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

October 30, 2007

FILED
2007 OCT 30 P 1:45
PUBLIC UTILITIES COMMISSION

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

Dear Commissioners:

Subject: Docket No. 2006-0387
MECO 2007 Test Year Rate Case
Responses to Consumer Advocate Information Requests

Attached are ten sets (each set containing six binders) of Maui Electric Company, Limited's ("MECO") responses to the Consumer Advocate's information requests. These responses were provided to the Consumer Advocate during the period beginning April 23, 2007 through October 25, 2007. One set is being provided to the Commission's Maui District Office.

Responses containing confidential information are being submitted pursuant to Protective Order No. 23379, dated April 23, 2007. Electronic copies of the responses in portable document format ("PDF") are being provided on compact disc.

Very truly yours,

Dean K. Matsuura
Manager, Regulatory Affairs

Attachments

cc: Bryan Kageyama, Maui District Office
Division of Consumer Advocacy (w/o attachments)

PARTIAL CONFIDENTIAL
(IN SEALED ENVELOPE)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of	)	
	)	
MAUI ELECTRIC COMPANY, LIMITED	)	Docket No. 2006-0387
	)	
For Approval of Rate Increases and Revised Rate Schedule and Rules	)	
	)	

MECO
2007 TEST YEAR

MECO Responses to
CONSUMER ADVOCATE
Information Requests

Book 1 of 6

October 30, 2007

PARTIAL CONFIDENTIAL
(IN SEALED ENVELOPE)

111.

CA-IR-1

For each of the MECO witnesses who sponsor test period budgeted labor direct expense amounts, please provide the following information:

a. Identify each employee involved in preparation of budgeted staffing and associated labor direct expense amounts included in the witnesses' portion of the rate case test period budget.

b. Provide complete copies of all calculations, spreadsheet files, "pencil" workpapers, surveys and other analyses performed by each of the employees identified in response to part (a) above, documenting all work done to determine required staffing levels and overtime hours by Department, RA, Activity and NARUC Account. If spreadsheet files are provided, please provide paper and electronic copies (.xls format).

c. Describe the actual force level that existed at the date the budget was prepared or otherwise served as a base for purposes of preparing the budget level.

d. For each budgeted employee position that is added to existing actual force levels (as of the date the budget was prepared), **explain** the analyses undertaken to determine that each added position was necessary and should be filled in order to meet present or anticipated work requirements. Also, please explain how the anticipated work requirements were defined and determined.

e. Describe and, to the extent possible, quantify the backlog of work, unfinished projects, deferred maintenance and other labor requirements unfulfilled at present staffing levels, that will be satisfied by adding the employee positions identified in your response to part (d) above.

f. Provide complete copies of all studies, analyses, workpapers, projections, notes, correspondence, assumptions and other documents associated with your responses to parts (d) and (e) above.

MECO Response:

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

CA-IR-2

For each of the MECO witnesses who sponsor test period budgeted non-labor direct expense amounts, please provide the following information:

a. Identify each employee involved in preparation of budgeted non-labor direct expense amounts included in the rate case test period budget and sponsored by the witness.

b. Provide complete copies of all calculations, spreadsheet files, "pencil" workpapers, surveys and other analyses performed by each of the employees identified in response to part (a) above, indicating the amounts by Department, RA, Activity and NARUC Account that such calculations support. If spreadsheet files are provided, please provide paper and electronic copies (.xls format).

c. For each budgeted non-labor amount in the test period forecast that exceeds $50,000, please describe the basis for determining the budgeted amount (for example, bid solicitation, price times quantity estimation, historical cost escalated, etc.)

d. For each item in your response to part (c) above, where specific quantities and prices were discretely forecasted, explain the basis for and source of the budgeted quantity inputs and budgeted prices for each such item. Provide complete copies of all studies, reports and other documents that were relied upon.

e. For each item in your response to part (c) above where historical costs were averaged and/or escalated, provide all historical cost information that was considered and explain how such data was evaluated and escalated to derive test year proposed levels.

f. For each item in your response to part (c) above where a bid solicitation or other special analysis was conducted, explain what was done and provide complete copies of all supporting reports, bid solicitations, proposals, analyses, workpapers and other documents associated with such efforts.

g. Provide complete copies of all other information required to completely support and document the test year projected expense levels being proposed by the Company, including general assumptions and forecasting instructions that were employed.

MECO Response:

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

CA-IR-3

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

There are none. Also, this witness did not have a response to CA-IR-1 or CA-IR-2.

CA-IR-3

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

HECO Response:

The following normalizing adjustments were made for the purposes of the production simulation for the 2007 test year:

1. A normalized overhaul schedule was used for the generating units. The normalized overhaul schedule is discussed in the direct testimony of Mr. Ribao in MECO T-5, pages 22 to 29. Please see MECO-WP-404, page 84, for the normalized overhaul schedule.
2. The operation of Maalaea Unit 13 ("M13") was normalized for test year. As discussed in the direct testimony of Mr. Sakuda in MECO T-4, page 21, lines 23 to 26, and page 22, lines 1 to 7, it is estimated that M13 will return to service in mid-2007, after a forced outage lasting approximately 18 months. For the purposes of the test year production simulation, M13 was assumed to be operational for the entire 2007 test year.
3. The operation of the Kaheawa Wind Partners wind farm ("KWP") was normalized for the test year. As discussed in the direct testimony of Mr. Sakuda in MECO T-4, pages 18 to 20, KWP became operational on June 9, 2006. For the purposes of the test year production simulation, KWP was assumed to be operational for the entire 2007 test year.
4. The operation of the Makila Hydro run-of-river hydroelectric generating facility ("Makila") was normalized for the test year. As discussed in the direct testimony of Mr. Sakuda in MECO T-4, pages 20 and 21, Makila became operational on September 22, 2006. For the purposes of the test year production simulation, Makila was assumed to be operational for the entire 2007 test year.

CA-IR-3

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustments instructions that were employed.

MECO Response:

Each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense being proposed by the Power Supply Department, is indicated on MECO-504. Please refer to MECO-504 and its associated workpapers for the documentation supporting each adjustment.

CA-IR-3

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

Budget adjustments were presented in MECO-WP-602C, and the supporting workpaper is provided in Attachment 1. See also MECO T-6, page 19, line 20 to page 20, line 1.

Item No.	Acct Blk	NARUC	RA	Act	Loc	Ind	Proj	EE	2007 Oper Budget	Adjust	2007 TY Estimate	Testimony	REFERENCE
A1	B32	566	MWP	325	MTO	NE	NMZZZZZZ	501	$ -	$ 6,237.31	$ 6,237.31	T-9	Pages 107-109
A2	B34	588	MWP	455	MDO	NE	NMZZZZZZ	501	$ -	$ 84,440.33	$ 84,440.33	T-9	Pages 107-109
A3	B34	588L	MWP	455	LDO	NE	NMZZZZZZ	501	$ -	$ 2,362.49	$ 2,362.49	T-9	Pages 107-109
A4	B34	588M	MWP	455	GDO	NE	NMZZZZZZ	501	$ -	$ 11,830.28	$ 11,830.28	T-9	Pages 107-109
										$ 119,870.41	$ 119,870.41		

From: Matsunaga, Lyle
Sent: Tuesday, August 29, 2006 1:29 PM
To: Herrera, Andy
Cc: Arase, Annabel; Arita, Robin
Subject: 2007 TY Estimate for Abandoned Project Costs

Please include the amounts in the attachment as 2007 rate case adjustments for the indicated T&D O&M accounts. I'll be covering the Company's accounting policy for abandoned project costs in the A&G section, but the amounts need to be reflected in the T&D section.

Please let me know if you have questions.

Thanks.

Maui Electric Company, Ltd.
Abandoned Project Costs Normalization Adjustment
2007 Test Year Estimate

Division	Work Order #	Work Order Description	Codeblock	NARUC	2002	2003	2004	2005	4-Year Average	2007 Budget	Normalization Adjustment	2007 TY Estimate
Lanai	FI000298	Lanai Distribution Abandoned Projects	MWA456LDONENMZZZZZZ	586L	76	786	8,195	413	2,362		2,362	2,362
		Sub-total Lanai			76	786	8,195	413	2,362	-	2,362	2,362
Maui	FI000295	Maui Transmission Abandoned Projects	MWA325MTONENMZZZZZZ	586	3,850	-	21,299	-	6,237	-	6,237	6,237
Maui	FI000297	Maui Distribution Abandoned Projects	MWA455MDONENMZZZZZZ	588	141,642	54,111	109,524	32,485	84,440	-	84,440	84,440
		Sub-total Maui			145,292	54,111	130,823	32,485	90,678	-	90,678	90,678
Molokai	FI000299	Molokai Distribution Abandoned Projects	MWA455GDONENMZZZZZZ	588M	95	15,940	-	31,298	11,830	-	11,830	11,830
		Sub-total Molokai			95	15,940	-	31,298	11,830	-	11,830	11,830
			Totals		145,463	70,616	139,018	64,194	104,870	-	104,870	104,870

CA-IR-3
DOCKET NO. 2006-0387
MECO T-6
ATTACHMENT 1
PAGE 2 OF 6

From: Matsunaga, Lyle
Sent: Thursday, February 01, 2007 1:13 PM
To: Yamashita, Irene
Cc: Herrera, Andy; Shimyama, Neal
Subject: RE: Rate Case - Abandoned Project Adjustment

The cost centers are in the hidden column D. I'd use EE 501 for each.

From: Yamashita, Irene
Sent: Thursday, February 01, 2007 12:53 PM
To: Matsunaga, Lyle
Cc: Herrera, Andy; Shimyama, Neal
Subject: FW: Rate Case - Abandoned Project Adjustment
Importance: High

URGENT!

Hi Lyle,
This information is urgently needed.

May I get this adjustment broken down by code block to the expense element level?

I need this information in order to complete the T&D O&M exhibits and work papers. The testimony may require revisions contingent on the information you provide.

Thank in advance.

Irene

From: Yamashita, Irene
Sent: Wednesday, January 31, 2007 11:45 AM
To: Matsunaga, Lyle
Cc: Herrera, Andy

Yamashita, Irene

From:	Matsunaga, Lyle
Sent:	Wednesday, January 31, 2007 11:09 AM
To:	Herrera, Andy
Cc:	Yamashita, Irene
Subject:	Rate Case - Abandoned Project Adjustment
Attachments:	MECO-927 Abandoned Project Costs.xls

Getting back to you on your question about what to call the adjustment – I've revised the exhibit, attached, and will be referring to simply as, "adjustment".

Item No.	Acct Blk	NARUC	RA	Act	Loc	Ind	Proj	EE	Line Item	2007 Oper Budget	Adjust	2007 TY Estimate	Testimony	REFERENCE
A5	B34	583	MDR	461	MAU	NE	NMDZZZZZ	501	SUN-NC>TRANS OUTAGE APPL (TOA)	$ -	$ 15,000.00	$ 15,000.00	T-6	Page 19 -20

RA	Lbr Class	EC	Act	Loc	Ind	Proj	EE	Line Item	AB	JUSTIFICATION	2007 Units
MDR		Outside Svcs	461	MAU	NE	NMDZZZZZ	501	DR SUN-NC>TRANS OUTAGE APPL (TOA) ANL MTNC (SO1387)	B34	Based on quote from Sun-Net Consulting	15,000.00

TOA Product Maintenance Service Agreement for year 2007

Product Description

TOA Product Maintenance Services provides software usage support on SNC Software. Usage support includes Advisory/Remedial telephone consultation, Dial-in Assistance (if it is available), Software and Documentation Updates, and Software Problem Reporting.

Agreement

This Service Description together with SNC Maintenance Services Terms and constitute the entire agreement between the parties with respect to its subject matter.

Term

Yearly, effective from January 1st, 2007

SNC's Responsibilities

Advisory/Remedial Consultation
SNC will make available, as specified in Service Availability, via telephone and e-mail. A Technical Representative to review usage problem(s) encountered by the purchaser on Software. The Technical Representative will offer a resolution or a suggested direction for obtaining a resolution to the problem.

Dial-in Assistance
SNC will provide dial-in assistance for problem resolution on Software as requested by the purchaser. Dial-in service will consist of a Technical Representative connecting to purchaser-provided dial-in facilities to review and/or correct problems with Software. Support efforts will be performed during hours specified in Service Availability.

Software Problem Reporting
Where an over-the-phone solution is not possible and SNC determines that the cause of a problem appears to be due to a defect in the software the customer is entitled to submit a Software Problem Report ("SPR") describing and detailing the problem. The SPR may be submitted electronically via e-mail to the assigned technical support representative. If the categorization of the SPR is identified as critical, the SPR will be identified via a phone call to technical support, at no charge. SNC will apply resources immediately until the problem is resolved. Resolution may include software patches or other approaches as required. SPRs submitted against SNC Standard software and found to be related to customizations will be addressed on a time and material basis.

Software and Documentation Updates
SNC will provide:
(i.) New Software releases and interim updates as made commercially available or through email.
(ii.) Improvements/enhancements to software reference manuals as made commercially available, one hard copy per agreement. Additional hard copies may be purchased through Technical Support.
(iii.) Additional information concerning software enhancements, changes, programming notes and/or documentation corrections if applicable.

Fees

This service is provided on a firm fixed-fee basis payable in advance with a one-time charge of $15,000 for the year 2007, which include 80 hours of labor for the enhancement and technical support. There is no charge for this service if the problem is identified to be with SNC's Software. If the problem is related to Customer data incorrectly entered, Customer modifications, or other Customer related activities *the consultation will be on a time and material basis after initial 80* hours services, the hourly rate for additional consulting services is $125 per hour.

Service Availability

Advisory/Remedial Support and Dial-In Assistance
Is available during normal business hours, nine (9) hours per day, five (5) days a week (8:00 a.m. to 5:00 p.m., PST/PDT, Monday through Friday) excluding those holidays recognized by SNC.

	Sun-Net Consulting	Maui Electric Company
Signature	----------	----------
Print Name	----------	----------
Date	----------	----------

CA-IR-3

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

Budget adjustments for customer accounts expense were described in MECO-703, and the calculations, reasons, and supporting workpapers to such adjustments were provided in MECO-WP-701, pages 21-24.

CA-IR-3

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

Budget adjustments for customer service expense were described in MECO-803, and the supporting workpaper is provided in Attachment A. Normalizing adjustments were also presented in MECO-803, and the supporting calculations and workpapers were provided in MECO-811, MECO-812, and MECO-WP-812.

IRP & DSM Amortization				
NARUC	**Act ***		**ACTBUD**	**FY07 RAVB07**
910	711	IRP	ACTUAL	
910	711	IRP	ACTUAL	
	711 Total	**IRP**		**-**
910	713	DSM	BUDGET	2,400,000
910	713	DSM	ACTUAL	
910	713	DSM	ACTUAL	
	713 Total	**DSM**		**2,400,000**
910L	711	IRP	ACTUAL	
910L	711	IRP	ACTUAL	
	711 Total	IRP		**-**
910L	713	DSM	ACTUAL	
910L	713	DSM	ACTUAL	
	713 Total	**DSM**		**-**
910M	711	IRP	ACTUAL	
910M	711	IRP	ACTUAL	
	711 Total	**IRP**		**-**
910M	713	DSM	ACTUAL	
910M	713	DSM	ACTUAL	
	713 Total	**DSM**		**-**
	Grand Total			**2,400,000**
	Maui Division			**2,400,000**
	Lanai Division			**-**
	Molokai Division			**-**
	MECO Consolidated			**2,400,000**
Source: Pillar report				
* Act 711	IRP			
Act 713	DSM			

CA-IR-3

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustments instructions that were employed.

MECO Response:

Budget adjustments for T-9 were identified in MECO-901, pages 21 and 22. Rate case and normalizations were generally discussed in the testimony and were not included in MECO-901, pages 21 and 22. Please see Attachment A for a listing of the rate case and normalization adjustments not included in MECO-901, pages 21 and 22.

MAUI ELECTRIC COMPANY, INC.
ADMINISTRATIVE & GENERAL O&M EXPENSE
TEST YEAR 2007
ADJUSTMENTS

Note	Account	Description	Amount
Rate-making Adjustments:			
A	920	Remove incentive compensation program costs.	(339.8)
B	921	Remove incentive compensation program costs.	(8.1)
C	923.03	Remove incentive compensation program costs included in HEI management fees. See MECO-911, page 1 of 3.	(120.2)
D	926.00	Remove NPPC for nonqualified plans.	(1.0)
E	926.00	Remove executive life related costs.	(51.7)
F	926.00	Remove 401(k) administration costs.	(5.2)
G	9302	Remove lobbying portion of EEI dues. See MECO-917, page 2 of 2.	(20.7)
Sub-total for rate-making adjustments			(546.7)

MAUI ELECTRIC COMPANY, INC.
ADMINISTRATIVE & GENERAL O&M EXPENSE
TEST YEAR 2007
ADJUSTMENTS

Note	Account	Description	Amount
Normalization Adjustments:			
H	921	Add one-fifth of estimated depreciation study costs. Studies estimated to be performed every 5 years.	11.0
I	921	Remove three-fourths of estimated union negotiations related costs. Union negotiations estimated to be performed every 4 years.	(5.6)
J	923.03	Remove three-fourths of estimated union negotiations related costs. Union negotiations estimated to be performed every 4 years.	(8.6)
K	923.03	Remove three-fourths of estimated costs for Microsoft Enterprise software license. License estimated to be renewed every 4 years.	(52.5)
L	926	Remove three-fourths of estimated union negotiations related costs. Union negotiations estimated to be performed every 4 years.	(18.7)
M	928	Add one-third of estimated rate case costs. See MECO-915.	341.7
Sub-total for normalization adjustments			267.3
Total rate-making and normalization adjustments			(279.4)

CA-IR-3

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

A listing of adjustments to the operating budget and normalizations and adjustments for the test year is provided in Attachment A with references as indicated.

MAUI ELECTRIC COMPANY, LTD.
DIRECT NONLABOR SUPPORT SUMMARY
Listing of Adjustments to Operating Budget - Account No. 926

*	NARUC	RA	Act	Loc	Ind	Proj	EE	2007 Oper Budget	Adjust	2007 TY Estimate	Reference
9	926	MSP	776	MAU	NE	NMSZZZZZ	501	79,942	(18,700)	61,242	MECO T-10, pages 33-34
37	926	MSP	778	MAU	NE	NMSZZZZZ	900	-	3,261	3,261	MECO T-10, page 33
44	926	MSP	779	MAU	NE	NMSZZZZZ	550	2,231	(2,231)	-	Deleted to limit issues
46	926	MSP	779	MAU	NE	NMSZZZZZ	501	2,942	(2,942)	-	Deleted to limit issues
49	926	MSP	780	MAU	NE	NMSZZZZZ	509	(44,331)	44,331	-	Deleted to limit issues
58	926	MSP	778	MAU	NE	NMSZZZZZ	509		55,000	55,000	ATTACHMENT B, PAGE 22
59	926	MAA	779	MAU	NE	NMAZZZZZ	509	5,290,996	(144,000)	5,146,996	TO BE PROVIDED BY MECO T9

* Line items correspond to line items from CA-IR-2, Attachment A

CA-IR-3
NUMBER OF EMPLOYEES

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

Not applicable. There were no ratemaking adjustments with respect to the Company's test year total number of employees.

CA-IR-3

General Information Requests

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustments instructions that were employed.

MECO Response:

All adjustments for depreciation expense and accumulated depreciation were identified and explained in the testimony.

CA-IR-3

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

With respect to the testimony of MECO T-13, all supporting workpapers and calculations were included in the February 23, 2007 filing of the Company's application, direct testimony, exhibits and workpapers.

CA-IR-3

T-14

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

See Attachment 1 for workpapers in support of plant additions adjustments of $83,433 and Attachment 2 for workpapers in support of cash contributions-in-aid of construction ("CIAC") adjustments for the Maui, Lanai, and Molokai Divisions of $91,000, $3,000 and $19,000, respectively.

Furthermore, the Company's 2007 Operating Budget did not include a budget for customer advances as it was assumed for budgeting purposes that the amount of customer advances received would equal the sum of customer advances refunded in whole or in part plus any amounts transferred to CIAC. However, for the instant proceeding, adjustments were made to the 2007 Operating Budget, as shown on MECO-1407 (page 2 of 2), to include 2007 test year estimates for customer advance receipts, refunds and transfers to CIAC.

