#18673120 - Acct 282)	2,216	(111)		2,105	(111)		1,994
10 (#18673190 - Acct 283)				-			-
11 Subtotal	2,216	(111)	-	2,105	(111)	-	1,994
12 TOTAL	51,835	(939)	2,585	53,481	(1,018)	2,805	55,268
13 AVERAGE BALANCE				<u>52,658</u>			<u>54,375</u>

NOTE: All SFAS 109 assets and liabilities and related taxes have been computed on effective tax rate of 32.8947368% (Federal) and 6.0150376% (State).

HAWAIIAN ELECTRIC COMPANY, INC.
SFAS 109 RECONCILIATION
REGULATORY ASSETS AND LIABILITIES

(\$ Thousand)

	H	I	J	K	L	M	N
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Balance	2008	2008	Balance	2009	2009	Balance
	12/31/2007	Amort	Adds	12/31/2008	Amort	Adds	12/31/2009
1 CWIP Equity Transition (#18673100)	1,688	(75)		1,613	(75)		1,538
2 SFAS 109 Flow Through (#18673200)	2,612	(326)		2,286	(326)		1,960
3 Plant Transition (#18673300)	18,413	(1,023)		17,390	(1,023)		16,367
4 CWIP Equity Ongoing (#18673400)	33,845	(1,013)	5,362	38,194	(1,106)	7,596	44,684
5 Federal ITC (#18673500)	(1,985)	458		(1,527)	410		(1,117)
Excess Deferred Taxes							
6 (#18673110 - Acct 282)	(1)			(1)			(1)
7 (#18673900 - Acct 283)	(1,298)	58		(1,240)	58		(1,182)
8 Subtotal	(1,299)	58	-	(1,241)	58	-	(1,183)
Deficit Deferred Taxes							
9 (#18673120 - Acct 282)	1,994	(111)		1,883	(111)		1,772
10 (#18673190 - Acct 283)	-	-		-	-		-
11 Subtotal	1,994	(111)	-	1,883	(111)	-	1,772
12 TOTAL	55,268	(2,032)	5,362	58,598	(2,173)	7,596	64,021
13 AVERAGE BALANCE				56,933			61,310

NOTE: All SFAS 109 assets and liabilities and related taxes have been computed on effective tax rate of 32.8947368% (Federal) and 6.0150376% (State).

HAWAIIAN ELECTRIC COMPANY, INC.
RECONCILIATION OF SFAS 109 REGULATORY
ASSETS/LIABILITIES AND DEFERRED TAXES

(\$ Thousand)

	A	B	C	D	E
	Regulatory	Federal	State		Total
	Asset/Liab	Def Tax	Def Tax	*	Def Tax
	Balance	Balance	Balance	Other	Balance
	12/31/2007	12/31/2007	12/31/2007	12/31/2007	12/31/2007
Description					
1 CWIP Equity Transition	1,688	(1,429)	(261)	2	(1,688)
2 SFAS 109 Flow Through	2,612	(2,207)	(404)	(1)	(2,612)
3 Plant Transition	18,413	(15,567)	(2,847)	1	(18,413)
4 CWIP Equity Ongoing	33,845	(28,614)	(5,233)	2	(33,845)
5 Federal ITC	(1,985)	1,678	308	(1)	1,985
6 Excess Accel Depr	(1)			1	1
7 Excess Deferred Taxes	(1,298)	428	79	791	1,298
8 Deficit Accel Depr	1,994	(658)	(120)	(1,216)	(1,994)
9 Deficit Deferred Taxes	-	-	-		-
10 TOTAL	55,268	(46,369)	(8,478)	(421)	(55,268)

	Regulatory	Federal	State		Total
	Asset/Liab	Def Tax	Def Tax	*	Def Tax
	Balance	Balance	Balance	Other	Balance
	12/31/2008	12/31/2008	12/31/2008	12/31/2008	12/31/2008
Description					
11 CWIP Equity Transition	1,613	(1,365)	(250)	2	(1,613)
12 SFAS 109 Flow Through	2,286	(1,931)	(353)	(2)	(2,286)
13 Plant Transition	17,390	(14,702)	(2,688)		(17,390)
14 CWIP Equity Ongoing	38,194	(32,290)	(5,904)		(38,194)
15 Federal ITC	(1,527)	1,291	237	(1)	1,527
16 Excess Accel Depr	(1)			1	1
17 Excess Deferred Taxes	(1,240)	409	75	756	1,240
18 Deficit Accel Depr	1,883	(621)	(113)	(1,149)	(1,883)
19 Deficit Deferred Taxes	-	-			-
20 TOTAL	58,598	(49,209)	(8,996)	(393)	(58,598)

HAWAIIAN ELECTRIC COMPANY, INC.
RECONCILIATION OF SFAS 109 REGULATORY
ASSETS/LIABILITIES AND DEFERRED TAXES

(\$ Thousand)

	A	B	C	D	E
	Regulatory	Federal	State	*	Total
	Asset/Liab	Def Tax	Def Tax	*	Def Tax
	Balance	Balance	Balance	Other	Balance
	12/31/2009	12/31/2009	12/31/2009	12/31/2009	12/31/2009
Description					
1 CWIP Equity Transition	1,538	(1,302)	(238)	2	(1,538)
2 SFAS 109 Flow Through	1,960	(1,655)	(303)	(2)	(1,960)
3 Plant Transition	16,367	(13,837)	(2,530)		(16,367)
4 CWIP Equity Ongoing	44,684	(37,766)	(6,906)	(12)	(44,684)
5 Federal ITC	(1,117)	944	173		1,117
6 Excess Accel Depr	(1)	-	-	1	1
7 Excess Deferred Taxes	(1,182)	390	72	720 **	1,182
8 Deficit Accel Depr	1,772	(585)	(107)	(1,080) **	(1,772)
9 Deficit Deferred Taxes	-				-
10 TOTAL	<u>64,021</u>	<u>(53,811)</u>	<u>(9,839)</u>	<u>(371)</u>	<u>(64,021)</u>

* Column D amounts represent the net unamortized "base" SFAS 109 adjustments recorded in 1993 related to excess and deferred taxes booked to Reg Ass/Liab. Columns B and C represent the tax "gross up" of these "base" items. Lines 1 through 5 do not have comparable "base" amounts in Column D because their SFAS 109 adjustments only required a tax "gross up". The "base" on which this gross up was calculated resides in either plant in service or unamortized Federal ITC balance sheet accounts. On the other hand, the "base" for lines 6 through 9 were accounted for in the Reg Asset/Liab. Account.

** The reconciling item represents excess/deficit deferred tax on pre-109 basis.

Column A is from HECO-1606, p. 2

Column B is from HECO-WP-1605, pp. 1-2. Note that excess and deficit accelerated depreciation (Line 6 and 8) is included in 282 depreciation.

Column C is from HECO-WP-1605, pp. 3-4. Note that excess and deficit accelerated depreciation (Line 6 and 8) is included in 282 depreciation.

TESTIMONY OF
LORIE ANN NAGATA

TREASURER
HAWAIIAN ELECTRIC COMPANY, INC.

Subject: Plant Additions, Property Held for Future Use,
Contributions in Aid of Construction,
Customer Advances, and Budget Process

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INTRODUCTION

- Q. Please state your name and business address.
- A. My name is Lorie Ann Nagata and my business address is 900 Richards Street, Honolulu, Hawaii 96813.
- Q. By whom are you employed and in what capacity?
- A. I am employed by Hawaiian Electric Company, Inc. (“HECO” or “Company”) as its Treasurer. HECO-1700 provides my educational background and work experience.
- Q. What is the purpose of your testimony?
- A. The purpose of my testimony is to present the Company’s 2008 and test year 2009 estimates of:
- 1) plant additions;
 - 2) property held for future use;
 - 3) contributions in aid of construction (“CIAC”); and
 - 4) customer advances.

The rate base, tax, and depreciation witnesses will use these estimates to derive the test year estimates in their respective areas.

I am also responsible for addressing the Company’s operations and maintenance (“O&M”) expense budget methodology, including general wage increase assumptions and general inflation factor.

PLANT ADDITIONS

- Q. What are plant additions?
- A. Plant additions for a particular year are the total cost of capital projects that the Company completes and places in utility service during that year. A plant addition occurs when the costs are transferred from the construction work in

1 progress account to the utility plant in service account. Total capital expenditures
2 incurred for a project are all part of the plant addition amount when the completed
3 facility is placed in service.

4 Q. How are plant additions used in this rate case?

5 A. Plant additions are used to determine the utility plant in service balances. In this
6 rate case, the estimated 2008 plant additions are added to the actual 2008
7 beginning-of-the-year (“BOY”) utility plant in service balance to determine the
8 estimated end-of-year (“EOY”) 2008 utility plant in service balance. This balance
9 then becomes the estimated 2009 BOY utility plant in service balance. The
10 estimated 2009 plant additions are then added to this balance to determine the
11 utility plant in service balance at the end of the test year 2009.

12 Q. What is the Company’s estimate of plant additions for 2008 and test year 2009?

13 A. The Company’s estimate of plant additions is \$110,220,000 for 2008 and
14 \$264,679,000 for test year 2009, as shown on HECO-1701.

15 Development of Plant Addition Estimates

16 Q. How were the estimates for plant additions for 2008 and test year 2009
17 developed?

18 A. The plant addition estimates are an outcome of the process that develops the
19 Company’s capital expenditures estimate which consists of programs and projects.

20 The 2008 and test year 2009 plant addition estimates were calculated by adding:

- 21 1) estimates for straggling costs to be incurred in 2008 and 2009 for projects
22 placed in service prior to 2008;
23 2) estimated program expenditures for 2008 and 2009; and

1 3) the sum of expenditures incurred during all years, up until the year the
2 project is placed in service, for all projects forecast to be placed in service in
3 2008 and test year 2009;

4 Q. What are “stragglng costs”?

5 A. “Stragglng costs” consist of, but are not limited to, invoices received after the
6 project was placed in service for materials received and/or services rendered
7 before the project was placed in service, and costs incurred after the project has
8 been placed in service, including costs associated with final project work on-site,
9 as-built drawings, archiving files, closing contracts, and preparing and filing
10 required reports with the PUC and government agencies.

11 Development of Estimated Program Expenditures

12 Q. What are program expenditures that are also included in Plant Additions?

13 A. A program is a collection of a specific category or type of small projects that
14 individually are generally less than \$100,000 and budgeted in its entirety. The
15 estimated program costs are based on metrics such as the estimated number of
16 service requests, poles installed, vehicles purchased, etc. The costs for programs
17 were estimated by many different program managers using assumptions and data
18 determined by them for the respective program. The plant additions for programs
19 for 2008 and test year 2009 are assumed to equal the program expenditures for
20 2008 and test year 2009, respectively.

21 Development of Project Estimates

22 Q. How were the estimates for the projects developed?

23 A. Each project is assigned to a project manager or project engineer and he or she is
24 responsible for designing and managing the project’s scope, schedule, and cost
25 estimates. The schedule considers, among other things, the required need date, the

1 project's priority relative to other projects, lead time to order materials, resource
2 requirements, and approvals required such as permitting and regulatory approval.

3 Q. Is it reasonable to expect that the timing, scope or cost of an individual project
4 may change over the course of a year?

5 A. Yes. This sometimes happens in the normal course of business. There may be
6 changes in needs or requirements that would cause changes in plans.

7 Q. Why are projects sometimes not completed as scheduled?

8 A. While HECO makes every effort to estimate adequate time for the project's tasks,
9 there will inevitably be changes to the duration of tasks or additional tasks may be
10 added due to unanticipated events. There are also some projects whose execution
11 depends on the timing of generation unit outages; if the generation unit outage
12 schedule changes, the project schedule changes accordingly.

13 Q. Were there any adjustments to reflect slippages in the project schedules for 2008
14 and 2009?

15 A. No. While some of the projects will inevitably slip in schedule and be placed in
16 service later than anticipated, usually there are other projects that will be
17 completed earlier than projected; or identified after the budget is finalized, remain
18 unbudgeted and placed in service. Based on information for the years 1999 to
19 2007, the annual percent difference between recorded and forecast total plant
20 additions ranged from -30% to 60%, or on average, a -6% difference for the nine-
21 year period (see HECO-1702). While the annual percent difference can vary
22 significantly, the percent difference is relatively insignificant over a longer-term
23 perspective. As such, forecast total plant additions are comparable to the recorded
24 total plant additions and the 2008 and test year 2009 plant addition estimates are
25 therefore reasonable.

1 Q. How is the Company's total capital expenditures estimate determined?

2 A. Once individual projects are identified and their scope, schedules, and cost
3 estimates developed, the following process is generally followed to develop the
4 Company's capital expenditures estimate.

- 5 1) Managers and staff from each department meet to review and rank, to the
6 degree possible, their proposed projects to determine which projects should
7 move forward in the budget process.
- 8 2) Projects are reviewed by the responsible process areas to determine which
9 projects should be considered for inclusion in the upcoming five-year capital
10 budget.
- 11 3) The lists of proposed projects for each process area are compiled and
12 presented to the Capital Budget Committee ("CBC").
- 13 4) The CBC reviews the proposed projects from a Company-wide perspective
14 and determines which projects to include in (or exclude from) the upcoming
15 five-year capital budget.
- 16 5) The project manager or responsible party receives the approved project list
17 and builds/refines the detailed budget estimate.

18 During the detailed budgeting process, resource leveling reports are
19 generated at several key points in the process to allow those providing
20 resources an opportunity to view the demands, in terms of labor hours,
21 placed on their resources. If necessary, adjustments are made such that the
22 difference between supply and demand for a resource class for a
23 responsibility area is reasonable. This generally results in a more realistic
24 capital budget.

1 6) To ensure the completeness of the Company's final capital budget,
2 consideration is given to adding any projects that were deferred or created
3 between the process area review period and when the detailed budget is
4 built/refined.

5 7) The proposed capital budget is reviewed at officer briefings and those
6 projects that will be included in (or excluded from) the final budget for the
7 upcoming five years is determined.

8 8) Subsequently, the five-year capital budget is presented to the Company's
9 Board of Directors.

10 Q. Was there a review of the capital budget subsequent to when the five-year capital
11 budget was presented to the Company's Board of Directors?

12 A. Yes. As part of the process to review the budget that was to be used as the
13 starting point for developing the test year estimates, the capital budget was
14 reviewed in conjunction with the review of the O&M expense budget earlier this
15 year.

16 Q. Were there any changes to the capital budget as a result of the review?

17 A. Yes. While the capital expenditures for 2008 remained relatively level, the capital
18 expenditures for 2009 increased by approximately \$33 million.

19 Q. What were the drivers for the \$33 million increase in capital expenditures for
20 2009?

21 A. As a result of management's review of the need to maintain reliability of our
22 infrastructure, the Company determined that the level of capital expenditures
23 needed to be increased to ensure reliable service. The increase of \$33 million for
24 2009 resulted primarily from a \$55 million increase due to an increase in the
25 number of projects and in the costs of various projects and programs, offset by a

1 \$22 million decrease due to the delay in the Parallel Plan Unit and Substation
2 project.¹

3 Q. Please describe the nature of the increased level of capital expenditures?

4 A. The increased level of capital expenditures included costs to maintain or improve
5 generation unit reliability, to prevent overloads of existing equipment due to
6 forecasted new loads, for spare equipment to prevent a long duration, emergency
7 outage, and to replace aging equipment which are showing signs of deterioration.
8 See discussion regarding HECO's aging infrastructure by Mr. Dan Giovanni in
9 HECO T-7 and by Mr. Robert Young in HECO T-8.

10 Q. What was the review process for this updated capital expenditures budget for
11 2009?

12 A. The CBC reviewed the updated capital expenditures level for 2008 and 2009 and
13 they were subsequently presented to the HECO and HEI Boards of Directors at a
14 Joint Board meeting in June 2008.

15 Q. Why is the test year 2009 estimate of plant additions of \$264,679,000 significantly
16 higher than the plant addition estimate of \$110,220,000 for 2008?

17 A. The plant additions for the test year 2009 are \$154 million higher than for 2008
18 due primarily to the CIP1 Generating Station and Transmission Addition ("CIP1
19 Generating Unit") project which has estimated plant additions of \$153 million in
20 2009. (There are also \$9 million of plant additions for the CIP1 Generating Unit
21 that will go into service in 2008 and \$2 million included in Property Held for
22 Future Use which will be discussed later in my testimony.) The CIP1 Generating
23 Unit project Plant Additions are shown on HECO-1703.

¹ Per HECO 2008 Capital Expenditures Budget filed February 29, 2008, this project consists of constructing a nominal 100MW simple cycle combustion turbine unit at HECO's Barbers Point Tank Farm and installing associated substation equipment at AES Substation to meet forecasted load growth in accordance with the Competitive Bidding framework.

- 1 Q. Did HECO submit applications for review for any of the specific projects that are
2 expected to be added to utility plant in service?
- 3 A. Yes. Paragraph 2.3.(g)(2) of General Order No. 7 requires the Company to file an
4 application for all projects with estimated capital expenditures in excess of
5 \$2,500,000² excluding customer contributions or 10% of the total utility plant in
6 service, whichever is less, to the Commission for review at least 60 days prior to
7 commencement of construction or commitment for expenditure, whichever is
8 earlier. HECO-1704 provides a list of projects that have been approved by the
9 Commission and will be placed in service and/or have straggling costs placed in
10 service in 2008 and 2009.
- 11 Q. Please provide examples of projects for which applications for review were
12 submitted to the Commission that will be placed in service and/or have straggling
13 costs placed in service in 2008 and 2009.
- 14 A. On May 23, 2007, the Commission approved HECO's CIP1 Generating Unit in
15 Decision and Order No. 23457 (Docket No. 05-0145). The CIP1 Generating Unit
16 involves: (1) the construction, purchase and installation of a new generating
17 facility (Project No. P4900000), which includes the purchase and installation of a
18 nominal 110MW simple-cycle combustion turbine generator and its support
19 equipment (including blackstart generation installed on site to enable the
20 combustion turbine unit to be started even in the event of an island-wide power
21 outage) at a new generating facility site located at HECO's existing Barbers Point
22 Tank Farm; (2) the purchase of 3.80 acres of land to expand the existing Barbers
23 Point Tank Farm to accommodate the new generating facility (Project Nos.

² Prior to July 1, 2004, General Order No. 7 required the submission of all projects with estimated capital expenditures in excess of \$500,000. Decision and Order No. 21002 in Docket No. 03-0257 ordered the modification of Paragraph 2.3(g)(2) of General Order No. 7 to increase the threshold from \$500,000 to \$2,500,000.

1 P0001084 and P0001585) and the purchase of easements from Chevron and
2 Campbell Estate for the new transmission line (Project No. P0001340); (3) the
3 purchase and construction of a new two-mile overhead 138 kV transmission line
4 from HECO's AES Substation to HECO's CEIP Substation in Campbell Industrial
5 Park (Project No. P0001050); (4) modifications and additions to HECO's AES
6 Substation (Project No. P0001051) and Kalaeloa Relays (Project No. P0001137),
7 additions to HECO's CEIP Substation (Project No. P0001052), modifications to
8 HECO's Kahe Generating Station Substation (Project No. P0001136); and (5) the
9 purchase and installation of communication components of the CIP1 Generating
10 Unit consisting of Fiber Communications (Project No. P0001134) and the
11 Microwave Communications (Project No. P0001135). As discussed by
12 Mr. Robert Alm in HECO T-1, HECO is proposing a revenue step increase for the
13 CIP1 Generating Unit based on the plant addition amount shown on HECO-1703.

