

HAWAIIAN ELECTRIC COMPANY, INC.

RONALD R. COX

EDUCATIONAL BACKGROUND AND EXPERIENCE

Business Address: Hawaiian Electric Company, Inc.
475 Kamehameha Highway
Pearl City, Hawaii 96782

Position: Manager
Power Supply Services Department

Education: Bachelor of Science in Chemical Engineering
Northwestern University, 1979

Master of Science in National Security Studies
National War College, 2001

Experience: HAWAIIAN ELECTRIC COMPANY, INC.
January 2007 to Present
Manager, Power Supply Services Dept.

November 2005 to January 2007
Manager, Operations Strategic Planning

U. S. NAVY
1979 to 2005
Various Assignments

Hawaiian Electric Company, Inc.

DERIVATION OF FUEL EXPENSE
(Contract Fuel Prices)

Line	LSFO	(A) Fuel Consumption (Barrels)	(B) ¹ Contract Prices (\$/bbl)	(C) = (A) x (B)	
				(C) Fuel Expense (\$000)	
1.	Honolulu	324,897	99.3149	\$	32,267
2.	Kahe	5,592,243	99.3149	\$	555,393
3.	Waiiau-Steam	2,026,235	99.3149	\$	201,235
4.	Subtotal	7,943,375		\$	788,896
5.	Waiiau-Diesel	49,048	138.6074	\$	6,798
6.	CIP-Diesel	75,092	138.6074	\$	10,408
7.	Subtotal	124,139		\$	17,207
8.	Biodiesel	7,020	232.0913	\$	1,629
9.	Central Station Total	8,074,534		\$	807,731
10.	Substation DG	9,571	138.6074	\$	1,327
11.	Grand Total	8,084,105		\$	809,058
		Composite Fuel Price		100.0801	\$/bbl

¹ See HECO-502 and HECO-WP-502.

Hawaiian Electric Company, Inc.

DERIVATION OF FUEL EXPENSE
(Including Trucking and Petrospect Costs)

Line	LSFO	(A) Fuel Consumption (Barrels)	(B) ¹ Fuel Costs (\$/bbl)	(C) = (A) x (B) (C) Fuel Expense (\$000)
1.	Honolulu	324,897	102.4340	\$ 33,281
2.	Kahe	5,592,243	99.3275	\$ 555,463
3.	Waiiau-Steam	2,026,235	99.3275	\$ 201,261
4.	Subtotal	7,943,375		\$ 790,005
5.	Waiiau-Diesel	49,048	138.6497	\$ 6,800
6.	CIP-Diesel	75,092	140.7616	\$ 10,570
7.	Subtotal	124,139		\$ 17,370
8.	Biodiesel	7,020	232.0913	\$ 1,629
9.	Central Station Total	8,074,534		\$ 809,004
10.	Substation DG	9,571	140.7018	\$ 1,347
11.	Grand Total	8,084,105		\$ 810,351
			Composite Fuel Price	100.2400 \$/bbl

¹ See HECO-502.

Confidential Information Deleted
Pursuant To Protective Order,
Filed on _____

HECO-502
DOCKET NO. 2008-0083
PAGE 1 OF 1

HECO-502 is confidential and will be provided
after a Protective Order is issued in this proceeding.

Hawaiian Electric Company, Inc.
TEST YEAR FUEL RELATED EXPENSES

<u>Line</u>	<u>Dollars (\$000)</u>	<u>Reference</u>
1. Fuel Handling Expenses	\$ 6,197	HECO-504; HECO-WP-511
2. Fuel Trucking Expenses	\$ 1,191	HECO-503, page 2
3. Petrospect Expenses	\$ 102	HECO-503, page 3; HECO-WP-503
4. Kahe 6 Fuel Additive Expense	\$ 105	HECO-WP-512
5. Total	<u>\$ 7,595</u>	

Hawaiian Electric Company, Inc.