Maui Electric Company, Limited
Plant Additions Adjustment

	Project #	Description	Budget	Adjustment	Amount
1	M0000019	Damages Caused by External Party	52,939	359	53,298
2	M0000126	Sub4 Revenue Metering Upgr	20,097	153	20,250
3	M0000215	Sub 36 - Sub 3 - KBY Fiber Optic Link	346,578	492	347,070
4	M0000229	Lifecycle Maintenance 02-03	57,093	(23)	57,070
5	M0000300	Replacement Distr. Tools & Equipment	45,630	(7)	45,623
6	M0000301	Makawao SCADA Installation	70,753	1,917	72,670
7	M0000302	Keanae SCADA Installation	70,753	1,917	72,670
8	M0000316	Life Cycle Mgt-Batteries&Chargers	47,778	36	47,814
9	M0000387	Lanai SCADA Upgrade	176,563	2,391	178,954
10	M0000423	K1 Generator Rotor Rewind	443,331	(38)	443,293
11	M0000461	T&D/Main Offc Bldg Upgrade	81,746	222	81,968
12	M0000531	PowerTrax Customer Web Info	38,196	44	38,240
13	M0000558	K1 Generator Stator Rewind	597,428	(38)	597,390
14	M0000629	M14 CT Controls	587,128	(133)	586,995
15	M0000637	Kaluakoi UG Main Fdr Repl Ph3	298,601	909	299,510
16	M0000652	SOH: Molokai Kawaikapu Bridge UA# 1678	38,186	28	38,214
17	M0000658	Wailea Cap Bank #3	159,320	1,497	160,817
18	M0000659	Makawao 1200 KVAR Cap Bank	36,479	137	36,616
19	M0000660	Paia 23kV Breaker Repl	110,393	1,079	111,472
20	M0000661	Kihei Cap Bank #3	156,863	1,490	158,353
21	M0000680	County of Maui-Mkt St Impvts	75,865	47	75,912
22	M0000687	Kanaha Tsf #B Replacement	581,908	366	582,274
23	M0000688	KPP Spare Tsf Replacement	105,843	64	105,907
24	M0000690	T&D SCADA Equipment	171,755	565	172,320
25	M0000697	69kV Reloc Waikapu	1,569,696	3,681	1,573,377
26	M0000699	Pomaikai Ph 1	396,626	282	396,908
27	M0000710	COM Lwr HP Road Phase 4	518,852	393	519,245
28	M0000716	Install Viper-E25 Onehee Ave	62,549	208	62,757
29	M0000718	Reconductor Ckt.1347-Kanaha	182,208	957	183,165
30	M0000719	Recond-Kaahumanu-Papa/Kane	90,158	390	90,548
31	M0000720	Reconductor-Mahalani St-UG	140,327	492	140,819
32	M0000724	K1 Static Exciter	175,530	(73)	175,457
33	M0000725	K2 Static Exciter	170,208	(72)	170,136
34	M0000730	Sub 36 Unit 3 Tsf Addn	4,652	19	4,671
35	M0000741	Clemence Subdivision	41,334	80	41,414
36	M0000747	Trans Syst Eq. Purch-Radiator	78,098	52	78,150
37	M0000758	Sub 36 Fence Slats	10,658	(2)	10,656
38	M0000761	Kai Malu @ Wailea	234,865	196	235,061
39	M0000767	System Improvements Hikini Subdivision	58,392	23	58,415
40	M0000770	Kamali'i Alayna Subd	138,434	659	139,093
41	M0000773	Lahaina Office Fence-Utility	11,113	23	11,136
42	M0000775	West Maui Breakers	82,047	101	82,148
43	M0000777	KPP K2 Tsf Replacement	282,685	408	283,093
44	M0000782	KPP Compressor	94,416	(98)	94,318
45	M0000783	KPP Tank#4 Roof	51,286	(43)	51,243
46	M0000784	KPP Welding Lean to	39,688	(43)	39,645
47	M0000785	LL5 Radiator	78,126	(48)	78,078
48	M0000786	MPP Fuel Oil Transfer Pumps	102,436	(109)	102,327
49	M0000787	KPP Used Oil Berm	104,703	(86)	104,617
50	M0000788	K3 ID Fan	57,795	(90)	57,705
51	M0000789	KPP Condensate Storage Tank Pedestal	69,785	(56)	69,729
52	M0000790	M12/13 CEMS Replacement	404,248	85	404,333
53	M0000792	MPP E-Cell	171,618	(201)	171,417
54	M0000794	LL6 Radiator	78,126	(48)	78,078

Maui Electric Company, Limited
Plant Additions Adjustment

	Project #	Description	Budget	Adjustment	Amount
55	M0000796	SCADA Control Enhancements	101,935	2,677	104,612
57	M0000800	Puukolii Additional Circuits	441,176	780	441,956
58	M0000801	System: Lipoa Parkway	635,858	640	636,498
59	M0000802	Hana 23KV Maliko-Sub 16	148,736	750	149,486
60	M0000805	Relocate Camp Maui	459,977	1,774	461,751
61	M0000806	Kahakuloa Step Down Relocate	173,186	874	174,060
62	M0000807	Mahinahina Sub 50 Repl Tsf 2	684,810	2,151	686,961
63	M0000808	Kihei 35 Add-Dist. To Hi Tech	152,980	793	153,773
64	M0000809	Kihei Substation 35 - Transformer/Switchgear #	1,145,535	2,883	1,148,418
65	M0000810	Napili Sub 29 Tsf. 2 Replace	658,800	2,616	661,416
66	M0000811	Kihei 35 Dist Add-Eleu Pl	240,050	1,347	241,397
67	M0000812	UG Sys Impvts Kualono Sub'd	384,153	52	384,205
68	M0000813	MW Antenna Analyzer	35,635	(9)	35,626
69	M0000814	Power Factor Tester	40,387	(11)	40,376
70	M0000815	Hana DG Parallel Operations	16,893	-	16,893
71	M0000817	Waena Secure Staging Area	140,286	(17)	140,269
72	M0000819	LCM - Substation Equipment	174,952	410	175,362
73	M0000820	Lanai Env Bldg Firesprinkler	52,625	147	52,772
74	M0000821	MPP Security Cameras	74,546	14	74,560
75	M0000822	Admin Transfer Switch	34,073	-	34,073
76	M0000824	Haiku Sub Raise Tsf Bank	53,336	387	53,723
77	M0000826	Onehee SCADA Inst	70,753	1,917	72,670
78	M0000827	Wailuku Heights SCADA Inst	70,753	1,917	72,670
79	M0000828	St. Francis Offsite	369,889	428	370,317
80	M0000829	Ke Alii Villas	60,588	156	60,744
81	M0000830	Lahaina Bypass	125,331	442	125,773
82	M0000832	Molokai 34kV OH Insulators	143,604	288	143,892
83	M0000834	Kah Airport Cable Upgrade	323,509	688	324,197
84	M0000835	12th Inc. Reconduct Ani St.	123,204	144	123,348
85	M2600000	MPP Minor PS Additions	32,481	(9)	32,472
86	M2601000	KPP Minor PS Additions	25,643	(7)	25,636
87	M2602000	LPP Minor PS Addition	14,653	(4)	14,649
88	M2603000	MOE Minor PS Addition	14,653	(4)	14,649
89	M3030000	Minor R/W Purchase & Appraisal-Maui	16,500	-	16,500
90	M3032000	Minor R/W Purchase & Appraisal-Lanai	600	-	600
91	M3033000	Minor R/W Purchase & Appraisal-Molokai	2,700	-	2,700
92	M3141001	MPP M18-18 MW Steam Turbine NI	308,295	-	308,295
93	M3200000	MPP Minor PP Additions	28,085	(7)	28,078
94	M3201000	KPP Minor PP Additions	23,201	(6)	23,195
95	M3202000	LPP Minor PP Additions	13,432	(4)	13,428
96	M3203000	MOE Minor PP Additions	13,432	(4)	13,428
97	M3300000	Transmission Sub Additions	38,909	(8)	38,901
98	M3500000	Minor Transmission Plant Lines	176,090	705	176,795
99	M3600000	Minor Distribution SS Addition	71,033	116	71,149
100	M7000000	Overhead Services & Extensions	824,705	4,736	829,441
101	M7300000	Minor Pole Line Relocation	19,517	69	19,586
102	M7450000	Minor Overhead Feeders & Conversion	9,563	25	9,588
103	M7750000	Other Overhead Additions	333,796	2,506	336,302
104	M7900000	Meters & Metering Equip. (RB)	502,893	914	503,807
105	M7910000	Transformer & Related Equip (RB)	1,351,351	(111)	1,351,240
106	M7920000	Minor State Hwy Projects	299,512	4,025	303,537
107	M7990000	Street Lights	79,566	424	79,990
108	M8000000	Underground Extensions & Services	3,480,094	21,543	3,501,637
109	M8020000	In-Kind CIAC Maui	6,931,456	-	6,931,456
110	M8500000	Minor OH-UG Conversions	124,957	192	125,149
111	M8700000	Minor Cable Failure Replace	226,422	1,387	227,809

Maui Electric Company, Limited
Plant Additions Adjustment

	Project #	Description	Budget	Adjustment	Amount
112	M8900000	Other Underground Additions	59,867	954	60,821
113	M8980000	Makena CKT 1395 Extension	748,840	1,281	750,121
114	M9000000	Minor Communication Facilities	26,041	(1)	26,040
115	M9080000	T&D Radio Equipment	10,236	-	10,236
116	M9083000	Mobile Radio Repl	27,231	93	27,324
117	M9200000	Minor Gen Plant Add	52,312	(14)	52,298
118	M9410000	Tools & Equip-T&D	149,254	(37)	149,217
119	M9420000	Tools & Equip-Production	107,085	(29)	107,056
120	M9660000	Office Furn and Equip Accounting	11,164	(3)	11,161
121	M9661000	Office Furn and Equip Admin	30,366	(9)	30,357
122	M9662000	Office Furn and Equip T&D	5,345	-	5,345
123	M9663000	Office Furn and Equip Production	25,554	(6)	25,548
124	M9664000	Office Furn and Equip Engineering	7,301	(4)	7,297
125	M9665000	Office Furn and Equip Customer Service	4,968	(1)	4,967
126	M9666000	Office Furn and Equip CORP	5,582	(1)	5,581
127	M9800000	Vehicle Purchases	547,187	(61)	547,126
128		**GRAND TOTAL PLANT ADDITIONS**	**33,791,317**	**83,433**	**33,874,750**

Maui Electric Company, Limited
Cash Contributions-In-Aid of Construction Adjustment

(In Thousands)

		A	B	C	D	E	F	G	H	I	J
		|----------Actual CIAC Received					----------|		Budget		Test Year
	Division	2001	2002	2003	2004	2005	Total	5-Yr Avg	2007	Adjustment	Amount
1	Maui	2,131	1,452	2,130	1,409	2,606	9,728	1,946	2,036	91	2,127
2	Lanai	149	17	(6)	138	45	343	69	72	3	75
3	Molokai	56	13	26	45	1,851	1,991	398	417	19	436
4	Total	2,336	1,482	2,149	1,592	4,503	12,062	2,413	2,525	113	2,638

		|---------- Actual Expenditures					----------|		Budget		Test Year
		2001	2002	2003	2004	2005	Total	5-Yr Avg	2007	Adjustment	Amount
5	Blanket Programs	6,118	5,217	6,169	5,495	6,002	29,001	5,800	6,069	270	6,339
						CIAC as % of Expenditures		41.60%	41.60%		41.60%

Note: Figures may not total exactly due to rounding

CA-IR-3

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

Rate base items presented in MECO T-15 are generally provided by other witnesses. These items may reflect ratemaking adjustments which are presented by the applicable witness in their testimony. Support for ratemaking adjustments has been provided in the workpapers supporting MECO T-15 or by the applicable witness in their response to this information request.

CA-IR-3

To the extent not provided in response to CA-IR-1 or CA-IR-2, please provide complete copies of all other calculations, spreadsheet files, "pencil" workpapers, surveys, documentation and other analyses supporting each ratemaking adjustment (e.g., budget adjustments, normalizing adjustments, etc.) to projected test year expense, plant in service, accumulated depreciation, etc. being proposed by the Company, including any assumptions and adjustment instructions that were employed.

MECO Response:

There are none. Also, this witness did not have a response to CA-IR-1 or CA-IR-2.

CA-IR-4

Please provide copies of the following documents for Hawaiian Electric Industries, Inc., Hawaiian Electric Company, and/or Maui Electric Company:

a. 2006 Annual Report to Stockholders;

b. 2006 Statistical Supplement to Annual Report;

c. 2006 form 10-K;

d. Prospectus for most recent public offering of common stock;

e. Prospectus for most recent public offering of long-term debt; and

f. Prospectus for most recent public offering of preferred stock or hybrid securities.

MECO Response:

Please refer to HECO's revised response filed to CA-IR-5 in Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case) for the items requested above.

CA-IR-5

Please provide copy of all reports prepared by rating agencies that describe Hawaiian Electric Industries, Inc. and/or Hawaiian Electric Company for the period 2006 to the present.

MECO Response:

Please refer to HECO's response filed in CA-IR-6 of Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case) for the reports prepared by rating agencies for 2006. See attached for the reports from the beginning of 2007 to the present.

Pages 8 through 11 provide a Research Update that announced Standard & Poor's Rating Services' lowering, on May 23, 2007, of its long-term corporate credit and unsecured debt ratings on HECO, HELCO and MECO to 'BBB' from 'BBB+.' Among other things, the update stated: "The downgrade of Hawaiian Electric is the result of sustained weak bondholder protection parameters compounded by the financial pressure that continuous need for regulatory relief, driven by heightened capital expenditure requirements, is creating for the next few years." The update further stated: "A final order that closely mirrors the interim ruling on Hawaiian Electric's 2005 rate case, as well as a supportive order in its most recently filed rate application, will be critical to lift key financial metrics to levels that are suitable for Standard & Poor's guideposts for the 'BBB' rating category. Responsive rate decisions on HELCO's and MECO's pending rate cases will also help to support credit quality."

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STANDARD & POOR'S RatingsDirect

RESEARCH

Summary:

Hawaiian Electric Industries Inc.

Publication date: 26-Mar-2007
Primary Credit Analyst: Barbara A Eiseman, New York (1) 212-438-7686; barbara_eiseman@standardandpoors.com

Credit Rating: BBB/Negative/A-2

Rationale

The ratings on diversified holding company Hawaiian Electric Industries Inc. (HEI) are based on the consolidated credit profile of HEI's units, which include the electric utility, Hawaiian Electric Co. Inc. and its two subsidiaries Hawaiian Electric Light Co. (HELCO) and Maui Electric Co. (83% of core revenues and 65% of operating income as of Dec. 31, 2006) and the riskier financial services operations of American Savings Bank FSB (17% of core revenues and 35% of operating income). Standard & Poor's Ratings Services does not accord any credit uplift to American Savings Bank as a result of its affiliation with HEI.

HEI's financial condition remains weak for the rating despite the healthy Hawaiian economy and the company's efforts in recent years to strengthen its capital structure. Financial metrics have been pressured owing to rising operating and maintenance expenses, increasing capital outlays, and recently, lower electricity sales caused by cooler less humid weather and customer conservation. Absent responsive rate orders in Hawaiian Electric's pending rate cases, prospective key financial metrics may not support a financial profile that is commensurate with the current ratings.

HEI and Hawaiian Electric have satisfactory business profiles of '6' and '5', respectively, (business profiles are ranked from '1' (excellent) to '10' (vulnerable)) and somewhat weak financial measures. HEI's business position is characterized by limited competitive threats due to the utility's geographic isolation, nominal stranded-asset risk, a currently excellent fuel clause, and relatively steady banking operations. These strengths are tempered by Hawaii's economic dependence on a limited number of industries, reliance on fuel oil, strained capacity reserve margins, significant purchased power obligations, and support of the somewhat riskier banking business. Hawaiian Electric's business profile is slightly stronger than that of the parent due to the absence of nonutility operations. With regard to the bank, its earnings have been challenged by margin compression and rising interest costs.

A responsive final rate order from the Hawaii Public Utilities Commission (PUC) with regard to Hawaiian Electric's 2005 pending rate case is crucial to help lift key financial measures to more appropriate levels for the ratings. In September 2005, the PUC issued an interim net rate hike of $41.1 million (3.3%) that is marginally supportive of current ratings. If the amount collected under the interim increase exceeds the amount of the increase ultimately approved in the PUC's final decision and order, the company must refund the excess to its ratepayers with interest. A final order that closely mirrors the interim ruling appears to be sufficient to lift key financial metrics to levels that are marginally suitable for Standard & Poor's guideposts for the 'BBB' rating category. There are no time restrictions in which the PUC must issue a final order.

In December 2006, Hawaiian Electric also filed for a $99.6 million (7.1%) rate increase. Also pending before the PUC is Maui Electric's request for a $19 million (5.3%) rate increase and HELCO's application for a $29.9 million (9.24%) rate hike. The PUC must issue an interim decision within 11 months, indicating possible interim orders in mid-2007 to early 2008. Rate relief is needed to enhance the earnings and recover increased costs and reliability investments.

Of some concern is Hawaii's Act 162, a new law which appears to confirm, in light of the state legislature's

interest in promoting renewable energy, the PUC's ability to authorize the utility's fuel adjustment clause. Although no parties to the rate case seem to oppose the continuation of the clause, a material change to fuel-adjustment mechanism would harm the company's financial condition and detract from its currently satisfactory business profile.

Hawaii's economy grew by an estimated 2.7% in 2006 and is expected to grow by 2.6% in 2007. Military and federal government spending remains strong as the U.S. Department of Defense has moved military assets to Hawaii. Tourism is also a significant component of the Hawaii economy, with visitor expenditures up 2.9% and visitor days slightly down 0.3%, respectively in 2006 compared with record levels in 2005. Continued growth is expected in 2007, with projected increases of 1.5% in visitor days and 4.8% in visitor expenditures. Although the housing market appears to be stabilizing, the construction industry continues to be healthy as indicated by an 8% increase in 2006 building permits compared to 2005. However, future growth in residential construction may slow with rising interest rates. Hawaii's economic growth is expected to be tied primarily to the rate of expansion in the mainland U.S. and Japan economies and increased military spending, yet remains vulnerable to uncertainties in the world's geopolitical environment.

The company's projected $1.2 billion capital expenditure program over the next five years will focus predominantly on additions and improvements to transmission and distribution facilities (approximately 51%) and on generation projects (approximately 41%). The balance is for general plant and other projects. *These estimates do not include outlays, which could be substantial, that would be required to comply with* cooling water intake structure regulations or Regional Haze Rule amendments. Standard & Poor's expects that consolidated cash flow from operations will fall short of covering projected capital expenditures and dividends in nearby years, resulting in increased reliance on outside capital.

HEI has certain bondholder protection metrics that are subpar for the current ratings. In this regard, total debt to capital (adjusted for purchased-power contracts, pensions, and applying intermediate equity treatment to HECO's hybrids preferred securities) and funds from operations (FFO) to total debt are somewhat weak at roughly 61% and 16%, respectively. Adjusted FFO interest coverage remains healthy at about roughly 3.6x. Accordingly, rate relief, tight cost controls, improved earnings, and credit supportive actions by management will be required to lift the company's overall financial profile to more suitable levels.

Short-term credit factors

The short-term corporate credit and commercial paper ratings on HEI and Hawaiian Electric are 'A-2' incorporating solid liquidity, a manageable maturity ladder, and ongoing growth in the Hawaii economy that should allow the electric utility to generate relatively stable cash flows. However, accelerating capital expenditures will necessitate a somewhat higher reliance on external capital in nearby years.

HEI maintains a $100 million unsecured revolving syndicated credit facility which expires on March 31, 2011. The covenants require HEI to maintain a nonconsolidated capitalization ratio of 50% or less and consolidated net worth of $850 million, with which the company is in compliance.

Effective April 3, 2006, Hawaiian Electric entered into a $175 million unsecured revolving syndicated credit facility that expires on March 29, 2007, but will automatically extend to March 31, 2011 if the longer-term agreement is approved by the PUC. Pursuant to the agreement, the company must maintain a consolidated common stock equity to capitalization ratio of at least 35%, with which the company is in compliance.

Both HEI's and Hawaiian Electric's facilities support the issuance of commercial paper, but may also be drawn for general corporate purposes. Hawaiian Electric's facility may also be drawn for capital expenditures. The facilities do not contain interest coverage ratio requirements, material adverse change clauses, nor rating triggers. As of the end of 2006, both HEI's and Hawaiian Electric's credit facilities were undrawn.

HEI has just $10 million due in October 2007 and Hawaiian Electric has no maturing long-term debt until 2012. As of Dec. 31, 2006, HEI had $5.3 million of cash and cash equivalents (excluding American Savings Bank's cash and cash equivalents).

HEI has $50 million of debt capacity remaining under a Rule 415 shelf registration and $96 million remains on an omnibus shelf registration.

Outlook

The negative outlook on HEI reflects the company's subpar financial condition relative to the rating level. Failure to strengthen key financial parameters, especially cash flow coverage of debt, a slump in the Hawaiian economy, a final rate order that differs from the PUC's interim decision with regard to HECO's 2005 rate case, and, although not expected, a major erosion in American Savings Bank's creditworthiness could lead to lower ratings. Conversely, credit-supportive actions by the company as well as responsive rate treatment would lead to ratings stability.

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The McGraw-Hill Companies

RESEARCH

Summary:

Hawaiian Electric Company, Inc.

Publication date: 26-Mar-2007
Primary Credit Analyst: Barbara A Eiseman, New York (1) 212-438-7666; barbara_eiseman@standardandpoors.com

Credit Rating: BBB+/Negative/A-2

Rationale

The ratings on Hawaiian Electric Co. Inc. are based on the consolidated credit profile of Hawaiian Electric Industries Inc. (HEI), which includes Hawaiian Electric's utility operations and its two subsidiaries Hawaiian Electric Light Co. (HELCO) and Maui Electric Co. (83% of core revenues and 65% of operating income as of Dec. 31, 2005), and the riskier financial services operations of American Savings Bank FSB, (17% of core revenues and 35% of operating income). Standard & Poor's Ratings Services does not accord any credit uplift to American Savings Bank as a result of its affiliation with HEI.

HEI's financial condition remains weak for the rating despite the healthy Hawaiian economy and the company's efforts in recent years to strengthen its capital structure. Financial metrics have been pressured owing to rising operating and maintenance expenses, increasing capital outlays, and recently, lower electricity sales caused by cooler less humid weather and customer conservation. Absent responsive rate orders in Hawaiian Electric's pending rate cases, prospective key financial metrics may not support a financial profile that is commensurate with the current ratings.

HEI and Hawaiian Electric have satisfactory business profiles of '6' and '5', respectively, (business profiles are ranked from '1' (excellent) to '10' (vulnerable)) and somewhat weak financial measures. HEI's business position is characterized by limited competitive threats due to the utility's geographic isolation, nominal stranded-asset risk, a currently excellent fuel clause, and relatively steady banking operations. These strengths are tempered by Hawaii's economic dependence on a limited number of industries, reliance on fuel oil, strained capacity reserve margins, significant purchased power obligations, and support of the somewhat riskier banking business. With regard to the bank, its earnings have been challenged by margin compression and rising interest costs. Hawaiian Electric's business profile is slightly stronger than that of the parent due to the absence of nonutility operations.

A responsive final rate order from the Hawaii Public Utilities Commission (PUC) with regard to Hawaiian Electric's 2005 pending rate case is crucial to help lift key financial measures to more appropriate levels for the ratings. In September 2005, the PUC issued an interim net rate hike of $41.1 million (3.3%) that is marginally supportive of current ratings. If the amount collected under the interim increase exceeds the amount of the increase ultimately approved in the PUC's final decision and order, the company must refund the excess to its ratepayers with interest. A final order that closely mirrors the interim ruling appears to be sufficient to lift key financial metrics to levels that are marginally suitable for Standard & Poor's guideposts for the 'BBB' rating category. There are no time restrictions in which the PUC must issue a final order.

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interest in promoting renewable energy, the PUC's ability to authorize the utility's fuel adjustment clause. Although no parties to the rate case seem to oppose the continuation of the clause, a material change to fuel-adjustment mechanism would harm the company's financial condition and detract from its currently satisfactory business profile.

Hawaii's economy grew by an estimated 2.7% in 2006 and is expected to grow by 2.6% in 2007. Military and federal government spending remains strong as the U.S. Department of Defense has moved military assets to Hawaii. Tourism is also a significant component of the Hawaii economy, with visitor expenditures up 2.9% and visitor days slightly down 0.3%, respectively in 2006 compared with record levels in 2005. Continued growth is expected in 2007, with projected increases of 1.5% in visitor days and 4.8% in visitor expenditures. Although the housing market appears to be stabilizing, the construction industry continues to be healthy as indicated by an 8% increase in 2006 building permits compared to 2005. However, future growth in residential construction may slow with rising interest rates. Hawaii's economic growth is expected to be tied primarily to the rate of expansion in the mainland U.S. and Japan economies and increased military spending, yet remains vulnerable to uncertainties in the world's geopolitical environment.

The company's projected $1.2 billion capital expenditure program over the next five years will focus predominantly on additions and improvements to transmission and distribution facilities (approximately 51%) and on generation projects (approximately 41%). The balance is for general plant and other projects. These estimates don't include outlays, which could be substantial, that would be required to comply with cooling water intake structure regulations or Regional Haze Rule amendments. Standard & Poor's expects that consolidated cash flow from operations will fall short of covering projected capital expenditures and dividends in nearby years, resulting in increased reliance on outside capital.

HEI has certain bondholder protection metrics that are subpar for the current ratings. In this regard, total debt to capital (adjusted for purchased-power contracts, pensions, and applying intermediate equity treatment to HECO's hybrids preferred securities) and funds from operations (FFO) to total debt are somewhat weak at roughly 61% and 16%, respectively. Adjusted FFO interest coverage remains healthy at about roughly 3.6x. Accordingly, rate relief, tight cost controls, improved earnings, and credit supportive actions by management will be required to lift the company's overall financial profile to more suitable levels.

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The short-term corporate credit and commercial paper ratings on HEI and Hawaiian Electric are 'A-2' incorporating solid liquidity, a manageable maturity ladder, and ongoing growth in the Hawaii economy that should allow the electric utility to generate relatively stable cash flows. However, accelerating capital expenditures will necessitate a somewhat higher reliance on external capital in nearby years.

HEI maintains a $100 million unsecured revolving syndicated credit facility which expires on March 31, 2011. The covenants require HEI to maintain a nonconsolidated capitalization ratio of 50% or less and consolidated net worth of $850 million, with which the company is in compliance.