14 As background on the CIP1 Generating Unit, the application for the CIP1
15 Generating Unit was filed on June 17, 2005. Motions to intervene and participate
16 were granted. Written testimonies and responses to information requests were
17 filed by HECO and the parties and participant. HECO and the Consumer
18 Advocate filed a joint stipulation dated December 4, 2006, and filed a joint motion
19 for approval of stipulation on that date. The stipulation addresses areas with
20 which the Consumer Advocate and HECO reached agreement, including HECO's
21 commitment to use biofuels in the proposed combustion turbine. Decision and
22 Order No. 23457 was granted on May 23, 2007 from the Commission approving
23 HECO's CIP1 Generating Unit.

1 Q. Does the CIP1 Generating Unit project costs conform to its initial cost estimate?

2 A. No. The filed costs and schedules are based on information known and/or
3 available at the time the estimates were developed and finalized. As final
4 engineering design and construction of the various projects (or components)
5 proceed, the costs and schedules are revised and updated. While the CIP1
6 Generating Unit project is still on schedule with an in-service date of July 31,
7 2009, an estimate provided to the Commission in a March 5, 2008 informational
8 filing (“March 5, 2008 filing”) totaled \$164 million which is 19% higher than the
9 Commission’s approved estimate of \$137 million. The variance is due to: (1) an
10 increased estimate of construction costs; (2) an increase cost of the combustion
11 turbine generator based on the escalation formula in the purchase contract; (3) an
12 increased cost for transformers; and (4) newly planned laboratory testing using
13 biodiesel.³

14 Q. How does the total cost estimate of the CIP1 Generating Unit project reflected in
15 this test year 2009 docket compare with the March 5, 2008 filing estimate?

16 A. The current total cost estimate of \$163.8 million for the CIP1 Generating Unit
17 project is about \$170,000, or 0.1%, lower than the estimate provided in the March
18 5, 2008 filing. As construction of the various projects within the CIP1 Generating
19 Unit project proceeds, the costs for the individual projects may change and will be
20 updated accordingly.

21 Q. Is there another example of a project for which an application for review was
22 submitted to the Commission and the project did not conform to its initial cost
23 estimate and schedule?

³ See informational filing dated March 5, 2008 to the Commission updating the cost estimate for Docket No. 05-0145 Campbell Industrial Park Generating Station and Transmission Additions project.

1 A. Yes. HECO received approval to proceed with its Ko Olina Substation Project by
2 Decision and Order No. 22001 (Docket No. 05-0056) on August 31, 2005. The
3 Ko Olina Substation was expected to be placed in-service in June 2006, but was
4 delayed to January 30, 2008, due to projected loads not materializing as originally
5 estimated. However, one of the 46kV line extensions was installed in March 2007
6 at the request of Centex Destination Properties, the adjacent developer/property
7 owner.

8 The Commission's approved estimate for the Ko Olina Substation Project
9 was \$2.8 million, net of CIAC. The higher overall cost for the project of \$3.8
10 million, net of CIAC, was due to higher than estimated equipment and material
11 costs, the requirement for additional civil-structural-architectural ("CSA")
12 substation engineering, the higher than estimated construction costs for the
13 substation CSA construction, the 46kV duct line and the digging for the pole
14 holes, and the project delay. The higher net project cost was offset to some extent
15 by an additional contribution by Centex Destination Properties for the 46kV line
16 installation.⁴

17 PROPERTY HELD FOR FUTURE USE

18 Q. What is property held for future use?

19 A. Property held for future use is property owned and held for future use in utility
20 service under a definite plan for such use within 10 years after acquisition.

21 Q. What is the average balance of property held for future use for test year 2009?

22 A. The estimated average balance of property held for future use is \$2,331,000 for
23 test year 2009, as shown in HECO-1705.

⁴ See Interim Accounting Report dated March 31, 2008 for Docket No. 05-0056 – Item Y00044
Installation of Ko Olina Substation.

1 Q. What changes have occurred in 2008 and are reflected in the property held for
2 future use test year 2009 account balances?

3 A. In connection with the start of construction for the CIP1 Generating Unit,
4 \$1,262,000 for the cost of the 44-foot wide parcel of approximately two acres
5 running between HECO's Barbers Point Tank Farm and H-Power needed to
6 accommodate HECO's new generating unit and auxiliaries were transferred from
7 property held for future use to utility plant in service in May 2008.

8 Q. What properties are included in property held for future use in the 2009 test year?

9 A. The following properties are in property held for future use in the 2009 test year:
10 • A second parcel at the CIP1 Generating Unit site
11 • A pipeline at the Barbers Point Deep Draft Harbor to be used in the future
12 as a fuel oil pipeline, i.e., Kalaeloa-Barbers Point Harbor Pipeline
13 ("KBPH Pipeline")
14 • A 1.112 acre parcel at the Kapolei Substation site.

15 Q. Please describe the second parcel at the CIP1 Generating Unit site.

16 A. This is a 1.76 acre property between Hanua Street and HECO's existing AES
17 Substation that will allow for expansion of the AES Substation. The purchase
18 price of this property was \$1,810,000.

19 Q. Please describe the KBPH Pipeline.

20 A. The KBPH pipeline was installed in 1991 in conjunction with the construction of
21 the State's Kalaeloa-Barbers Point deep draft harbor project. HECO installed the
22 pipeline at that time since the State's laying of a 15-inch thick reinforced concrete
23 pier and container storage area made it infeasible to lay the pipeline at a later date.
24 Installing the pipeline during the construction of the State's Kalaeloa-Barbers

1 Point Harbor permitted HECO to have the infrastructure to access fuel at costs
2 lower than if the pipeline was installed after the construction of the State's harbor.

3 As a result of the pipeline, the Company, and ultimately ratepayers,
4 maintain some leverage in contract negotiations for fuel oil and also maintain
5 future options for the pipeline as a possible gateway for imported fuel and biofuel
6 directly to HECO's Barber's Point Tank Farm location.

7 Q. Has the Commission allowed the inclusion of the KBPH Pipeline in property held
8 for future use in prior rate cases?

9 A. Yes. The Commission allowed inclusion of the KBPH Pipeline in property held
10 for future use in its Decision and Orders for HECO's 1992, 1994, 1995, and 2005
11 rate cases, Docket Nos. 6998, 7700, 7766, and 04-0113 respectively. Also, the
12 interim rate increase authorized in Interim Decision and Order No. 23749
13 ("Interim D&O"), issued October 22, 2007 in the Company's 2007 test year rate
14 case (Docket No. 2006-0386), was based on a rate base amount that included the
15 KBPH Pipeline in property held for future use. In that proceeding, neither the
16 Consumer Advocate nor the DOD recommended any adjustment to the inclusion
17 of the KBPH Pipeline in property held for future use.

18 Q. What is the \$4,000 included in property held for future use for the Kapolei
19 Substation?

20 A. This parcel was dedicated to HECO by the Housing and Community Development
21 Corporation of Hawaii to provide electrical infrastructure for the Kapolei East
22 area. HECO's purchase price was its site investigation and closing costs.
23 Installation of a distribution substation is currently scheduled for 2011 to
24 accommodate loads in the Kapolei East area such as the proposed Kapolei Mall
25 and Department of Hawaiian Home Land's residential developments.

1 Q. Why are the test year 2009 estimates of cash CIAC higher than the CIAC for
2 2008?

3 A. The cash CIAC for the test year 2009 is about \$508,000 higher than for 2008 due
4 primarily to the \$2.1 million CIAC estimated for the Kaloi Substation Land
5 Transfer from the University of Hawaii in 2009, offset by having estimated about
6 half as many projects with CIAC in 2009 than in 2008.

7 Q. What is the estimated transfer from customer advances to CIAC for 2008 and test
8 year 2009?

9 A. The estimated transfer from customer advances to CIAC is \$19,000 and \$67,000
10 for 2008 and test year 2009, respectively, as shown on HECO-1706. These funds
11 are customer advances that are no longer refundable. Transfers from customer
12 advances to CIAC are discussed further in the next section on customer advances.

13 Q. What is the Company's estimate of "in-kind" CIAC for 2008 and test year 2009?

14 A. The estimated "in-kind" CIAC are \$3,864,000 and \$4,204,000 for 2008 and test
15 year 2009, respectively, as shown on HECO-1706.

16 Q. How were the "in-kind" CIAC estimated?

17 A. "In-kind" CIAC were estimated in a similar fashion as cash receipts of CIAC.
18 Engineers determined the specific "in-kind" contributions for specific projects
19 while the estimates for "in-kind" contributions for programs are based on a trend
20 of previous years' "in-kind" contributions.

21 CUSTOMER ADVANCES

22 Q. What are customer advances?

23 A. Customer advances are funds advanced by the customer for facilities provided by
24 HECO. Customer advances are required for requests for service that require new
25 lines to be constructed for which the cost to construct exceeds the customer's

1 expected revenue for 60 months. Customer advances differ from CIAC in that
2 they are subject to refund in whole or in part.

3 Q. What is the average balance for customer advances for test year 2009?

4 A. The estimated average balance for customer advances is \$848,000, as shown on
5 HECO-1707.

6 Q. What are the components of customer advances?

7 A. The components of customer advances consist of receipts of customer advances,
8 refunds of customer advances, and transfers of customer advances to CIAC.

9 Q. What are the estimated receipts of customer advances for 2008 and test year 2009,
10 respectively?

11 A. HECO's estimates of receipts of customer advances are \$105,000 and \$110,000
12 for 2008 and test year 2009, respectively, as shown on HECO-1707.

13 Q. What are the estimated refunds of customer advances for 2008 and test year 2009?

14 A. The estimated refunds of customer advances are \$119,000 and \$124,000 for 2008
15 and test year 2009, respectively, as shown on HECO-1707.

16 Q. When are customer advances refunded?

17 A. Refunds of customer advances are made when permanent customers, other than
18 the customer who provided the advance, are served from the facility for which an
19 advance was made or when permanent residents occupy the homes in a new
20 subdivision. The amount refunded to a customer is limited to the amount of the
21 advance collected and no refund is made after ten years from the date of the
22 advance.

23 Q. How were the receipts and refund amounts estimated?

24 A. Generally, receipts from customer advances for construction and refunds paid out
25 are estimated based on the five-year average for recorded amounts for 2003

1 through 2007. The five-year average receipts amount is escalated for inflation and
2 rounded to the nearest \$5,000 to derive the estimated receipts amount. The
3 refunds amount is derived by applying a 2003-2007 refunds to 2003-2007 receipts
4 ratio to the estimated receipts amount and then rounded to the nearest \$5,000. See
5 HECO-WP-1707, page 2.

6 Q. What are the estimated transfers of customer advances to CIAC for 2008 and test
7 year 2009?

8 A. The estimated transfers of customer advances to CIAC are \$19,000 and \$67,000
9 for 2008 and test year 2009, respectively, as shown on HECO-1707.

10 Q. Why are customer advances transferred to CIAC?

11 A. When the ten-year refund period applicable to an advance has expired, the amount
12 of Customer Advance for a project that has not yet been refunded is transferred to
13 CIAC.

14 Q. How were the transfers to CIAC estimated?

15 A. The transfers to CIAC are calculated from records of advances. Advances
16 received in 1998 and 1999 that are not expected to be refunded within ten years
17 (expiring in 2008 and 2009) are forecast to be transferred to CIAC in 2008 and
18 test year 2009, respectively.

19 BUDGET PROCESS

20 Q. How were the test year 2009 estimates for Operations and Maintenance (“O&M”)
21 expenses developed?

22 A. The test year 2009 estimates for O&M expenses were initially developed as part
23 of the Company’s 2007 budgeting process for the 2008 and 2009 budget years.
24 During the budgeting process, detailed estimates of O&M expenses were prepared
25 by responsible parties (“users”) throughout the Company. The detailed estimates,

1 called responsibility area (“RA”) budgets, were then summarized to produce the
2 2008 and 2009 O&M expense budgets. The 2008 and 2009 earnings estimates,
3 which incorporated the O&M expense budgets, were then presented to the
4 Company’s officers, HEI, and the Boards of Directors of the Company and HEI.

5 Q. Were the 2009 O&M expense budget subsequently reviewed?

6 A. Yes. In early 2008, the users had the opportunity to review and adjust their 2009
7 RA budgets. The Company’s officers reviewed the O&M expense estimates for
8 their respective areas of responsibility which resulted in further adjustments to the
9 2009 O&M budget. After those adjustments were made, the 2009 O&M expense
10 budget was finalized and became the starting point for the test year 2009 O&M
11 expense estimates, which are summarized at HECO-WP-101.

12 Q. Did the O&M expense witnesses make adjustments to the 2009 O&M expense
13 budget to arrive at the test year 2009 O&M expense estimates?

14 A. Yes. There are three types of adjustments that were made to determine the test
15 year estimates: (1) budget adjustments, (2) issue simplification adjustments, and
16 (3) normalization adjustments.

17 Q. What are the reasons for making budget adjustments?

18 A. Adjustments to the 2009 O&M expense budget are made either (1) to make
19 adjustments for known or expected significant changes in the test year, which
20 were not reflected in the final budget at the time it was completed, or (2) to correct
21 errors that were discovered after the estimates were completed.

22 Q. What is an example of a budget adjustment?

23 A. As discussed by Mr. Russell Harris in HECO T- 12, adjustments were made to
24 reduce the 2009 insurance O&M expense budget to reflect updated estimates.

1 Q. What are issue simplification adjustments?

2 A. These adjustments are made to simplify issues and are adjustments made only for
3 rate case purposes. For example, HECO has excluded from the test year estimate
4 certain costs (such as performance incentive plans compensation expenses, as
5 addressed by Ms. Patsy Nanbu in HECO T-11) from the test year results of
6 operations, which were denied and/or contested in prior rate cases, in order to
7 simplify and limit the contested issues in this case. As Mr. Robert Alm explains
8 in HECO T-1, HECO's position continues to be that these are appropriate costs of
9 doing business that HECO will actually incur, and must be included in rates if
10 HECO is to be afforded a full opportunity to earn a fair return. Therefore, HECO
11 has not waived its right to seek recovery of these costs in future rate cases.

12 Q. What are normalization adjustments?

13 A. These are ratemaking rather than budget adjustments. Normalization adjustments
14 are intended to make the test year results of operation more representative of a
15 normal, on-going level of operations, or of the operating conditions that are
16 expected to be in effect during the period that the rates set in this docket will be in
17 effect. For example, it may be appropriate to amortize an unusual, non-recurring
18 expense over a period of several years for ratemaking purposes if rates are not
19 adjusted on an annual basis.

20 Q. What is an example of a normalization adjustment?

21 A. As discussed by Mr. Alan Hee in HECO T-10, a normalization adjustment to
22 reduce the 2009 budget estimates to one-half of the costs for the biennial Pacific
23 Coast Electrical Association Conference that will be incurred in 2009 has been
24 made to determine the test year estimates. For such costs, it may be appropriate to

1 amortize this non-recurring expense over a period of two years for ratemaking
2 purposes.

3 Q. Does the 2008 O&M expense budget include measures to reduce costs and protect
4 earnings?

5 A. Yes. As part of the budget process in 2007, a 2008 pro forma income statement
6 was prepared for management's review and approval. Management was
7 concerned that revenues would not be able to support the level of spending in the
8 budget as cost increases have outpaced sales growth. See discussion regarding
9 HECO's increasing O&M expenses by Mr. Dan Giovanni in HECO T-7 and by
10 Mr. Robert Young in HECO T-8. As such, a target reduction of about \$8 million
11 was made to reflect an assumed reduction in spending in the short run, keeping in
12 mind that it is in the interest of its customers for management to plan for earnings
13 to be at levels higher than in recent years. The Company's actual rates of return
14 on simple average rate base and on simple average common equity as filed with
15 the Commission have been:

	Return on Rate Base	Return on Common Equity
16 2005	6.20%	6.92%
17 2006	6.78%	7.61%
18 2007	4.92%	4.52%

19
20 See discussion regarding HECO's financial integrity by Ms. Tayne Sekimura in
21 HECO T-20.

22 The target reduction was allocated to the process areas (and some process
23 areas further allocated their target adjustment to their departments). Each process
24 area was given discretion as to how to achieve the reduction, as long as safety,

1 reliability and service were not put at risk. These reductions are reflected in the
2 functional accounts that are expected to be impacted.

3 Although these target reductions are reflected in the 2008 O&M expense
4 budget, the Company will forgo achievement of such target reductions if safety,
5 reliability or service will be compromised.

6 General Wage Increase

7 Q. What is the impact of general wage increases in the 2009 budget?

8 A. On an annual basis, general wage rates for test year 2009 are expected to be
9 7.50% (for bargaining unit employees) and 8.55% (for merit employees) higher
10 than the respective 2007 wage rates (see HECO-1105).

11 Q. How was the wage increase determined for bargaining unit positions for the test
12 year?

13 A. In accordance with the Company's negotiated labor agreement with the
14 International Brotherhood of Electrical Workers, Local 1260, non-compounded
15 wage increases for bargaining unit employees are 3.5% on November 1, 2007, and
16 4.0% on January 1, 2009. The percentage increases are applied to bargaining unit
17 wage rates as of October 31, 2007. The labor agreement which included a wage
18 increase effective November 1, 2007, was not ratified until March 2008, thus the
19 higher wages for November and December 2007, were not paid until March of
20 2008.

21 Q. How was the salary increase determined for merit positions for the test year?

22 A. For merit employees, wage rates increased by an average of 3.5% on May 1, 2007
23 and 0.25% on September 1, 2007 over wage rates as of April 30, 2007. Merit
24 wages were also increased 0.25% effective November 1, 2007, however, the
25 retroactive payment was made in January 2008. Merit wage rates are estimated to

1 increase by 3.5% effective May 1, 2008, 0.30% effective September 1, 2008, and
2 0.20% effective December 2008 applied to merit wage rates as of April 30, 2008
3 and 4.0% effective May 1, 2009, 0.30% effective September 1, 2009 and 0.20%
4 effective December 1, 2009 with the percentage increases being applied to merit
5 wage rates as of April 30, 2009.

6 General Inflation Factor

7 Q. Was a general inflation factor utilized in HECO's budgeting process?

8 A. Yes. In developing the non-labor O&M expense estimates for the 2009 budget,
9 HECO used a general inflation factor when specific known cost indices for non-
10 labor costs were not available. Users were instructed to reflect in their 2009
11 budget, specific inflation rates or cost indices that were applicable to the cost
12 items being estimated. When specific known cost indices for non-labor costs
13 were not available, a general inflation factor was used.

14 Q. What general inflation factor was used in developing the 2009 O&M expense
15 budget?

16 A. HECO used a general inflation factor of 2.5% for the 2009 O&M expense budget.

17 Q. How was the above general inflation factor determined?

18 A. HECO used an inflation rate based on information available at the time the budget
19 was prepared. The Blue Chip Economic Indicators reported in its January 10,
20 2008 issue (see HECO-WP-1708, page 1) that the Consumer Price Index (CPI) for
21 2009 would increase by 2.3%, which was rounded to 2.5% to arrive at the general
22 inflation factor for the 2009 O&M expense budget.

23 Q. Do more recent estimates support HECO's inflation rate assumptions as
24 reasonable?

- 1 A. Yes. HECO's inflation rate assumption for test year 2009 is reasonable as the
2 May 10, 2008 issue of the Blue Chip Economic Indicators reported that the CPI
3 for 2009 would now increase by 2.5% (see HECO-WP-1708, page 2).
- 4 Q. Has the Commission allowed the use of inflation factors in determining projected
5 expenses in previous rate case decisions?
- 6 A. Yes. In previous decisions, including HECO's 2005 and 2007 test year rate cases,
7 Docket Nos. 04-0113 and 2006-0386, respectively, the Commission approved
8 expenses that were derived from the inflation factors and the parties to the cases
9 did not object to the general inflation factors used by the Company.
- 10 Q. Has the Company provided a list of activities where the inflation factor was used,
11 as requested by the Consumer Advocate in prior cases?
- 12 A. Yes. HECO-1708 provides a list of activities where the general inflation factor
13 was used in the Company's budgeting tool to determine the non-labor estimates
14 for the test year.
- 15 Q. How did HECO identify the activities where the inflation factor was used and
16 determine the corresponding budget amounts?
- 17 A. The Company's budgeting tool allows the user to select a data field indicating the
18 use of an "escalator" (general inflation factor). By selecting this "escalator" data
19 field, the budgeting tool will automatically "escalate" the amount budgeted by the
20 "escalation" factor that has been set up in the budgeting tool. The information on
21 HECO-1708, pages 1 through 9, was developed by selecting the budget data that
22 used the "escalation" data field.