DERIVATION OF FUEL EXPENSE
(Trucking Costs)

Line	LSFO	(A) Fuel Consumption (Barrels)	(B) ¹ Trucking Cost (\$/bbl)	(C) = (A) x (B) (C) Fuel Expense (\$000)
1.	Honolulu	324,897	3.1065	\$ 1,009
2.	Kahe	5,592,243	-	\$ -
3.	Waiiau-Steam	2,026,235	-	\$ -
4.	Subtotal	7,943,375		\$ 1,009
5.	Waiiau-Diesel	49,048	-	\$ -
6.	CIP-Diesel	75,092	2.1542	\$ 162
7.	Biodiesel	7,020	-	\$ -
8.	Subtotal	131,159		\$ 162
9.	Central Station Total	8,074,534		\$ 1,171
10.	Substation DG	9,571	2.0944	\$ 20
11.	Grand Total	8,084,105		\$ 1,191

¹ See HECO-502

Hawaiian Electric Company, Inc.

DERIVATION OF FUEL EXPENSE
(Petrospect Costs)

Line	LSFO	(A) Fuel Consumption (Barrels)	(B) ¹ Petrospect Cost (\$/bbl)	(C) = (A) x (B) (C) Fuel Expense (\$000)
1.	Honolulu	324,897	0.0126	\$ 4
2.	Kahe	5,592,243	0.0126	\$ 70
3.	Waiau-Steam	2,026,235	0.0126	\$ 25
4.	Subtotal	7,943,375		\$ 100
5.	Waiau-Diesel	49,048	0.0423	\$ 2
6.	CIP-Diesel	75,092	-	\$ -
7.	Biodiesel	7,020	-	\$ -
8.	Subtotal	131,159		\$ 2
9.	Central Station Total	8,074,534		\$ 102
10.	Substation DG	9,571	-	\$ -
11.	Grand Total	8,084,105		\$ 102

¹ See HECO-502, Line 8 and HECO-WP-503.

Hawaiian Electric Company, Inc.

TEST YEAR FUEL HANDLING EXPENSES
(\$000)

Line Description	(A)	(B)	(C)	(D)	(E) = (A)+(B)+(C)+(D)
	Kahe	Waiau	Honolulu	Other	Total
1. Facilities Base Fee	\$ 868	\$ 2,161	-	\$ -	\$ 3,029
2. Pipeline Maintenance	\$ 602	\$ 111	-	\$ -	\$ 713
3. Tankfarm Management Fee	\$ -	\$ -	-	\$ 2,455	\$ 2,455
4. Total	\$ 1,470	\$ 2,272	-	\$ 2,455	\$ 6,197

Sources:

- Line 1: HECO-WP-504, HECO-WP-505, and HECO-WP-511
- Line 2: HECO-WP-506, HECO-WP-507 and HECO-WP-511.
- Line 3: HECO-WP-508 to HECO-WP-511.

Hawaiian Electric Company, Inc.