Effective April 3, 2006, Hawaiian Electric entered into a $175 million unsecured revolving syndicated credit facility that expires on March 29, 2007, but will automatically extend to March 31, 2011 if the longer-term agreement is approved by the PUC. Pursuant to the agreement, the company must maintain a consolidated common stock equity to capitalization ratio of at least 35%, with which the company is in compliance.

Both HEI's and Hawaiian Electric's facilities support the issuance of commercial paper, but may also be drawn for general corporate purposes. Hawaiian Electric's facility may also be drawn for capital expenditures. The facilities do not contain interest coverage ratio requirements, material adverse change clauses, nor rating triggers. As of the end of 2006, both HEI's and Hawaiian Electric's credit facilities were undrawn.

HEI has just $10 million due in October 2007 and Hawaiian Electric has no maturing long-term debt until 2012. As of Dec. 31, 2006, HEI had $5.3 million of cash and cash equivalents (excluding American Savings Bank's cash and cash equivalents).

HEI has $50 million of debt capacity remaining under a Rule 415 shelf registration and $96 million remains on an omnibus shelf registration.

Outlook

The negative outlook on Hawaiian Electric mirrors that of parent HEI and reflects the company's subpar consolidated financial condition relative to the rating level. Failure to strengthen key financial parameters, especially cash flow coverage of debt, a slump in the Hawaiian economy, a final rate order that differs from the PUC's interim decision with regard to HECO's 2005 rate case, and, although not expected, a major erosion in American Savings Bank's creditworthiness could lead to lower ratings. Conversely, credit-supportive actions by the company as well as responsive rate treatment would lead to ratings stability.

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STANDARD & POOR'S RatingsDirect

RESEARCH

Research Update:

Hawaiian Electric Ratings Cut To 'BBB'; Outlook Stable

Publication date: 23-May-2007
Primary Credit Analysts: Barbara A Eiseman, New York (1) 212-438-7666; barbara_eiseman@standardandpoors.com
Anne Selting, San Francisco (1) 415-371-5009; anne_selting@standardandpoors.com

Rationale

On May 23, 2007, Standard & Poor's Ratings Services lowered its long-term corporate credit and unsecured debt ratings on Hawaiian Electric Co. Inc., Hawaiian Electric Light Co. Inc. (HELCO), and Maui Electric Co. Ltd. (MECO) to 'BBB' from 'BBB+'. Standard & Poor's affirmed its 'A-2' short-term corporate credit rating on Hawaiian Electric. The outlook is stable.

Hawaiian Electric is a subsidiary of diversified holding company Hawaiian Electric Industries Inc. (HEI) whose ratings were affirmed. Standard & Poor's also revised its outlook on HEI to stable from negative.

The downgrade of Hawaiian Electric is the result of sustained weak bondholder protection parameters compounded by the financial pressure that continuous need for regulatory relief, driven by heightened capital expenditure requirements, is creating for the next few years.

The ratings on HEI are based on the consolidated credit profile of HEI's units, which include Hawaiian Electric and its units (83% of core revenues and 65% of operating income as of Dec. 31, 2006) and the financial services operations of American Savings Bank FSB (17% of core revenues and 35% of operating income). Standard & Poor's does not accord any credit uplift to American Savings Bank as a result of its affiliation with HEI.

HEI's financial condition remains weak for the rating despite the healthy Hawaiian economy and the company's efforts in recent years to strengthen its capital structure. Financial metrics have been pressured owing to rising operating and maintenance expenses, increasing capital outlays, and recently, lower electricity sales caused by cooler less humid weather and customer conservation. Absent responsive rate orders in Hawaiian Electric's pending rate cases, prospective key financial metrics may not support a financial profile that is commensurate with the current ratings.

HEI and Hawaiian Electric have satisfactory business profiles of '5' (business profiles are ranked from '1' (excellent) to '10' (vulnerable) and somewhat weak financial measures. HEI's business position is characterized by limited competitive threats due to the utility's geographic isolation, nominal stranded-asset risk, a good fuel adjustment clause, and solid banking operations. These strengths are tempered by Hawaii's economic dependence on a limited number of industries, reliance on fuel oil, strained capacity reserve margins, and significant purchased power obligations. With regard to the bank, its earnings have been challenged by margin compression and rising interest costs.

A responsive final rate order from the Hawaii Public Utilities Commission (PUC) with regard to Hawaiian Electric's 2005 rate case is crucial to help lift key financial measures to more appropriate levels for the ratings. In September 2005, the PUC issued an interim net rate hike of $41.1 million (3.3%) that is marginally supportive of current ratings. If the amount collected under the interim increase exceeds the amount of the increase ultimately approved in the PUC's final decision and order, the company must refund the excess to its ratepayers with interest. There are no time restrictions in which the PUC must issue a final order.

In December 2006, Hawaiian Electric filed for a $99.6 million (7.1%) rate increase. Also pending before the PUC is MECO's request for a $19 million

(5.3%) rate increase and HELCO's application for a $29.9 million (9.24%) rate hike. The PUC must issue an interim decision within 11 months, indicating possible interim orders in mid 2007 to early 2008. Rate relief is targeted toward enhancing earnings and recovering increased costs and reliability investments.

Of some concern is Hawaii's Act 162, a new law which appears to confirm, in light of the state legislature's interest in promoting renewable energy, the PUC's ability to authorize the utility's fuel adjustment clause. Although no parties to the rate case seem to oppose the continuation of the clause, a material change to the fuel adjustment mechanism would harm the company's financial condition and detract from its currently satisfactory business profile.

A final order that closely mirrors the interim ruling on Hawaiian Electric's 2005 rate case, as well as a supportive order in its most recently filed rate application, will be critical to lift key financial metrics to levels that are suitable for Standard & Poor's guideposts for the 'BBB' rating category. Responsive rate decisions on HELCO's and MECO's pending rate cases will also help to support credit quality. With regard to HELCO, a settlement was reached for about 85% of the amount sought, or a $24.6 million (7.6%) rate hike. Importantly, the Consumer Advocate determined that the fuel adjustment clause complied with Act 162 and should be continued.

Hawaii's economic growth is expected to be tied primarily to the rate of expansion in the mainland U.S. and Japan economies and increased military spending. The state's economy grew by an estimated 2.7% in 2006 and is expected to grow by 2.6% in 2007. Military and federal government spending remains strong as the U.S. Department of Defense has redeployed military assets to Hawaii. Tourism is also a significant component of the Hawaii economy, with visitor expenditures up 2.9% and visitor days slightly down 0.3%, respectively, in 2006 compared with record levels in 2005. Continued growth is expected in 2007, with projected increases of 1.5% in visitor days and 4.8% in visitor expenditures. Although the housing market appears to be stabilizing, the construction industry continues to be healthy as indicated by an 8% increase in 2006 building permits compared to 2005. However, future growth in residential construction may slow with rising interest rates.

The company's projected $1.2 billion capital expenditure program over the next five years will focus predominantly on additions and improvements to transmission and distribution facilities (approximately 51%) and on generation projects (approximately 41%). The balance is for general plant and other projects. These estimates don't include outlays, which could be substantial, that would be required to comply with cooling water intake structure regulations or Regional Haze Rule amendments. Standard & Poor's expects that consolidated cash flow from operations will fall short of covering projected capital expenditures and dividends in nearby years, resulting in increased reliance on outside capital.

HEI has certain bondholder protection metrics that are subpar for the current ratings. In this regard, total debt to capital (adjusted for purchased-power contracts, pensions and applying intermediate equity treatment to HECO's hybrids preferred securities) and funds from operations (FFO) to total debt are somewhat weak at roughly 61% and 16%, respectively. Adjusted FFO interest coverage remains healthy at about 3.5x. Accordingly, rate relief, tight cost controls, improved earnings, and credit supportive actions by management will be required to lift the company's overall financial profile to more suitable levels.

Short-term credit factors

The short-term corporate credit and commercial paper ratings on HEI and Hawaiian Electric are 'A-2'. Ongoing growth in the Hawaii economy should allow the electric utility to generate relatively stable cash flows. However, accelerating capital expenditures will necessitate a somewhat higher reliance rate relief and on external capital in nearby years.

HEI maintains a $100 million unsecured revolving syndicated credit facility that expires on March 31, 2011. The covenants require HEI to maintain a nonconsolidated capitalization ratio of 50% or less and consolidated net worth of $850 million, with which the company is in compliance.

Hawaiian Electric maintains a $175 million unsecured revolving syndicated

credit facility that expires on March 31, 2011. Pursuant to the agreement, the company must maintain a consolidated common stock equity to capitalization ratio of at least 35%, with which the company is in compliance.

Both HEI's and Hawaiian Electric's facilities support the issuance of commercial paper, but may also be drawn for general corporate purposes. Hawaiian Electric's facility may also be drawn for capital expenditures. The facilities do not contain interest coverage ratio requirements, material adverse change clauses, or rating triggers. As of May 1, 2007, both HEI's and Hawaiian Electric's credit facilities were undrawn.

HEI has just $10 million coming due in October 2007 and Hawaiian Electric has no maturing long-term debt until 2012. As of March 31, 2007, HEI had $14.1 million of cash and cash equivalents (excluding American Savings Bank's cash and cash equivalents).

HEI has $50 million of debt capacity remaining under a Rule 415 shelf registration and $96 million remains on an omnibus shelf registration.

Outlook

The stable outlook on Hawaii Electric reflects expectations for supportive regulatory decisions in several pending rate cases and continued health in the Hawaii economy. Unsupportive rate treatment that would result in the erosion of key financial parameters, especially cash flow coverage of debt, and a slump in the Hawaiian economy could lead to downward rating pressure. Higher ratings are not foreseen over the outlook horizon, given HEI's relatively liberal debt burden and weak FFO to total debt ratio.

Ratings List

Downgraded

	To	From
Hawaiian Electric Co. Inc.		
Corporate Credit Rating	BBB/Stable/A-2	BBB+/Negative/A-2
Senior Unsecured	BBB	BBB+
Preferred Stock	BB+	BBB-
Hawaii Electric Light Co. Inc.		
Maui Electric Co. Ltd.		
Corporate Credit Rating	BBB/Stable/--	BBB+/Negative/--
Senior Unsecured	BBB	BBB+

Ratings Affirmed

Hawaiian Electric Co. Inc.		
Commercial Paper	A-2	
Hawaiian Electric Industries Inc.		
Corporate Credit Rating	BBB/Stable/A-2	BBB/Negative/A-2
Senior Unsecured	BBB	
Preferred Stock	BB+	

Complete ratings information is available to subscribers of RatingsDirect, the real-time Web-based source for Standard & Poor's credit ratings, research, and risk analysis, at www.ratingsdirect.com. All ratings affected by this rating action can be found on Standard & Poor's public Web site at www.standardandpoors.com; under Credit Ratings in the left navigation bar, select Find a Rating, then Credit Ratings Search.

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CA-IR-5

Please provide copy of all reports prepared by rating agencies that describe Hawaiian Electric Industries, Inc. and/or Hawaiian Electric Company for the period 2006 to the present.

MECO Response:

Please refer to HECO's response filed in CA-IR-6 of Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case) for the reports prepared by rating agencies for 2006. See attached for the reports from the beginning of 2007 to the present.

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STANDARD & POOR'S RatingsDirect

RESEARCH

Summary:

Hawaiian Electric Industries Inc.

Publication date: 26-Mar-2007
Primary Credit Analyst: Barbara A Eiseman, New York (1) 212-438-7686; barbara_eiseman@standardandpoors.com

Credit Rating: BBB/Negative/A-2

Rationale

The ratings on diversified holding company Hawaiian Electric Industries Inc. (HEI) are based on the consolidated credit profile of HEI's units, which include the electric utility, Hawaiian Electric Co. Inc. and its two subsidiaries Hawaiian Electric Light Co. (HELCO) and Maui Electric Co. (83% of core revenues and 65% of operating income as of Dec. 31, 2006) and the riskier financial services operations of American Savings Bank FSB (17% of core revenues and 35% of operating income). Standard & Poor's Ratings Services does not accord any credit uplift to American Savings Bank as a result of its affiliation with HEI.

HEI's financial condition remains weak for the rating despite the healthy Hawaiian economy and the company's efforts in recent years to strengthen its capital structure. Financial metrics have been pressured owing to rising operating and maintenance expenses, increasing capital outlays, and recently, lower electricity sales caused by cooler less humid weather and customer conservation. Absent responsive rate orders in Hawaiian Electric's pending rate cases, prospective key financial metrics may not support a financial profile that is commensurate with the current ratings.

HEI and Hawaiian Electric have satisfactory business profiles of '6' and '5', respectively, (business profiles are ranked from '1' (excellent) to '10' (vulnerable)) and somewhat weak financial measures. HEI's business position is characterized by limited competitive threats due to the utility's geographic isolation, nominal stranded-asset risk, a currently excellent fuel clause, and relatively steady banking operations. These strengths are tempered by Hawaii's economic dependence on a limited number of industries, reliance on fuel oil, strained capacity reserve margin, significant purchased power obligations, and support of the somewhat riskier banking business. Hawaiian Electric's business profile is slightly stronger than that of the parent due to the absence of nonutility operations. With regard to the bank, its earnings have been challenged by margin compression and rising interest costs.

A responsive final rate order from the Hawaii Public Utilities Commission (PUC) with regard to Hawaiian Electric's 2005 pending rate case is crucial to help lift key financial measures to more appropriate levels for the ratings. In September 2005, the PUC issued an interim net rate hike of $41.1 million (3.3%) that is marginally supportive of current ratings. If the amount collected under the interim increase exceeds the amount of the increase ultimately approved in the PUC's final decision and order, the company must refund the excess to its ratepayers with interest. A final order that closely mirrors the interim ruling appears to be sufficient to lift key financial metrics to levels that are marginally suitable for Standard & Poor's guideposts for the 'BBB' rating category. There are no time restrictions in which the PUC must issue a final order.

In December 2006, Hawaiian Electric also filed for a $99.6 million (7.1%) rate increase. Also pending before the PUC is Maui Electric's request for a $19 million (5.3%) rate increase and HELCO's application for a $29.9 million (9.24%) rate hike. The PUC must issue an interim decision within 11 months, indicating possible interim orders in mid-2007 to early 2008. Rate relief is needed to enhance the earnings and recover increased costs and reliability investments.

Of some concern is Hawaii's Act 162, a new law which appears to confirm, in light of the state legislature's

interest in promoting renewable energy, the PUC's ability to authorize the utility's fuel adjustment clause. Although no parties to the rate case seem to oppose the continuation of the clause, a material change to fuel-adjustment mechanism would harm the company's financial condition and detract from its currently satisfactory business profile.

Hawaii's economy grew by an estimated 2.7% in 2006 and is expected to grow by 2.6% in 2007. Military and federal government spending remains strong as the U.S. Department of Defense has moved military assets to Hawaii. Tourism is also a significant component of the Hawaii economy, with visitor expenditures up 2.9% and visitor days slightly down 0.3%, respectively in 2006 compared with record levels in 2005. Continued growth is expected in 2007, with projected increases of 1.5% in visitor days and 4.8% in visitor expenditures. Although the housing market appears to be stabilizing, the construction industry continues to be healthy as indicated by an 8% increase in 2006 building permits compared to 2005. However, future growth in residential construction may slow with rising interest rates. Hawaii's economic growth is expected to be tied primarily to the rate of expansion in the mainland U.S. and Japan economies and increased military spending, yet remains vulnerable to uncertainties in the world's geopolitical environment.

The company's projected $1.2 billion capital expenditure program over the next five years will focus predominantly on additions and improvements to transmission and distribution facilities (approximately 51%) and on generation projects (approximately 41%). The balance is for general plant and other projects. *These estimates do not include outlays, which could be substantial, that would be required to comply with* cooling water intake structure regulations or Regional Haze Rule amendments. Standard & Poor's expects that consolidated cash flow from operations will fall short of covering projected capital expenditures and dividends in nearby years, resulting in increased reliance on outside capital.

HEI has certain bondholder protection metrics that are subpar for the current ratings. In this regard, total debt to capital (adjusted for purchased-power contracts, pensions, and applying intermediate equity treatment to HECO's hybrids preferred securities) and funds from operations (FFO) to total debt are somewhat weak at roughly 61% and 16%, respectively. Adjusted FFO interest coverage remains healthy at about roughly 3.6x. Accordingly, rate relief, tight cost controls, improved earnings, and credit supportive actions by management will be required to lift the company's overall financial profile to more suitable levels.

Short-term credit factors

The short-term corporate credit and commercial paper ratings on HEI and Hawaiian Electric are 'A-2' incorporating solid liquidity, a manageable maturity ladder, and ongoing growth in the Hawaii economy that should allow the electric utility to generate relatively stable cash flows. However, accelerating capital expenditures will necessitate a somewhat higher reliance on external capital in nearby years.

HEI maintains a $100 million unsecured revolving syndicated credit facility which expires on March 31, 2011. The covenants require HEI to maintain a nonconsolidated capitalization ratio of 50% or less and consolidated net worth of $850 million, with which the company is in compliance.

Effective April 3, 2006, Hawaiian Electric entered into a $175 million unsecured revolving syndicated credit facility that expires on March 29, 2007, but will automatically extend to March 31, 2011 if the longer-term agreement is approved by the PUC. Pursuant to the agreement, the company must maintain a consolidated common stock equity to capitalization ratio of at least 35%, with which the company is in compliance.

Both HEI's and Hawaiian Electric's facilities support the issuance of commercial paper, but may also be drawn for general corporate purposes. Hawaiian Electric's facility may also be drawn for capital expenditures. The facilities do not contain interest coverage ratio requirements, material adverse change clauses, or rating triggers. As of the end of 2006, both HEI's and Hawaiian Electric's credit facilities were undrawn.

HEI has just $10 million due in October 2007 and Hawaiian Electric has no maturing long-term debt until 2012. As of Dec. 31, 2006, HEI had $5.3 million of cash and cash equivalents (excluding American Savings Bank's cash and cash equivalents).

HEI has $50 million of debt capacity remaining under a Rule 415 shelf registration and $96 million remains on an omnibus shelf registration.

Outlook

The negative outlook on HEI reflects the company's subpar financial condition relative to the rating level. Failure to strengthen key financial parameters, especially cash flow coverage of debt, a slump in the Hawaiian economy, a final rate order that differs from the PUC's interim decision with regard to HECO's 2005 rate case, and, although not expected, a major erosion in American Savings Bank's creditworthiness could lead to lower ratings. Conversely, credit-supportive actions by the company as well as responsive rate treatment would lead to ratings stability.

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STANDARD & POOR'S RatingsDirect

RESEARCH

Summary:

Hawaiian Electric Company, Inc.

Publication date: 26-Mar-2007
Primary Credit Analyst: Barbara A Eiseman, New York (1) 212-438-7666; barbara_eiseman@standardandpoors.com

Credit Rating: BBB+/Negative/A-2

Rationale

The ratings on Hawaiian Electric Co. Inc. are based on the consolidated credit profile of Hawaiian Electric Industries Inc. (HEI), which includes Hawaiian Electric's utility operations and its two subsidiaries Hawaiian Electric Light Co. (HELCO) and Maui Electric Co. (83% of core revenues and 65% of operating income as of Dec. 31, 2005), and the riskier financial services operations of American Savings Bank FSB, (17% of core revenues and 35% of operating income). Standard & Poor's Ratings Services does not accord any credit uplift to American Savings Bank as a result of its affiliation with HEI.

HEI's financial condition remains weak for the rating despite the healthy Hawaiian economy and the company's efforts in recent years to strengthen its capital structure. Financial metrics have been pressured owing to rising operating and maintenance expenses, increasing capital outlays, and recently, lower electricity sales caused by cooler less humid weather and customer conservation. Absent responsive rate orders in Hawaiian Electric's pending rate cases, prospective key financial metrics may not support a financial profile that is commensurate with the current ratings.

HEI and Hawaiian Electric have satisfactory business profiles of '6' and '5', respectively, (business profiles are ranked from '1' (excellent) to '10' (vulnerable)) and somewhat weak financial measures. HEI's business position is characterized by limited competitive threats due to the utility's geographic isolation, nominal stranded-asset risk, a currently excellent fuel clause, and relatively steady banking operations. These strengths are tempered by Hawaii's economic dependence on a limited number of industries, reliance on fuel oil, strained capacity reserve margins, significant purchased power obligations, and support of the somewhat riskier banking business. With regard to the bank, its earnings have been challenged by margin compression and rising interest costs. Hawaiian Electric's business profile is slightly stronger than that of the parent due to the absence of non-utility operations.

A responsive final rate order from the Hawaii Public Utilities Commission (PUC) with regard to Hawaiian Electric's 2005 pending rate case is crucial to help lift key financial measures to more appropriate levels for the ratings. In September 2005, the PUC issued an interim net rate hike of $41.1 million (3.3%) that is marginally supportive of current ratings. If the amount collected under the interim increase exceeds the amount of the increase ultimately approved in the PUC's final decision and order, the company must refund the excess to its ratepayers with interest. A final order that closely mirrors the interim ruling appears to be sufficient to lift key financial metrics to levels that are marginally suitable for Standard & Poor's guideposts for the 'BBB' rating category. There are no time restrictions in which the PUC must issue a final order.

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The company's projected $1.2 billion capital expenditure program over the next five years will focus predominantly on additions and improvements to transmission and distribution facilities (approximately 51%) and on generation projects (approximately 41%). The balance is for general plant and other projects. *These estimates don't include outlays, which could be substantial, that would be required to comply with* cooling water intake structure regulations or Regional Haze Rule amendments. Standard & Poor's expects that consolidated cash flow from operations will fall short of covering projected capital expenditures and dividends in nearby years, resulting in increased reliance on outside capital.

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Outlook

The negative outlook on Hawaiian Electric mirrors that of parent HEI and reflects the company's subpar consolidated financial condition relative to the rating level. Failure to strengthen key financial parameters, especially cash flow coverage of debt, a slump in the Hawaiian economy, a final rate order that differs from the PUC's interim decision with regard to HECO's 2005 rate case, and, although not expected, a major erosion in American Savings Bank's creditworthiness could lead to lower ratings. Conversely, credit-supportive actions by the company as well as responsive rate treatment would lead to ratings stability.

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CA-IR-5

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STANDARD & POOR'S RatingsDirect

RESEARCH

Summary:

Hawaiian Electric Industries Inc.

Publication date: 26-Mar-2007
Primary Credit Analyst: Barbara A Eiseman, New York (1) 212-438-7666; barbara_eiseman@standardandpoors.com

Credit Rating: BBB/Negative/A-2

Rationale

The ratings on diversified holding company Hawaiian Electric Industries Inc. (HEI) are based on the consolidated credit profile of HEI's units, which include the electric utility, Hawaiian Electric Co. Inc. and its two subsidiaries Hawaiian Electric Light Co. (HELCO) and Maui Electric Co. (83% of core revenues and 65% of operating income as of Dec. 31, 2006) and the riskier financial services operations of American Savings Bank FSB (17% of core revenues and 35% of operating income). Standard & Poor's Ratings Services does not accord any credit uplift to American Savings Bank as a result of its affiliation with HEI.

HEI's financial condition remains weak for the rating despite the healthy Hawaiian economy and the company's efforts in recent years to strengthen its capital structure. Financial metrics have been pressured owing to rising operating and maintenance expenses, increasing capital outlays, and recently, lower electricity sales caused by cooler less humid weather and customer conservation. Absent responsive rate orders in Hawaiian Electric's pending rate cases, prospective key financial metrics may not support a financial profile that is commensurate with the current ratings.