1 SUMMARY

2 Q. Please summarize your testimony.

3 A. HECO proposes that its plant additions estimate for 2008 and test year 2009 be
4 based on the total cost of all projects forecast to be placed in service in 2008 and
5 2009, respectively, which results from its current process to develop project
6 estimates.

7 The Company further proposes that three of its properties, the KBPH
8 Pipeline, the Kapolei Substation, and one parcel of land in Campbell Industrial
9 Park, be included in the year end 2009 test year balance of property held for future
10 use.

11 HECO's forecast of plant additions are \$110,220,000 and \$264,679,000 for
12 2008 and test year 2009, respectively. The average balance of property held for
13 future use is \$2,331,000 for the test year. Estimated CIAC cash receipts are
14 \$6,246,000 for 2008 and \$6,754,000 for 2009. In-kind CIAC are estimated to be
15 \$3,864,000 and \$4,204,000 for 2008 and 2009, respectively. Transfers from
16 customer advances to CIAC are \$19,000 for 2008 and \$67,000 for 2009.
17 Customer advance receipts are estimated to be \$105,000 and \$110,000 in 2008
18 and 2009, respectively. The estimates for customer advance refunds are \$119,000
19 for 2008 and \$124,000 for the test year.

20 The Company's estimates for plant additions, property held for future use,
21 contributions in aid of construction, and customer advances, and general wage
22 increase and general inflation factor are reasonable for test year ratemaking
23 purposes. In addition, the Company's budget methodology is reasonable.

24 Q. Does this conclude your testimony?

25 A. Yes, it does.

LORIE ANN NAGATA

EDUCATIONAL BACKGROUND AND EXPERIENCE

Present Employer: Hawaiian Electric Company, Inc.
900 Richards Street, Honolulu, Hawaii 96813

Current Position: Treasurer of Hawaiian Electric Company, Inc.

Treasurer of Maui Electric Company, Limited and
Hawaii Electric Light Company, Inc.

Previous Positions with Present Employer: Manager, Management Accounting
Assistant Treasurer
Director, Management Accounting
Director, Corporate Accounting
Accounting Control Supervisor
Budget Analyst
Financial Accountant

Education: University of Hawaii
Bachelor of Business Administration
Chaminade University
Masters of Business Administration
Stanford University, Graduate School of Business
Financial Management Program

Previous Rate Case Testimony: Docket No. 04-0113 – Plant Additions, Budget Process
Docket No. 6999 – Miscellaneous Administrative and
General Expenses
Docket No. 6998 – Miscellaneous Administrative and
General Expenses

Professional License: Certified Public Accountant

Hawaiian Electric Company, Inc.

2008 and 2009

PLANT ADDITIONS

(\$ Thousands)

	<u>2008</u>	<u>2009</u>	<u>Reference</u>
Projects	\$62,507	\$206,540	HECO-WP-1701
Programs	\$47,712	\$58,139	HECO-WP-1701
Total	<u>\$110,220</u>	<u>\$264,679</u>	

Totals may not add due to rounding.

Hawaiian Electric Company, Inc.

1999 - 2007

PLANT ADDITIONS

(\$ Thousands)

<u>Year</u>	<u>Recorded</u>	<u>Budget</u>	<u>\$ Difference</u>	<u>% Difference</u>
1999	58,898	83,874	-24,976	-30%
2000	75,026	84,612	-9,586	-11%
2001	87,901	55,007	32,894	60%
2002	86,271	77,442	8,829	11%
2003	70,613	89,447	-18,834	-21%
2004	146,577	125,571	21,006	17%
2005	109,530	133,203	-23,673	-18%
2006	131,114	171,836	-40,722	-24%
2007	106,095	110,074	-3,979	-4%
1999-2007	<u>872,025</u>	<u>931,066</u>	<u>-59,041</u>	<u>-6%</u>

Hawaiian Electric Company, Inc.
Campbell Industrial Park Generating Station
and Transmission Additions
Plant Additions

Project No.	Description	2008	2009	2010	Total
P0001052	CIP1 CEIP Substation Mod	620,572	3,966		624,538
P0001135	CIP1 Unit Addition-Microwave	759,695			759,695
P0001137	CIP1 Unit Addition-Kalaeloa	178,574			178,574
P0001340	CIP1 Unit Addition-Easements	6,185,183			6,185,183
P0001585	CIP1 Land - Gen Station	1,261,761			1,261,761
P0001050	CIP1 AES-CEIP#2 Trans Line		5,192,149		5,192,149
P0001051	CIP1 AES Substation Add		3,110,097		3,110,097
P0001134	CIP1 Unit Addition-Fiber		503,051		503,051
P0001136	CIP1 Unit Addition-Kahe Bkrs		1,755,643		1,755,643
P4900000	CIP1 Unit 1 Addition		142,353,685	50,000	142,403,685
	Plant Additions	<u>9,005,785</u>	<u>152,918,591</u>	<u>50,000</u>	<u>161,974,376</u>
P0001084	Parcel between Hanua Street and AES Substation (TMK 9-1-26:38) included in Property Held for Future Use				1,809,875
	Total Project Cost				<u><u>163,784,251</u></u>

HAWAIIAN ELECTRIC COMPANY, INC.

Projects Approved By the Public Utilities Commission
Included In 2008 & 2009 Plant Additions

(\$ THOUSANDS)

<u>DOCKET</u> <u>NO.</u>	<u>D&O</u> <u>NO.</u>	<u>ITEM</u>	<u>DESCRIPTION</u>	<u>Prior</u> <u>Years</u>	<u>ESTIMATED PLANT ADDITIONS *</u>			
					<u>2008</u>	<u>2009</u>	<u>FUTURE</u> <u>YEARS</u>	<u>TOTAL</u>
00-0040	18292	Y00023	Ward Avenue A/C Improvements	8,132	1	-	-	8,133
01-0135	18680	P0000474	Waiialua Sugar Privatization	1,670	2	-	-	1,672
01-0274	20436	P0000507	Kam Highway Resurfacing	2,002	23	-	-	2,025
02-0206	19774	P9539000	Kahe 3 Boiler Controls Upgrade	4,185	37	-	-	4,222
02-0207	19775	P9454000	Kahe 4 Boiler Controls Upgrade	4,611	0	-	-	4,611
02-0413	20089	Y00047	Puuloa Road Widening	1,372	570	-	-	1,942
03-0360	21224	Y00030	New Dispatch Center	26,854	356	-	-	27,210
04-0104	22294	P0000939	Waiiau CT Separation	929	30	-	-	959
04-0278	21692	Y00040	Ford Island Substation	24,510	258	-	-	24,768
04-0350	21993	Y00039	Mamala Substation	7,425	14	-	-	7,439
05-0056	22001	Y00044	Ko Olina Substation	-	5,019	-	-	5,019
05-0145	23457	Y49000	CIP1 Generation Addition	-	9,006	152,919	50	161,975
05-0146	23514	Y00064	CIP-Community Benefits Package	-	789	1,173	-	1,962
2007-0409	23915	P0001534	Barbers Point Fuel Oil Tank #131	-	-	4,294	-	4,294

* Total cost of project before reduction for CIAC, if any.

Hawaiian Electric Company, Inc.

2008 and 2009

PROPERTY HELD FOR FUTURE USE

(\$ Thousands)

Recorded balance - 12/31/07	\$3,593
Transfer Parcel No. 39 (tax map key 9-1-26:39) to Utility Plant in Service for Campbell Industrial Park Generating Station	(\$1,262)
Estimated balance - 12/31/08	\$2,331
No Estimated Changes in 2009	
Estimated balance - 12/31/09	\$2,331

Hawaiian Electric Company, Inc.

2008 and 2009

PROPERTY HELD FOR FUTURE USE

(\$ Thousands)

<u>Name of Site</u>	<u>Size</u>	<u>Tax Map Key</u>	<u>Year Acquired</u>	<u>Proposed Service Date</u>	<u>Purchase Price</u>
Kalaeloa-Barbers Point Harbor Pipeline	----	9-1-14:08	1991	----	\$ 517
Campbell Industrial Park Generating Station	2.045 acres	9-1-26:39	2007	July 2009	\$1,262
Campbell Industrial Park Generating Station	1.76 acres	9-1-26:38	2007	Post 2009	\$1,810
Kapolei Substation	1.112 acres	9-1-16:90	2006	2011	\$ 4

Hawaiian Electric Company, Inc.
2008 and 2009
CONTRIBUTIONS IN AID OF CONSTRUCTION
(\$ Thousands)

	<u>2008</u>	<u>2009</u>	<u>Reference</u>
Contributions in aid of construction:			
In-Kind	<u>\$ 3,864</u>	<u>\$ 4,204</u>	HECO-WP-1706
Cash CIAC:			
Customer Installations	\$ 3,446	\$ 3,542	HECO-WP-1706
Energy Delivery	<u>\$ 2,800</u>	<u>\$ 3,212</u>	HECO-WP-1706
Total	<u>\$ 6,246</u>	<u>\$ 6,754</u>	HECO-WP-1706
Customer Advances:			
Receipts	\$ 105	\$ 110	
Refunds	\$ (119)	\$ (124)	
Transfers	\$ (19)	\$ (67)	

Hawaiian Electric Company, Inc.

2008 and 2009

CUSTOMER ADVANCES

(\$ Thousands)

		<u>Reference</u>
Recorded balance - 12/31/07	\$ 921	
2008:		
Receipts	105	HECO-WP-1707
Refunds	(119)	HECO-WP-1707
Transfers to CIAC	<u>(19)</u>	HECO-WP-1707
Estimated balance - 12/31/08	<u>\$ 888</u>	
2009:		
Receipts	110	HECO-WP-1707
Refunds	(124)	HECO-WP-1707
Transfers to CIAC	<u>(67)</u>	HECO-WP-1707
Estimated balance - 12/31/09	<u>\$ 807</u>	
Average 2009 balance	<u>\$ 848</u>	

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	(A) 2009 Costs Using Specific Cost Indices (Note 1)	(B) 2009 Costs Using 2.50% General Inflator	HECO- 1708, Page	(C) = (A) + (B) 2009 Budget
Production Operations	14,418,241	-		14,418,241
Production Maintenance	26,773,285	31,520	2	26,804,805
Transmission Operations	1,817,283	369,815	3	2,187,098
Transmission Maintenance	1,658,693	1,784,455	4	3,443,149
Distribution Operations	3,449,158	431,925	5	3,881,082
Distribution Maintenance	2,266,198	5,056,824	7	7,323,023
Customer Accounts	9,239,003	-		9,239,003
Customer Service	24,009,954	-		24,009,954
A&G Operations	73,771,529	108,935	8	73,880,465
A&G Maintenance	<u>351,837</u>	<u>18,450</u>	9	<u>370,287</u>
Total O&M - Non-Labor (Note 2)	157,755,182	7,801,925		165,557,107
Total O&M - Labor (Note 3)				75,034,879
Total O&M - Labor/Non-Labor On-Costs				30,904,413
Total O&M - A&G/Emp Ben Transferred to Constr/Other				<u>(18,475,425)</u>
Total O&M - per HECO-WP-101				253,020,973

Note 1 - i.e., - Negotiated Contract, Lease Agreement, Other Cost Indices

Note 2 - Excludes Non-Labor On-costs

Note 3 - Excludes Labor On-costs

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

<u>Block of Account</u>	<u>NARUC Account</u>	<u>RA</u>	<u>Activity</u>	<u>Location</u>	<u>Indicator</u>	<u>Project</u>	<u>Expense Element</u>	<u>2009 Amount</u>	<u>General Inflator</u>
Production	551	PNG	210	PDG	NE	NPASVP7Z	501	15,761	2.50%
Maintenance	551	PNG	210	PDG	NE	NPASVP7Z	506	<u>15,759</u>	2.50%
								31,520	

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflator
Transmission	561	PRE	376	OAH	NE	NPRZZZZZ	201	2,206	2.50%
Operations	561	PRE	376	OAH	NE	NPRZZZZZ	462	2,101	2.50%
	561	PRE	376	OAH	NE	NPRZZZZZ	501	21,853	2.50%
	562	PRC	333	OAH	NE	NPRZZZZZ	201	2,105	2.50%
	563	PDS	328	OAH	NE	P0000361	201	14,006	2.50%
	563	PDS	328	OAH	NE	P0000361	501	212,751	2.50%
	563	PDS	328	OAH	NE	P0000361	505	86,751	2.50%
	563	PDS	328	OAH	NE	P0000362	201	2,518	2.50%
	563	PDS	328	OAH	NE	P0000362	501	5,092	2.50%
	563	PDS	328	OAH	NE	P0000362	505	8,591	2.50%
	564	PDS	329	OAH	NE	P0000361	201	220	2.50%
	564	PDS	329	OAH	NE	P0000361	501	3,514	2.50%
	564	PDS	329	OAH	NE	P0000361	505	1,433	2.50%
V	566	PRE	326	OAH	NE	NPRZZZZZ	201	<u>6,672</u>	2.50%
								369,815	

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflator
Transmission	569	PVL	351	OAH	NE	NPVZZZZZ	205	2,460	2.50%
Maintenance	571	PDP	341	OAH	NE	P0000127	201	7,350	2.50%
	571	PDP	341	OAH	NE	P0000127	501	157,595	2.50%
	571	PDS	342	OAH	NE	P0000360	201	13,969	2.50%
	571	PDS	342	OAH	NE	P0000360	501	1,185	2.50%
	571	PDS	342	OAH	NE	P0000360	505	6,606	2.50%
	571	PDS	342	OAH	NE	P3401000	201	1,610	2.50%
	571	PDS	342	OAH	NE	P3401000	501	22,398	2.50%
	571	PDS	342	OAH	NE	P3401000	505	11,464	2.50%
	571	PDS	342	OAH	NE	P3402000	201	4,773	2.50%
	571	PDS	342	OAH	NE	P3402000	501	81,474	2.50%
	571	PDS	342	OAH	NE	P3402000	505	7,020	2.50%
	571	PDS	344	OAH	NE	P0000124	201	6,603	2.50%
	571	PDS	344	OAH	NE	P0000124	501	4,201	2.50%
	571	PDS	344	OAH	NE	P0000124	505	3,975	2.50%
	571	PDS	355	OAH	NE	P0000361	501	64,761	2.50%
	571	PDS	360	OAH	NE	P0000124	201	134	2.50%
	571	PDV	355	OAH	NE	P0000126	501	1,365,300	2.50%
	572	PDS	347	OAH	NE	P0000122	201	1,254	2.50%
	572	PDS	347	OAH	NE	P0000122	501	1,175	2.50%
	572	PDS	347	OAH	NE	P0000122	505	697	2.50%
V	572	PVL	347	OAH	NE	NPVZZZZZ	205	<u>18,450</u>	2.50%
								1,784,455	

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflatior
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflatior
Distribution	581	PRE	377	OAH	NE	NPRZZZZZ	501	62,344	2.50%
Operations	583	PDS	458	OAH	NE	P0000361	201	3,802	2.50%
	583	PDS	458	OAH	NE	P0000361	501	59,204	2.50%
	583	PDS	458	OAH	NE	P0000361	505	23,552	2.50%
	583	PDS	458	OAH	NE	P0000362	201	1,864	2.50%
	583	PDS	458	OAH	NE	P0000362	501	3,769	2.50%
	583	PDS	458	OAH	NE	P0000362	505	6,356	2.50%
	584	PDS	459	OAH	NE	P0000361	201	663	2.50%
	584	PDS	459	OAH	NE	P0000361	501	10,076	2.50%
	584	PDS	459	OAH	NE	P0000361	505	4,108	2.50%
	584	PDS	459	OAH	NE	P0000362	201	159	2.50%
	584	PDS	459	OAH	NE	P0000362	501	320	2.50%
	584	PDS	464	OAH	NE	P0000361	201	367	2.50%
	584	PDS	464	OAH	NE	P0000361	501	153,750	2.50%
	584	PDS	464	OAH	NE	P0000361	501	5,720	2.50%
	584	PDS	464	OAH	NE	P0000361	505	2,332	2.50%
	584	PDS	464	OAH	NE	P0000362	505	541	2.50%
	588	PDF	600	OAH	NE	P0000740	201	83,626	2.50%
	588	PDF	600	OAH	NE	P0000740	501	5,379	2.50%
	588	PRE	456	OAH	NE	NPRZZZZZ	201	3,782	2.50%
V	588	PRE	456	OAH	NE	NPRZZZZZ	501	<u>210</u>	2.50%

431,925

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflator
Distribution	591	PVL	488	OAH	NE	NPVZZZZZ	205	2,460	2.50%
Maintenance	593	PDP	471	OAH	NE	P0000127	201	24,169	2.50%
	593	PDP	471	OAH	NE	P0000127	501	682,910	2.50%
	593	PDS	440	OAH	NE	P1510000	201	20	2.50%
	593	PDS	442	OAH	NE	P1580000	201	1,916	2.50%
	593	PDS	473	OAH	NE	P0000360	201	37,760	2.50%
	593	PDS	473	OAH	NE	P0000360	501	3,215	2.50%
	593	PDS	473	OAH	NE	P0000360	505	17,852	2.50%
	593	PDS	473	OAH	NE	P3400000	201	54,956	2.50%
	593	PDS	473	OAH	NE	P3400000	501	7,958	2.50%
	593	PDS	473	OAH	NE	P3400000	505	35,609	2.50%
	593	PDS	475	OAH	NE	P0000123	201	27,636	2.50%
	593	PDS	475	OAH	NE	P0000123	501	16,441	2.50%
	593	PDS	475	OAH	NE	P0000123	505	63,230	2.50%
	593	PDS	494	OAH	NE	P0000361	501	31,897	2.50%
	593	PDS	500	OAH	NE	P0000123	201	1,119	2.50%
	593	PDS	500	OAH	NE	P0000123	501	681	2.50%
	593	PDS	500	OAH	NE	P0000123	505	2,542	2.50%
	593	PDV	494	OAH	NE	P0000126	501	3,159,050	2.50%
	594	PDS	416	OAH	NE	P1990000	501	7,364	2.50%
	594	PDS	448	OAH	NE	P1820000	201	187	2.50%
	594	PDS	476	OAH	NE	P1810000	201	4,415	2.50%
	594	PDS	476	OAH	NE	P1810000	501	17,123	2.50%
	594	PDS	476	OAH	NE	P1810000	505	1,665	2.50%
	594	PDS	476	OAH	NE	P1810000	506	4,790	2.50%
	594	PDS	478	OAH	NE	P0000122	201	234,535	2.50%
	594	PDS	478	OAH	NE	P0000122	501	178,388	2.50%
	594	PDS	478	OAH	NE	P0000122	505	334,312	2.50%
	594	PDS	501	OAH	NE	P0000122	201	6,269	2.50%
	594	PDS	501	OAH	NE	P0000122	501	5,867	2.50%
	594	PDS	501	OAH	NE	P0000122	505	3,489	2.50%
	595	PDS	479	OAH	NE	P1789000	201	418	2.50%
	595	PDS	479	OAH	NE	P1789000	505	590	2.50%
	595	PDS	481	OAH	NE	P0000120	201	597	2.50%

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflator
Distribution	595	PDS	481	OAH	NE	P0000120	501	2,471	2.50%
Maintenance	595	PDS	481	OAH	NE	P0000120	505	2,192	2.50%
	595	PDS	481	OAH	NE	P0000120	508	333	2.50%
	595	PDS	482	OAH	NE	P1793000	201	2,042	2.50%
	595	PDS	482	OAH	NE	P1793000	501	1,205	2.50%
	595	PDS	482	OAH	NE	P1793000	505	1,021	2.50%
	595	PDS	484	OAH	NE	P0000121	201	3,605	2.50%
	595	PDS	484	OAH	NE	P0000121	501	5,219	2.50%
	595	PDS	484	OAH	NE	P0000121	505	1,694	2.50%
	595	PDS	484	OAH	NE	P0000359	201	6,063	2.50%
	595	PDS	484	OAH	NE	P0000359	501	5,331	2.50%
	595	PDS	484	OAH	NE	P0000359	505	21,044	2.50%
	595	PDS	505	OAH	NE	P0000121	201	401	2.50%
	595	PDS	505	OAH	NE	P0000121	501	580	2.50%
	595	PDS	505	OAH	NE	P0000121	505	188	2.50%
	595	PVL	481	OAH	NE	NPVZZZZZ	205	7,688	2.50%
V	598	PVL	492	OAH	NE	NPVZZZZZ	205	<u>24,317</u>	2.50%
								5,056,824	

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflator
A & G Operation	921	PVL	842	PHE	NE	NPVZZZZZ	205	2,460	2.50%
	921	PVL	931	PHE	NE	NPVZZZZZ	501	12,300	2.50%
	925	PVL	795	PHE	NE	NPVZZZZZ	205	4,920	2.50%
	9302	PJB	753	PHE	NE	P0001170	201	65,906	2.50%
	9302	PJW	753	PHE	NE	P0001168	201	800	2.50%
V	9302	PJW	753	PHE	NE	P0001168	508	<u>22,550</u>	2.50%
								108,935	

Hawaiian Electric Company, Inc.
Operations & Maintenance Non-Labor Costs
Use of General Inflator
2009

Block of Account	NARUC Account	RA	Activity	Location	Indicator	Project	Expense Element	2009 Amount	General Inflator
A & G Maintenance	932	PVL	932	WRD	NE	NPVZZZZZ	205	<u>18,450</u>	2.50%
								18,450	

TESTIMONY OF
DARREN DOI

SENIOR FINANCIAL ANALYST
FINANCIAL ANALYSIS
MANAGEMENT ACCOUNTING AND FINANCIAL SERVICES
HAWAIIAN ELECTRIC COMPANY, INC.