TEST YEAR FUEL OIL INVENTORY

Line	(A) Average Barrels ¹	(B) Price per Barrel	(C) = (A) x (B) (C) Fuel Oil Inventory (\$000)
Start of Year Without CIP1:			
1.	Residual Fuel Oil	761,694	99.4545 \$ 75,754
2.	Diesel Oil	31,624	139.0914 \$ 4,399
3.	TOTAL INVENTORY	793,318	\$ 80,152
End of Year With CIP1:			
4.	Residual Fuel Oil	761,694	99.4545 \$ 75,754
5.	Diesel Oil	19,144	139.3794 \$ 2,668
6.	Biodiesel	29,266	232.0913 \$ 6,792
7.	TOTAL INVENTORY	810,103	\$ 85,214
7A.	AVERAGE ANNUAL TOTAL INVENTORY	801,710	\$ 82,683
AVERAGE RESIDUAL FUEL OIL PRICE			
8.	Residual Fuel Oil Expense (HECO-501, p. 2, Line 4, Column C)		\$ 790,005
9.	Barrels of Residual Fuel Oil (HECO-501, p. 2, Line 4, Column A)		7,943,375
10.	Average Price per Barrel (Line 8 ÷ Line 9)		\$ 99.4545
AVERAGE DIESEL OIL PRICE			
11.	No BP-CT Waiiau CT Diesel Inventory Volume (HECO-507, p.1, Line 6)		24,961
12.	With BP-CT Waiiau CT Diesel Inventory Volume (HECO-507, p.2, Line 2)		12,481
13.	BP Diesel Oil Inventories Total Volume (HECO-507, p.1, Line 7)		4,950
14.	Substation DG Diesel Oil Inventory Volume (HECO-507, p.1, Line 9)		1,713
15.	Waiiau CT Diesel Oil Price (HECO-501, Page 2, Line 5, Column B)		\$ 138,6497
16.	BP Diesel Oil Price (HECO-501, Page 2, Line 6, Column B)		\$ 140,7616
17.	Substation DG Diesel Oil Price (HECO-501, Page 2, Line 10, Column B)		\$ 140,7018
18.	No BP-CT Waiiau CT Diesel Oil Inventory Value (Line 11 * Line 15)		\$ 3,460,835
19.	With BP-CT Waiiau CT Diesel Oil Inventory Value (Line 12 * Line 15)		\$ 1,730,417
20.	BP Diesel Oil Inventory Value (Line 13 * Line 16)		\$ 696,770
21.	Substation DG Diesel Oil Inventory Value (Line 14 * Line 17)		\$ 241,022
22.	No BP-CT Total Diesel Inventory Value (Line 18 + Line 20 + Line 21)		\$ 4,398,627
23.	With BP-CT Total Diesel Inventory Value (Line 19 + Line 20 + Line 21)		\$ 2,668,209
24.	No BP-CT Diesel Inventory Average Value (Line 22/Line 2, Column A)		\$ 139.0914
25.	With BP-CT Diesel Inventory Average Value (Line 23/Line 5, Column A)		\$ 139.3794
AVERAGE BIODIESEL PRICE			
26.	Biodiesel Expense (HECO-501, p. 2, Line 8, Column C)		\$ 1,629
27.	Barrels of Biodiesel (HECO-501, p. 2, Line 8, Column A)		7,020
28.	Average Price per Barrel (Line 26/Line 27)		\$ 232.0913

¹ Residential Fuel Oil - HECO-506; Diesel Oil & Biodiesel: HECO-507

Hawaiian Electric Company, Inc.

DERIVATION OF RESIDUAL FUEL OIL INVENTORY

Line

1. Forecast Residual Fuel Oil Consumption ¹	7,943,375 Barrels
2. Burn Rate (Line 1 / 365 days)	21,763 Barrels/Day
3. 35 Day Inventory (Line 2 X 35 days)	761,694 Barrels
4. Fuel Price ²	\$ 99.4545 \$/Barrel
5. Residual Fuel Oil Inventory (Line 3 x Line 4)	\$ 75,754 \$000

¹ See HECO-501, line 4, column A.

² See HECO-505, line 10.

Hawaiian Electric Company, Inc.

DERIVATION OF DIESEL OIL & BIODIESEL INVENTORIES
PORTION OF YEAR WITHOUT CIP1 GENERATION

Line		Monthly Data Period	Average Month Ending Inventory (Barrel)	Average Period Inventory (Barrel)
	Diesel			
1.	Waiau CT	2003	23,827	
2.		2004	22,414	
3.		2005	25,174	
4.		2006	23,405	
5.		2007	29,985	
6.		Average		24,961
7.	¹ BPTF	2/2005-4/2008		4,950
8.	Central Station Inventory			29,911
9.	² DG Inventory			1,713
10.	Total Diesel Oil Inventory			31,624

¹ Average month end inventory for emergency pipeline displacement since tank fill start in 2/2005.

² Average month end inventory since full build out (5/2007 - 4/2008).

Hawaiian Electric Company, Inc.