HEI and Hawaiian Electric have satisfactory business profiles of '6' and '5', respectively, (business profiles are ranked from '1' (excellent) to '10' (vulnerable)) and somewhat weak financial measures. HEI's business position is characterized by limited competitive threats due to the utility's geographic isolation, nominal stranded-asset risk, a currently excellent fuel clause, and relatively steady banking operations. These strengths are tempered by Hawaii's economic dependence on a limited number of industries, reliance on fuel oil, strained capacity reserve margin, significant purchased power obligations, and support of the somewhat riskier banking business. Hawaiian Electric's business profile is slightly stronger than that of the parent due to the absence of nonutility operations. With regard to the bank, its earnings have been challenged by margin compression and rising interest costs.

A responsive final rate order from the Hawaii Public Utilities Commission (PUC) with regard to Hawaiian Electric's 2005 pending rate case is crucial to help lift key financial measures to more appropriate levels for the ratings. In September 2005, the PUC issued an interim net rate hike of $41.1 million (3.3%) that is marginally supportive of current ratings. If the amount collected under the interim increase exceeds the amount of the increase ultimately approved in the PUC's final decision and order, the company must refund the excess to its ratepayers with interest. A final order that closely mirrors the interim ruling appears to be sufficient to lift key financial metrics to levels that are marginally suitable for Standard & Poor's guideposts for the 'BBB' rating category. There are no time restrictions in which the PUC must issue a final order.

In December 2006, Hawaiian Electric also filed for a $99.6 million (7.1%) rate increase. Also pending before the PUC is Maui Electric's request for a $19 million (5.3%) rate increase and HELCO's application for a $2[illegible].9 million (9.24%) rate hike. The PUC must issue an interim decision within 11 months, indicating possible interim orders in mid-2007 to early 2008. Rate relief is needed to enhance the earnings and recover increased costs and reliability investments.

Of some concern is Hawaii's Act 162, a new law which appears to confirm, in light of the state legislature's

interest in promoting renewable energy, the PUC's ability to authorize the utility's fuel adjustment clause. Although no parties to the rate case seem to oppose the continuation of the clause, a material change to fuel-adjustment mechanism would harm the company's financial condition and detract from its currently satisfactory business profile.

Hawaii's economy grew by an estimated 2.7% in 2006 and is expected to grow by 2.6% in 2007. Military and federal government spending remains strong as the U.S. Department of Defense has moved military assets to Hawaii. Tourism is also a significant component of the Hawaii economy, with visitor expenditures up 2.9% and visitor days slightly down 0.3%, respectively in 2006 compared with record levels in 2005. Continued growth is expected in 2007, with projected increases of 1.5% in visitor days and 4.8% in visitor expenditures. Although the housing market appears to be stabilizing, the construction industry continues to be healthy as indicated by an 8% increase in 2006 building permits compared to 2005. However, future growth in residential construction may slow with rising interest rates. Hawaii's economic growth is expected to be tied primarily to the rate of expansion in the mainland U.S. and Japan economies and increased military spending, yet remains vulnerable to uncertainties in the world's geopolitical environment.

The company's projected $1.2 billion capital expenditure program over the next five years will focus predominantly on additions and improvements to transmission and distribution facilities (approximately 51%) and on generation projects (approximately 41%). The balance is for general plant and other projects. These estimates do not include outlays, which could be substantial, that would be required to comply with cooling water intake structure regulations or Regional Haze Rule amendments. Standard & Poor's expects that consolidated cash flow from operations will fall short of covering projected capital expenditures and dividends in nearby years, resulting in increased reliance on outside capital.

HEI has certain bondholder protection metrics that are subpar for the current ratings. In this regard, total debt to capital (adjusted for purchased-power contracts, pensions, and applying intermediate equity treatment to HECO's hybrids preferred securities) and funds from operations (FFO) to total debt are somewhat weak at roughly 61% and 16%, respectively. Adjusted FFO interest coverage remains healthy at about roughly 3.6x. Accordingly, rate relief, tight cost controls, improved earnings, and credit supportive actions by management will be required to lift the company's overall financial profile to more suitable levels.

Short-term credit factors

The short-term corporate credit and commercial paper ratings on HEI and Hawaiian Electric are 'A-2' incorporating solid liquidity, a manageable maturity ladder, and ongoing growth in the Hawaii economy that should allow the electric utility to generate relatively stable cash flows. However, accelerating capital expenditures will necessitate a somewhat higher reliance on external capital in nearby years.

HEI maintains a $100 million unsecured revolving syndicated credit facility which expires on March 31, 2011. The covenants require HEI to maintain a nonconsolidated capitalization ratio of 50% or less and consolidated net worth of $850 million, with which the company is in compliance.

Effective April 3, 2006, Hawaiian Electric entered into a $175 million unsecured revolving syndicated credit facility that expires on March 29, 2007, but will automatically extend to March 31, 2011 if the longer-term agreement is approved by the PUC. Pursuant to the agreement, the company must maintain a consolidated common stock equity to capitalization ratio of at least 35%, with which the company is in compliance.

Both HEI's and Hawaiian Electric's facilities support the issuance of commercial paper, but may also be drawn for general corporate purposes. Hawaiian Electric's facility may also be drawn for capital expenditures. The facilities do not contain interest coverage ratio requirements, material adverse change clauses, or rating triggers. As of the end of 2006, both HEI's and Hawaiian Electric's credit facilities were undrawn.

HEI has just $10 million due in October 2007 and Hawaiian Electric has no maturing long-term debt until 2012. As of Dec. 31, 2006, HEI had $5.3 million of cash and cash equivalents (excluding American Savings Bank's cash and cash equivalents).

HEI has $50 million of debt capacity remaining under a Rule 415 shelf registration and $96 million remains on an omnibus shelf registration.

Outlook

The negative outlook on HEI reflects the company's subpar financial condition relative to the rating level. Failure to strengthen key financial parameters, especially cash flow coverage of debt, a slump in the Hawaiian economy, a final rate order that differs from the PUC's interim decision with regard to HEC's 2005 rate case, and, although not expected, a major erosion in American Savings Bank's creditworthiness could lead to lower ratings. Conversely, credit-supportive actions by the company as well as responsive rate treatment would lead to ratings stability.

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CA-IR-6

Please provide copy of all reports prepared by security analysts that describe Hawaiian Electric Industries, Inc. for the period 2006 to the present.

MECO Response:

Please refer to HECO's response filed in CA-IR-7 of Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case) for the reports prepared by security analysts that evaluate HEI for 2006. See attached for the reports from the beginning of 2007 to the present.

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MARCH 28, 2007 A.G. EDWARDS

Hawaiian Electric Industries

Analyst: Douglas A. Fischer, CFA
314-955-3501
Associate: Andrew Pusateri

Electric Utilities

Equity Research Recent Development Report

HOLD/CONSERVATIVE

Symbol:	**HE**	Dividend:	**$1.24**
Exchange:	**NYSE**	Yield:	**4.7%**
Recent Price:	**$26.17**	Price Objective:	**NA**

FUNDAMENTAL DATA

	Fiscal Year Ends Dec		
	2006A	2007E	2008E
EPS:	$1.33	$1.27	$1.62
P/E:	NA	20.6X	16.2X
ROE:	8.8%	8.4%	10.3%

2007 and 2008 Earnings Estimates Lowered

- **We have lowered our 2007 EPS estimate to $1.27 from $1.45 and our 2008 EPS estimate to $1.62 from $1.80.**
- **The new estimates primarily reflect operating expense expectations for the utility units and lower interest rate spread expectations for the bank unit.**
- **EPS could rise to better than $1.80 by 2010 to 2011 due to assumed utility rate increases.**
- **Rate increase requests are pending at all three utility units.**
- **Trading modestly above our fair value estimate, shares are rated HOLD.**

Est. 5-Year EPS CAGR	5.0%
Est. 5-Year Div. CAGR	NA
Book Value Per Share	$13.46
Price/Book Value	1.9X
Common Equity/Capital	15.6%
Dividend Opinion	2
S&P Debt Rating	BBB
Market Cap ($mil.)	$2,120
Shares Outstanding (mil.)	81

AGE Lists:

Disclosure Information: Please refer to the last two pages of this report for important disclosure information and analyst certifications.

EDWARDS

Earnings Estimates Lowered
We have updated our HE financial forecast for 2006 results and other recently disclosed information. As a result, we have lowered our 2007 EPS estimate to $1.27 from $1.45 and our 2008 EPS estimate to $1.62 from $1.80. The new estimates primarily reflect operating expense expectations for the utility units and lower interest rate spread expectations for the bank unit.

The projected 2007 EPS decline versus 2006 results of $1.33 reflects an assumed further interest rate spread compression assuming a continuation of the current flat to inverted yield curve. The projected increase in 2008 EPS versus 2007 is largely due to assumed rate increases at the utilities. By 2010-2011, we projected EPS could rise to better than $1.80 due to assumed additional utility rate increases and an assumed return to an upwardly sloped yield curve, raising the interest rate spread at the bank.

For projected earnings by segment, see Table 1.

2006 Earnings Lower Than Expected
On February 23, 2007 HE reported 2006 income from continuing operations of $108 million or $1.33 per diluted share, compared with $127.4 million or $1.58 per diluted share in 2005. Earnings were well below our estimate of $1.50 and the average analyst estimate of $1.48.

Electric Utility net income was $74.9 million in 2006 versus $72.9 million in 2005. Higher other operation and maintenance and depreciation expense largely offset higher revenues from the interim rate increase granted in at the Oahu utility.

Bank net income for 2006 was $55.8 million compared with $64.9 million for 2005. Lower results were primarily due to margin compression from the inverted yield curve, higher credit costs and higher non-interest expenses. The higher credit costs reflected a $1.4 million provision for loan losses in 2006 versus a $3.1 million reversal of the allowance for loan losses in 2005. The bulk of the 2006 provision was due to a single commercial loan and HE maintains that it does not reflect a trend in overall credit quality.

The Holding and Other Companies segment lost $22.7 million in 2006, compared with a net loss of $10.2 million in 2005. The year over year difference was primarily related to $2.2 million in after-tax losses from realized and unrealized gains on investments in 2006 versus an after-tax gain of $11.9 million from realized and unrealized gains on investments in 2005.

4Q Earnings Below Average Estimates
Fourth quarter 2006 net income was $16.1 million or $0.20, lower than our estimate of $0.37 and the average analyst estimate of $0.38. Fourth quarter 2005 net income was $37.5 million or $0.46 per share.

Electric utility net income for the fourth quarter 2006 was $13.0 million compared to $18.2 million for the year ago quarter. Higher other operation, maintenance and depreciation expenses more than offset the impacts of higher kilowatt-hour sales.

Bank net income for the fourth quarter of 2006 was $9.3 million compared with $17.7 million for the same quarter in 2005. The lower results year over year were primarily due to lower net interest income driven by higher funding costs and a decrease in net interest margin, and higher non-interest expense driven by higher legal and litigation related expenses.

Holding and Other Companies net losses totaled $6.2 million in the fourth quarter of 2006 versus losses of $1.7 million for the year ago quarter. The year over year difference was primarily related to $0.9 million in after-tax losses from realized and unrealized gains on investments in the fourth quarter of 2006 versus an after-tax gain of $7.7 million from realized and unrealized gains on investments in the fourth quarter of 2005.

Rate Increase Requests Are Pending at All Three Utility Units
On February 23, 2007, Maui Electric Company (MECO) requested a $19 million or 5.3% increase in electric rates premised upon an 11.25% return on equity (ROE) that is 54.9% of total capital, and an 8.98% return on average rate base valued at $386 million. MECO's rate increase is driven by reliability improvements, including two new generating units at its Maalaea Power plant.

EDWARDS.

On December 22, 2006, Hawaiian Electric Company (HECO) requested a $99.6 million or 7.2% increase in electric rates premised upon an 11.25% ROE that is 55.1% of total capital, and an 8.92% return on average rate base valued at $1,214 million. The company's request is in addition to an interim $54 million rate increase that went into effect on September 27, 2005. The interim hike is premised on a 10.7% ROE and an 8.66% return on rate base. HECO is awaiting a final order in this case.

On March 5, 2006, Hawaii Electric Light Company (HELCO) requested a $29.4 million or 9.2% increase in electric rates premised upon an 11.25% ROE that is 50.83% of total capital, and an 8.65% return on average rate base valued at $369 million.

In Hawaii, the PUC must issue a decision regarding interim rates within 11 months of a rate request. There is no time limit within which the PUC must issue a decision regarding permanent rates.

Rating Remains HOLD; Investment Return May Be Limited to High Dividend
HE shares trade above our $23.50 fair value estimate (see Valuation section below). Because of this and our projection that EPS could decline in 2007 versus expected increases at most other electric utilities, we believe HE shares could under perform the utility industry average. Despite these considerations, we are maintaining our HOLD rating. A sell rating requires that "a material negative total return is anticipated" under our definition. The shares provide a current 4.7% dividend yield which we consider secure, reducing the potential negative total return to below 10%. Further, we expect EPS to rebound over the long-term with assumed rate increases and an assumed return to an upwardly sloped yield curve.

Valuation:
We estimate HE's fair value at $23.50 per share. This estimate is derived by averaging comparable P/E and dividend discount valuations.

Our comparable P/E valuation of $25 per share values the Utilities and Holding and Other Companies segments at $16 per share using an approximate 15.2 times multiple on projected 2008 EPS of $1.06. This multiple is a 5% discount to the integrated, regulated power company median of 16.0 times. The 2008 Utility earnings estimate incorporates expected rate increases. The 5% discount reflects the projection that HE's utilities are likely to earn a moderately lower return on equity than their peers, though less so than in recent years. We value the bank at $9 per share using a 1.34 multiple of year-end 2006 book value, the median multiple of its peers.

Our dividend discount valuation of $22 reflects a 4.8% risk free rate of return (the current 30-year treasury yield), a 3.6% equity risk premium and a post-2011 EPS and dividends per share growth rate of 3.5% annually. Our equity risk premium is derived using a 10% assumed market return and a beta of 0.69.

Risks to Valuation:
The chief investment risks to the current valuation are related to interest rates and regulation, in our view. A sustained flat yield curve, such as we have currently, likely hurts bank earnings by reducing the difference between the cost of funds and the returns earned on lending and investments. Higher interest rates, especially higher long-term rates, would reduce the relative attractiveness of HE's dividend to investors. HE's utilities need regular reasonable rate increases to achieve our earnings expectations for the long-term.

Company Description:
HE is a holding company whose principal businesses are electric utility operations, which earned $73 million in 2005, and a bank, which earned $65 million. The holding and other companies lost $10 million primarily as a result of financing expenses offset by investment gains. Hawaiian Electric Company and its operating subsidiaries, Maui Electric Company and Hawaiian Electric Light Company, provide electricity to approximately 93% of the state's population. American Savings Bank is the third largest financial institution in the state based on asset size.

EDWARDS.

Figure 1: Earnings by Segment

Hawaiian Electric Industries Earnings by Segment ($ millions)	2006A	2007E	2008E	2009E	2010E	2011E
Utility	75.0	78.3	107.5	96.7	112.9	110.3
Bank	55.8	44.7	46.7	55.3	65.0	67.2
Parent and Other	(22.9)	(18.1)	(18.8)	(17.6)	(17.8)	(17.0)
Total	**107.9**	**104.9**	**135.4**	**134.4**	**160.1**	**160.5**

EPS by Segment (in $)	2006A	2007E	2008E	2009E	2010E	2011E
Utility	0.92	0.95	1.28	1.13	1.30	1.25
Bank	0.69	0.54	0.56	0.65	0.75	0.76
Parent and Other	(0.28)	(0.22)	(0.22)	(0.21)	(0.20)	(0.19)
Total	**1.33**	**1.27**	**1.62**	**1.58**	**1.84**	**1.82**

Source: A.G. Edwards Estimates and Company information.

EDWARDS

Figure 2: Income Statement

Hawaiian Electric Industries Income Statement (in millions of dollars expect per share amounts)						
Revenues	2006A	2007E	2008E	2009E	2010E	2011E
Electric	2,054.9	2,083.4	2,192.5	2,213.5	2,286.4	2,317.8
Bank	408.3	418.8	433.8	461.4	492.2	507.6
Other	(2.4)	0.9	0.0	0.0	0.0	0.0
Total	2,460.9	2,503.0	2,626.3	2,674.9	2,778.7	2,825.4
Expenses						
Electric utility expenses	1,888.2	1,913.7	1,975.0	2,009.3	2,053.8	2,087.8
Bank expenses	319.7	347.4	359.2	373.1	388.5	400.3
Other	13.5	13.8	14.0	14.3	14.8	14.9
Total	2,221.4	2,274.9	2,348.2	2,396.7	2,456.9	2,503.0
Operating Income	239.4	228.2	278.1	278.1	321.7	322.5
Total Other Income	6.5	8.5	11.7	11.7	11.7	11.5
Interest & Preferred						
Interest expense other than bank	(75.7)	(71.0)	(75.8)	(78.1)	(79.1)	(79.0)
Preferred stock dividends of subsidiaries	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)
Allowance for borrowed funds UDC	2.9	2.0	3.2	3.7	1.4	1.4
Total Interest & Preferred	(74.8)	(70.9)	(74.6)	(76.5)	(79.7)	(79.6)
Income Taxes	63.1	60.8	79.7	78.9	93.8	93.9
Net Income From Continuing Operations	108.1	104.9	135.4	134.4	160.1	160.5
Average shares, Diluted	81.5	82.3	83.8	85.3	86.8	88.3
EPS from Continuing Operations, Diluted	1.33	1.27	1.62	1.58	1.84	1.82
Dividend/Share Paid	1.24	1.24	1.24	1.24	1.24	1.24
Book Value/Share	15.14	15.38	15.96	16.51	17.32	18.10
Average ROE (%)	8.8	8.4	10.3	9.7	10.9	10.3

Source: A.G. Edwards estimates and company information.

EDWARDS.

SUMMARY OF EPS CHANGES

Fiscal Year Ends Dec							
EPS	2006A	2007E	Prior	2008E	Prior	2009E	Prior
Qtr1	$0.40						
Qtr2	$0.33						
Qtr3	$0.40						
Qtr4	$0.20						
Year	$1.33	$1.27	$1.45	$1.62	$1.80	$1.58	
P/E		20.6X		16.2X		16.6X	

SELECTED FINANCIAL STATISTICS
(DOLLARS IN MILLIONS EXCEPT PER SHARE)

Fiscal Year Ends Dec	2002	2003	2004	2005	2006	CAGR (%)	2007E	2008E	2009E
Revenues	$1654	$1781	$1924	$2216	$2460		$2503	$2626	$2675
Net Income	118	118	128	127	108		105	135	134
Cash Earnings									
Shares Outstanding	73	75	80	81	81		82	84	86
Earnings Per Share	1.62	1.57	1.61	1.58	1.33		1.27	1.62	1.58
Dividends Per Share	1.24	1.24	1.24	1.24	1.24		1.24	1.24	1.24
Price Range (High)	25	24	29	30	29				
Price Range (Low)	17	19	23	25	25				
P/E Range (High)	15	15	18	19	22				
P/E Range (Low)	10	12	14	16	19				
Return on Equity (%)	11.9	10.7	9.4	10.4	8.8		8.4	10.3	9.7

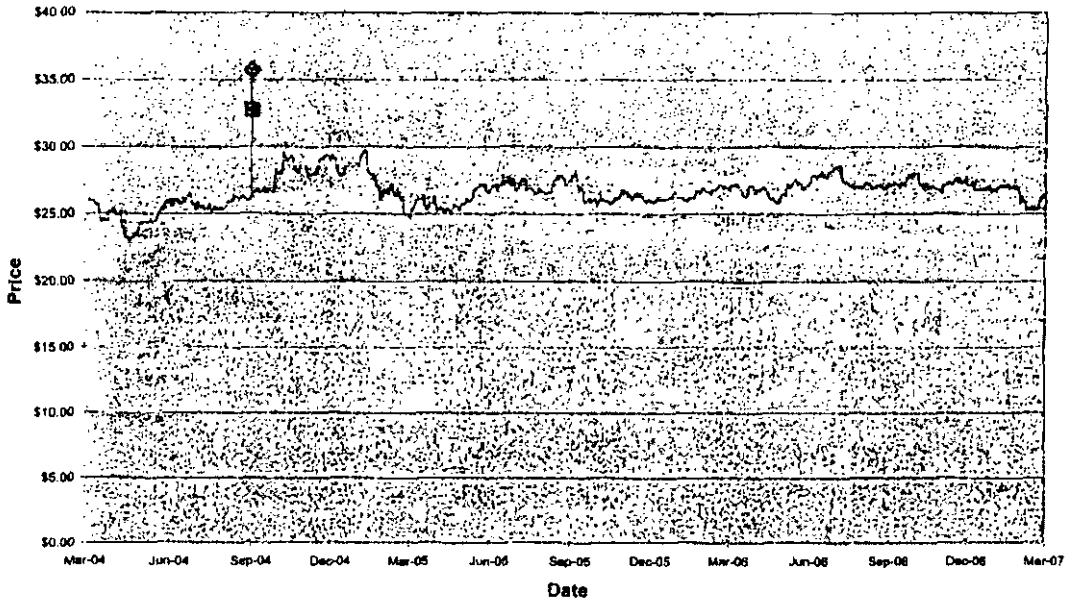
CAGR – Compound Annual Growth Rate
Cash Earnings - Net Income plus goodwill amortization
Dividend Opinions: 1 - Secure with growth; 2 - Secure with little or no growth; 3 - Secure intermediate term, might not be secure long term; 4 - Not secure

SELECTED BALANCE SHEET DATA
(DOLLARS IN MILLIONS)

December 31, 2006			
Cash and Investments	$178	Accounts Payable	$166
Accounts Receivable, Net	$249	Short-term Debt/Current Maturities	$4,752
Other Current Assets	$80	Other Current Liabilities	$1,568
Total Current Assets	**$507**	**Total Current Liabilities**	**$6,486**
Property, Plant, and Equipment, Net	$2,647	Long-term Debt	$1,167
Long-term Investments	$98	Deferred Income Taxes	$107
Intangible Assets, Net	$87	Other Liabilities	$1,036
Other Assets	$6,552	Shareholders' Equity	$1,095
Total Assets	**$9,891**	**Total Liabilities and Shareholders' Equity**	**$9,891**

EDWARDS.

IMPORTANT DISCLOSURES



Pricing sources: Factset and IDSI

- Daily Closing Prices
- Δ Price Objective Changes
- ■ Rating/Suitability Changes
- ◆ Analyst Coverage Changes

PRICE OBJECTIVE (PO) CHANGES *

Date	Closing Price	PO	Date	Closing Price	PO	Date	Closing Price	PO

* NA: Positive rating removed; no price objective supplied.

RATING/SUITABILITY CHANGES

Date	Closing Price	Rating/Suitability	Date	Closing Price	Rating/Suitability
09/28/2004	26.47	Hold/Conservative			

ANALYST COVERAGE CHANGES

Analyst	From	To	Analyst	From	To
Douglas A. Fischer	09/28/2004				

EDWARDS

IMPORTANT DISCLOSURES

Rating	Master List Companies	Current Rating Distribution	Past 12 months Investment Banking Clients	Past 12 months % of Investment Banking Clients *
Buy	264	35%	43	16%
Hold/Neutral	476	62%	45	9%
Sell	23	3%	1	4%

* Percentage of Investment Banking Clients on Master List by rating.