Subject: Rate Base

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1 CIP1 Generating Unit costs¹). The second step is a Step Increase based on the
2 return on investment of the CIP1 Generating Unit Step, including the full cost of
3 the 2009 CIP1 Generating Unit plant additions in the 2009 net cost of plant
4 balance. It also includes the related accumulated deferred income tax and
5 unamortized investment tax credit balances, and associated production operations
6 and maintenance expenses, employee benefits and payroll taxes. This second step
7 is to be effective on the in service date of the CIP1 Generating Unit. The CIP1
8 Generating Unit Step Increase and the Interim Increase (without CIP1 Generating
9 Unit) being proposed are discussed by Mr. Robert Alm in HECO T-1 and further
10 discussed by Mr. William Bonnet in HECO T-23. Within my testimony I will
11 describe, in more detail, the individual rate base components and working cash
12 impacts related to the CIP1 Generating Unit Step Increase and the Interim
13 Increase (without CIP1 Generating Unit).

14 A reconciliation of the test year 2009 average rate base balance at proposed
15 rates for the CIP1 Generating Unit at full cost and at the Interim Increase (without
16 CIP1 Generating Unit) is provided at HECO-1801(b) and HECO-1801(c). Also
17 included in this exhibit is a reconciliation to the unadjusted test year average rate
18 base balances (referenced as “base case”).

19 Q. What is rate base?

20 A. Rate base is the net investment that is used or useful for public utility purposes
21 that has been funded by investors. Consistent with §269-16(b) of the Hawaii
22 Revised Statutes which requires “...a fair return on the property of the utility
23 actually used or useful for public utility purposes”, investors should have the
24 opportunity to earn a fair rate of return on rate base.

¹ The Interim Increase includes certain 2008 plant additions associated with the CIP1 Generating Unit project.

1 Rate Base Calculation

2 Q. How is the rate base calculated in this docket?

3 A. For the 2009 test year, the Company calculated an average rate base which is the
4 sum of the average balances of “investments in assets” less the sum of the average
5 balances of “funds from non-investors.” I will define these terms later in my
6 testimony.

7 HECO generally calculates the test year rate base in accordance with the
8 concepts adopted by the Commission in prior rate case decisions, including the
9 stipulation of the Parties in the Stipulated Settlement Letter filed September 5,
10 2007 (“HECO 2007 Stipulation”) and Interim Decision and Order No. 23749
11 (dated October 22, 2007) in Docket No. 2006-0386 (“HECO 2007 Interim
12 Decision”), HECO’s test year 2007 rate case; the stipulation of the Parties
13 (“HECO 2005 Stipulation”) and Decision and Order No. 24171 (dated May 1,
14 2008) in Docket No. 04-0113 (“HECO 2005 Decision”), HECO’s test year 2005
15 rate case; Decision and Order No. 14412 (dated December 11, 1995) in Docket
16 No. 7766 (“HECO 1995 Decision”), HECO’s test year 1995 rate case; and
17 Decision and Order No. 13704 (dated December 28, 1994) as amended by Order
18 No. 13718 (dated January 5, 1995) in Docket No. 7700, HECO’s test year 1994
19 rate case.

20 Q. How are the average balances for the rate base items calculated?

21 A. The average balance of each of the components of rate base is equal to the sum of
22 the estimated 2008 and estimated 2009 year-end balances divided by two. Within
23 my testimony, I will describe the calculation of the 2008 and 2009 year-end
24 balances for each rate base item or will reference the appropriate HECO witness.

1 INVESTMENTS IN ASSETS

2 Q. What are investments in assets?

3 A. Investments in assets include all investments necessary to provide reliable electric
4 service. Both investors and non-investors pay for these investments.

5 Q. What items are included in investments in assets?

6 A. The investments in assets include:

7 1) net cost of plant in service,

8 2) property held for future use,

9 3) fuel inventory,

10 4) materials and supplies inventories,

11 5) unamortized net Statement of Financial Accounting Standards (“SFAS”)

12 109 regulatory asset,

13 6) unamortized system development costs,

14 7) unamortized reverse osmosis (“RO”) water pipeline regulatory asset,

15 8) asset retirement obligation (“ARO”) regulatory asset, and

16 9) working cash.

17 Q. Are there rate base components that HECO proposes to include in the test year
18 rate base that were not included in any prior HECO rate cases?

19 A. Yes. HECO did not previously forecast or include the unamortized RO water
20 pipeline regulatory asset. I will discuss this component later in my testimony.

21 1) Net Cost of Plant in Service

22 Q. What is the test year estimate of the average net cost of plant in service?

23 A. The estimated average net cost of plant in service for the test year 2009 is
24 \$1,545,465,000 for the CIP1 Generating Unit Step Increase and \$1,392,546,000

1 for the Interim Increase (without CIP1 Generating Unit) as shown on HECO-1802
2 and HECO-1802(a).

3 Q. Please describe net cost of plant in service.

4 A. Net cost of plant in service is comprised of the gross plant in service less
5 accumulated depreciation.

6 Q. What is gross plant in service?

7 A. The gross plant in service is the original cost of plant assets. The original cost of
8 plant assets includes the cost of equipment, construction and all other costs
9 necessary for the projects and investments to be used or useful for public utility
10 purposes.

11 Q. What is accumulated depreciation?

12 A. Accumulated depreciation is the cumulative amount of depreciation that has been
13 expensed in the past. Depreciation is the allocation of a portion of the original
14 cost of the asset to each period in the estimated useful life of an asset. Part of the
15 accumulated depreciation is reclassified as a cost of removal regulatory liability
16 for financial reporting purposes, and part of the cost of removal regulatory
17 liability is reclassified as asset retirement obligations for financial reporting
18 purposes. Mr. Bruce Tamashiro discusses the details of depreciation, accumulated
19 depreciation, and the associated financial reporting reclassifications in HECO
20 T-14.

21 Q. Why is accumulated depreciation deducted from the original cost of assets?

22 A. Since the Company recovers depreciation through its revenues, it has already
23 recovered the accumulated depreciation amount; therefore investors do not need to
24 earn a return on this.

1 Q. How was the estimated average net cost of plant in service calculated for the CIP1
2 Generating Unit Step Increase?

3 A. The starting point was the recorded net cost of plant in service at
4 December 31, 2007. That amount was derived by subtracting accumulated
5 depreciation and the regulatory liability for removal costs from gross plant in
6 service at December 31, 2007. HECO made the following adjustments for the
7 2008 estimates:

- 8 1) Add net plant additions (additions including in-kind contributions in aid of
9 construction (“CIAC”) presented by Ms. Lorie Nagata in HECO T-17)
- 10 2) Add costs of removal (presented by Mr. Bruce Tamashiro in HECO T-14),
- 11 3) Subtract salvage value (presented by Mr. Bruce Tamashiro in HECO T-14),
12 and
- 13 4) Subtract depreciation accrual (presented by Mr. Bruce Tamashiro in HECO
14 T-14).

15 This net amount was the estimated net cost of plant in service at December 31,
16 2008. The process was then repeated for the 2009 test year after including the
17 estimated full cost of the CIP1 Generating Unit plant additions to the January 1,
18 2009 net cost of plant in service balance.

19 The average net cost of plant in service was calculated by dividing the sum
20 of the estimated 2009 beginning of year balance and the 2009 end of year balance
21 by two.

22 Q. Why is HECO proposing to include the full cost of the test year CIP1 Generating
23 Unit plant additions in the average net cost of plant in service balance?

1 A. HECO is including the estimated \$152,919,000 (HECO-1703) cost of the 2009
2 CIP1 Generating Unit plant additions to avoid distorting its ongoing revenue
3 requirements.

4 Q. Why is it necessary to adjust the average rate base in this manner in the CIP1
5 Generating Unit Step Increase?

6 A. The underlying philosophy of the rate setting process necessitates the use of this
7 proposed adjustment to the rate base in this case. Ratemaking assumes that
8 electric rates set on the basis of test year results will provide adequate revenues to
9 cover the expenses of providing electric service and providing both a return of the
10 investment and a return on the investment in assets serving customers.

11 Adjusting the rate base in this manner in the CIP1 Generating Unit Step
12 Increase allows HECO the opportunity to earn a reasonable rate of return on the
13 total test year investment of the CIP1 Generating Unit, from the moment it goes
14 into service onward.

15 The CIP1 Generating Unit is scheduled to be placed in service July 31,
16 2009. Under a test year average rate base calculation (reference base case), the
17 cost of the 2009 CIP1 Generating Unit plant additions would only be added to the
18 2009 year-end cost of plant in service balance. The test year average rate base
19 would reflect only one-half (\$76 million) of HECO's estimated \$153 million
20 invested for the CIP1 Generating Unit. This is illustrated in HECO-1802(b).
21 Upon being placed in service the CIP1 Generating Unit will be fully operational
22 and will be servicing customers, yet HECO would not have the opportunity to
23 earn a reasonable rate of return on its actual investment.

24 Therefore, including the full cost of the 2009 CIP1 Generating Unit plant
25 additions in rate base in the CIP1 Generating Unit Step Increase, is necessary to

1 allow HECO the meaningful opportunity to earn a fair return on 100% on its 2009
2 investment in the CIP1 Generating Unit when it becomes fully operational. The
3 CIP1 Generating Unit Step Increase is discussed by Mr. Robert Alm in HECO T-1
4 and Mr. William Bonnet in HECO T-23.

5 Q. Please describe how the 2009 CIP1 Generating Unit plant additions impact the
6 average net cost of plant in service at the Interim Increase (without CIP1
7 Generating Unit)?

8 A. At the Interim Increase (without CIP1 Generating Unit), HECO proposes to
9 exclude the 2009 CIP1 Generating Unit plant additions from the calculation of the
10 average net cost of plant in service. HECO proposed the Interim Increase
11 (without CIP1 Generating Unit) be implemented prior to the CIP1 Generating
12 Unit being fully operational. As the CIP1 Generating Unit is not fully operational
13 at the Interim Increase, the Company should not be allowed the opportunity to
14 earn a return on its investment. Therefore, the Company has excluded the 2009
15 CIP1 Generating Unit plant additions from the calculation of the average net cost
16 of plant in service as shown on HECO-1802(a). The Interim Increase (without
17 CIP1 Generating Unit) is discussed by Mr. Robert Alm in HECO T-1 and Mr.
18 William Bonnet in HECO T-23.

19 For reference, the average net cost of plant in service at base case is shown
20 on HECO-1802(b).

21 Q. Why is the net cost of plant in service included in rate base?

22 A. The net cost of plant in service represents the Company's unrecovered investment
23 in plant necessary to provide electric service.

24 Q. Did the Commission allow the inclusion of net cost of plant in service in rate base
25 in prior HECO rate case decisions?

1 A. Yes. For example, the Commission included net cost of plant in service in
2 determining rate base in the HECO 2005 Decision as well as in the HECO 2007
3 Interim Decision.

4 2) Property Held for Future Use

5 Q. What is the test year estimate of the average property held for future use?

6 A. Average property held for future use for test year 2009 is \$2,331,000 as shown on
7 HECO-1801.

8 Q. What is property held for future use?

9 A. Property held for future use is property owned by HECO and held for future utility
10 purposes. Ms. Lorie Nagata explains the details and calculation of property held
11 for future use in HECO T-17.

12 Q. Why is property held for future use included in rate base?

13 A. Property held for future use represents the Company's investment in property
14 needed to provide electric service in the future. The smooth operation of the
15 utility sometimes requires the acquisition of property before it is needed.

16 Q. Did the Commission allow the inclusion of property held for future use in rate
17 base in prior HECO rate cases?

18 A. Yes. For example, the Commission included property held for future use in
19 determining rate base in the HECO 2005 Decision as well as in the HECO 2007
20 Interim Decision.

21 3) Fuel Inventory

22 Q. What is the test year estimate of the average fuel inventory?

23 A. The estimated average fuel inventory for test year 2009 is \$82,683,000, as shown
24 on HECO-1801.

1 Q. What is fuel inventory?

2 A. Fuel inventory is the Company's investment in a supply of fuel held in inventory.
3 Mr. Ronald Cox explains the details of fuel inventory in HECO T-5.

4 Q. Why is fuel inventory included in rate base?

5 A. An investment in fuel inventory is required to ensure a sufficient supply of fuel for
6 the Company's power plants so that HECO can provide reliable electric service to
7 its customers.

8 Q. Did the Commission allow the inclusion of fuel inventory in rate base in prior
9 HECO rate cases?

10 A. Yes. For example, the Commission included fuel inventory in determining rate
11 base in the HECO 2005 Decision as well as in the HECO 2007 Interim Decision.

12 4) Materials and Supplies Inventories

13 Q. What is the test year estimate of the average materials and supplies inventories?

14 A. The estimated average materials and supplies inventories for both production and
15 transmission and distribution for test year 2009 is \$16,015,000, as shown on
16 HECO-1803. The test year estimate includes an adjustment for the payment lag
17 associated with the investment in inventory.

18 Q. What are materials and supplies inventories?

19 A. Materials and supplies inventories include production inventory and transmission
20 and distribution inventory. Mr. Dan Giovanni in HECO T-7 and Mr. Robert
21 Young in HECO T-8 discuss in detail the inventories of their respective areas and
22 how they calculated the 2008 and 2009 year-end balances before the adjustment
23 for payment lag.

1 Q. Why does the inventory balance include an adjustment for the payment lag?

2 A. In the HECO 1995 Decision, the Commission determined that materials and
3 supplies inventory should be adjusted to reflect the payment lag associated with
4 goods received but not yet paid for by the Company.

5 Q. How was the payment lag associated with inventory determined?

6 A. The payment lag days presented in this rate case were previously presented in the
7 HECO 2007 test year rate case (Docket No. 2006-0386) and originally in the
8 HECO 2005 test year rate case (Docket No. 04-0113). In the 2005 test year rate
9 case, HECO did a study of payments for inventory purchases to determine the
10 length of time between when inventory is received and when payment is made.
11 HECO tested a sample of 2003 inventory purchases and determined the payment
12 lag for each item. Then, HECO calculated the dollar-weighted average days for
13 the sample. The study is summarized on HECO-WP-1803, page 3.

14 Q. Why is it appropriate to use the payment lag days that were determined in the
15 2005 test year rate case?

16 A. The Company determined that there were no significant changes from the 2005
17 test year rate case to internal processes and procedures over invoice review and
18 payment. As there were no significant changes which would impact the
19 calculation of the payment lag days, the number of payment lag days calculated in
20 the 2005 test year rate case should reasonably represent the number of payment
21 lag days in the 2009 test year.

22 Q. What was the result of the inventory payment lag study?

23 A. The payment lag days are approximately 19.5 days.

24 Q. How are the results of the inventory payment lag study used in determining the
25 adjustment to the materials and supplies inventory?

- 1 A. The adjustment to the materials and supplies inventory is calculated by
2 multiplying the forecasted daily additions to inventory for the 2009 test year by
3 the inventory payment lag days of 19.5 days. The calculation of the inventory
4 adjustment is shown on HECO-WP-1803, page 1.
- 5 Q. What is the test year payment lag adjustment to the materials and supplies
6 inventory?
- 7 A. The estimated payment lag adjustment to the materials and supplies inventory for
8 test year 2009 is \$1,007,000, comprised of a \$405,000 adjustment to production
9 inventory and a \$601,000 adjustment to transmission and distribution inventory as
10 shown on HECO-1803.
- 11 Q. How does the payment lag adjustment to inventory affect the payment lag
12 included in the working cash calculation that you discuss later in your testimony?
- 13 A. In theory, the operations and maintenance (“O&M”) non-labor payment lag,
14 assuming that inventory is adjusted for the payment lag, is shorter than if the
15 inventory payment lag had been accounted for in the O&M non-labor payment
16 lag. Since the inventory balance represents only that portion of inventory that has
17 been paid for, the working cash related to O&M non-labor reflects inventory
18 charges to O&M from the “paid-up” inventory balance. O&M charges from
19 inventory therefore have no payment lag in the current lead-lag study in
20 HECO-WP-1806.
- 21 Q. Why are materials and supplies inventories included in rate base?
- 22 A. An investment in an adequate supply of materials and supplies is necessary to
23 ensure that the Company can effectively operate and maintain its electrical system
24 to provide continuous and reliable service to its customers.

1 Q. Did the Commission allow the inclusion of materials and supplies inventory in
2 rate base in prior HECO rate cases?

3 A. Yes. For example, the Commission included materials and supplies inventory in
4 determining rate base in the HECO 2005 Decision as well as in the HECO 2007
5 Interim Decision.

6 5) Unamortized Net SFAS 109 Regulatory Asset

7 Q. What is the test year estimate of average net SFAS 109 regulatory asset?

8 A. The estimate for the unamortized net SFAS 109 regulatory asset is \$61,310,000,
9 as shown on HECO-1801.

10 Q. What is the unamortized net SFAS 109 regulatory asset?

11 A. As described by Mr. Lon Okada in HECO T-16, the net regulatory asset is an
12 accounting asset that came about due to the reporting requirements of SFAS 109.