DERIVATION OF DIESEL OIL & BIODIESEL INVENTORIES
PORTION OF YEAR WITH CIP1 GENERATION

Line		Monthly Data Period	Inventory (Barrel)	Average Ending Inventory (Barrel)
Diesel				
1.	Waiau CT	from above 1/2003-12/2007	24,961	
2.	Waiau CT	Assume 50% less output with CIP1 available		12,481
3.	¹ BPTF	2/2005-4/2008		4,950
4.	Central Station Inventory			17,431
5.	² DG Inventory			1,713
6.	Total Diesel Oil Inventory			<u>19,144</u>
Biodiesel				
7.	CIP1	BTU content of Waiau diesel inventory	24,961 X 5.86 MBTU/Bbl	= 146,271 MBTU
8.	Barrels Biodiesel with heat content @ 4.998 MBTU per Barrel			<u>29,266</u>

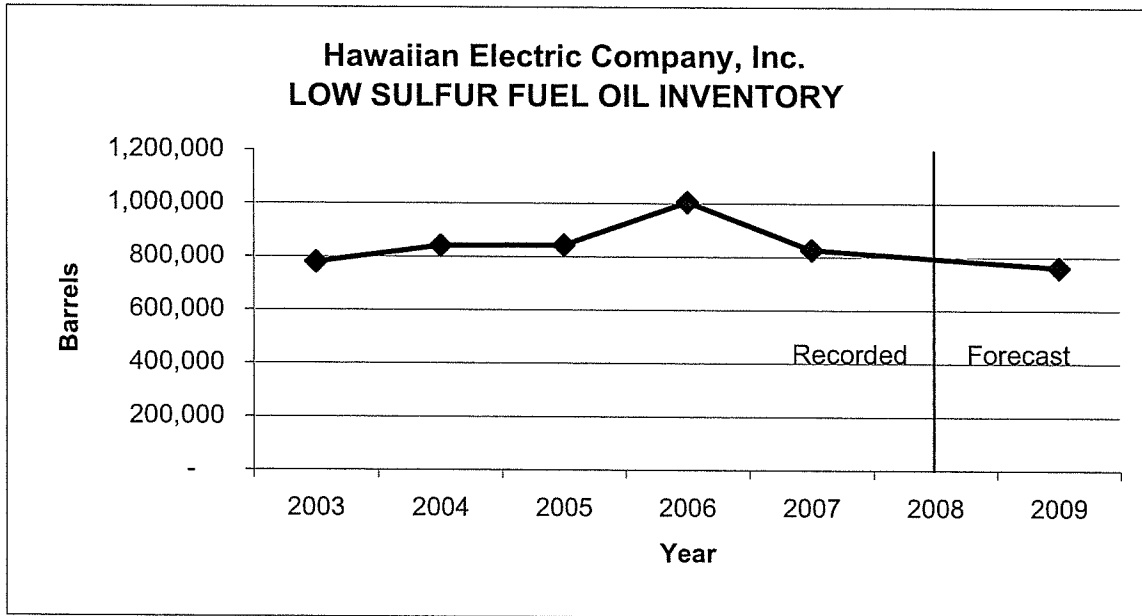
¹ Average month end inventory for emergency pipeline displacement since tank fill start in 2/2005.

² Average month end inventory since full build out (5/2007 - 4/2008).

Hawaiian Electric Company, Inc.

AVERAGE MONTHLY LSFO INVENTORY COMPARED WITH TEST YEAR
 LSFO INVENTORY

Line	Year	(A)	(B)	(C) = (B) / (A)
		Barrels Consumed Per Day	Average Ending Inventory (Barrel)	Average Days Supply
1.	2003	20,974	778,717	37
2.	2004	22,229	840,343	38
3.	2005	21,574	842,358	39
4.	2006	22,128	1,005,056	45
5.	2007	22,188	826,331	37
6.	2003 - 2007 Average	21,818	858,561	39



Hawaiian Electric Company, Inc.

AVERAGE MONTHLY TOTAL FUELS INVENTORY COMPARED WITH TEST YEAR
TOTAL FUELS INVENTORY

Line	Year	(A)	(B)	(C)	(D) = (A) + (B) + (C) (D)
		L S F O Barrels	Diesel Barrels	Biodiesel Barrels	Total Barrels
1.	2003	778,717	23,827	0	802,544
2.	2004	840,343	22,414	0	862,757
3.	2005	842,358	26,632	0	868,990
4.	2006	1,005,056	28,281	0	1,033,337
5.	2007	826,331	37,389	0	863,720
6.	2003 - 2007 Average	858,561	27,709		886,269