OUR 3-TIER RATING SYSTEM (12-18 month time horizon)

Buy: A total return is anticipated in excess of the market's long-term historic rate (approximately 10%). Total return expectations should be higher for stocks which possess greater risk.

Hold: Hold the shares, with neither a materially positive total return nor a materially negative total return is anticipated.

Sell: Stock should be sold, as a materially negative total return is anticipated.

RISK SUITABILITY (Relates to fundamental risk, including earnings predictability, balance sheet strength and price volatility)

Conservative: Fundamental risk approximates or is less than the market.

Aggressive: Fundamental risk is higher than the market.

Speculative: Fundamental risk is significantly higher than the market.

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The subject company is or was a client of AGE during the past 12 months for non-investment banking securities-related services and analyst is aware of same.

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Price objectives and recommendations contained in this report are based on a time horizon of 12-18 months, but there is no guarantee the objective will be achieved within the specified time horizon. Price objectives are determined by a subjective review of fundamental and/or quantitative characteristics of the issuer and the security that is the subject of this report. A variety of methods may be used to determine the value of a security including, but not limited to, discounted cash flow, peer group comparisons, sum of the parts and enterprise values. All securities are subject to market, interest rate and general economic risks. Specific information is provided in the text of our most recent research report.

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01:05am EDT 27-Feb-07 Robert W. Baird & Company (David Parker) HE HE.N
Baird: HE: Increasing Costs and Inverted Yield Curve Pressure EPS; Maint Part 1

Utilities Research
February 27, 2007

Hawaiian Electric Industries (HE)

Increasing Costs and Inverted Yield Curve Pressure EPS; Maintain Neutral Rating

Click here for PDF version including all attachment
(s)

Price (02/26/07)	26.58	Rating:	Neutral	FY Dec	2006A	2007E	2008E
		Suitability:	Average	Q1	0.40A	0.36E	
52WK H-L:	29 - 26		Risk	Q2	0.33A	0.32E	
Market Cap (mil)	2,168.93	Price Target:	28	Q3	0.40A	0.44E	
				Q4	0.20A	0.33E	
Share Out (mil):	81.3			Total	1.33A	1.45E	1.75E
				Previous	1.55E	1.80E	
Float (mil):	80.9			FY P/E	20.0x	18.3x	15.2x
Avg. Daily Vol (mil):	0.18						
Dividend:	1.24						
Yield:	4.67						

Please refer to Appendix - Important Disclosures and Analyst Certification.

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Action

Increased utility expenses, declining net interest margins, and difficult comparisons all conspired to yield a significant earnings decline. We expect the pressures to remain in 2007 with rate relief increasingly necessary. We expect some interim rate decisions to flow through in the next year, but such relief is not expected to boost returns to approved levels. We maintain our Neutral rating believing regulatory pressures will weigh on the stock.

Summary

* HE reported 4Q06 EPS of $0.20 versus $0.46 last year (-57% YOY) and our $0.42 estimate. The consensus estimate was $0.38.
* Utility earnings declined 29% YOY to $13.0 million despite favorable weather, further accentuating the need for rate relief. Declining reserve margins have increased maintenance costs, while general operating expenses continue to rise.
* Bank earnings declined 48% YOY off a record 4Q05 to $9.3 million as net interest margin declined further with the bank forced to take measures to retain assets in the face of a still-inverted yield curve. In addition, the bank recorded its first provision for loan loss since 2003. Deposit levels have recovered, but at higher costs.
* Corporate segment earnings also declined materially

due to the absence of significant investment gains.

* We have lowered our 2007 EPS estimate from $1.80 to $1.45 to reflect the continued net interest margin compression and higher utility expenses, offset slightly later in the year by potential interim rate relief. We have introduced a 2008 EPS estimate of $1.75 assuming rate relief and some recovery in the net interest margin.
* We have maintained our 12-month price target of $28, which is 16x our 2008 EPS estimate. HE's electric utility peers currently trade at a median forward P/E of 17x while its Hawaiian bank peers trade at 14x. We continue to believe rate relief should eventually provide a meaningful boost to earnings, but such an outlook continues to push further into the future.

Details
HE reported 4Q06 EPS of $0.20 versus $0.46 last year (-57% YOY) and our $0.42 estimate. The consensus estimate was $0.38. For the year, HE reported EPS of $1.33 versus $1.57 in 2005 (-15% YOY).

Segment Analysis

Utility Operations

Utility 4Q06 net income declined 29% YOY to $13.0 million despite positive weather conditions. Energy sales increased 1.4% YOY due to a combination of customer growth and favorable weather offset partially by continued demand-side management. Higher O&M expenses were the primary culprit for lower earnings, with maintenance costs higher as declining reserve margins force HE to run its plants longer and harder and more humid weather has provided fertile plant growth conditions forcing increased vegetation management expenses. In addition, the utility continues to face higher post-retirement expenses and experienced several disallowances with its demand-side management program that impacted YOY comparisons. Depreciation expense increased $2.0 million YOY to $32.6 million due primarily to 2005 plant additions. Management stated that there was little financial impact from the October earthquake that hit Oahu, particularly as the quake hit on a Sunday morning with minimal negative equipment impact.

Reserve margins have continued to tighten, with the current affordable solutions to HE minimal. HE has made extensive use of demand-side management programs to shave peak load, while deploying distributed generation equipment to offset the public's lack of desire for viewable generation sources, particularly fossil-based generation sources. HE has proposed a peaking plant that would utilize various biomass options, including ethanol and coconut oil, with a proposed in-service date of 2009.

Regulatory Activity

HE has rate cases outstanding in each of its major electric jurisdictions, in addition to a second case on Oahu from 2005 that has yet to be decided. Rising utility costs, declining reserve margins that have led to increased maintenance costs and need for demand-side management programs and a lack of recovery of additional investment all necessitate the seeking of rate relief at the utilities. In addition, HE is seeking adjustment clauses to automatically adjust rates for various items, particularly the incremental investment required to maintain system reliability. All rate cases are seeking rate designs to encourage energy efficiency, including tiered rate structures and time-of-use rates. In addition, each rate case seeks to include an adjustment of financial equity for the recently adopted FASB Statement 158, which caused a $127 million charge to accumulated other comprehensive income during 4Q06 to recognize the funded status of HE's pension plans. A single

issue docket to establish a regulatory asset for the accounting adjustment was denied in 1/2007, with HE now seeking to include the proposed adjustment as part of its upcoming rate cases.

HELCO ("the big island") - On 5/5/2006, Hawaii Electric Light Company (HELCO) requested a $29.4 million (9.2%) electric rate increase based on an 11.25% return on equity (50.83% of capital) and an 8.65% return on an average rate base valued at $369 million for a 2006 test year. HELCO has proposed a tiered rate structure under which smaller percentage increases would apply to residential customers who use less electricity. Specifically, residential customers who use 100 kWhs, 500 kWhs, and 5,000 kWhs a month would experience rate increases of 3.8%, 7.6%, and 14.6%, respectively; 52% of HELCO's residential customers use 500 kWhs or less per month. The rate increase is necessary to recover the costs associated with significant investments made to improve electric service and reliability, including two new combustion turbine generating units and transmission and distribution system improvements. HELCO noted that it does not intend to build any additional fossil-fueled generation plants in its service territory, which encompasses the island of Hawaii. HELCO is currently authorized an 11.5% return on equity (49.69% of capital) and a 9.14% return on an average rate base valued at $249.6 million, established by a 2001 Hawaii Public Utilities Commission (HPUC) decision. While there is no statutory time frame in which the HPUC must issue a final decision in the instant case, an interim decision is required within 10 months of the filing, with a 30-day postponement option if hearings have not been completed. However, the HPUC has not scheduled hearings until May 2007, with management stating they are unlikely to press the timing issue with the commission.

HECO (Oahu) - In 9/2005, the HPUC granted HECO interim rate relief of a net $41 million (+3.3%) subject to refund ($53 million headline number less $12 million rate adjustments), assuming a 10.7% ROE and an 8.66% return based on an average rate base valued at $1.109 billion based on a 2005 test year. The HPUC has no statutory timetable to issue a final decision, and so far has proceeded accordingly with no decision time frame expected.

In 12/2006, HECO filed an additional rate case seeking a $99.6 million rate increase (+7.1%) assuming an 11.25% ROE and 8.92% return on an average rate base valued at $1.214 billion based on a 2007 test year. The rate increase seeks a tiered rate structure to encourage energy efficiency and time-of-use rates for residential and commercial customers. Based on the 12/2006 filing date, evidentiary hearings and an interim decision should be expected in late 2007.

MELCO (Maui) - On 2/23/2007, MELCO requested a $19.0 million rate increase (+5.3%) assuming an 11.25% ROE and 8.98% return on an average rate base valued at $386 million based on a 2007 test year. Evidentiary hearings and an interim decision are expected in early 2008.

Act 162 - On 6/2/2006, Act 162, which addresses the electric utilities' automatic fuel adjustment mechanism in Hawaii, was enacted. Act 162, which was partially borne out of the state's reliance on oil for generation and the recent fluctuations in the commodity, specifies that any HPUC decision in a fuel adjustment mechanism proceeding is to:

* fairly share the risk of fuel cost changes between the utility and customers
* provide the utility with sufficient incentive to reasonably manage or lower its fuel costs and encourage greater use of renewable energy
* permit the utility to mitigate the risk of sudden or frequent fuel cost changes that cannot otherwise reasonably be mitigated through the use of mechanisms such as fuel hedging contracts
* preserve, to the extent reasonably possible, the utility's financial integrity
* minimize the utility's need to request frequent general rate case increases to account for changes in fuel costs.

Currently, the fuel mechanism is adjusted monthly for changes in fuel and the fuel component of purchased power, and for variations from the forecasted generation mix which has served to keep EPS variations from volatile energy commodity prices minimal. Purchased power capacity costs and the operation and maintenance expense component of energy costs are recoverable through base rates.

Continued in part 2...

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EON

01:05am EDT 27-Feb-07 Robert W. Baird & Company (David Parker) HE HE.N
Baird: HE: Increasing Costs and Inverted Yield Curve Pressure EPS; Maint Part 2

On 6/19, the HPUC issued an order in HECO's pending general electric rate case indicating that the record has not been developed to reflect the provisions of Act 162. The HPUC requested that general rate case participants establish a procedural schedule to address the issues related to HECO's fuel adjustment clause or file individual proposed procedural schedule within 45 days.

Bank Operations

HE's bank net income (ASB) declined 48% YOY from $17.7 million in 4Q05 to $9.3 million in 4Q06. Net interest income after provision for loan losses declined 14% YOY to $46.5 million due to a decline in net interest margins plus a $1.4 million provision for loan losses. ASB's net interest margin declined from 3.41% in 4Q05, a peak level in the past decade, to 3.05%, a low point in the last several years. ASB has had to more aggressively price deposits due to pressures stemming from the continued inverted yield curve, with deposit levels rebounding following a mid-year decline. ASB rolled out multiple programs in an effort to retain deposits, including offering free identity theft solutions and combining rewards programs. Management stated that the loss provision related to a single commercial customer and does not reflect overall credit quality, although a slowing in the real estate market increases the risk of having further credit issues.

Non interest income declined 3% as repricing of deposit fee structures was more than offset by declines in other fee income. Non interest expenses increased 12% to $46.6 million due to higher occupancy expenses and various legal and litigation related expenses, offset partially by a reversal in an accrual for annual performance incentive compensation due to weaker year-end earnings than anticipated. The increased legal expenses relates to two individual suits regarding former bank employees, one of which was settled in 2006 for an undisclosed amount and another of which continues.

Parent/Other

4Q06 segment earnings declined from a $1.7 million to a loss of $6.2 million, primarily reflecting realized and unrealized investment gains/losses. HE recorded gains of $7.7 million in 4Q05 versus a loss of $0.9 million in 4Q06. The gain in 4Q05 primarily related to the sale of a leveraged lease investment.

During February, HE divested its remaining interest in Hoku Scientific after the stock nearly doubled. As HE records the interest at market value, it expects to record an approximate $0.9 million pretax gain during 1Q07 related to the sale.

Investment Thesis
We expect continued solid economic activity in Hawaii reflecting robust construction activity and strong tourism activity to boost HE's EPS growth rate in the long term to above average. However, near-term substantial margin pressure from rising costs, an inverted yield curve and diminished electricity sales demand reflecting higher bills, are more than offsetting past rate relief and strong economic activity. As a result, we expect average total returns until these margin pressures subside and adequate rate relief is achieved, and rate HE Neutral at current prices.

We believe HE would be fully valued at $28, trading at a 2008 P/E multiple of [illegible]x reflecting HE's above-average yield and average EPS growth potential, with the prospect of a meaningful bump in earnings for 2008 and 2009 from rate relief mitigated by extended regulatory rate relief lag. HE's electric utility peers currently trade at a median forward P/E of 17x while its Hawaiian bank peers trade at 14x.

Risks & Caveats

* HE's utility and banking operations are subject to state and Federal regulations. Decisions in rates cases and other PUC proceedings, changes in taxation or other changes in the regulatory environment could affect HE's earnings.
* Like all financial institutions, HE's banking operations are subject to interest rate risks. Significant swings in interest rates could impact ASB's and HE's earnings.
* Hawaii's economy is driven by tourism. A substantial drop in the number of tourists to Hawaii because of national or international economic conditions or the effects of weather and natural disasters would materially affect the Hawaiian economy and HE's earnings.

Company Description
Hawaiian Electric Industries is a holding company with subsidiaries engaged in the electric utility and savings bank businesses. Each subsidiary primarily or exclusively conducts its business in the state of Hawaii. The utility supplies power to more than 400,000 customers or 93% of the Hawaii market. The savings bank is the third-largest financial institution in the State of Hawaii with total assets of $6.5 billion and deposits of $4.0 billion. Approximately 35% of the company's operating income is from the banking operations.

Appendix - Important Disclosures and Analyst Certification

Robert W. Baird & Co. and/or its affiliates expect to receive or intend to seek investment banking related compensation from the company or companies mentioned in this report within the next three months.

Investment Ratings: Outperform (O) - Expected to outperform on a total return, risk-adjusted basis the broader U.S. equity market over the next 12 months. Neutral (N)- Expected to perform in line with the broader U.S. equity market over the next 12 months. Underperform (U)- Expected to underperform on a total return, risk-adjusted basis the broader U.S. equity market over the next 12 months.

Risk Ratings: L - Lower Risk - Higher-quality companies for investors seeking capital appreciation or income with an emphasis on safety. Company characteristics may include: stable earnings, conservative balance sheets, and an established history of revenue and earnings. A - Average Risk - Growth situations for investors seeking capital appreciation with an emphasis on safety. Company characteristics may include: moderate volatility, modest balance-sheet leverage, and stable patterns of revenue and earnings. H - Higher Risk- Higher-growth situations appropriate for investors seeking capital appreciation with the acceptance of risk. Company characteristics may include: higher balance-sheet leverage, dynamic business environments, and higher levels of earnings and price volatility. S - Speculative Risk- High-growth situations appropriate only for investors willing to accept a high degree of volatility and risk. Company characteristics may include: unpredictable earnings, small capitalization, aggressive growth strategies, rapidly changing market dynamics, high leverage, extreme price volatility and unknown competitive challenges.

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Continued in part 3...

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01:05am EDT 27-Feb-07 Robert W. Baird & Company (David Parker) HE HE.N
Baird: HE: Increasing Costs and Inverted Yield Curve Pressure EPS; Maint Part 3

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EON

DAVIDSON COMPANIES
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Institutional Equity Research

HAWAIIAN ELECTRIC INDUSTRIES, INC.

February 16, 2007

HE – NYSE

Rating:
NEUTRAL

Price: (2/16/07) $27.00

Price Targets:
12-18 month: $26
5-year: $32

Industry:
Utilities

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4Q'06 Earnings Preview: Results Should have been Dampened by a Flat Yield Curve for the Bank and Absence of Last Year's Plant Sale Gain.

- Hawaiian Electric Industries, Inc. is scheduled to report 4Q'06 earnings on Friday, February 23rd after the market closes. A once per year conference call with management will be held on Monday, February 26th at 12:00 PM EDT/ 9:00 AM PDT.
- We are forecasting 4Q'06 EPS of $0.37 vs. $0.46 per share reported in the same quarter a year ago. The consensus estimate is $0.38 per share. It should be noted that 4Q'05 results included an $0.11 per share benefit for the sale of an interest in a Georgia generating plant.
- We are forecasting that the electric utility business will provide 4Q'06 EPS of $0.26 vs. $0.22 for the year ago quarter, or approximately 70% of the recent quarter's total estimated earnings. We believe the bank unit's quarterly EPS contribution, estimated at $0.17, was down from $0.22 a year earlier due to a flat yield curve. The unknown variable is the level of loan loss reserves or reversals that could swing earnings one way or the other.
- Quarterly utility results were likely impacted positively by the weather. Cooling degree days for the 4Q'06 in the utility's service territory were approximately 3% above normal and 12% above last year's totals, suggesting a higher air conditioning load. However, earnings benefits from the positive temperature comparisons should be offset from higher operations and maintenance expenses, as repair costs and overhaul schedules were pushed into 4Q'06. Additionally, higher vegetation management expenses, and loss of load and costs of restoring the utility's electric systems following the October 2006 earthquakes, will pressure utility earnings during the quarter.
- We currently rate the shares of HE as **NEUTRAL**, with a target price of $26, or 15.4x the average of our 2007 and 2008 EPS estimates of $1.59 and $1.79, respectively. We continue to view the annual dividend of $1.24 per share, representing a 4.6% current yield, as relatively safe, and the major reason for investors to retain the shares.

RESEARCH NOTE

D.A. Davidson & Co.
Two Centerpointe Drive, Suite 400 • Lake Oswego, Oregon 97035 • (503) 603-3000 • (800) 755-7848 • www.dadavidson.com

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We, James L. Bellessa, Jr., CFA and Bryan H. Nicholls, attest that (i) all the views expressed in this research report accurately reflect our personal views about the common stock of the subject company, and (ii) no part of our compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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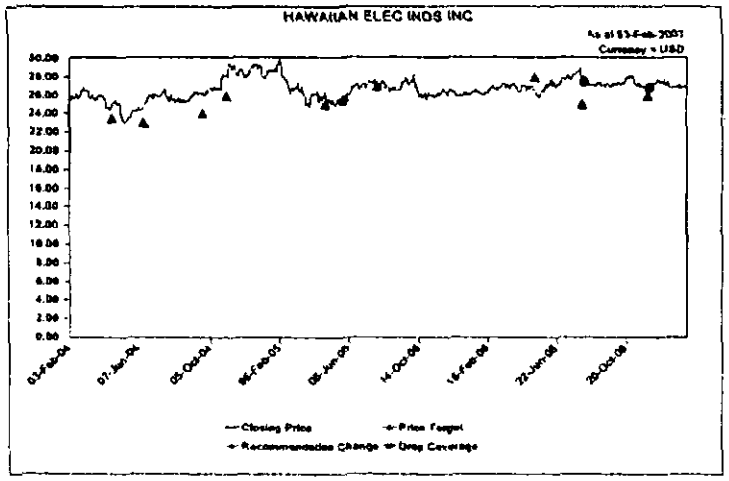
D.A. Davidson & Co. Ratings	Buy	Neutral	Underperform
Risk adjusted return potential	Over 15% total return expected on a risk adjusted basis over next 12-18 months	>0-15% return potential on a risk adjusted basis over next 12-18 months	Likely to remain flat or lose value on a risk adjusted basis over next 12-18 months

Distribution of Ratings (as of 12/31/06)	Buy	Hold	Sell
Corresponding Institutional Research Ratings and Distribution	Buy 41%	Neutral 51%	Underperform 8%
Corresponding Private Client Research Ratings and Distribution	Outperform 54%	Market Perform 46%	Underperform 0%
Distribution of Combined Ratings	42%	51%	7%

Distribution of companies from whom D.A. Davidson & Co. has received compensation for investment banking services in last 12 mos.

Institutional Coverage	5%	6%	0%
Private Client Coverage	0%	8%	0%
Distribution of Combined Investment Banking	4%	6%	0%



D.A. Davidson & Co. Institutional Research Rating Scale (maintained since 7/9/02)
Buy, Neutral, Underperform

HAWAIIAN ELEC INDS INC

Currency = USD

Date	Closing Price	Recommendation Change
28-Nov-2006	26.87	NEUTRAL
04-Aug-2006	27.50	UNDERPERFORM
25-May-2005	25.38	NEUTRAL

Date	Closing Price	Price Target
28-Nov-2006	26.87	26.00
04-Aug-2006	27.50	25.00
10-May-2006	26.62	26.00
26-Jul-2005	26.97	27.00
26-Apr-2005	25.63	25.00
01-Nov-2004	26.29	26.00
20-Sep-2004	26.06	24.00
14-Jun-2004	24.65	23.00
22-Apr-2004	25.10	23.50

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Institutional Equity Research

HAWAIIAN ELECTRIC INDUSTRIES, INC.

February 27, 2007

HE – NYSE

Rating:
NEUTRAL

Price: (2/26/07) $26.58

Price Targets:
12-18 month: $26
5-year: $32

Industry:
Utilities

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FY(Dec)	2006A	2007E	Y-O-Y Growth	2008E	Y-O-Y Growth
Revenue ($M)	$2,460.9	$2,446.1	-1%	$2,510.3	3%
Previous	$2,477.5	NC		NC	
Price/Revenue ratio	.9x	.9x		.9x	
EPS Revised	**$1.33**	**$1.55**	17%	**$1.71**	10%
Previous	$1.50	$1.59		$1.79	
Price/EPS ratio	20.0x	17.1x		15.5x	
EBITDA ($M)	$393.1	$437.5	11%	$468.6	7%
EV/EBITDA ratio	8.5x	7.6x		7.1x	

Quarterly Data:	EPS	EPS Previous	Revenue ($M)	Revenue Previous	EBITDA ($M)
3/31/07E	$0.36	$0.37	$587.0	NC	$105.6
6/30/07E	$0.36	$0.37	$614.3	NC	$106.0
9/30/07E	$0.45	$0.46	$638.9	NC	$117.9
12/31/07E	$0.37	$0.39	$605.9	NC	$108.0

Valuation Data

Long-term growth rate (E)	3%
Total Debt/Cap (9/30//06)	51.1%
Cash per share (9/30/06)	$2.36
Book value per share (9/30/06)	$15.22
Dividend (yield)	$1.24 (4.7%)
Return on Equity (T-T-M)	9%

Trading Data

Shares outstanding (M)	81.3
Market Capitalization ($M)	$2,162
52-week range	$25.69 - $28.94
Average daily volume (3 mos.) (K)	185
Float	99%
Index Membership	S&P 400 MidCap

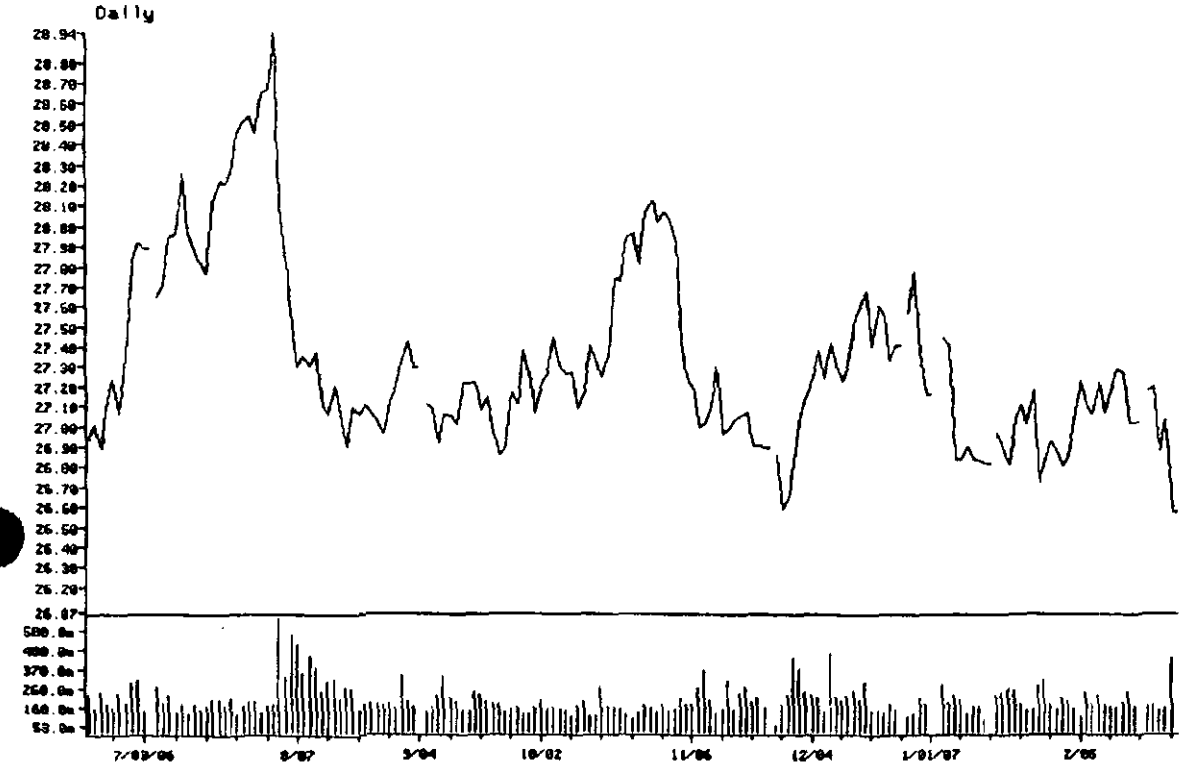
Quarterly EPS Falls Well Below Expectations. Reducing Forecasts for Share Count Creep. Maintaining NEUTRAL Rating.