13 Q. How was the average unamortized net SFAS 109 regulatory asset calculated?

14 A. Mr. Okada describes the calculation of the average unamortized net SFAS 109
15 regulatory asset in HECO T-16.

16 Q. Why is the unamortized net SFAS 109 regulatory asset included in rate base?

17 A. As explained by Mr. Lon Okada in HECO T-16, SFAS 109 requires the debt
18 portion of the Allowance for Funds used during Construction (“AFUDC”), as well
19 as any other item previously recorded on a net-of-tax basis, to be calculated and
20 capitalized on a gross-of-tax basis. As a result, plant in service would have
21 increased by the tax effect of the debt portion of AFUDC. However, instead of
22 increasing plant in service, SFAS 109 requires this gross-up adjustment to a
23 regulatory asset, with the offsetting credit to the deferred income tax liability
24 account. Because the regulatory asset is offset by the corresponding increase in
25 deferred taxes, there is no net rate base impact.

1 Q. Did the Commission allow the inclusion of unamortized net SFAS 109 regulatory
2 asset in rate base in prior HECO rate cases?

3 A. Yes. For example, the Commission included unamortized net SFAS 109
4 regulatory asset in determining rate base in the HECO 2005 Decision as well as in
5 the HECO 2007 Interim Decision.

6 6) Unamortized System Development Costs

7 Q. What is the test year estimate of unamortized system development costs?

8 A. The test year estimate of unamortized system development costs is \$17,452,000,
9 as shown on HECO-1801.

10 Q. What is included in unamortized system development costs?

11 A. The unamortized system development costs relate to the Human Resources Suite
12 (“HR Suite”) project as presented by Ms. Julie Price in HECO T-13, the Outage
13 Management System (“OMS”) project as presented by Mr. Robert Young in
14 HECO T-8 and the Customer Information System (“CIS”) project as presented by
15 Mr. Darren Yamamoto in HECO T-9.

16 Q. Why are unamortized system development costs included in rate base?

17 A. In Decision and Order No. 18365, Docket No. 99-0207 (Hawaii Electric Light
18 Co., Inc.’s test year 2000 rate case), the Commission ruled that its pre-approval is
19 required before any computer software development project costs may be deferred
20 and amortized for ratemaking purposes. For the HR Suite project, the Company
21 filed its application in Docket No. 2006-0003 on January 3, 2006, requesting
22 approval of its proposed accounting treatment to defer costs related to the
23 HR Suite project. The Commission issued Decision and Order No. 23413 on
24 May 3, 2007 approving HECO’s proposed accounting and ratemaking treatment.
25 The project is estimated to be completed and in service in April 2009. For the

1 OMS project the Company filed its application on May 28, 2004 in Docket 04-
2 0131. The Commission issued Decision and Order No. 21899 on June 30, 2005
3 approving HECO's proposed accounting and ratemaking treatment. The project
4 was completed and placed in service in July 2007. For the CIS project the
5 Company filed its application on August 4, 2004 in Docket No. 04-0268. The
6 Commission issued Decision and Order No. 21798 on May 3, 2005 approving
7 HECO's proposed accounting and ratemaking treatment. The project is estimated
8 to be completed and in service in May 2009.

9 As presented by Ms. Patsy Nanbu in HECO T-11, the unamortized costs of
10 computer software development projects are similar to the undepreciated costs of
11 capitalized plant and equipment, and should be included in the calculation of rate
12 base. Rate base treatment is appropriate because investors have provided the
13 funds up front to develop the computer software systems which are expected to be
14 in service during the test year. As such, the unamortized system development
15 costs are appropriately included in rate base and allow investors the opportunity to
16 earn a fair return on their investment.

17 Q. Did the Commission allow the inclusion of unamortized system development
18 costs in rate base in prior HECO rate cases?

19 A. Yes. The Commission included unamortized system development cost in
20 determining rate base in the HECO 2007 Interim Decision. In the 2005 test year
21 rate case, because there were no unamortized system development costs (i.e.,
22 unamortized system development costs equaled "0"), no deferred system
23 development costs were reflected in the rate base.

24 7) Unamortized RO Water Pipeline Regulatory Asset

25 Q. What is the test year estimate of the RO water pipeline regulatory asset?

1 A. The test year estimate of the RO water pipeline regulatory asset is \$3,183,000 as
2 shown on HECO-1801.

3 Q. What is the RO water pipeline regulatory asset?

4 A. The RO water pipeline regulatory asset accounts for the portion of the RO water
5 pipeline that will be dedicated to the Board of Water Supply of the City and
6 County of Honolulu ("BWS") upon completion of construction. The BWS will
7 then own, operate and maintain that section of pipeline. Please see Docket No.
8 05-0146 for a more detailed description of the RO water pipeline project.
9 Construction of the RO water pipeline is anticipated to be completed in August
10 2009.

11 Q. How was the average RO water pipeline regulatory asset calculated?

12 A. The average RO water pipeline regulatory asset was calculated by starting with
13 the zero recorded balance at December 31, 2008 and adding the estimated cost of
14 the RO water pipeline that is to be dedicated to BWS, then subtracting the
15 estimated test year amortization. This net amount is the estimated unamortized
16 RO water pipeline regulatory asset balance at December 31, 2009. The average
17 unamortized RO water pipeline regulatory asset is calculated by dividing the sum
18 of the estimated 2008 end of year balance of zero and the 2009 end of year
19 balance by two. This calculation is shown on HECO-1121.

20 Q. Why is the unamortized RO water pipeline regulatory asset included in rate base?

21 A. As explained by Ms. Patsy Nanbu in HECO T-11, the unamortized RO water
22 pipeline regulatory asset represents a portion of the pipeline that will be dedicated
23 to BWS and will no longer be owned, operated or maintained by the Company.
24 However, ratepayers will continue to benefit from the RO water pipeline. Thus,
25 the costs of the section of pipeline dedicated to BWS should be recovered from

1 ratepayers through rates. The effect of including the unamortized balance of the
2 RO water pipeline regulatory asset in rate base mirrors the ratemaking impact if
3 that section of the RO water pipeline continued to be reflected in Plant in Service.
4 Further, the Commission approved this accounting and ratemaking treatment in
5 Decision and Order No. 23514 (dated June 27, 2007) in Docket No. 05-0146.

6 8) ARO Regulatory Asset

7 Q. What is the test year estimate of the ARO regulatory asset?

8 A. The test year estimate of the ARO regulatory asset is \$13,000, as shown on
9 HECO-1804.

10 Q. What is the ARO regulatory asset?

11 A. The ARO regulatory asset represents HECO's cost of removal for certain assets as
12 calculated under Financial Accounting Standards Board ("FASB") Interpretation
13 No. 47, "Accounting for Conditional Asset Retirement Obligation" ("FIN No.
14 47"), adopted in December 2005. FIN No. 47 and the ARO regulatory asset are
15 further described by Mr. Bruce Tamashiro in HECO T-14.

16 Q. How was the average ARO regulatory asset calculated?

17 A. The average ARO regulatory asset was calculated by dividing the sum of the
18 estimated 2008 end of year balance and the 2009 end of year balance by two.

19 Q. Why is the ARO regulatory asset included in rate base?

20 A. As explained by Mr. Bruce Tamashiro in HECO T-14, the recognition of the
21 Company's ARO and inclusion of the ARO regulatory asset has no effect on rate
22 base. In general, upon initial recordation of the ARO, the cost of the asset is
23 increased by the amount of the ARO. Rather than recording depreciation expense
24 or accretion expense as the increased asset cost is depreciated or as the ARO
25 increases, respectively, a regulatory asset is recorded. The net book value of the

1 asset cost related to the ARO plus the regulatory asset related to the depreciation
2 and accretion expense, net of the ARO liability sum to zero.

3 Q. Did the Commission allow the inclusion of the ARO regulatory asset in rate base
4 in prior HECO rate cases?

5 A. Yes. The Commission included the ARO regulatory asset in determining rate
6 base in the HECO 2007 Interim Decision.

7 9) Working Cash

8 Q. What is the test year estimate of working cash at present, current effective and
9 proposed rates?

10 A. The test year estimate of working cash at present, current effective and proposed
11 rates is \$41,721,000, \$41,025,000 and \$40,152,000 for the CIP1 Generating Unit
12 Step Increase as shown on HECO-1806 and HECO-1806(a). The test year
13 estimate of working cash at present, current effective and proposed rates is
14 \$41,575,000, \$40,879,000 and \$40,,000 for the Interim Increase (without CIP1
15 Generating Unit) as shown on HECO-1806(b) and HECO-1806(c).

16 For reference, the test year estimate of working cash at present, current
17 effective and proposed rates for base case is shown on HECO-1806(d) and
18 HECO-1806(e).

19 Q. What is working cash?

20 A. Working cash is the net cash needed for smooth fiscal operations. Working cash
21 is comprised of sources and uses of cash from operations. Electric service
22 provided before customers pay for services is a use of cash. This will be referred
23 to as the revenue collection lag. Goods and services received before suppliers are
24 paid are a source of cash. This will be referred to as the payment lag.

1 Q. Why is working cash included in rate base?

2 A. Working cash is included in rate base because it represents an investment which
3 enables the Company to have sufficient funds to pay suppliers and conduct other
4 business necessary for the provision of electric service to consumers. Inclusion of
5 the working cash investment in rate base recognizes the timing of cash flows
6 through the Company.

7 Q. What are the elements of working cash?

8 A. Working cash is comprised of the net of the revenue collection lag and the
9 payment lags. I will discuss these elements in detail in the following sections.

10 Q. Is the calculation of working cash consistent with the methodology used in prior
11 HECO rate cases?

12 A. Yes. The methodology that I have used to calculate working cash in this rate case
13 is consistent with the methodology used in prior rate cases including HECO's
14 2005 and 2007 test year rate cases. However, I have included certain refinements
15 and modifications which I will discuss in detail in the following sections.

16 Revenue Collection Lag

17 Q. What is the test year estimate of the revenue collection lag days?

18 A. As discussed by Mr. Darren Yamamoto at HECO T-9, the estimated revenue
19 collection lag days for test year 2009 is 37 days.

20 Q. What is a revenue collection lag?

21 A. The revenue collection lag is the time between the provision of electric service
22 and the receipt of cash for that service. This lag represents the average period of
23 time the Company extends credit to its customers for electric service delivered.

1 Q. What is the working cash impact associated with the revenue collection lag?

2 A. The working cash impact associated with the revenue collection lag is the cash
3 needed because services are provided to customers before customers pay for the
4 services.

5 Q. How is the working cash requirement associated with the revenue collection lag
6 calculated?

7 A. The revenue collection lag is net against the payment lag. Then the net payment
8 lag days are applied to each of the payment categories discussed later in my
9 testimony.

10 Q. Why are depreciation and amortization, interest on customer deposits, and
11 operating income excluded from revenues in the revenue collection lag
12 calculation?

13 A. All revenues should be included in the calculation of working cash needs
14 associated with the revenue collection lag. However, the Company recognizes
15 that the Commission has disallowed these items in the determination of working
16 cash needs in previous decisions. Therefore, the Company has excluded these
17 items to simplify the issues and to speed the regulatory process in this case. The
18 Company reserves the right, however, to bring these issues before the
19 Commission in the future.

20 Payment Lag

21 Q. What is a payment lag?

22 A. A payment lag occurs when the Company incurs an obligation to pay for an item
23 or service before the Company actually pays for it. Payment lags can be
24 associated with purchases of goods or services or for payments of costs of doing
25 business, such as taxes.

1 Q. What is the working cash impact associated with the payment lag?

2 A. The working cash impact associated with the payment lag depends on when the
3 Company is required to pay for expenditures. Generally, payments are made after
4 the goods or services have been received. Therefore payment lags are a source of
5 working cash.

6 Q. What is included in the payment lag?

7 A. The payment lag includes six categories:

- 8 1) Fuel purchases,
- 9 2) O&M labor,
- 10 3) O&M non-labor,
- 11 4) Purchased power,
- 12 5) Revenue taxes, and
- 13 6) Income taxes.

14 Q. Why has the Company limited the payment lag to these six items in this docket?

15 A. In general, all payments should be included in the calculation of working cash
16 sources from payment lags. However, the Company has excluded those items that
17 the Commission has excluded in previous decisions in the determination of
18 working cash. Limiting the working cash needs to these six categories of
19 payments is consistent with the working cash calculation reflected in the HECO
20 2005 Decision as well as the HECO 2007 Interim Decision. If all revenues were
21 included in the calculation of the revenue collection lag, it would be appropriate to
22 include all payments in the payment lag calculation.

23 Q. How are the working cash sources calculated for the six categories of payments?

24 A. The working cash sources for the six categories of payments are calculated as
25 follows:

- 1 1. Determine the payment lag days for each category.
- 2 2. Subtract the payment lag days from the revenue collection lag days to
- 3 calculate the net collection lag days.
- 4 3. Estimate the total annual expenditures for the test year for each
- 5 category based on the test year expense estimates.
- 6 4. Determine the average daily expenditures by dividing the total annual
- 7 expenditures for each payment category by 365 days.
- 8 5. Multiply each payment's respective average daily expenditure by its
- 9 net payment lag days.

10 I will describe the working cash calculation for each payment category in the next
11 section.

12 1) Working Cash for Fuel Purchases

13 Q. What is the test year estimate of working cash required for fuel purchases?

14 A. The test year estimate of working cash required for fuel purchases is \$44,332,000,
15 for both the CIP1 Generating Unit Step Increase and the Interim Increase (without
16 CIP1 Generating Unit), as shown on HECO-1806 through HECO-1806(c),
17 columns F and H.

18 Q. What is the test year estimate of fuel purchases?

19 A. The estimated annual amount of fuel purchases is \$809,058,000, for both the CIP1
20 Generating Unit Step Increase and the Interim Increase (without CIP1 Generating
21 Unit) as shown on HECO-1806 through HECO-1806(c), column D.

22 Q. What is the test year estimate of the fuel purchases lag days?

23 A. The test year estimate of the fuel payment lag days is 17, as shown on HECO-
24 1806 through HECO-1806(c), column B.

1 Q. How were the payment lag days for fuel payments calculated?

2 A. The payment lag days for fuel payments were calculated by determining the
3 vendors who will supply fuel, determining the proportions of fuel expense
4 attributable to each vendor, determining the payment lag days for each vendor,
5 and calculating the weighted average payment lag days.

6 Q. How were the vendors who will supply fuel determined?

7 A. The vendors who are expected to supply fuel in the test year were determined
8 based on the contracts for fuel and fuel-related services and discussion with
9 HECO's Fuels Resources Division.

10 Q. What vendors are expected to supply fuel in the test year?

11 A. There are three vendors who are expected to supply fuel in the test year. They
12 include Chevron, Tesoro and Imperium Services, LLC ("Imperium"). The
13 Company entered into a new fuel supply contract with Imperium in 2007 to
14 supply biodiesel beginning in 2009. HECO filed an application with the
15 Commission in Docket No. 2007-0346 on October 18, 2007, requesting approval
16 of the contract. Mr. Ronald Cox discusses fuel inventory in HECO T-5 and
17 Mr. Ross Sakuda discusses fuel expense in HECO T-4.

18 Q. How were the proportions of fuel expense relating to each vendor determined?

19 A. The proportions were determined based on a breakdown by vendor of spot fuel
20 price for each type of fuel and the forecasts of fuel consumption by fuel type.
21 HECO's Fuels Resources Division provided a breakdown by vendor of spot fuel
22 prices for each type of fuel consumed. HECO's Generation Planning Division
23 provided forecasts of fuel consumption by fuel type.

24 Q. How were the payment lag days for each vendor determined?

1 A. The payment lag days for Chevron and Tesoro were determined based on a study
2 of 2005 payments made, which was previously presented in the HECO 2007 test
3 year rate case (Docket No. 2006-0386). The payment lag days for Imperium
4 Services, LLC were determined based on the payment terms in the fuel supply
5 contract.

6 Q. How was the weighted average payment lag days calculated?

7 A. The weighted average payment lag days represent the sum of the proportion for
8 each vendor multiplied by the payment lag. The calculation of fuel payment lag
9 days is shown on HECO-WP-1806, page 1.

10 Q. Is the calculation of the working cash for fuel purchases for the 2009 test year
11 consistent with the method of calculation used in prior HECO rate cases?

12 A. The methodology, including the determination of the payment lag days for the
13 vendors, is consistent with the methodology used in HECO's 2005 and 2007 test
14 year rate cases. In the 2005 test year, HECO used a modified method to
15 determine the payment lag days for Tesoro and Chevron because the amendments
16 extending the contracts were not available at the time the Company conducted the
17 study for the application. New contracts were executed and implemented in 2005.
18 HECO subsequently updated and presented the payment lag days in rebuttal
19 testimony to include available payments as well as a forecast schedule of
20 deliveries and payments for the rest of the test year. Since the same contracts
21 were in effect in 2007, the Company based its test year estimate on 2005 actual
22 payment lag days. Likewise, the Company based its 2009 test year estimate on
23 the 2005 actual payment lag days determined in the 2007 test year rate case.

24 Q. Why is it appropriate to use the payment lag days for Chevron and Tesoro that
25 were determined in the 2007 test year rate case?

1 A. The Company determined that there have been no significant changes from the
2 2007 test year rate case to internal processes and procedures over invoice review
3 and payment. In addition, there have been no contract amendments or significant
4 changes noted in the contract terms which would impact the calculation of the
5 payment lag days. The number of payment lag days calculated in the 2007 test
6 year rate case is reasonably representative of the number of payment lag days
7 expected for the 2009 test year.

8 2) Working Cash for O&M Labor

9 Q. What is the test year estimate of working cash required for O&M labor?

10 A. The test year estimate of working cash required for O&M labor is \$7,282,000 for
11 the CIP1 Generating Unit Step Increase as shown on HECO-1806 and HECO-
12 1806(a), columns F and H and \$7,198,000 for the Interim Increase (without CIP1
13 Generating Unit) as shown on HECO-1806(b) and HECO-1806(c), column F
14 and H.

15 Q. What is the test year estimate of O&M labor?

16 A. The estimated annual amount of O&M labor is \$102,228,000 for the CIP1
17 Generating Unit Step Increase as shown on HECO-1806 and HECO-1806(a),
18 column D and \$101,045,000 for the Interim Increase (without CIP1 Generating
19 Unit) as shown on HECO-1806(b) and HECO-1806(c), column D.

20 Q. What is the test year estimate of the O&M labor payment lag days?

21 A. The test year estimate of the O&M labor payment lag days is 11 days, as shown
22 on HECO-1806 through HECO-1806(c), column B.

23 Q. How were the payment lag days for O&M labor calculated?

24 A. The payment lag days for O&M labor were calculated by determining the
25 proportions of significant types of disbursements for labor, determining the

1 payment lag days for each type of disbursement, and calculating the weighted
2 average payment lag days.

3 Q. What are the significant types of labor disbursements?

4 A. The significant types of labor disbursements are payments to employees by check
5 or direct deposit (including deposits to employees' credit union accounts), to the
6 federal government for federal income tax withholding and for Federal Insurance
7 Contribution Act and Medicare taxes ("FICA"), to the state government for state
8 income tax withholding, and to the employees' Hawaiian Electric Industries
9 Retirement Savings Plan ("HEIRS") account.

10 Q. How were the proportions of significant labor disbursements determined?

11 A. The proportions for significant labor disbursements were based on 2007 payroll
12 data.

13 Q. How was the payment lag days for each type of disbursement determined?

14 A. The payment lag days presented in this rate case are based on the actual 2007 pay
15 schedule and payments.

16 Q. How were the weighted average payment lag days for O&M labor calculated?

17 A. HECO determined the weighted average payment lag days for O&M labor by
18 calculating the sum of proportions of labor disbursements multiplied by the
19 respective payment lag days (including check clearing lag days). The calculation
20 of O&M labor payment lag days is shown on HECO-WP-1806, page 8.

21 Q. Is the calculation of working cash for O&M labor consistent with the method of
22 calculation used in prior HECO rate cases?

23 A. Yes. The methodology used in this test year is consistent with the methodology in
24 HECO's 2007 and 2005 test year rate cases.

1 3) Working Cash for O&M Non-Labor

2 Q. What is the test year estimate of working cash required for O&M non-labor?

3 A. The test year estimate of working cash required for O&M non-labor is \$2,656,000
4 for the CIP1 Generating Unit Step Increase as shown on HECO-1806 and
5 HECO-1806(a), columns F and H and \$2,623,000 for the Interim Increase
6 (without CIP1 Generating Unit) as shown on HECO-1806(b) and HECO-1806(c),
7 columns F and H.

8 Q. What is the test year estimate of O&M non-labor?

9 A. The test year estimate of O&M non-labor is \$138,515,000 for the CIP1
10 Generating Unit Step Increase as shown on HECO-1806 and HECO-1806(a),
11 column D and \$136,747,000 for the Interim Increase (without CIP1 Generating
12 Unit) as shown on HECO-1806(b) and HECO-1806(c), column D.

13 Q. What is the test year estimate of the O&M non-labor payment lag days?

14 A. The test year estimate of the O&M non-labor payment lag days is 30 days, as
15 shown on HECO-1806 through HECO-1806(c), column B.

16 Q. How were the payment lag days for O&M non-labor calculated?

17 A. The payment lag days for O&M non-labor were calculated by obtaining the test
18 year estimates of O&M non-labor expenses. Large O&M non-labor payments
19 were separately identified and the payment lag for those items was determined.
20 A sample of all other O&M non-labor expenses was examined to determine the
21 payment lag for the sample.

22 Q. What large O&M non-labor payments were separately identified?

23 A. Pension expense, other postretirement benefits other than pensions (“OPEB”)
24 expense, pension regulatory liability amortization, OPEB regulatory liability
25 amortization, emission fees, and Electric Power Research Institute (“EPRI”) dues
26 were separately identified.

1 Q. What is the payment lag for pension expense?

2 A. The payment lag for pension expense is zero as shown on HECO-WP-1806, page
3 32. Consistent with the pension tracking mechanism there is no pension
4 contribution expected in the test year. As there is no expected pension
5 contribution, there is no expected pension payment, and therefore no payment lag.
6 I briefly describe the pension tracking mechanism later in my testimony.
7 Ms. Patsy Nanbu discusses the pension tracking mechanism in HECO T-11.

8 Q. If the Company expects to make no pension contribution in the test year, why is
9 pension expense included in working cash?

10 A. As stated earlier in my testimony, the Company's position is that all revenues
11 should be included in the calculation of working cash needs associated with the
12 revenue collection lag. The revenues associated with the pension expense are not
13 received at the same time the expense is recognized and are subject to the same
14 revenue collection lag as any other item forming the basis for its revenue estimate.
15 Although the Commission has disallowed the revenue collection for certain other
16 non-cash items, the Company maintains its position that all revenue should be
17 included in the revenue collection lag and therefore included the pension expense
18 in the revenue collection lag.

19 Q. What is the payment lag for OPEB expense?

20 A. The payment lag for OPEB expense is 66 days as shown on HECO-WP-1806,
21 page 32.

22 Q. How was the payment lag for OPEB expense determined?

23 A. The payment lag for OPEB expense was based on historical and forecast quarterly
24 OPEB payments from 2008. Details of the study are provided in
25 HECO-WP-1806, page 33.

1 Q. What is the payment lag for the pension regulatory liability and OPEB regulatory
2 liability amortization expense?

3 A. The pension regulatory liability and OPEB regulatory liability amortization
4 expense is included with a revenue collection lag consistent with all other items
5 (37 days) and a payment lag of zero, as shown on HECO-WP-1806, page 32.

6 Q. Why is the pension regulatory liability and OPEB regulatory liability amortization
7 expense subject to the revenue collection lag?

8 A. As stated earlier in my testimony, the Company's position is that all revenues
9 should be included in the calculation of working cash needs associated with the
10 revenue collection lag. The revenues associated with the pension regulatory
11 liability and OPEB regulatory liability amortization expenses are not received at
12 the same time the expenses are recognized and are subject to the same revenue
13 collection lag as any other item forming the basis for its revenue estimate.
14 Consistent with its position with respect to pension expense, the Company
15 maintains that all revenue should be included in the revenue collection lag and
16 therefore, included the pension regulatory liability and OPEB regulatory liability
17 amortization expense in the revenue collection lag. The pension regulatory
18 liability and OPEB regulatory liability are discussed later in my testimony.

19 Q. What is the payment lag for emission fees?

20 A. The payment lag for emission fees is 252 days as shown on HECO-WP-1806,
21 page 32.

22 Q. How was the payment lag for emission fees determined?

23 A. The payment lag for emission fees was based on emission fee payments made in
24 2008. Details of the study are provided in HECO-WP-1806, page 34.

1 Q. What is the payment lag for EPRI dues?

2 A. The payment lag for EPRI dues is (3) days as shown on HECO-WP-1806 page 32.

3 Q. How was the payment lag for EPRI dues determined?

4 A. The payment lag for EPRI dues was based on historical quarterly EPRI payments
5 from 2007. Details of the study are provided on HECO-WP-1806, page 35.

6 Q. What is the payment lag for other O&M non-labor?

7 A. The payment lag for other O&M non-labor is 30 days as shown on
8 HECO-WP-1806, page 32.

9 Q. How was the payment lag for other O&M non-labor determined?

10 A. The payment lag days for other O&M non-labor expenses presented in this rate
11 case were previously presented in the HECO 2007 test year rate case (Docket
12 No. 2008-0386) and HECO 2005 test year rate case (Docket No. 04-0113).

13 In these two rate cases the payment lag days were based on a study of a randomly
14 selected sample of 2003 O&M non-labor transactions. First, the payment lag for
15 each item in the sample was determined. Then the Company calculated the dollar
16 weighted average days for the sample. Payment lag days for all other O&M
17 non-labor were based on this study. Details of the study are provided on
18 HECO-WP-1806, pages 36 and 37.

19 Q. Why is it appropriate to use the payment lag days that were determined in the
20 2007 and 2005 test year rate cases?

21 A. The Company determined that there have been no significant changes from the
22 2007 and 2005 test year rate cases to internal processes and procedures over
23 invoice review and payment. As there have been no significant changes which
24 would impact the calculation of the payment lag days, the number of payment lag

1 days calculated in the 2007 and 2005 test year rate cases is reasonably
2 representative of the number of payment lag days in the 2009 test year.

3 Q. How were the weighted average payment lag days for O&M non-labor calculated?

4 A. The weighted average payment lag days is the sum of the proportions of the
5 separately-identified large 2009 test year O&M non-labor payments and the
6 sample of all other 2009 test year O&M non-labor payments multiplied by the
7 respective payment lag days (including check clearing lag days). Details of the
8 study and calculation of O&M non-labor payment lag days is shown on
9 HECO-WP-1806, pages 32.

10 Q. Is the calculation of the O&M non-labor payment lag days consistent with the
11 method of calculation used in prior HECO rate cases?

12 A. Yes. As explained above, the methodology used for the 2009 test year is
13 consistent with the methodology used in HECO's 2007 and 2005 test year rate
14 cases.

15 4) Working Cash Provided by Purchased Power

16 Q. What is the test year estimate of working cash provided by purchased power?

17 A. The test year estimate of working cash provided by purchased power is \$0 for
18 both the CIP1 Generating Unit Step Increase and the Interim Increase (without
19 CIP1 Generating Unit), as shown on HECO-1806 through HECO-1806(c),
20 columns F and H.

21 Q. What is the test year estimate of purchased power?

22 A. The estimated annual amount of purchased power is \$477,055,000 for both the
23 CIP1 Generating Unit Step Increase and the Interim Increase (without CIP1
24 Generating Unit), as shown on HECO-1806 through HECO-1806(c), column D.

1 Q. What is the test year estimate of the purchased power payment lag days?

2 A. The test year estimate of the purchased power payment lag days is 37 days, as
3 shown on HECO-1806 through HECO-1806(c), column B.

4 Q. How were the payment lag days for purchased power calculated?

5 A. The payment lag days for purchased power were calculated by obtaining the test
6 year estimates of independent power producer (“IPP”) payments, determining the
7 respective payment lag days for each type of payment, and calculating the
8 weighted average payment lag days.

9 Q. Who provided the test year estimates of IPP payments?

10 A. HECO’s Purchased Power Division provided the estimates of IPP payments.

11 Q. How was the payment lag days for capacity and energy determined?

12 A. The payment lag days for H-Power, AES and Kalaeloa presented in this rate case
13 were previously presented in the HECO 2007 test year rate case (Docket No.
14 2006-0386). These payment lag days for purchased power were based on the
15 terms of HECO’s purchased power agreements (“PPAs”) with each respective
16 IPP.

17 Q. Why is it appropriate to use the payment lag days that were determined in the
18 2007 test year rate case for estimated 2009 payments to these IPPs?

19 A. For these payment lag days the Company determined that there were no
20 significant changes from the 2007 test year rate case to the IPPs contracted with
21 and to the internal processes and procedures over the payments to these IPPs.
22 There have also been no significant changes to the payment terms in the PPAs
23 with the respective IPPs. As there have been no significant changes noted which
24 would impact the calculation of the payment lag days, the Company concluded

1 that the number of payment lag days calculated in the 2007 test year rate case is
2 reasonably representative of the payment lag days in the 2009 test year.

3 Q. Were any payment lag days updated in this rate case?

4 A. The Company updated the payment lag days for the purchased power supplied by
5 small vendors, including Chevron and Tesoro.

6 Q. How was the payment lag days for Chevron and Tesoro determined?

7 A. The payment lag days for both Chevron and Tesoro were determined based on a
8 study of 2007 energy payments made as shown on HECO-WP-1806, page 43.

9 Q. Did the Company enter into any new PPAs to purchase power in the test year?

10 A. Yes. The Company entered into a new Solar Energy Purchase Agreement
11 ("SEPA") in 2007 with Hoku Solar, Inc. ("Hoku"). The Commission approved
12 the SEPA in Decision and Order No. 24225 (dated May 13, 2008) in Docket
13 No. 2007-0425. The Company expects Hoku to begin supplying energy by the
14 end of 2008. Mr. Dan Ching in HECO T-6 discusses this in further detail.

15 Q. How was the payment lag days for energy payments to Hoku determined?

16 A. The Company calculated the payment lag days based on forecast monthly
17 deliveries and on the payment terms detailed in the SEPA. A check clearing lag
18 of five days was estimated as there are no current or historical payments on which
19 to base it on. (See HECO-WP-1806, page 42.)

20 Q. How was the weighted average payment lag days calculated?

21 A. The weighted average payment lag days were the sum of the proportion of test
22 year payments for each type of payment to the IPPs multiplied by the payment lag
23 days (including check clearing lag days). The calculation of purchased power
24 payment lag days is shown on HECO-WP-1806, page 38.

1 Q. Is the calculation of the purchased power payment lag days consistent with the
2 method of calculation used in prior HECO rate cases?

3 A. Yes. The methodology used in this test year is consistent with the methodology
4 used in HECO's 2007 and 2005 test year rate cases. However, the Company
5 made a refinement to the payment lag day study in the 2005 test year rate case
6 (from the study performed for the 1995 test year rate case) to reflect a separate
7 payment lag for the AES bonus since HECO receives a separate invoice for the
8 AES availability bonus after each contract year. This refinement is reflected in
9 the 2009 test year rate case and is shown on HECO-WP-1806, page 41.

10 5) Working Cash Provided by Revenue Taxes

11 Q. What is the test year estimate of working cash provided by revenue taxes?

12 A. The test year estimate of working cash provided by revenue taxes is \$12,614,000
13 at present rates and \$13,160,000 at current effective rates and \$13,844,000 at
14 proposed rates for the CIP1 Generating Unit Step Increase as shown on HECO-
15 1806 and HECO-1806(a), columns F and H. For the Interim Increase (without
16 CIP1 Generating Unit) the test year estimate of working cash provided by revenue
17 taxes is \$12,614,000 at present rates and \$13,160,000 at current effective rates and
18 \$13,675,000 at proposed rates as shown on HECO-1806(b) and HECO-1806(c),
19 columns F and H.

20 Q. What is the test year estimate of revenue taxes?

21 A. The estimated annual amount of revenue taxes is \$158,767,000 at present rates,
22 \$165,632,000 at current effective rates and \$174,243,000 at proposed rates for the
23 CIP1 Generating Unit Step Increase as shown on HECO-1806 and HECO-
24 1806(a), column D. For the Interim Increase (without CIP1 Generating Unit) the
25 estimated annual amount of revenue taxes is \$158,767,000 at present rates,

1 \$165,632,000 at current effective rates and \$172,117,000 at proposed rates as
2 shown on HECO-1806(b) and HECO-1806(c), column D.

3 Q. What is the test year estimate of the revenue tax payment lag days?

4 A. The test year estimate of the revenue tax payment lag days is 66 days, as shown
5 on HECO-1806 through HECO-1806(c), column B.

6 Q. How were the payment lag days for revenue tax payments calculated?

7 A. HECO calculated the payment lag days for revenue tax payments by first
8 determining the proportions of various revenue tax payments, then determining
9 the payment lags for the various revenue tax payments, and finally calculating the
10 weighted average payment lag days.

11 Q. What were the various revenue tax payments?

12 A. Revenue tax payments included: public service company tax, franchise tax, and
13 public utility fee.

14 Q. How were the proportions of revenue tax payment determined?

15 A. The proportions of revenue tax payments were determined based on the respective
16 tax rates.

17 Q. How was the payment lag for each respective type of revenue tax payment
18 determined?

19 A. The payment lags for the public service company tax, franchise royalty tax and the
20 public utility fee were based on actual 2007 payments. The check clearing lag
21 days for each type of revenue tax payment were also based on a study of the 2007
22 revenue tax payments.

23 Q. How was the weighted average payment lag days calculated?

24 A. The weighted average payment lag days represent the sum of the proportions of
25 revenue taxes multiplied by the respective payment lag days (including check

1 clearing lag days). The calculation of revenue tax payment lag days is shown on
2 HECO-WP-1806, page 44.

3 Q. Was the calculation of the revenue tax payment lag days consistent with the
4 method of calculation used in prior HECO rate cases?

5 A. Yes. The methodology used for the 2009 test year is consistent with the
6 methodology used in HECO's 2007 and 2005 test year rate cases. However, the
7 Company made a refinement to the payment lag day study in the 2007 test year
8 rate case from the 2005 test year rate case. In the 2005 test year rate case, the
9 revenue tax payment lag days were based on forecasted test year payments with
10 due dates based on the regulations or rules governing the projected payments.
11 The check clearing lags were based on actual revenue tax payments. In the 2007
12 test year rate case, the payment lag days and check clearing lag days were
13 calculated based on actual 2005 revenue tax payments. This refinement is
14 reflected in the 2009 test year rate case and is shown on HECO-WP-1806, pages
15 45-46. For the 2009 test year rate case the payment lag days and check clearing
16 lag days were calculated based on actual 2007 revenue tax payments.

17 6) Working Cash Provided by Income Taxes

18 Q. What is the test year estimate of working cash provided by income taxes?

19 A. The test year estimate of working cash provided by income taxes is (\$64,000) at
20 present rates, \$86,000 at current effective rates and \$274,000 at proposed rates for
21 the CIP1 Generating Unit Step Increase as shown on HECO-1806 and HECO-
22 1806(a), columns F and H. For the Interim Increase (without CIP1 Generating
23 Unit) the test year estimate of working cash provided by income taxes is (\$37,000)
24 at present rates, \$113,000 at current effective rates and \$255,000 at proposed rates
25 as shown on HECO-1806(b) and HECO-1806(c), columns F and H.

1 Q. What is the test year estimate of income taxes?

2 A. The estimated annual amount of income taxes is (\$11,699,000) at present rates,
3 \$15,700,000 at current effective rates and \$50,069,000 at proposed rates for the
4 CIP1 Generating Unit Step Increase as shown on HECO-1806 and HECO-
5 1806(a), column D. For the Interim Increase (without CIP1 Generating Unit) the
6 estimated annual amount of income taxes is (\$6,689,000) at present rates,
7 \$20,710,000 at current effective rates and \$46,595,000 at proposed rates as shown
8 on HECO-1806(b) and HECO-1806(c), column D.

9 Q. What is the test year estimate of the income tax payment lag days?

10 A. The test year estimate of the income tax payment lag days is 39 days, as shown on
11 HECO-1806 through HECO-1806(c), column B.

12 Q. How were the payment lag days for income taxes calculated?

13 A. The payment lag days for income taxes were calculated by determining the
14 proportions of federal and state income tax payments, determining the payment
15 lag days for federal and state income tax payments, and calculating the weighted
16 average payment lag days.

17 Q. How were the proportions of federal and state income tax payments determined?

18 A. The proportions of federal and state income tax payments were determined by the
19 respective effective tax rates. Effective tax rates take into consideration the
20 deductibility of state income taxes.

21 Q. How was the payment lag for each respective type of income tax payment
22 determined?

23 A. The payment lag for each type of income tax payment was determined based on
24 its respective tax regulation and projected payments for 2009. There were no
25 check clearing lag days because payments are made by electronic funds transfer.

1 Q. How was the weighted average payment lag days calculated?

2 A. The weighted average payment lag days were the sum of the proportions of
3 federal and state income taxes multiplied by their respective payment lag. The
4 calculation of the payment lag days for income taxes is shown on
5 HECO-WP-1806, page 47.

6 Q. Is the calculation of the income tax payment lag days consistent with the method
7 of calculation used in prior HECO rate cases?

8 A. Yes. The methodology is consistent with the methodology used in HECO's 2007
9 and 2005 test year rate cases.

10 FUNDS FROM NON-INVESTORS

11 Q. What are funds from non-investors?

12 A. Funds from non-investors are funds that are invested in assets to provide reliable
13 electric service that are from sources other than investors.

14 Q. What are the categories of funds from non-investors?

15 A. The categories of funds from non-investors are:

- 16 1) unamortized CIAC,
- 17 2) customer advances for construction,
- 18 3) customer deposits,
- 19 4) accumulated deferred income taxes,
- 20 5) unamortized investment tax credits,
- 21 6) unamortized gain on sales,
- 22 7) pension regulatory liability, and
- 23 8) OPEB regulatory liability.

24 Q. Why are funds provided by non-investors deducted from the investment in assets
25 in determining rate base?

1 A. Investors and non-investors provide the funds that are invested in the assets
2 needed to provide reliable electric service. Funds provided by non-investors are
3 deducted from investments in assets to determine the amount of investor-provided
4 funds. The investor-funded portion of investments in assets servicing customers
5 (i.e., rate base) is the amount on which investors are entitled to receive a fair
6 return. Therefore, rate base represents only the portion of investment in assets
7 that is funded by investors.

8 1) Unamortized Contributions in Aid of Construction

9 Q. What is the test year estimate of average unamortized CIAC?

10 A. The estimated average unamortized CIAC for test year 2009 is \$178,410,000, as
11 shown on HECO-1805.

12 Q. What is unamortized CIAC?

13 A. CIAC is money or property that a developer or customer contributes to the
14 Company to fund a utility capital project. As specified in the Company's tariff,
15 the contribution is nonrefundable. Amortization of CIAC offsets depreciation
16 expense. Ms. Lorie Nagata discusses CIAC in HECO T-17. Mr. Bruce
17 Tamashiro discusses amortization of CIAC in HECO T-14.