- Hawaiian Electric Industries reported 4Q'06 EPS of $0.20 compared to $0.46 a year earlier, including a non-recurring $0.11 benefit from the sale of an interest in a Georgia power plant. These disappointing results compare to our forecast of $0.37. EPS was down in each of the firm's three segments.
- Utility operating and maintenance expenses were significantly higher, including increases in retirement benefits expenses (+$2.3 million) and maintenance expenses ($3.8 million). The climb in this latter expense category resulted from an increase in the number of generating unit overhauls, higher substation expenses, and increased vegetation management expenses, caused by above average moisture last spring which spurred plant growth.
- The bank's net interest margin slipped materially as the cost of liabilities increased more than the yields on loans and mortgage related securities. Also, a loss reserve of $1.4 million, or $0.01 per share, and higher legal fees dragged bank earnings lower.
- We are lowering our EPS estimates for 2008 and 2007 to reflect a higher average share count than we previously expected, as the company has chosen to fund its Dividend Reinvestment Plan by newly issued shares. Our 2007 EPS estimate is reduced from $1.59 to $1.55. Our 2008 EPS forecast is cut from $1.79 to $1.71.
- With the current share price near our 12-18 month target price, we continue to maintain our **NEUTRAL** rating.

Company Description:
Hawaiian Electric Industries, Inc. is a holding company engaged in the electric utility and banking businesses in the state of Hawaii. Hawaiian Electric Company, Inc. provides electric services on five islands, whose populations comprise 95% of the state's residents. American Savings Bank, FSB, is the state's third largest financial institution with $6.9 billion in assets.

Please refer to pages 8-9 of this report for detailed disclosure and certification information.

Price Chart



Source: ILX

EPS Fall Short In All Business Units

Hawaiian Electric Industries reported 4Q'06 EPS of $0.20 compared to $0.46 a year earlier, including a non-recurring $0.11 benefit from the sale of an interest in a Georgia power plant. These results compare to our forecast of $0.37. EPS was down in each of the firm's three segments.

Electric utility EPS of $0.16 vs. $0.22 a year earlier, was materially lower compared to our forecast of $0.26. Operating and maintenance expenses were significantly higher, including increases in retirement benefits expenses (+$2.3 million) and maintenance expenses (+$3.8 million). The climb in this latter expense category resulted from an increase in the number of generating unit overhauls, higher substation expenses, and increased vegetation management expenses, caused by above average moisture last spring which spurred plant growth. Depreciation expense also climbed (+$2.0 million). These drags on earnings were partially offset by warmer and more humid weather, which increased air conditioning load. Cooling degree days for the 4Q'06 in the utility's Oahu service territory were approximately 3% above normal and 12% above last year's totals.

Community bank EPS was $0.11, half of the $0.22 reported a year ago, and compared to our forecast of $0.17. A lower net interest margin (3.05% vs. 3.41%) occurred as the cost of the bank's liabilities increased more than the yields on loans and mortgage related securities. Also, a loss reserve of $1.4 million, or $0.01 per share, dragged bank earnings lower. In the year-ago period there was no loan loss reserve. Additionally, results were held back in 4Q'06 by higher legal and litigation related expenses, partially offset by lower compensation expenses, as results were so low that incentive accruals for the year were reversed.

Management indicated that the initial response to the bank's initiatives to retain market share received a better-than-expected initial response. Likely, however, the bank experienced higher costs from a comprehensive identity theft recovery program, free of charge to all consumer checking customers, and a combined rewards program in which both individual and business customers pool their rewards points for both their credit card and check card purchases.

The "Other" segment experienced a loss of $0.08 per share compared to earnings of $0.02 per share a year ago, due primarily to the aforementioned plant sale gain of $0.11. We were looking for a loss of $0.06 per share.

Consolidated 4Q'06 revenues of $607.1 million declined $17.7 million, or 3%, from $624.8 million in 4Q'05. Operating income of $43.2 million dropped $32.9 million, or 43%, from $76.1 million. Net income of $16.1 million fell 57%, from $37.5 million. This $21.4 million decline in net income included the absence of last year's plant sale gain of $9.0 million.

Maintenance Costs Continue to Impact Results

Electric utility revenues in 4Q'06 of $506.0 million slipped $4.5 million, or 1%, from $510.5 million in 4Q'05. Although kilowatt-hour sales were up 1.4%, lower electric rates passed along most of the $5.3 million decrease in fuel and power costs to ratepayers.

Utility expenses in the most recent quarter of $473.4 million rose $2.8 million, or 1%. All costs, except fuel and power costs rose. Maintenance costs jumped $3.8 million because of the timing and scope of generating unit overhauls and increased vegetation management.

Electric utility net income in 4Q'06 of $13.0 million retreated $5.2 million, or 28%. This decline stemmed from a $7.3 million reduction in utility operating income (before income taxes), a $0.1 million decrease in other income, and an $0.8 million net increase in interest and other charges, offset by a $3.0 million decrease in utility net income taxes. On a per share basis, utility net income was $0.16 versus $0.22 a year ago.

Bank Results Hurt by Lower Net Yields

Bank revenues in 4Q'06 of $102.5 million grew $1.2 million, or 1%, from $101.3 million in 4Q'05. This increase was comprised of a $1.6 million improvement in interest and dividend income, (due to higher average investment balances and higher yields on loans, and higher yields on investment and mortgage related securities, which were partly offset by lower average balances of investments and mortgage related securities), partially offset by a $0.5 million decline in fee and other income.

Bank expenses in 4Q'06 of $87.7 million increased $14.2 million, or 19%, from $73.5 million in 4Q'05. The jump in expenses included an $8.0 million increase in interest expense and a $4.8 million increase in general and administrative expenses, as well as the aforementioned $1.4 million addition to loan loss reserves.

Bank operating income of $14.8 million dropped $13.0 million, due chiefly to higher funding costs and higher legal expenses. The 4Q'06 net interest margin of 3.05% compared to 3.41% a year earlier.

Bank net income in 4Q'06 of $9.3 million slumped $8.4 million, or 48%. This reduction stemmed from lower operating income, partially offset by a lower income tax expense. On a per share basis, bank net income was $0.11 versus $0.22.

Trimming Projected 2007 and 2008 EPS

We are lowering our EPS estimates for 2007 and 2008 to reflect a higher average share count than we previously expected, as the company has chosen to fund its Dividend Reinvestment Plan by newly issued shares. We will hold off completing a full adjustment of our forecasts until the company files its 2006 Form 10-K. Our 2007 EPS estimate is reduced from $1.59 to $1.55. Our 2008 EPS forecast is cut from $1.79 to $1.71. Management does not provide annual or quarterly guidance, however, we believe that 2008 EPS will be lifted by rate relief, with three major interim decisions expected over the next 12 months. (See Appendix A for a recap of the utility's outstanding rate cases, with request at three utilities totaling $148.6 million to help allay rising O&M expenses and to seek a return on incremental investments being placed in rate base.)

Maintaining NEUTRAL Rating

We are maintaining our target price of $26, or 15.2x the average of our revised and 2008 EPS estimates. Over the past five years, the stock has been accorded a median multiple of 13.2x of year-forward earnings.

With the current share price near our 12-18 month target price, we continue to maintain our **NEUTRAL** rating. We view the annual dividend of $1.24 per share, representing a 4.7% current yield, as relatively safe, and the major reason for investors to retain the shares.

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Appendix A: Hawaiian Electric Industries Inc. Pending Rate Cases

Maui County - 2007

Date Filed	Test Year	Revenue Increase ($, millions)	Revenue Increase (% Basis)
2/2007	2007	19.0	5.3%

Other Components: The rate case filing includes a requested 11.25% return on common equity and an 8.98% return on rate base of approximately $386 million. A possible interim decision regarding this rate case could be early 2008.

Oahu - 2007

Date Filed	Test Year	Revenue Increase ($, millions)	Revenue Increase (% Basis)
12/2006	2007	99.6	7.1%

Other Components: The rate case filing includes a requested 11.25% return on common equity and an 8.92% return on rate base of approximately $1.214 billion. A possible interim decision regarding this rate case could be late 2007.

Hawaii Island Rate Case - 2006

Date Filed	Test Year	Revenue Increase ($, millions)	Revenue Increase (% Basis)
5/2006	2006	30.0	9.2%

Other Components: The rate case filing includes a requested 11.25% return on common equity and an 8.65% return on rate base of approximately $369 million. Evidentiary hearings are scheduled for May 2007. A possible interim decision regarding this rate case could be mid-2007.

Oahu - 2005

Interim Decision	Test Year	Revenue Increase ($, millions)	Revenue Increase (% Basis)
9/2005	2005	41.0	3.3%

Other Components: The interim decision received in September 2005 granted a 10.7% return on common equity and an 8.66% return on rate base of approximately $1.109 billion. A final decision and order are still pending.

Source: Company reports

Hawaiian Electric Industries, Inc.
Balance Sheet
$$$ in thousands – Fiscal year ends 12/31

	2000	2001	2002	2003	2004	2005	3Q06
Cash and Equivalents (and Fed Funds Sold)	$ 212,783	$ 450,827	$ 244,525	$ 279,988	$ 173,629	$ 208,947	$ 191,584
Accts. Receivable and Unbilled Revenue, net	188,056	164,124	176,327	187,715	268,533	249,473	271,203
Available-for-Sale Securities	164,668	1,613,710	1,980,288	1,787,177	2,953,372	2,628,351	2,357,012
Securities Pledged for Repo. Agreements	857,371	750,749	764,382	941,571	0	0	0
Held-to-Maturity Investment Securities	1,448,488	84,211	89,545	94,624	97,365	97,764	97,764
Loans Receivable, net	3,211,325	2,857,622	2,993,969	3,121,979	3,248,191	3,968,834	3,763,823
Property, Plant and Equipment	2,054,474	2,067,503	2,241,943	2,311,888	2,422,303	2,542,776	2,605,392
Regulatory Assets	116,823	111,376	0	0	106,630	110,718	110,335
Other	383,447	309,867	345,082	382,328	414,971	456,134	424,712
Goodwill and Intangibles	101,481	101,954	97,572	93,987	91,263	88,580	88,011
Total Assets	8,518,694	8,517,943	8,933,553	9,201,158	9,719,257	9,951,577	9,909,836
Accounts Payable	$ 125,719	$ 119,850	$ 134,418	$ 132,780	$ 147,054	$ 183,338	$ 178,132
Deposit Liabilities	3,584,645	3,679,586	3,806,772	4,026,250	4,298,172	4,657,419	4,540,124
Short-Term Borrowings	104,389	0	0	0	76,611	141,758	194,211
Repurchase Agreements	598,504	683,180	667,247	831,335	811,438	686,784	
Other Bank Borrowings							1,511,956
FHLB Advances	1,249,252	1,032,752	1,178,252	1,017,053	988,231	835,500	
Long-Term Debt	1,088,731	1,145,789	1,106,270	1,064,420	1,166,735	1,142,893	1,133,137
Deferred Income Tax	187,420	185,436	235,431	226,580	229,765	207,997	197,800
Contributions in Aid of Construction	211,518	213,587	218,094	233,969	235,505	256,283	265,739
Other	297,041	293,742	257,318	273,442	325,307	389,390	380,957
Regulatory liabilities			57,656	71,682	197,069	219,204	235,480
Pref. Sec. of Trust Sub. and Sub. Debentures	200,000	200,000	200,000	200,000	0	0	0
Pref. Stock of Subsidiaries	34,406	34,406	34,406	34,406	34,405	34,293	34,293
Stockholders' Equity	839,059	929,665	1,046,300	1,089,031	1,210,945	1,216,630	1,238,007
Total Liabilities and Equity	8,518,694	8,517,943	8,933,553	9,201,158	9,719,257	9,951,577	9,909,836
Capital Structure (Excluding ASB's deposits, repos, and advances)							
Long-Term and Short-term Debt	$1,193,129	$1,145,789	$1,106,270	$1,064,420	$1,243,346	$1,284,781	$1,327,348
Trust Preferreds	200,000	200,000	200,000	200,000	0	0	0
Preferred Stock of Subs	34,406	34,406	34,406	34,406	34,406	34,293	34,293
Common Stock Equity	839,059	929,665	1,046,300	1,089,031	1,210,945	1,216,630	1,238,007
	$2,266,594	$2,309,640	$2,386,976	$2,387,857	$2,488,696	$2,535,674	$2,599,648
% Weighting of Capital Structure							
Long-Term and Short-Term Debt	52.6%	49.6%	46.3%	44.6%	50.0%	50.7%	51.1%
Trust Preferreds	8.8%	8.7%	8.4%	8.4%	0.0%	0.0%	0.0%
Preferred Stock of Subs	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.3%
Common Stock Equity	37.6%	40.2%	43.8%	45.6%	48.7%	48.0%	47.6%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Common Shares Outstanding (000's)	65,862	71,200	73,618	75,838	80,887	80,956	81,350

Hawaiian Electric Industries, Inc.
Consolidated Statements of Income

$$$ in thousands -- Fiscal year ends 12/31	4Q05	2005	1Q06	2Q06	3Q06	4Q06	2006	1Q07E	2Q07E	3Q07E	4Q07E	2007E	2008E
Revenues:													
Electric Utility	$ 510,540	$ 1,896,364	$ 475,056	$ 503,967	$ 568,838	$ 506,029	$ 1,854,890	$ 480,722	$ 506,856	$ 550,185	$ 495,480	$ 2,013,223	$ 2,049,901
Bank	101,308	387,918	100,004	102,566	103,338	102,467	408,383	105,201	106,380	107,673	109,380	428,634	436,686
Other	12,910	31,379	(66)	(1,554)	718	(1,417)	(2,319)	1,100	1,075	1,029	1,925	4,129	3,820
Total Revenues	624,759	2,215,664	574,992	604,909	673,894	607,079	2,460,954	587,024	614,311	658,887	605,885	2,446,107	2,510,350
Expenses:													
Electric Utility	470,623	1,844,861	429,476	464,121	521,187	473,388	1,888,172	434,818	480,568	472,257	448,600	1,836,138	1,834,756
Bank	73,501	263,000	72,849	76,387	82,760	67,981	319,997	83,808	84,842	86,892	86,471	341,911	350,838
Other	4,572	16,453	3,346	3,722	3,591	2,870	13,529	3,600	3,700	3,600	3,500	14,400	13,000
Total Expenses	548,696	1,944,142	505,811	544,240	607,538	543,519	2,221,608	522,224	549,108	561,748	538,570	2,171,750	2,207,756
Operating Income:													
Electric Utility	39,917	181,783	45,580	39,846	48,651	32,641	166,718	46,105	46,290	57,908	46,781	197,084	215,043
Bank	27,808	104,891	27,015	26,199	20,578	14,606	88,599	21,395	21,538	21,781	22,909	87,623	85,878
Other	8,338	4,818	(3,444)	(5,275)	(2,873)	(4,287)	(15,880)	(2,700)	(2,625)	(2,550)	(2,475)	(10,350)	(9,180)
Total Operating Income	76,063	271,422	68,151	60,729	66,356	43,160	239,396	64,800	65,203	77,139	67,215	274,357	292,476
Interest Expense-other than bank	(18,354)	(79,308)	(19,117)	(19,134)	(19,275)	(19,152)	(76,678)	(19,252)	(19,352)	(19,452)	(19,552)	(77,608)	(79,308)
Preferred Stock Dividends of Subsidiaries	(473)	(1,894)	(473)	(473)	(473)	(473)	(1,894)	(475)	(475)	(475)	(475)	(1,900)	(1,900)
Real Security Distributions of Trust Sub													
AFUDC - Debt	580	2,020	702	719	830	820	2,870	750	750	750	750	3,000	3,000
AFUDC - Equity	1,630	5,195	1,546	1,568	1,636	1,374	6,348	1,650	1,650	1,650	1,650	6,600	6,600
Pre-Tax Income	58,226	201,344	51,811	42,429	50,298	25,529	171,068	47,473	47,776	59,612	49,588	204,449	230,862
Income Taxes	21,702	73,900	19,474	15,205	17,963	9,412	62,054	17,585	17,677	22,050	18,348	75,660	85,458
Income From Continuing Operations	37,524	127,444	32,337	27,224	32,323	16,117	109,001	29,908	30,099	37,562	31,240	128,809	145,404
Discontinued Operations, Net of Tax	0	(7,85)	0	0	0	0	0	0	0	0	0	0	0
Net Income	37,524	119,589	32,337	27,224	32,323	16,117	109,001	29,908	30,099	37,562	31,240	128,809	145,404
Applicable Shares	81,337	81,294	81,383	81,432	81,536	81,587	81,373	82,181	82,681	83,181	83,681	83,621	84,621
Earnings Per Share:													
Cont. Operations $1 Non-Recurring Items	$0.46	$1.57	$0.40	$0.33	$0.40	$0.20	$1.33	$0.36	$0.36	$0.45	$0.37	$1.55	$1.71
Non-Recurring Items													
Discontinued Operations	0.00	(0.09)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GAAP EPS	$0.46	$1.48	$0.40	$0.33	$0.40	$0.20	$1.33	$0.36	$0.36	$0.45	$0.37	$1.55	$1.71
Dividends Per Share	$0.31	$1.24	$0.31	$0.31	$0.31	$0.31	$1.24	$0.31	$0.31	$0.31	$0.31	$1.24	$1.24
Dividend Payout Ratio of GAAP EPS	67.2%	78.9%	78.0%	92.7%	78.2%	158.8%	93.4%	85.2%	86.2%	68.7%	83.0%	79.8%	73.4%
Tax Rate	36.9%	36.7%	37.6%	37.3%	35.7%	36.9%	36.9%	37.0%	37.0%	37.0%	37.0%	37.0%	37.0%
Net Income by Segment (cont. ops.)													
Electric Utility	18,188	72,862	20,900	17,286	23,537	13,007	74,810	21,889	21,773	29,934	22,016	94,612	104,934
Bank	17,650	64,863	16,827	16,218	13,470	9,367	56,782	13,500	13,580	13,744	14,436	55,260	60,941
Other	1,679	(10,341)	(5,479)	(5,280)	(4,684)	(6,157)	(22,599)	(5,282)	(5,295)	(5,122)	(5,230)	(20,929)	(20,968)
Total	37,524	127,444	32,337	27,224	32,323	16,117	109,001	29,908	30,098	37,556	31,240	128,863	145,906
EPS by Segment (cont. operations)													
Electric Utility	$0.22	$0.89	$0.26	$0.21	$0.29	$0.16	$0.92	$0.26	$0.26	$0.36	$0.26	$1.14	$1.24
Bank	$0.22	$0.80	$0.21	$0.20	$0.17	$0.11	$0.69	$0.16	$0.16	$0.17	$0.17	$0.67	$0.72
Other (operating income)	$0.02	($0.13)	($0.07)	($0.06)	($0.06)	($0.08)	($0.28)	($0.06)	($0.06)	($0.06)	($0.06)	($0.24)	($0.24)
Total	$0.46	$1.57	$0.40	$0.33	$0.40	$0.20	$1.33	$0.36	$0.38	$0.45	$0.37	$1.55	$1.71

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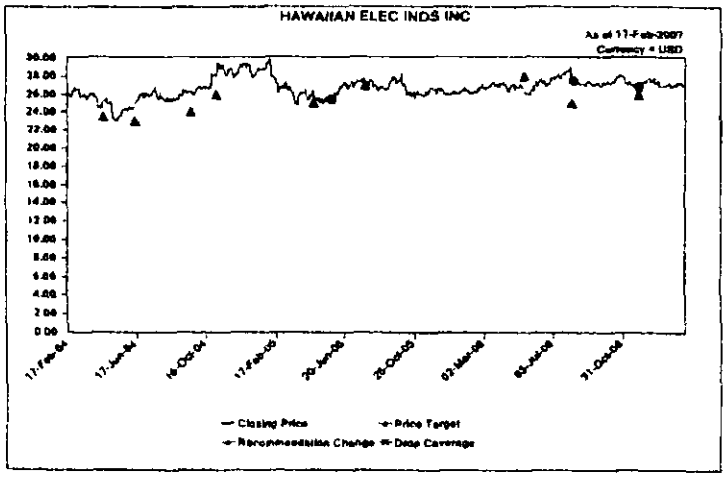
Ratings Information

D.A. Davidson & Co. Ratings	Buy	Neutral	Underperform
Risk adjusted return potential	Over 15% total return expected on a risk adjusted basis over next 12-18 months	>0-15% return potential on a risk adjusted basis over next 12-18 months	Likely to remain flat or lose value on a risk adjusted basis over next 12-18 months

Distribution of Ratings (as of 12/31/06)	Buy	Hold	Sell
Corresponding Institutional Research Ratings and Distribution	Buy 41%	Neutral 51%	Underperform 8%
Corresponding Private Client Research Ratings and Distribution	Outperform 54%	Market Perform 46%	Underperform 0%
Distribution of Combined Ratings	42%	51%	7%

Distribution of companies from whom D.A. Davidson & Co. has received compensation for investment banking services in last 12 mos.			
Institutional Coverage	5%	6%	0%
Private Client Coverage	0%	8%	0%
Distribution of Combined Investment Banking	4%	6%	0%



D.A. Davidson & Co. Institutional Research Rating Scale (maintained since 7/9/02)
Buy, Neutral, Underperform

HAWAIIAN ELEC INDS INC

Currency = USD

Date	Closing Price	Recommendation Change
29-Nov-2006	26.87	NEUTRAL
04-Aug-2006	27.50	UNDERPERFORM
25-May-2005	25.38	NEUTRAL

Date	Closing Price	Price Target
29-Nov-2006	26.87	26.00
04-Aug-2006	27.50	25.00
10-May-2006	26.62	26.00
26-Jul-2005	26.92	27.00
26-Apr-2005	23.83	25.00
01-Nov-2004	26.29	26.00
20-Sep-2004	26.06	24.00
14-Jun-2004	24.86	23.00
22-Apr-2004	25.10	23.50

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LEHMAN BROTHERS

EQUITY RESEARCH

February 06, 2007

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Hawaiian Electric Inds (HE - US$ 27.02) 2-Equal weight

Change of Price Target

Regulatory Challenges Continue

Investment Conclusion

- On Feb. 5, HE issued an 8K disclosing the PUC's decision and order denying the electric utilities' request to record a regulatory asset for minimum pension liability. This will result in an after-tax one-time charge to equity of between $144M-$190M for HEI, ($131M-$173M for the utility) depending upon discount rate (between 6.25%-5.75%). We maintain our 2-EW and current estimates. We are lowering our price target by $1 to $24 premised upon a 5% discount on a blended utility and west coast small cap bank multiple of 15.5X '08E of $1.62. Our former $25 price target applied a 15.5X blended multiple on '08E of $1.62.