18 Q. How was the estimated average unamortized CIAC calculated?

19 A. The average unamortized CIAC was estimated by adding its beginning of the year
20 balance to the estimated CIAC additions for the test year, then subtracting the
21 amortization of CIAC to arrive at the estimated end of the year balance. The
22 beginning of the year balance and the end of the year balance were summed and
23 divided by two to estimate the average balance for the test year.

24 Q. Did the Commission approve the deduction of CIAC from rate base in prior
25 HECO rate cases?

1 A. Yes. The Commission included CIAC as a deduction from investments in assets
2 funded by investors in determining rate base in the HECO 2005 Decision as well
3 as in the HECO 2007 Interim Decision.

4 2) Customer Advances for Construction

5 Q. What is the test year estimate of customer advances?

6 A. The estimated average customer advances balance for construction for test year
7 2009 is \$848,000, as shown on HECO-1801.

8 Q. What are customer advances for construction?

9 A. Customer advances for construction are funds paid by customers to the Company
10 which may be refunded in whole or in part as specified in the Company's tariff.
11 Ms. Lorie Nagata discusses customer advances for construction in detail in HECO
12 T-17.

13 Q. How is the average customer advances calculated?

14 A. The average customer advances was calculated by adjusting the recorded
15 customer advances balance at December 31, 2007 for estimated changes in 2008
16 to determine the estimated balance at December 31, 2008. The process is then
17 repeated for the 2009 test year. The sum of the balances at December 31, 2008
18 and 2009 divided by two is the estimated average balance for customer advances.
19 This calculation is shown on HECO-1707.

20 Q. Did the Commission approve the deduction of customer advances from rate base
21 in prior HECO rate cases?

22 A. Yes. The Commission included customer advances as a deduction from
23 investments in assets funded by investors in determining rate base in the HECO
24 2005 Decision as well as in the HECO 2007 Interim Decision.

1 3) Customer Deposits

2 Q. What is the test year estimate for customer deposits?

3 A. The estimated average customer deposits balance for test year 2009 is \$7,695,000,
4 as shown on HECO-1801.

5 Q. What are customer deposits?

6 A. Customer deposits are monies collected from customers who do not meet HECO's
7 criteria for establishing credit at the time they request service. Mr. Darren
8 Yamamoto discusses customer deposits in detail in HECO T-9.

9 Q. How is the average customer deposits calculated?

10 A. Mr. Yamamoto explains the calculation of average customer deposits in HECO
11 T-9.

12 Q. Did the Commission approve the deduction of customer deposits from funds from
13 investors to determine rate base in prior HECO rate cases?

14 A. Yes. The Commission included customer deposits as a deduction from
15 investments in assets funded by investors in determining rate base in the HECO
16 2005 Decision as well as in the HECO 2007 Interim Decision.

17 4) Accumulated Deferred Income Taxes

18 Q. What is the test year estimate of accumulated deferred income taxes?

19 A. The estimated average accumulated deferred income tax balance is \$134,600,000
20 for the CIP1 Generating Unit Step Increase as shown on HECO-1801 and
21 HECO-1801(a). For the Interim Increase (without CIP1 Generating Unit) the
22 estimated average accumulated deferred income tax balance is \$134,856,000 as
23 shown at HECO-1801(b) and HECO-1801(c).

1 Q. What are accumulated deferred income taxes?

2 A. Accumulated deferred income taxes are the cumulative amount by which tax
3 expense has exceeded tax remittances. This is primarily due to tax timing
4 differences resulting from differences between book depreciation and accelerated
5 depreciation used for the calculation of income taxes. Mr. Lon Okada discusses
6 accumulated deferred income taxes in detail in HECO T-16.

7 Q. How was the average accumulated deferred income taxes calculated?

8 A. Mr. Okada describes the calculation of average accumulated deferred income
9 taxes in HECO T-16.

10 Q. Who provides the accumulated deferred income tax funds?

11 A. Accumulated deferred income taxes are funds provided by ratepayers. Although
12 rates are established based on income tax expense, tax remittances to the
13 government on a cumulative basis have been lower than the taxes collected
14 through rates. As a result, ratepayers have funded the accumulated deferred
15 income tax balance. Over time, the Company will eventually pay the government
16 the amounts recorded as deferred income taxes.

17 Q. Did the Commission approve the deduction of accumulated deferred income taxes
18 from rate base in prior HECO rate cases?

19 A. Yes. The Commission included accumulated deferred income taxes as a
20 deduction from investments in assets funded by investors in determining rate base
21 in the HECO 2005 Decision as well as in the HECO 2007 Interim Decision.

22 5) Unamortized Investment Tax Credits

23 Q. What is the test year estimate for unamortized investment tax credits?

24 A. The estimated average unamortized investment tax credit balance is \$34,571,000
25 for the CIP1 Generating Unit Step Increase as shown on HECO-1801 and

1 HECO-1801(a). For the Interim Increase (without CIP1 Generating Unit) the
2 estimated average unamortized investment tax credit balance is \$31,091,000 as
3 shown at HECO-1801(b) and HECO-1801(c).

4 Q. What are unamortized investment tax credits?

5 A. Unamortized investment tax credits are tax credits which reduce tax payments in
6 the year the credit originates, but for ratemaking purposes, the credits are
7 amortized. Mr. Lon Okada discusses unamortized investment tax credits in detail
8 in HECO T-16.

9 Q. How was the average unamortized investment tax credit calculated?

10 A. Mr. Okada explains the calculation of average unamortized investment tax credit
11 in HECO T-16.

12 Q. Who provides the unamortized investment tax credit funds?

13 A. Similar to accumulated deferred income taxes, unamortized investment tax credits
14 are funds provided by ratepayers. These funds are provided as a result of
15 differences in timing of when the credits are taken for purposes of calculating tax
16 payments to the government as opposed to when adjustments are made to income
17 tax expense for ratemaking purposes.

18 Q. Did the Commission approve the deduction of unamortized investment tax credits
19 from rate base in prior HECO rate cases?

20 A. Yes. The Commission included unamortized investment tax credits as a deduction
21 from investments in assets funded by investors in determining rate base in the
22 HECO 2005 Decision as well as in the HECO 2007 Interim Decision.

23 6) Unamortized Gain on Sales

24 Q. What is the test year estimate of unamortized gain on sales?

1 A. The estimated average unamortized gain on sales balance for test year 2009 is
2 \$1,055,000 as shown on HECO-1801. In this rate base calculation, unamortized
3 gain on sales includes the unamortized lease premium balance.

4 Q. What is unamortized gain on sales?

5 A. Unamortized gain on sales is the gain on the sale of utility property, net of the
6 amount that has been amortized. Ms. Patsy Nanbu describes unamortized gain on
7 sales in HECO T-11.

8 Q. Who provided unamortized gain on sales funds?

9 A. The purchaser of the property provided the funds that comprise the unamortized
10 gain on sales balance.

11 Q. Did the Commission deduct unamortized gain on sales from funds from investors
12 in determining rate base in prior HECO rate cases?

13 A. Yes. The Commission included unamortized gain on sales as a deduction from
14 investments in assets funded by investors in determining rate base in the HECO
15 2005 Decision as well as in the HECO 2007 Interim Decision.

16 7) Pension Regulatory Liability

17 Q. What is the test year estimate of the pension regulatory liability?

18 A. The estimated average pension regulatory liability balance for test year 2009 is
19 \$2,746,000 as shown on HECO-1801.

20 Q. What is the pension regulatory liability?

21 A. The pension regulatory liability was established upon the adoption of the pension
22 tracking mechanism. The pension tracking mechanism calls for the recording of a
23 pension regulatory liability (or regulatory asset) to track the cumulative difference
24 between the level of actual net periodic pension costs (“NPPC”) during a rate

1 effective period and the level of Commission approved NPPC included in rates for
2 that rate effective period.

3 Q. What does a pension regulatory liability represent?

4 Q. A pension regulatory liability represents the cumulative NPPC included in rates
5 over a rate effective period in excess of the actual cumulative NPPC during that
6 same period.

7 Q. Please briefly describe the pension tracking mechanism?

8 A. The pension tracking mechanism ensures the pension costs recovered through
9 rates are based on NPPC, as reported for financial reporting purposes, and ensures
10 that all amounts contributed to the pension trust funds (after the pension asset,
11 which is the cumulative pension contributions in excess of cumulative pension
12 costs recognized, is reduced to zero) are in an amount equal to actual NPPC and
13 are recoverable through rates. In Docket No. 2006-0386, HECO's 2007 test year
14 rate case, HECO, the Consumer Advocate and the Department of Defense
15 (collectively referred to as the "Parties") agreed to the HECO 2007 Stipulation,
16 which included the pension tracking mechanism. The pension tracking
17 mechanism was approved on an interim basis by the Commission in the HECO
18 2007 Interim Decision. Ms. Patsy Nanbu describes the pension tracking
19 mechanism in more detail in HECO T-11.

20 Q. What is the NPPC?

21 A. The NPPC is the annual amount that the Company must recognize on its financial
22 statement as the cost of providing pension benefits to its employees for the year,
23 and includes amounts ultimately charged primarily to both expense and to capital.
24 It is the current period charge for the pension plan and is calculated based on the
25 actuarial assumptions of pension obligation, the economic performance of the

1 fund investment, and amortization of prior period amounts. The NPPC and its
2 calculation is further explained by Ms. Julie Price in HECO T-13.

3 Q. Why is the pension liability a deduction in the calculation of rate base?

4 A. The pension regulatory liability represents the cumulative excess amount of rate-
5 payer provided funds (based on the Commission approved NPPC) recovered in
6 rates over a rate effective period in excess of the actual NPPC calculated and
7 recognized over that same period. Under the pension tracking mechanism, as
8 included in the HECO 2007 Stipulation, which was agreed to by the Parties and
9 approved on an interim basis in the HECO 2007 Interim Decision the pension
10 regulatory liability is a deduction in the calculation of rate base.

11 8) OPEB Regulatory Liability

12 Q. What is the test year estimate of the OPEB regulatory liability?

13 A. The estimated average OPEB regulatory liability balance for test year 2009 is
14 \$700,000 as shown on HECO-1801.

15 Q. What is the OPEB regulatory liability?

16 A. The OPEB regulatory liability was established upon the adoption of the OPEB
17 tracking mechanism. The OPEB tracking mechanism calls for the recording of a
18 OPEB regulatory liability (or regulatory asset) to track the cumulative difference
19 between the level of actual OPEB costs (based on the net periodic benefit costs
20 (“NPBC”)) during a rate effective period and the level of Commission approved
21 OPEB costs included in rates for that rate effective period.

22 Q. What does an OPEB regulatory liability represent?

23 Q. A OPEB regulatory liability represents the cumulative OPEB costs included in
24 rates over a rate effective period in excess of the actual cumulative OPEB costs
25 during that same period.

1 Q. Please briefly describe the OPEB tracking mechanism?

2 A. The OPEB tracking mechanism ensures that the OPEB costs recovered through
3 rates are based on the NPBC as reported for financial reporting purposes, and
4 ensures that all amounts contributed to the OPEB trust funds are in an amount
5 equal to the actual OPEB costs and are recoverable through rates. In Docket
6 No. 2006-0386, HECO's 2007 test year rate case, the Parties agreed to the HECO
7 2007 Stipulation, which included the OPEB tracking mechanism. The OPEB
8 tracking mechanism was approved on an interim basis by the Commission in the
9 HECO 2007 Interim Decision. Ms. Patsy Nanbu describes the OPEB tracking
10 mechanism in more detail in HECO T-11.

11 Q. What is the NPBC?

12 A. The NPBC is the annual amount that the Company must recognize on its financial
13 statement as the cost of providing OPEB benefits to its employees for the year,
14 and includes amounts ultimately charged primarily to both expense and to capital.
15 It is the current period charge for the OPEB plan and is calculated based on the
16 actuarial assumptions of the OPEB obligation, the economic performance of the
17 fund investment, and amortization of prior period amounts. The NPBC and its
18 calculation is further explained by Ms. Julie Price in HECO T-13.

19 Q. Why is the OPEB liability a deduction in the calculation of rate base?

20 A. Similar to the discussion above regarding the pension regulatory liability, the
21 OPEB regulatory liability represents the cumulative excess amount of rate-payer
22 provided funds (based on the Commission approved OPEB costs) recovered in
23 rates over a rate effective period in excess of the actual OPEB costs recognized
24 over that same period. The inclusion of the OPEB regulatory liability as a
25 deduction in the calculation of rate base is required under the OPEB tracking

1 mechanism, as included in the HECO 2007 Stipulation, which was agreed to by
2 the Parties in the HECO 2007 Stipulation and approved on an interim basis in the
3 HECO 2007 Interim Decision.

4 SUMMARY

5 Q. What is your conclusion as to the rate base proposed by the Company?

6 A. The Company proposes that the Commission allow the inclusion of the full cost of
7 the CIP1 Generating Unit plant additions in rate base at the CIP1 Generating Unit
8 Step Increase. The test year average rate base is \$1,409,549,000 at present rates,
9 \$1,408,853,000 at current effective rates and \$1,407,980,000 at proposed rates for
10 the CIP1 Generating Unit Step Increase.

11 At the Interim Increase (without CIP1 Generating Unit), the test year
12 average rate base is \$1,259,707,000 at present rates, \$1,259,012,000 at current
13 effective rates and \$1,258,355,000 at proposed rates.

14 This rate base represents the investment which is used or useful in providing
15 electric utility service that has been funded by investors. The investors should be
16 allowed the opportunity to earn a fair rate of return on this rate base.

17 The Company has shown the reasonableness of each of the estimates used in
18 this calculation and has demonstrated the appropriate treatment of each of the
19 elements in the rate base calculation. Therefore, the rate base presented by the
20 Company is reasonable and should be used to set electric rates in this docket.

21 Q. Does this conclude your testimony?

22 A. Yes, it does.

HAWAIIAN ELECTRIC COMPANY, INC.

DARREN DOI

EDUCATIONAL BACKGROUND AND EXPERIENCE

Business Address: 900 Richards Street Honolulu, HI 96813

Current Position: Senior Financial Analyst
Financial Analysis Division
Management Accounting and Financial Services Department

Years of Service: 3 Years

Previous Experience: Financial Reporting Manager, AIG Hawaii Insurance
Company
Senior Auditor, KPMG LLP

Education: University of Southern California
Bachelor of Science in Accounting
Bachelor of Science in Business Administration - Finance

Certification: Certified Public Accountant (not in public practice),
State of Hawaii

Hawaiian Electric Company, Inc.
2009 Average Rate Base (Present Rates)
CIP1 Generating Unit at Full Cost for Step Increase
(\$ in thousands)

<u>Investment in Assets</u> <u>Serving Customers</u>	<u>12/31/2008</u>	<u>12/31/2009</u>	Average for <u>2009</u>	HECO <u>Reference</u>
Net Cost of Plant in Service	1,532,876	1,558,053	1,545,465	1802
Property Held for Future Use	2,331	2,331	2,331	1705
Fuel Inventory	80,152	85,214	82,683	505
Materials & Supplies Inventories	16,015	16,015	16,015	1803
Unamortized Net SFAS 109				
Regulatory Asset	58,598	64,021	61,310	1606
Unamortized System Development Costs	4,568	30,336	17,452	1117
RO Water Pipeline Regulatory Asset	0	6,366	3,183	1121
ARO Regulatory Asset	13	12	13	1804
Working Cash at Present Rates	41,721	41,721	41,721	1806
 Total Investments in Assets	 <u>1,736,274</u>	 <u>1,804,069</u>	 <u>1,770,172</u>	
 <u>Funds from Non-Investors</u>				
Unamortized CIAC	177,545	179,275	178,410	1805
Customer Advances	888	807	848	1707
Customer Deposits	7,380	8,009	7,695	902
Accumulated Deferred Income				
Taxes	133,095	136,104	134,600	1605
Unamortized Investment Tax Credit	34,011	35,130	34,571	1604
Unamortized Gain on Sales	1,364	746	1,055	1120
Pension Regulatory Liability	3,051	2,441	2,746	1124
OPEB Regulatory Liability	777	622	700	1125
 Total Deductions	 <u>358,111</u>	 <u>363,134</u>	 <u>360,622</u>	
 Average Rate Base at Present Rates			 1,409,549	
 Change in Working Cash			 (1,569)	1806
 Average Rate Base at Proposed Rates			 <u><u>1,407,980</u></u>	

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.
2009 Average Rate Base (Current Effective Rates)
CIP1 Generating Unit at Full Cost for Step Increase
(\$ in thousands)

<u>Investment in Assets</u> <u>Serving Customers</u>	<u>12/31/2008</u>	<u>12/31/2009</u>	Average for <u>2009</u>	HECO <u>Reference</u>
Net Cost of Plant in Service	1,532,876	1,558,053	1,545,465	1802
Property Held for Future Use	2,331	2,331	2,331	1705
Fuel Inventory	80,152	85,214	82,683	505
Materials & Supplies Inventories	16,015	16,015	16,015	1803
Unamortized Net SFAS 109				
Regulatory Asset	58,598	64,021	61,310	1606
Unamortized System Development Costs	4,568	30,336	17,452	1117
RO Water Pipeline Regulatory Asset	0	6,366	3,183	1121
ARO Regulatory Asset	13	12	13	1804
Working Cash at Current Effective Rates	41,025	41,025	41,025	1806(a)
Total Investments in Assets	1,735,578	1,803,373	1,769,475	
<u>Funds from Non-Investors</u>				
Unamortized CIAC	177,545	179,275	178,410	1805
Customer Advances	888	807	848	1707
Customer Deposits	7,380	8,009	7,695	902
Accumulated Deferred Income				
Taxes	133,095	136,104	134,600	1605
Unamortized Investment Tax Credit	34,011	35,130	34,571	1604
Unamortized Gain on Sales	1,364	746	1,055	1120
Pension Regulatory Liability	3,051	2,441	2,746	1124
OPEB Regulatory Liability	777	622	700	1125
Total Deductions	358,111	363,134	360,622	
Average Rate Base at Current Effective Rates			1,408,853	
Change in Working Cash			(872)	1806(a)
Average Rate Base at Proposed Rates			<u>1,407,980</u>	

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.
2009 Average Rate Base (Present Rates)
Reconciliation of Step Increases
(\$ in thousands)

	CIP1 Gen Unit at Full Cost ¹		Interim Increase (w/o CIP1)		Base Case Avg. Rate Base for 2009
	Avg. Rate Base for 2009	Less: Full Cost CIP1	Avg. Rate Base for 2009	Add: CIP1 Avg. Cost	
Investment in Assets Serving Customers					
Net Cost of Plant in Service ²	1,545,465	(152,919)	1,392,546	76,460	1,469,005
Property Held for Future Use	2,331		2,331		2,331
Fuel Inventory	82,683		82,683		82,683
Materials & Supplies Inventories	16,015		16,015		16,015
Unamortized Net SFAS 109 Regulatory Asset	0 61,310		0 61,310		0 61,310
Unamortized System Development Costs	17,452		17,452		17,452
RO Water Pipeline Regulatory Asset	3,183		3,183		3,183
ARO Regulatory Asset	13		13		13
Working Cash at Present Rates ³	41,721	(146)	41,575	92	41,667
Total Investments in Assets	1,770,172	(153,065)	1,617,106	76,552	1,693,658
Funds from Non-Investors					
Unamortized CIAC	178,410		178,410		178,410
Customer Advances	848		848		848
Customer Deposits	7,695		7,695		7,695
Accumulated Deferred Income					
Taxes ⁴	134,600	257	134,856	421	135,277
Unamortized Investment Tax Credit ⁴	34,571	(3,480)	31,091	1,740	32,831
Unamortized Gain on Sales	1,055		1,055		1,055
Pension Regulatory Liability	2,746		2,746		2,746
OPEB Regulatory Liability	700		700		700
Total Deductions	360,622	(3,224)	357,399	2,161	359,560
Average Rate Base at Present Rates	1,409,549	(149,842)	1,259,707	74,391	1,334,098
Change in Working Cash ³	(1,569)	216	(1,353)	(109)	(1,462)
Average Rate Base at Proposed Rates	1,407,980		1,258,355		1,332,636

NOTE: Totals may not add exactly due to rounding.