Summary

- Although there is no immediate impact on net income, HE is required to record substantial charges against shareholders' equity, and reported returns on rate base and ROE will be higher; debt to cap and interest coverage ratios of HE and the electric utilities will deteriorate.
- HE will continue to seek a return on their pension assets by including such assets in rate base in their respective pending rate cases.
- Lack of regulatory progress e.g. Commissioner appt. rate case closure, continues to add pressure to the dividend (82% payout).

Stock Rating		Target Price	
New:	2-Equal weight	New:	US$ 24.00
Old:	2-Equal weight	Old:	US$ 25.00

Sector View: 3-Negative

EPS (US$) (FY Dec)

	2005	2006			2007			% Change	
	Actual	Old	New	St. Est.	Old	New	St. Est.	2006	2007
1Q	0.30A	0.40A	0.40A	0.40A	N/A	N/A	0.37E	33%	N/A
2Q	0.35A	0.34A	0.34A	0.33A	N/A	N/A	0.37E	-3%	N/A
3Q	0.46A	0.40A	0.40A	0.40A	N/A	N/A	0.46E	-13%	N/A
4Q	0.35A	N/A	N/A	0.38E	N/A	N/A	0.39E	N/A	N/A
Year	1.47A	1.35E	1.35E	1.48E	1.51E	1.51E	1.60E	-8%	12%
P/E			20.0			17.9			

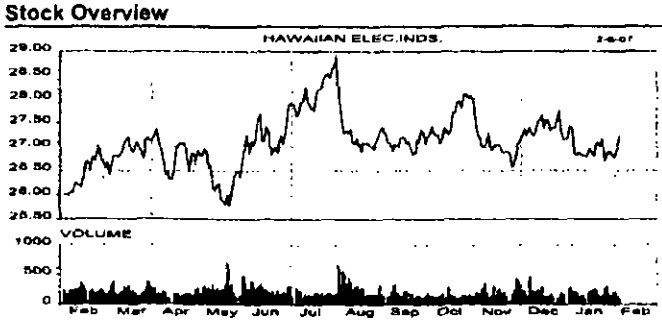
Market Data

Market Cap (Mil.)	2199
Shares Outstanding (Mil.)	81.40
Float (%)	81
Dividend Yield	4.59
52 Week Range	28.94 - 25.69

Financial Summary

Revenue FY06 (Mil.)	2500.0
Five-Year EPS CAGR	N/A
Return on Equity	10.40
Current BVPS	12.59
Debt To Capital (%)	53.00

Stock Overview



Background on the Pension Accounting Issue

On January 26, 2007, the PUC issued a decision and order (D&O) in the updated AOCI docket, which denied the electric utilities' request to record a regulatory asset on the grounds that the electric utilities had not met their burden of proof to show that recording a regulatory asset was warranted, or that there would be adverse consequences if a regulatory asset was not recorded. The electric utilities are considering their options as a result of the decision. The PUC also required HECO to submit a pension study (determining whether ratepayers are better off with a well-funded pension plan, a minimally-funded pension plan, or something in between) by May 31, 2007 in its pending 2007 test year rate case, as proposed by the electric utilities in support of their request.

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Although there is not an immediate impact on net income due to this D&O, the electric utilities are required to record substantial charges against stockholder's equity, and their reported returns on rate base and returns on average common equity will be higher (than if there were no charge against stockholders' equity). Consolidated debt to capitalization and interest coverage ratios of the Company and the electric utilities will deteriorate, which could result in security ratings downgrades and difficulty or greater expense in obtaining future financing. The electric utilities will continue to seek a return on their pension assets (i.e., accumulated contributions in excess of accumulated net periodic pension costs) by including such assets (net of related deferred income taxes) in rate base in their respective rate cases.

By application filed on December 8, 2005 (Accumulated Other Comprehensive Income (AOCI) Docket), the electric utilities had requested the Public Utilities Commission of the State of Hawaii (PUC) to permit them to record, as a regulatory asset pursuant to Statement of Financial Accounting Standards (SFAS) No. 71, "Accounting for the Effects of Certain Types of Regulation," the amount that would otherwise be charged against stockholders' equity as a result of recording a minimum pension liability as prescribed by SFAS No. 87, "Employers' Accounting for Pensions." The electric utilities updated their application in the AOCI Docket in November 2006 to take into account SFAS No. 158, "Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans, an amendment of FASB Statements No. 87, 88, 106, and 132(R)." The parties in the AOCI Docket include the electric utilities, the Consumer Advocate and the Department of Defense. The Consumer Advocate opposed the application, but the Department of Defense did not object to the requested relief on the understanding that the ratemaking treatment of the regulatory assets being requested by the electric utilities was not being addressed in the proceeding.

HEI's, consolidated HECO's and ASB's AOCI balances, net of tax benefits, related to SFAS No. 158 at December 31, 2006 are estimated to be:

Estimated AOCI balance, net of tax benefits, related to SFAS No. 158

($ in millions)	Discount rate 5.75%	6.25%
Consolidated HEI	$190	$ 144
Consolidated HECO	173	131
ASB	12	8

fOther Pending Regulatory Matters

The company is in the process of initiating a multi-year, multi-jurisdictional plan in an effort to help to remedy the under-earning situation over time. Current pending rate cases include HECO's 2005 GRC for which the Oahu utility received an interim rate increase of 3.3% in September 2005. The company is awaiting a final decision and order, however there is no statutory deadline for the PUC. The proposed cost recovery for energy efficiency programs was bifurcated from the original Oahu rate case and a separate energy efficiency docket was opened. In April the PUC issued an interim order in the energy efficiency docket including interim approval of HE's request to offer additional programs for customers while the large energy efficiency policy issues remained under review. The PUC ruling eliminated the collection of lost margin and shareholder incentives and accordingly HECO stopped accruing for this. Effective September 27, 2006 HE stopped accruing shareholder incentives and lost margins for HELCO and MECO subsidiaries and the estimated impact to MECO consolidated in 2006 net income is $2.1M. Also on May 5 2006, HELCO subsidiary filed a rate case for its Hawaii Island subsidiary with a 2006 test year. The company is requesting $30M increase in revenues and an 11.25% return on common equity and 8.65% return on rate base valued at $369M and 53% equity component of capital. The case also proposes a tiered rate structure to encourage energy efficiency. Our '07E assumes an outcome consistent with the September '05 HECO case which resulted in a 10.7% ROE. The proposed rate increase would pay for improvements made to T&D and two generating units at the Keahole power plant (CT-4 and CT-5). On December 22, 2006, HECO filed a request with the PUC for a general rate increase of $99.6M of 7.2% over the electric rates currently in effect, based on a 2007 test year, an 8.92% rate of return on rate base, and 11.25% ROE on a $1.214B average rate base. The PUC may grant in interim increase within 10-11 months following the fining of the application, however, there is no guarantee of such an interim increase. Additionally, HE's Q3 10Q disclosed its intent to file a rate case in its MECO jurisdiction using an '07 test year.

Analyst Certification:

I, Daniel Ford, CFA, hereby certify (1) that the views expressed in this research Company Note accurately reflect my personal views about any or all of the subject securities or issuers referred to in this Company Note and (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Company Note.

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Company Description:

LEHMAN BROTHERS

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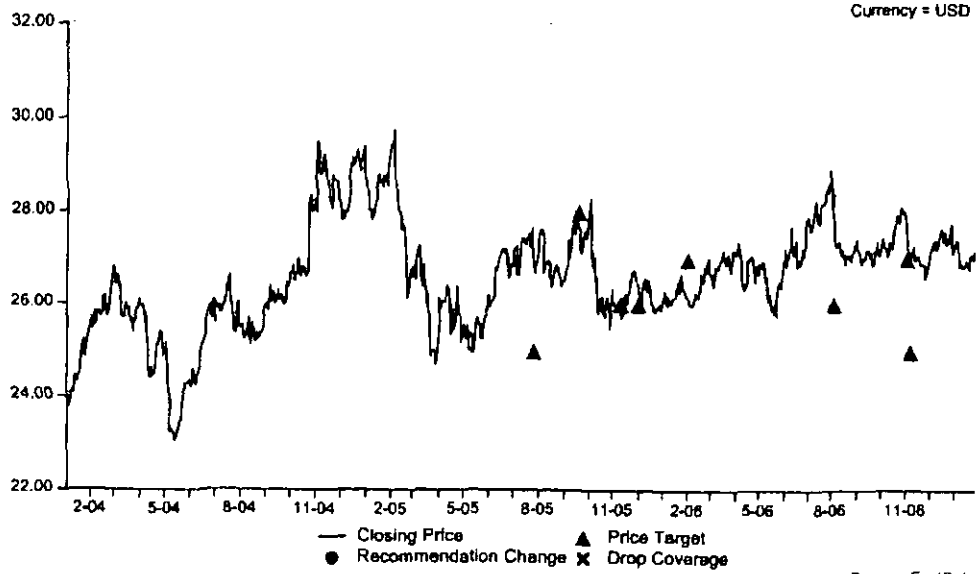
Important Disclosures:

Hawaiian Electric Inds (HE) **US$ 27.02 (02-Feb-2007)** **2-Equal weight / 3-Negative**

Rating and Price Target Chart:

HAWAIIAN ELECTRIC INDS

As of 24-Jan-2007
Currency = USD



Source: FactSet

Currency=US$

Date	Closing Price	Rating	Price Target
08-Nov-06	27.01		25.00
02-Nov-06	27.42		27.00
03-Aug-06	27.82		26.00
01-Feb-06	26.16		27.00
02-Dec-05	26.34		26.00

Date	Closing Price	Rating	Price Target
09-Nov-05	25.96		26.00
19-Sep-05	27.69		28.00
26-Jul-05	28.92		25.00

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Lehman Brothers Inc. and/or an affiliate expects to receive or intends to seek compensation for investment banking services from Hawaiian Electric Inds within the next 3 months.
Lehman Brothers Inc and/or an affiliate trade regularly in the shares of Hawaiian Electric Inds.
Lehman Brothers Inc. has received non-investment banking related compensation from Hawaiian Electric Inds within the last 12 months.
Hawaiian Electric Inds is or during the past 12 months has been an investment banking client of Lehman Brothers Inc. and/or an affiliate.
Hawaiian Electric Inds is or during the last 12 months has been a non-investment banking client (securities related services) of Lehman Brothers Inc.

Valuation Methodology: Our $24 price target is predicated on a 5% discount to a blended group utility multiple and small cap (west coast) bank PE multiple of 15.5X '08E of $1.62. Our former $25 price target is premised on a blended utility and small cap (west coast) bank multiple of 15.5X '08E of $1.62.

Risks Which May Impede the Achievement of the Price Target: Risks to the outlook include wholesale commodity prices, generation development market conditions, the outcome of regulatory proceedings, rating agency actions, foreign currency translation, interest rates, and access to the capital markets.

Important Disclosures Continued:
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Company Name	Ticker	Price (02-Feb-2007)	Stock / Sector Rating
Hawaiian Electric Inds	HE	US$ 27.02	2-Equal weight / 3-Negative

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AES Corp (AES)
Ameren Corp (AEE)
Aquila, Inc (ILA)
Consolidated Edison (ED)
Dominion Resources (D)
DTE Energy (DTE)
Duquesne Light Holdings (DQE)
Entergy Corp (ETR)
FirstEnergy Corp (FE)
[illegible]t Plains Energy (GXP)
[illegible]Holdings (ITC)
[illegible]ource, Inc (NI)
NRG Energy (NRG)
Ormat Technologies (ORA)
PG&E Corp (PCG)
PNM Resources (PNM)
PPL Corporation (PPL)
Public Service Enterprise Gp (PEG)
Reliant Energy Inc. (RRI)
Sierra Pacific Resources (SRP)
TECO Energy (TE)
Westar Energy (WR)
Xcel Energy (XEL)
Alliant Energy (LNT)
American Electric Power (AEP)
CMS Energy (CMS)
Constellation Energy (CEG)
DPL Inc (DPL)
Duke Energy (DUK)
Edison International (EIX)
Exelon Corp (EXC)
FPL Group (FPL)
Hawaiian Electric Inds (HE)
Mirant Corp. (MIR)
Northeast Utilities (NU)
OGE Energy (OGE)
Pepco Holdings (POM)
Pinnacle West Capital (PNW)
Portland General Electric Co. (POR)
Progress Energy (PGN)
Puget Energy (PSD)
Sempra Energy (SRE)
Southern Co (SO)
TXU Corp (TXU)
Wisconsin Energy (WEC)

In addition to the stock rating, we provide sector views which rate the outlook for the sector coverage universe as 1-Positive, 2-Neutral or 3-Negative (see definitions below). A rating system using terms such as buy, hold and sell is not the equivalent of our rating system. Investors should carefully read the entire research report including the definitions of all ratings and not infer its contents from ratings alone.

Stock Rating
1-Overweight - The stock is expected to outperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
2-Equal weight - The stock is expected to perform in line with the unweighted expected total return of the sector coverage universe over a 12- month investment horizon.
3-Underweight - The stock is expected to underperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
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Sector View
1-Positive - sector coverage universe fundamentals/valuations are improving.
2-Neutral - sector coverage universe fundamentals/valuations are steady, neither improving nor deteriorating.
3-Negative - sector coverage universe fundamentals/valuations are deteriorating.

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February 27, 2007

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Power & Utilities

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LBI, New York

Hawaiian Electric Inds (HE - US$ 27.17) 2-Equal weight

Change of Earnings Forecast

Rough Quarter/Year as Expected

Investment Conclusion

- HE reported Q4 EPS from continuing operations of $0.20 v. our $0.21E and consensus of $0.38, and full year continuing EPS of $1.33. We maintain our 2-EW and $24 price target. We are tweaking our '07/08E to $1.46/$1.60 from $1.51/$1.62 to reflect expected continued cost pressures outlined by the Company and described below. Our $24 price target is premised upon a 5% discount on a blended utility multiple of 16X and small cap west coast bank multiple of 15.8X on '08E of $1.60.

Summary

- HE sees continued expense pressure at both the utility (O&M) and bank (inverted yield curve and higher funding cost).
- General Rate Cases are pending at each utility sub: HELCO (outcome expected mid '07); HECO (end '07) and MECO (early '08).
- In January, HE sold its remaining interest in Hoku Scientific for an after-tax gain of approximately $1M.
- HE announced a $0.31 dividend on 2/15; representing an annualized level of $1.24 and yielding 4.7%. The company has indicated its intention to maintain the dividend at the current level for the foreseeable future.

Stock Rating		Target Price	
New:	2-Equal weight	New:	US$ 24.00
Old:	2-Equal weight	Old:	US$ 24.00

Sector View: 3-Negative

EPS (US$) (FY Dec)

	2005	2006			2007			% Change	
	Actual	Old	New	St. Est.	Old	New	St. Est.	2006	2007
1Q	0.30A	0.40A	0.40A	0.40A	N/A	N/A	0.37E	33%	N/A
2Q	0.35A	0.34A	0.33A	0.33A	N/A	N/A	0.37E	-6%	N/A
3Q	0.46A	0.40A	0.40A	0.40A	N/A	N/A	0.46E	-13%	N/A
4Q	0.35A	N/A	0.20A	0.20A	N/A	N/A	0.39E	-43%	N/A
Year	1.47A	1.35E	1.33A	1.33A	1.51E	1.46E	1.64E	-10%	10%
P/E			20.4			18.6			

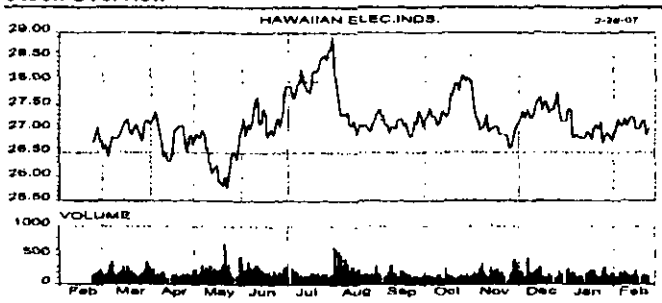
Market Data

Market Cap (Mil.)	21842
Shares Outstanding (Mil.)	81.40
Float (%)	81
Dividend Yield	4.67
Convertible	No
52 Week Range	28.94 - 25.69

Financial Summary

Revenue FY06 (Mil.)	2500.0
Five-Year EPS CAGR	N/A
Return on Equity	10.40
Current BVPS	12.59
Debt To Capital (%)	50.00

Stock Overview



Rough End to a Challenging Year

HE reported 2006 earnings from continuing operations of $1.33. The earnings decline was primarily due to $2M (after-tax) investment loss in '06 at its holding company compared to $12M (after-tax) gains in 2005. The utility earned $75M in '06 v. $73M in '05. O&M expense increased by $21M due to more extensive and frequent outages and higher benefits expenses, which were $9M higher compared to '05. Depreciation expense was $7M higher. These costs increases were offset by increased revenue from rate relief granted to HECO (Oahu) in September 2005. Sales increased 0.3% for the year.

The utility recorded a non-cash charge to accumulated other comprehensive income of $127M (net of tax) related to FASB Statement No. 158, which changes the measurement of retirement benefit plan obligations and requires recognition of the funded status as of year-end.

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Investors should consider this report as only a single factor in making their investment decision.

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The charge to equity assumes a discount rate of 6% and an expected return on plan assets of 8.5%. HE filed an application with the Hawaii PUC seeking regulatory asset treatment for this charge for financial reporting purposes. On January, 26, 2007, the PUC issued a decision and order denying HE's request to record a regulatory asset for financial reporting purposes. There is no immediate impact to net income, and HE will continue to seek a return on the pension assets through inclusion in the rate base for each rate case.

American Savings Bank earned $56M v. $65M in 2005. Bank earnings continued to be challenged by margin compression and rising interest costs causing its net interest income to be lower year-over-year by $7M. Net interest margin was 3.18% in 2006 v. 3.29% in 2005. In addition, the bank recorded $1.4M of provisions for loan losses in 2006 compared to $3.1M of reversals in 2005. Additionally, bank non-interest expenses increased $7.6M over 2005 primarily due to increased legal and litigation expenses and occupancy expenses. The lending business grew by 6%, with continued diversification of its business mix. About 60% of the loan growth was in the commercial banking, commercial real estate and consumer portfolios.

Near-Term Outlook Remains a Challenge

At the utility, HE is currently estimating sales to be modestly higher over the prior year by 0.6% and 1.6%, respectively. The trend of increased O&M will continue due to more extensive and frequent maintenance on units due to increased demand. Capital investments are being made to address the need for additional generation and to modernize our facilities. The company is forecasting approximately $1.2B in gross capital expenditures to increase generating capacity and maintain and improve reliability. Specifically capex is forecasted to be $232M in '07; $302M in'08; $233M in '09; $184M in '10; and $201M in '11. The majority of capital expenditures are expected to be financed with internal sources of funds, and the utility expects to issue up to $160M of revenue bonds in Q1 '07. Additionally, HE projects retirement benefits expenses (net of tax) to be $2.6M higher in '07.

Rate Case Update

HE has four open rate cases currently – 2 for Oahu (HECO), one in MECO, and one in HELCO. Despite a forward test year filing, the 10 to [illegible]onth rate case proceeding has perpetuated a regulatory lag in recovering O&M, and an under-earning situation in each jurisdiction. In [illegible]05 GRC, HECO received an INTERIM increase of 3.3% in September 2005, and since then it has been recording about $41M of increased revenues on an annualized basis, or about $23M net of taxes. HE is waiting for a final decision and order, but there is no statutory deadline for the PUC to issue a final order.

- The PUC bifurcated a proposed cost recovery for energy efficiency programs in this case and a final decision and order was issued this month. Specifically, the decision and order approves the continuation of all of HE's proposed DSM programs and provides for program cost recovery and performance based DSM utility incentives, and continued DSM programs to January 2009.
- In May 2006, HE filed a GRC for Hawaii Island subsidiary, HELCO, with a 2006 test year. HE is requesting $30M or a 9.2% increase in revenues with an 11.25% ROE on a $369M rate base. Evidentiary hearings are scheduled for May 2007 with a decision expected mid-year.
- In December, HE filed a 2007 test year rate case for HECO, requesting a 7.1% increase, or $99.6M in increased revenues, and an 11.25% ROE on a $1.214M rate base. The case proposes a tiered rate structure to encourage energy efficiency and time-of-use rates for residential and commercial customers. Hearings will likely be held in late 2007, with a decision at the end of 2007.
- On February 23, HE filed a rate case for its Maui subsidiary MECO, with a 2007 test year. HE is requesting a $19M or 5.3% increase in revenues and an 11.25% ROE on $386M rate base. A decision is expected in early 2008.

At American Savings Bank, the company is expecting the difficult interest rate environment to persist through 2007, with the yield curve to remain flat or inverted, and continuing to pressure ASB's net interest margin. The company expects to grow deposits, while managing deposit cost through new products and services and a focus on growing the less interest rate sensitive types of accounts such as consumer checking accounts. HE expects moderate growth in loan balances in 2007, with continued growth in commercial loans partially offset by a slight decline in the commercial real estate portfolio, due to the scheduled repayment of some large construction loans and the shift in emphasis back towards property lending. While overall credit quality is expected to remain strong, factors such as growth in the loan portfolio, and situations with specific borrowers or changes in outlook for the economy may cause credit costs to increase. HE will work to offset net interest margin pressure by focusing on growing non-interest income and managing expenses.

At the holding company level, no additional long-term debt is planned. Beginning in early March 2007, HE will start issuing shares of common stock to satisfy the requirements if its dividend reinvestment and 401K plans. In 2006, HE purchased 1.5M shares on the open market to satisfy the requirements of these plans. Additionally, at the end of March, HE plans to register 3.75M of additional shares for the dividend reinvestment plan. In January 2007, HE sold its entire remaining interest in Hoku Scientific for an after-tax gain of approximately $1M. As a result the $2M (after-tax) in realized and unrealized investment losses in 2006 will not be a factor going forward.

[illegible]tion

We maintain our 2-EW and $24 price target. We are tweaking our '07/08E to $1.46/$1.60 from $1.51/$1.62 to reflect continued cost pressures outlined above at both the utility and bank. Our $24 price target is premised upon a 5% discount on a blended utility multiple of 16X and small cap west coast bank multiple of 15.8X on '08E of $1.60.