¹ HECO-1801

² Changes represent the full cost and average cost of the CIP1 Gen Unit in the test year. Please see HECO-1703.

³ HECO-1806, HECO-1806(b) & HECO-1806(d).

⁴ See further discussion and details in HECO T-16.

Hawaiian Electric Company, Inc.
2009 Average Rate Base - (Current Effective Rates)
Reconciliation of Step Increases
(\$ in thousands)

	CIP1 Gen Unit at Full Cost ¹		Interim Increase (w/o CIP1)		Base Case
	Avg. Rate Base for 2009	Less: Full Cost CIP1	Avg. Rate Base for 2009	Add: CIP1 Avg. Cost	Avg. Rate Base for 2009
Investment in Assets Serving Customers					
Net Cost of Plant in Service ²	1,545,465	(152,919)	1,392,546	76,460	1,469,005
Property Held for Future Use	2,331		2,331		2,331
Fuel Inventory	82,683		82,683		82,683
Materials & Supplies Inventories	16,015		16,015		16,015
Unamortized Net SFAS 109 Regulatory Asset	61,310		61,310		61,310
Unamortized System Development Costs	17,452		17,452		17,452
RO Water Pipeline Regulatory Asset	3,183		3,183		3,183
ARO Regulatory Asset	13		13		13
Working Cash at Current Effective Rates ³	41,025	(146)	40,879	92	40,971
Total Investments in Assets	1,769,475	(153,065)	1,616,411	76,552	1,692,962
Funds from Non-Investors					
Unamortized CIAC	178,410		178,410		178,410
Customer Advances	848		848		848
Customer Deposits	7,695		7,695		7,695
Accumulated Deferred Income					
Taxes ⁴	134,600	257	134,856	421	135,277
Unamortized Investment Tax Credit ⁴	34,571	(3,480)	31,091	1,740	32,831
Unamortized Gain on Sales	1,055		1,055		1,055
Pension Regulatory Liability	2,746		2,746		2,746
OPEB Regulatory Liability	700		700		700
Total Deductions	360,622	(3,224)	357,399	2,161	359,560
Average Rate Base at Current Effective Rates	1,408,853	(149,841)	1,259,012	74,391	1,333,402
Change in Working Cash ³	(872)	215	(657)	(109)	(766)
Average Rate Base at Proposed Rates	1,407,980		1,258,355		1,332,636

NOTE: Totals may not add exactly due to rounding.

¹ HECO-1801(a)

² Changes represent the full cost and average cost of the CIP1 Gen Unit in the test year. Please see HECO-1703.

³ HECO-1806(a), HECO-1806(c) & HECO-1806(e).

⁴ See further discussion and details in HECO T-16.

Hawaiian Electric Company, Inc.
Net Cost of Plant in Service
CIP1 Generating Unit at Full Cost for Step Increase
(\$ in thousands)

	<u>Original Cost</u>	<u>Accum. Depreciation, Removal Reg. Liability, Acc. Retirement Oblig.</u>	<u>Net Plant In Service</u>	<u>HECO Reference</u>
Recorded Balances - 12/31/07	2,529,629	(1,174,518)	1,355,111	
ESTIMATED CHANGES in 2008:				
Net Plant Additions	110,220		110,220	1701
Cost of Removal		6,549	6,549	1409
Salvage		(260)	(260)	1409
Depreciation Accrual		(91,663)	(91,663)	1408
Retirements ¹	(17,201)	17,201	0	1409
Estimated Balances - 12/31/08	<u>2,622,648</u>	<u>(1,242,691)</u>	<u>1,379,957</u>	
Full Cost - CIP1 Gen Unit	152,919		152,919	1703
Estimated Balances - 1/1/09	2,775,567	(1,242,691)	1,532,876	
ESTIMATED CHANGES in 2009:				
Net Plant Additions	111,760		111,760	1701
Cost of Removal		6,782	6,782	1409
Salvage		(276)	(276)	1409
Depreciation Accrual		(93,089)	(93,089)	1408
Retirements ¹	(16,027)	16,027	0	1409
Estimated Balances - 12/31/09	<u>2,871,300</u>	<u>(1,313,247)</u>	<u>1,558,053</u>	
AVERAGE 2009 BALANCE			<u><u>1,545,465</u></u>	

NOTE: Totals may not add exactly due to rounding.

¹ Original cost of estimated retirements for the respective year.

Hawaiian Electric Company, Inc.
Net Cost of Plant in Service
Interim Increase (w/o CIP1 Generating Unit)
(\$ in thousands)

	<u>Original Cost</u>	<u>Accum. Depreciation, Removal Reg. Liability, Acc. Retirement Oblig.</u>	<u>Net Plant In Service</u>	<u>HECO Reference</u>
Recorded Balances - 12/31/07	2,529,629	(1,174,518)	1,355,111	
ESTIMATED CHANGES in 2008:				
Net Plant Additions	110,220		110,220	1701
Cost of Removal		6,549	6,549	1409
Salvage		(260)	(260)	1409
Depreciation Accrual		(91,663)	(91,663)	1408
Retirements ¹	(17,201)	17,201	0	1409
Estimated Balances - 12/31/08	<u>2,622,648</u>	<u>(1,242,691)</u>	<u>1,379,957</u>	
ESTIMATED CHANGES in 2009:				
Net Plant Additions	111,760		111,760	1701
Cost of Removal		6,782	6,782	1409
Salvage		(276)	(276)	1409
Depreciation Accrual		(93,089)	(93,089)	1408
Retirements ¹	(16,027)	16,027	0	1409
Estimated Balances - 12/31/09	<u>2,718,382</u>	<u>(1,313,247)</u>	<u>1,405,135</u>	
AVERAGE 2009 BALANCE			<u><u>1,392,546</u></u>	

NOTE: Totals may not add exactly due to rounding.

¹ Original cost of estimated retirements for the respective year.

Hawaiian Electric Company, Inc.
Net Cost of Plant in Service
Base Case
(\$ in thousands)

	<u>Original Cost</u>	Accum. Depreciation, Removal Reg. Liability, <u>Acc. Retirement Oblig.</u>	<u>Net Plant In Service</u>	<u>HECO Reference</u>
Recorded Balances - 12/31/07	2,529,629	(1,174,518)	1,355,111	
ESTIMATED CHANGES in 2008:				
Net Plant Additions	110,220		110,220	1701
Cost of Removal		6,549	6,549	1409
Salvage		(260)	(260)	1409
Depreciation Accrual		(91,663)	(91,663)	1408
Retirements ¹	(17,201)	17,201	0	1409
Estimated Balances - 12/31/08	<u>2,622,648</u>	<u>(1,242,691)</u>	<u>1,379,957</u>	
ESTIMATED CHANGES in 2009:				
Net Plant Additions	264,679		264,679	1701
Cost of Removal		6,782	6,782	1409
Salvage		(276)	(276)	1409
Depreciation Accrual		(93,089)	(93,089)	1408
Retirements ¹	(16,027)	16,027	0	1409
Estimated Balances - 12/31/09	<u>2,871,300</u>	<u>(1,313,247)</u>	<u>1,558,053</u>	
AVERAGE 2009 BALANCE			<u><u>1,469,005</u></u>	

NOTE: Totals may not add exactly due to rounding.

¹ Original cost of estimated retirements for the respective year.

Hawaiian Electric Company, Inc.
Materials & Supplies Inventory
(\$ in thousands)

	12/31/2008	12/31/2009	Average for 2009	HECO Reference
Production Inventory	8,809	8,809	8,809	703
Adjustment to Inventory related to Accounts Payable	<u>(405)</u>	<u>(405)</u>	<u>(405)</u>	WP-1803, p.1
Adjusted Production Inventory	<u>8,404</u>	<u>8,404</u>	<u>8,404</u>	(a)
Transmission & Distribution Inventory	8,211	8,211	8,211	803
Adjustment to Inventory related to Accounts Payable	<u>(601)</u>	<u>(601)</u>	<u>(601)</u>	WP-1803, p.1
Adjusted T&D Inventory	<u>7,610</u>	<u>7,610</u>	<u>7,610</u>	(b)
Total Materials & Supplies	<u><u>16,015</u></u>	<u><u>16,015</u></u>	<u><u>16,015</u></u>	(a) + (b)

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.
Unamortized ARO Regulatory Asset
(\$ in thousands)

HECO
Reference

RECORDED BALANCES - 12/31/07	14	
ESTIMATED CHANGES in 2008:		
Accretion & Depreciation	5	
Cost of Removal	(6)	
	<hr/>	
ESTIMATED BALANCE - 12/31/08	13	(A)
ESTIMATED CHANGES in 2009:		
Accretion & Depreciation	5	
Cost of Removal	(6)	
	<hr/>	
ESTIMATED BALANCE - 12/31/09	12	(B)
AVERAGE 2009 BALANCE	<u>13</u>	[(A)+(B)]/2

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.
Unamortized Contributions In Aid of Construction
(\$ in thousands)

		<u>HECO Reference</u>
RECORDED BALANCES - 12/31/07	176,425	
ESTIMATED CHANGES in 2008:		
Cash Receipts	6,246	1706
In-Kind Receipts	3,864	1706
Transfer from Advances	19	1706
Amortization	<u>(9,009)</u>	1408
ESTIMATED BALANCE - 12/31/08	177,545	
ESTIMATED CHANGES in 2009:		
Cash Receipts	6,754	1706
In-Kind Receipts	4,204	1706
Transfer from Advances	67	1706
Amortization	<u>(9,295)</u>	1408
ESTIMATED BALANCE - 12/31/09	179,275	
AVERAGE 2009 BALANCE	<u><u>178,410</u></u>	

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.

WORKING CASH ITEMS, 2009 (Present Rate)
CIP1 GENERATING UNIT AT FULL COST FOR STEP INCREASE

(\$ in thousands)

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	Revenue Collection Lag (Days)	Payment Lag (Days)	Net Collection Lag (Days)	Annual Amount	Average Daily Amount - Present (D) / 365	Working Cash Required - Present Rates (C) x (E)	Average Daily Amount - Proposed (D) / 365	Working Cash Required - Proposed Rates (C) x (G)
per HECO	HECO	HECO	(A) - (B)	HECO				
T-9	WP-1806	WP-2304						
ITEMS REQUIRING WORKING CASH:								
Fuel Purchases	37	p. 1	20	p. 10	2,217	44,332	2,217	44,332
O&M Labor	37	p. 8	26	p. 11	280	7,282	280	7,282
O&M Nonlabor	37	p. 32	7	p. 11	379	2,656	379	2,656
ITEMS PROVIDING WORKING CASH:								
Purchased Power	37	p. 38	0	p. 10	1,307	0	1,307	0
Revenue Taxes - Present Rates	37	p. 44	(29)	p. 6	435	(12,614)	477	(13,844)
Revenue Taxes - Proposed Rates	37	p. 44	(29)	p. 6				
Income Taxes - Present Rates	37	p. 47	(2)	p. 9	(32)	64	137	(274)
Income Taxes - Proposed Rates	37	p. 47	(2)	p. 9				
Total WORKING CASH						<u>41,721</u>		<u>40,152</u>
Change in WORKING CASH								<u><u>(1,569)</u></u>

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.

**WORKING CASH ITEMS, 2009 (Current Effective Rates)
CIP1 GENERATING UNIT AT FULL COST FOR STEP INCREASE**

(\$ in thousands)

(A) Revenue Collection Lag (Days)	(B) Payment Lag (Days)	(C) Net Collection Lag (Days)	(D) Annual Amount Reference	(E) Average Daily Amount - Effective (D) / 365	(F) Working Cash Required (Provided) under Effective Rates (C) x (E)	(G) Average Daily Amount - Proposed (D) / 365	(H) Working Cash Required (Provided) under Proposed Rates (C) x (G)
per HECO							
T-9							
ITEMS REQUIRING WORKING CASH:							
Fuel Purchases	37	17	20	2,217	44,332	2,217	44,332
O&M Labor	37	11	26	280	7,282	280	7,282
O&M Nonlabor	37	30	7	379	2,656	379	2,656
ITEMS PROVIDING WORKING CASH:							
Purchased Power	37	37	0	1,307	0	1,307	0
Revenue Taxes - Effective Rates	37	66	(29)	454	(13,160)	477	(13,844)
Revenue Taxes - Proposed Rates	37	66	(29)	43	(86)	137	(274)
Income Taxes - Effective Rates	37	39	(2)	43	(86)	137	(274)
Income Taxes - Proposed Rates	37	39	(2)	43	(86)	137	(274)
Total WORKING CASH					<u>41,025</u>		<u>40,152</u>
Change in WORKING CASH							<u><u>(872)</u></u>

Total WORKING CASH

Change in WORKING CASH

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.

**WORKING CASH ITEMS, 2009 (Present Rate)
INTERIM INCREASE (W/O CIP1 GENERATING UNIT)**

(\$ in thousands)

(A) Revenue Collection Lag (Days)	(B) Payment Lag (Days)	(C) Net Collection Lag (Days)	(D) Annual Amount Workpaper Reference	(E) Average Daily Amount - Present (D) / 365	(F) Working Cash Required Present Rates (C) x (E)	(G) Average Daily Amount - Proposed (D) / 365	(H) Working Cash Required (Provided) under Proposed Rates (C) x (G)
per HECO							
T-9							
HECO				HECO			
WP-1806				WP-2305			
ITEMS REQUIRING WORKING CASH:							
Fuel Purchases	37	17	20	p. 10	809,058	2,217	44,332
O&M Labor	37	11	26	p. 11	101,045	277	7,198
O&M Nonlabor	37	30	7	p. 11	136,747	375	2,623
ITEMS PROVIDING WORKING CASH:							
Purchased Power	37	37	0	p. 10	477,055	1,307	0
Revenue Taxes - Present Rates	37	66	(29)	p. 6	158,767	435	(12,614)
Revenue Taxes - Proposed Rates	37	66	(29)	p. 6	172,117	472	(13,675)
Income Taxes - Present Rates	37	39	(2)	p. 9	(6,689)	(18)	37
Income Taxes - Proposed Rates	37	39	(2)	p. 9	46,595	128	(255)
Total WORKING CASH					<u>41,575</u>		<u>40,222</u>
Change in WORKING CASH							<u><u>(1,353)</u></u>

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.

**WORKING CASH ITEMS, 2009 (Current Effective Rates)
INTERIM INCREASE (W/O CIP1 GENERATING UNIT)**

(\$ in thousands)

(A) Revenue Collection Lag (Days)	(B) Payment Lag (Days)	(C) Net Collection Lag (Days)	(D) Annual Amount Workpaper Reference	(E) Average Daily Amount - Effective (D) / 365	(F) Working Cash Required (Provided) under Effective Rates (C) x (E)	(G) Average Daily Amount - Proposed (D) / 365	(H) Working Cash Required (Provided) under Proposed Rates (C) x (G)			
per HECO		HECO								
T-9		WP-1806								
ITEMS REQUIRING WORKING CASH:		WP-2302								
Fuel Purchases	37	p. 1	17	20	p. 10	809,058	2,217	44,332	2,217	44,332
O&M Labor	37	p. 8	11	26	p. 11	101,045	277	7,198	277	7,198
O&M Nonlabor	37	p. 32	30	7	p. 11	136,747	375	2,623	375	2,623
ITEMS PROVIDING WORKING CASH:										
Purchased Power	37	p. 38	37	0	p. 10	477,055	1,307	0	1,307	0
Revenue Taxes - Effective Rates	37	p. 44	66	(29)	p. 6	165,632	454	(13,160)	472	(13,675)
Revenue Taxes - Proposed Rates	37	p. 44	66	(29)	p. 6	172,117	57	(113)	128	(255)
Income Taxes - Effective Rates	37	p. 47	39	(2)	p. 9	20,710				
Income Taxes - Proposed Rates	37	p. 47	39	(2)	p. 9	46,595				
Total WORKING CASH								<u>40,879</u>		<u>40,222</u>
Change in WORKING CASH										<u>(657)</u>

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.
WORKING CASH ITEMS, 2009 (Present Rate)

BASE CASE

(\$ in thousands)

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
	Revenue	Payment	Net	Annual	Average	Working Cash	Average	Working Cash
	Collection	Lag	Collection	Amount	Daily	Required	Daily	Required
	Lag	(Days)	Lag	Workpaper	Amount -	(Provided) under	Amount -	(Provided) under
	(Days)		(Days)	Reference	Present	Present Rates	Proposed	Proposed Rates
			(A) - (B)		(D) / 365	(C) x (E)	(D) / 365	(C) x (G)
per HECO	HECO		HECO					
T-9	WP-1806		WP-2306					
ITEMS REQUIRING WORKING CASH:								
Fuel Purchases	37	p. 1	20	p. 10	2,217	44,332	2,217	44,332
O&M Labor	37	p. 8	26	p. 11	278	7,237	278	7,237
O&M Nonlabor	37	p. 32	7	p. 11	378	2,644	378	2,644
ITEMS PROVIDING WORKING CASH:								
Purchased Power	37	p. 38	0	p. 10	1,307	0	1,307	0
Revenue Taxes - Present Rates	37	p. 44	(29)	p. 6	435	(12,614)	475	(13,761)
Revenue Taxes - Proposed Rates	37	p. 44	(29)	p. 6	(34)	68	124	(247)
Income Taxes - Present Rates	37	p. 47	(2)	p. 9				
Income Taxes - Proposed Rates	37	p. 47	(2)	p. 9				
Total WORKING CASH						<u>41,667</u>		<u>40,205</u>
Change in WORKING CASH								<u><u>(1,462)</u></u>

NOTE: Totals may not add exactly due to rounding.

Hawaiian Electric Company, Inc.

WORKING CASH ITEMS, 2009 (Current Effective Rates)

BASE CASE

(\$ in thousands)

(A) Revenue Collection Lag (Days)	(B) Payment Lag Workpaper Reference	(C) Net Collection Lag (Days)	(D) Annual Amount Workpaper Reference	(E) Average Daily Amount - Effective (D) / 365	(F) Working Cash Required (Provided) under Effective Rates (C) x (E)	(G) Average Daily Amount - Proposed (D) / 365	(H) Working Cash Required (Provided) under Proposed Rates (C) x (G)			
per HECO										
T-9										
HECO										
WP-1806										
HECO										
WP-2303										
ITEMS REQUIRING WORKING CASH:										
Fuel Purchases	37	p. 1	17	20	p. 10	809,058	2,217	44,332	2,217	44,332
O&M Labor	37	p. 8	11	26	p. 11	101,597	278	7,237	278	7,237
O&M Nonlabor	37	p. 32	30	7	p. 11	137,850	378	2,644	378	2,644
ITEMS PROVIDING WORKING CASH:										
Purchased Power	37	p. 38	37	0	p. 10	477,055	1,307	0	1,307	0
Revenue Taxes - Effective Rates	37	p. 44	66	(29)	p. 6	165,632	454	(13,160)	475	(13,761)
Revenue Taxes - Proposed Rates	37	p. 44	66	(29)	p. 6	173,193	41	(82)	124	(247)
Income Taxes - Effective Rates	37	p. 47	39	(2)	p. 9	14,933				
Income Taxes - Proposed Rates	37	p. 47	39	(2)	p. 9	45,114				
Total WORKING CASH								<u>40,971</u>		<u>40,205</u>
Change in WORKING CASH										<u>(766)</u>

NOTE: Totals may not add exactly due to rounding.