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Analyst Certification:

I, Daniel Ford, CFA, hereby certify (1) that the views expressed in this research Company Note accurately reflect my personal views about any or all of the subject securities or issuers referred to in this Company Note and (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Company Note.

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Company Description:

LEHMAN BROTHERS

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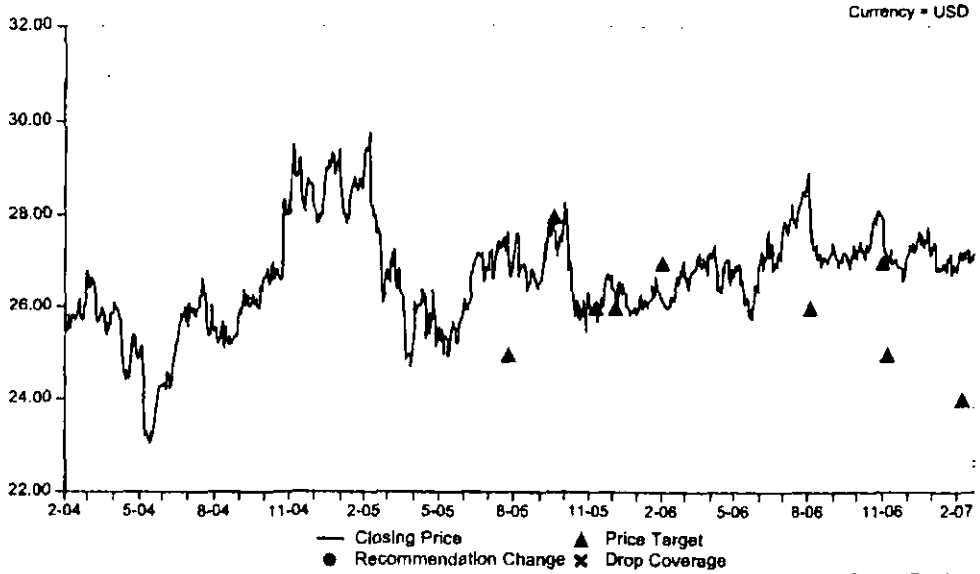
Important Disclosures:

Hawaiian Electric Inds (HE) **US$ 27.17 (20-Feb-2007)** **2-Equal weight / 3-Negative**

Rating and Price Target Chart:

HAWAIIAN ELECTRIC INDS

As of 20-Feb-2007
Currency = USD



Source: FactSet

Currency=US$

Date	Closing Price	Rating	Price Target
06-Feb-07	27.09		24.00
08-Nov-06	27.01		25.00
02-Nov-06	27.42		27.00
03-Aug-06	27.82		26.00
01-Feb-06	26.16		27.00

Date	Closing Price	Rating	Price Target
02-Dec-05	26.34		26.00
09-Nov-05	25.96		26.00
19-Sep-05	27.69		28.00
26-Jul-05	26.92		25.00

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Lehman Brothers Inc and/or an affiliate trade regularly in the shares of Hawaiian Electric Inds.
Lehman Brothers Inc. has received non-investment banking related compensation from Hawaiian Electric Inds within the last 12 months.
Hawaiian Electric Inds is or during the last 12 months has been a non-investment banking client (securities related services) of Lehman Brothers Inc.

Valuation Methodology: Our $24 price target is predicated on a 5% discount to a 16.0X group utility multiple and small cap (west coast) bank multiple of 15.8X on combined 08E of $1.62.

Risks Which May Impede the Achievement of the Price Target: Risks to the outlook include wholesale commodity prices, generation development market conditions, the outcome of regulatory proceedings, rating agency actions, foreign currency translation, interest rates, and access to the capital markets.

Important Disclosures Continued:
The analysts responsible for preparing this report have received compensation based upon various factors including the firm's total revenues, a portion of which is generated by investment banking activities

Company Name	Ticker	Price (20-Feb-2007)	Stock / Sector Rating
Hawaiian Electric Inds	HE	US$ 27.17	2-Equal weight / 3-Negative

Guide to Lehman Brothers Equity Research Rating System:
Our coverage analysts use a relative rating system in which they rate stocks as 1-Overweight, 2-Equal weight or 3-Underweight (see definitions below) relative to other companies covered by the analyst or a team of analysts that are deemed to be in the same industry sector (the "sector coverage universe"). Below is the list of companies that constitute the sector coverage universe:

AES Corp (AES)
Ameren Corp (AEE)
Aquila, Inc (ILA)
Consolidated Edison (ED)
Dominion Resources (D)
DTE Energy (DTE)
Duquesne Light Holdings (DQE)
Entergy Corp (ETR)
FirstEnergy Corp (FE)
[illegible]t Plains Energy (GXP)
[illegible]Holdings (ITC)
[illegible]ource, Inc (NI)
NRG Energy (NRG)
Ormat Technologies (ORA)
PG&E Corp (PCG)
PNM Resources (PNM)
PPL Corporation (PPL)
Public Service Enterprise Gp (PEG)
Reliant Energy Inc. (RRI)
Sierra Pacific Resources (SRP)
TECO Energy (TE)
Westar Energy (WR)
Xcel Energy (XEL)
Alliant Energy (LNT)
American Electric Power (AEP)
CMS Energy (CMS)
Constellation Energy (CEG)
DPL Inc (DPL)
Duke Energy (DUK)
Edison International (EIX)
Exelon Corp (EXC)
FPL Group (FPL)
Hawaiian Electric Inds (HE)
Mirant Corp. (MIR)
Northeast Utilities (NU)
OGE Energy (OGE)
Pepco Holdings (POM)
Pinnacle West Capital (PNW)
Portland General Electric Co. (POR)
Progress Energy (PGN)
Puget Energy (PSD)
Sempra Energy (SRE)
Southern Co (SO)
TXU Corp (TXU)
Wisconsin Energy (WEC)

In addition to the stock rating, we provide sector views which rate the outlook for the sector coverage universe as 1-Positive, 2-Neutral or 3-Negative (see definitions below). A rating system using terms such as buy, hold and sell is not the equivalent of our rating system. Investors should carefully read the entire research report including the definitions of all ratings and not infer its contents from ratings alone.

Stock Rating
1-Overweight - The stock is expected to outperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
2-Equal weight - The stock is expected to perform in line with the unweighted expected total return of the sector coverage universe over a 12- month investment horizon.
3-Underweight - The stock is expected to underperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
RS-Rating Suspended - The rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Lehman Brothers is acting in an advisory capacity in a merger or strategic transaction involving the company.

Sector View
1-Positive - sector coverage universe fundamentals/valuations are improving.
2-Neutral - sector coverage universe fundamentals/valuations are steady, neither improving nor deteriorating.
3-Negative - sector coverage universe fundamentals/valuations are deteriorating.

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LEHMAN BROTHERS

EQUITY RESEARCH

March 29, 2007

United States of America
Energy & Power
Power & Utilities

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LBI, New York

Hawaiian Electric Inds (HE - US$ 26.26) 2-Equal weight

Company Update

HELCO GRC Settlement

Investment Conclusion

- HE subsidiary HELCO reached settlement in its 2006 rate case proceeding, subject to PUC approval. The agreement stipulates a 10.7% ROE on an average rate base of $357M, and a $24.6M annual base revenue increase, in line with our assumptions in our current '07/'08E of $1.46/$1.60. We maintain our 2-EW rating and $24 price target premised on a 5% discount to the utility group multiple of 16.3X '08E on $1.00 (net of holding co. cost) plus '08E of $0.60 at ASB (net of holding co. cost) at a 13.9X small cap west coast bank multiple.

Summary

- HE had requested a $29.9M revenue increase and an 11.25% ROE. The stipulated 10.7% ROE is consistent with the 2005 HECO GRC.
- HE's other currently pending general rate cases are HECO (outcome expected in the latter half of '07) and MECO (early '08 outcome).
- HE also disclosed $140M in Special Purpose Revenue Bonds were issued by the state at 4.65% with a maturity of 2037 to fund the utility capex program.

Stock Rating		Target Price	
New:	2-Equal weight	New:	US$ 24.00
Old:	2-Equal weight	Old:	US$ 24.00

Sector View: 3-Negative

EPS (US$) (FY Dec)

	2006		2007			2008			% Change	
	Actual	Old	New	St. Est.	Old	New	St. Est.		2007	2008
1Q	0.40A	N/A	N/A	0.36E	N/A	N/A	0.00E		N/A	N/A
2Q	0.33A	N/A	N/A	0.34E	N/A	N/A	0.00E		N/A	N/A
3Q	0.40A	N/A	N/A	0.45E	N/A	N/A	0.00E		N/A	N/A
4Q	0.20A	N/A	N/A	0.35E	N/A	N/A	0.00E		N/A	N/A
Year	1.33A	1.46E	1.48E	1.53E	1.60E	1.80E	1.69E		10%	10%
P/E			18.0			16.4				

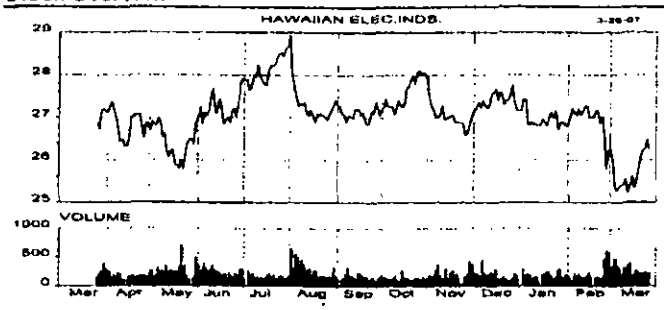
Market Data

Market Cap (Mil.)	2138
Shares Outstanding (Mil.)	81.40
Float (%)	81
Dividend Yield	4.72
Convertible	No
52 Week Range	28.94 - 25.10

Financial Summary

Revenue FY07 (Mil.)	N/A
Five-Year EPS CAGR	0.0
Return on Equity	9.30
Current BVPS	13.44
Debt To Capital (%)	50.00

Stock Overview



In March 2007, HELCO and the Consumer Advocate (CA) reached a settlement of the issues in the HELCO 2006 rate case proceeding, subject to PUC approval. The terms of the settlement were reflected in HELCO's rebuttal testimony filed with the PUC on March 27, 2007 and are to be set forth in a written settlement agreement to be submitted to the PUC for approval. The PUC may accept or reject the agreement in part or in full. If the PUC does not accept the material terms of the agreement, either (or both) of the parties, may withdraw from the agreement and with the exception of the compromise on cost recovery for the Keahole plant expansion (see discussion to follow), may pursue their respective positions in the proceeding.

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Under the settlement, HELCO agreed to write-off approximately $13 mn of gross plant in service costs, before netting out approximately $1 mn of average accumulated depreciation for 2006 (i.e. approximately $12 mn of plant in service costs net of average accumulated depreciation) associated with the CT-4 and CT-5 units at the Keahole generating station, with associated reductions in depreciation expense, accumulated deferred income taxes, unamortized state investment tax credits (ITC) and amortization of state ITC. The write-off will result in an after-tax charge to net income in the first quarter 2007 of approximately $7 mn.

If the settlement agreement is approved by the PUC, HELCO's requested increase in annual base revenues will be reduced from $29.9 mn, or 9.24%, to $24.6 mn, or 7.58%. As a negotiated compromise of the parties' respective positions, the agreement includes an average rate base of $357 mn and a return on average rate base of 8.33% (incorporating a rate of return on average common equity of 10.7% as compared to the 11.25% in HELCO's initial request) to determine revenue requirements.

The CA also proposed, and HELCO accepted, the use of a pension tracking mechanism, which is intended to smooth the impact on ratepayers of potential fluctuations in pension costs and prevent the utility from being advantaged by significant swings in the investment market. Generally, it would require that HELCO make contributions to the pension trust at the actuarially calculated net periodic pension cost if allowed without penalty by the tax laws. If the mechanism is approved by the PUC, in each rate case the cumulative amount of pension costs embedded in rates will be compared to the cumulative amount of contributions to the pension trust and the difference will be included as a reduction to rate base (if positive) or an addition to rate base (if negative). The test year ending pension balance in rate base will then be amortized over five years. The agreement also provides for the handling of the prepaid pension asset in rate base for HELCO and the restoration of HELCO book equity for ratemaking purposes.

The earliest that any increase, if granted, may go into effect is in the second quarter of 2007.

Analyst Certification:

I, Daniel Ford, CFA, hereby certify (1) that the views expressed in this research Company Note accurately reflect my personal views about [illegible]r all of the subject securities or issuers referred to in this Company Note and (2) no part of my compensation was, is or will be directly [illegible]directly related to the specific recommendations or views expressed in this Company Note.

Other Team Members:

Straka, M. Beth (LBI, New York) 1.412.260.6071 mstraka@lehman.com

Company Description:

LEHMAN BROTHERS

EQUITY RESEARCH

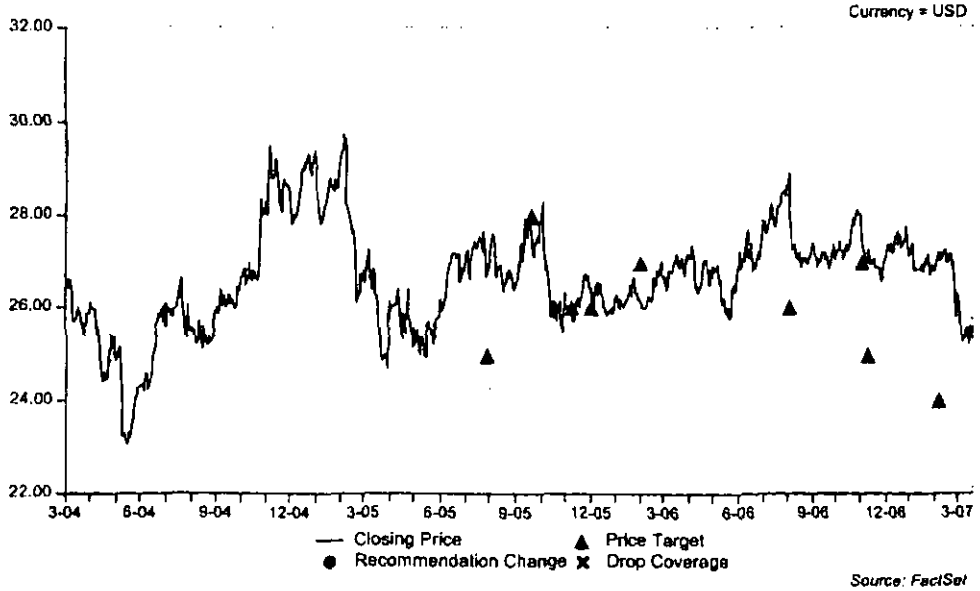
Important Disclosures:

Hawaiian Electric Inds (HE) **US$ 26.26 (27-Mar-2007)** **2-Equal weight / 3-Negative**

Rating and Price Target Chart:

HAWAIIAN ELECTRIC INDS

As of 19-Mar-2007
Currency = USD



Source: FactSet

Currency=US$

Date	Closing Price	Rating	Price Target
06-Feb-07	27.09		24.00
08-Nov-06	27.01		25.00
02-Nov-06	27.42		27.00
03-Aug-06	27.82		26.00
01-Feb-06	26.16		27.00

Date	Closing Price	Rating	Price Target
02-Dec-05	26.34		26.00
09-Nov-05	25.96		26.00
19-Sep-05	27.69		28.00
26-Jul-05	26.92		25.00

FOR EXPLANATIONS OF RATINGS REFER TO THE STOCK RATING KEYS LOCATED ON THE PAGE FOLLOWING THE LAST PRICE CHART.

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Valuation Methodology: Our $24 price target is predicated on utility '08E of $1.00 (net of 60% of parent cost) on a group multiple of 16.3X discounted at 5% for regulatory risk plus bank '08E of $0.60 (net of 40% of parent cost) on a small cap west coast bank PE of 13.9X.

Risks Which May Impede the Achievement of the Price Target: Risks to the outlook include wholesale commodity prices, generation development market conditions, the outcome of regulatory proceedings, rating agency actions, foreign currency translation, interest rates, and access to the capital markets.

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Important Disclosures Continued:
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Company Name	Ticker	Price (27-Mar-2007)	Stock / Sector Rating
Hawaiian Electric Inds	HE	US$ 26.26	2-Equal weight / 3-Negative

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Exelon Corp (EXC)
FPL Group (FPL)
Hawaiian Electric Inds (HE)
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Northeast Utilities (NU)
OGE Energy (OGE)
Pepco Holdings (POM)
Pinnacle West Capital (PNW)
Portland General Electric Co. (POR)
Progress Energy (PGN)
Puget Energy (PSD)
Sempra Energy (SRE)
Southern Co (SO)
TXU Corp (TXU)
Wisconsin Energy (WEC)
Alliant Energy (LNT)
American Electric Power (AEP)
CMS Energy (CMS)
Constellation Energy (CEG)
Dominion Resources (D)
DTE Energy (DTE)
Duquesne Light Holdings (DQE)
Entergy Corp (ETR)
FirstEnergy Corp (FE)
Great Plains Energy (GXP)
ITC Holdings (ITC)
NiSource, Inc (NI)
NRG Energy (NRG)
Ormat Technologies (ORA)
PG&E Corp (PCG)
PNM Resources (PNM)
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Reliant Energy Inc. (RRI)
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TECO Energy (TE)
Westar Energy (WR)
Xcel Energy (XEL)

In addition to the stock rating, we provide sector views which rate the outlook for the sector coverage universe as 1-Positive, 2-Neutral or 3-Negative (see definitions below). A rating system using terms such as buy, hold and sell is not the equivalent of our rating system. Investors should carefully read the entire research report including the definitions of all ratings and not infer its contents from ratings alone.

Stock Rating
1-Overweight - The stock is expected to outperform the unweighted expected total return of the sector coverage universe over a 12-month investment horizon.
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RS-Rating Suspended - The rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Lehman Brothers is acting in an advisory capacity in a merger or strategic transaction involving the company.

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1-Positive - sector coverage universe fundamentals/valuations are improving.
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CA-IR-7

Please provide a schedule that shows the capital structure for Hawaiian Electric Industries, Inc. (consolidated), Hawaiian Electric Company (consolidated), Hawaiian Electric Company (Oahu only), Maui Electric Company, and Hawaii Electric Light Company for the period 2002 – 2006 and for the test period in this proceeding.

MECO Response:

Please refer to HECO's responses filed to CA-IR-101, 492, 493, and 494 in Docket No. 04-0113 (HECO's 2005 Test Year Rate Case) for the 2001-2004 information, and HELCO's response filed to CA-IR-207 in Docket No. 05-0315 (HELCO's 2006 Test Year Rate Case) for the 2005 information being requested. See page 4 attached for the 2006 capital structures for Hawaiian Electric Industries, Inc. (consolidated), Hawaiian Electric Company (consolidated), Hawaiian Electric Company (HECO), Maui Electric Company (MECO), and Hawaii Electric Light Company (HELCO), and page 5 for the 2007 forecast capital structure for Hawaiian Electric Company (consolidated).

MECO objects to providing the 2007 forecast capital structures for MECO, except under protective order. The information is privileged commercial and financial information which is maintained as non-public, confidential information. Without waiving its objection, the Company submits Attachment A pursuant to Protective Order No. 23379. MECO objects to providing the requested forecast capital structures for HECO and HELCO for 2007, even under protective order, on the grounds that such information is not relevant to this docket. (The financial information is privileged commercial and financial information, and the unprotected disclosure of the information could trigger broader release of the information).

MECO objects to providing the requested forecast capital structures for Hawaiian Electric Industries, Inc. (consolidated) for 2007, even under protective order, on the grounds that:

(1) The requested information is privileged commercial and financial information, which is maintained by HEI and its subsidiaries as non-public, confidential information.

(2) The disclosure of HEI forecast information from which income and earnings information (such as retained earnings) could be derived, could trigger requirements under the rules and guidelines of the Securities and Exchange Commission and/or the New York Stock Exchange that information that would be meaningful to an investor (such as earnings estimates) be released to all investors, if the information is disclosed beyond a limited number of "insiders". Forecasts of earnings, etc. are the types of information that, if selectively released, could violate such requirements.

(3) Such information is not relevant to this docket. While HEI is the parent of HECO, which is MECO's parent, the Commission generally has ruled that HEI, as a diversified holding company, is not an appropriate proxy for HECO or its utility subsidiaries in determining their cost of capital. (See Decision and Order No. 11317 in Docket No. 6531 (HECO's 1990 Test Year) and Decision and Order No. 10993 in Docket No. 6432 (HELCO's 1990 Test Year).)

(4) MECO is providing the forecast utility information that HECO and its subsidiaries are required to provide under the Commission's rules. (The Commission's rules specify where five-year utility forecasts are required.) In accordance with the Commission's rules, the utilities provide the Commission and the CA with five-year capital expenditures budget which are due by January 1 of each year, pursuant to paragraph 2.3(g)(1) of General Order No. 7. On December 21, 2006, the Commission granted HECO and its subsidiaries an extension to file their capital expenditures reports no later than March 2, 2007, which is after the Form 10-K is filed. The most recent five-year capital expenditures budget was filed with the Commission on March 1, 2007. HECO and its subsidiaries also provide five-year financing plans in financing dockets (unless the

requirement is waived). See Exhibits 3-7 filed January 13, 2006 in Docket No. 05-0330 pursuant to Protective Order No. 22718 (January 12, 2006) for the most recent five-year financing plans filed with the Commission.

For Year Ended December 31, 2006
Capital Structure Ratios

Year ended December 31, 2006	HEI
Short-term borrowings--other than bank	7.2%
Hybrids	0.0%
Long-term debt--other than bank	46.5%
Preferred stock of subsidiaries	1.4%
Common equity	44.9%
	100.0%

Supporting Data for Capital Structure Ratios
($ in thousands)

Years ended December 31, 2006	HEI
Short-term borrowings--other than bank	$176,272
Hybrids	0
Long-term debt--other than bank	1,133,185
Preferred stock of subsidiaries	34,293
Common equity	1,095,240
	$2,438,990

Source: Hawaiian Electric Industries, Inc. Form 10-K for the fiscal year ended December 31, 2006, page 98.

Year ended December 31, 2006	HECO	HELCO	MECO	RHI	HECO Consolidated
Short-term borrowings	5.1%	13.6%	1.4%	0.0%	6.0%
Hybrids	2.6%	2.8%	2.8%	0.0%	2.8%
Long-term debt	39.1%	33.4%	40.4%	0.0%	38.2%
Preferred stock	1.9%	1.9%	1.4%	0.0%	1.8%
Common equity	51.3%	48.3%	54.0%	100.0%	51.2%
	100.0%	100.0%	100.0%	100.0%	100.0%

Supporting Data for Capital Structure Ratios
($ in thousands)

Years ended December 31, 2006	HECO	HELCO	MECO	RHI	HECO Consolidated
Short-term borrowings	$58,707	$49,400	$5,000	$0	$113,107
Hybrids	30,000	10,000	10,000	0	51,546
Long-term debt	449,694	121,046	143,899	0	714,639
Preferred stock	22,293	7,000	5,000	0	34,293
Common equity	590,608	175,099	192,231	265	958,203
	$1,151,302	$362,545	$356,130	$265	$1,871,788

Note: HECO (Oahu only)'s hybrids and long-term debt excludes $1,546K, which represents HECO's capital investment in HECO Capital Trust III, however, the $1,546K investment is reflected in the Hybrids for HECO Consolidated.

Source: Hawaiian Electric Industries, Inc. Form 10-K for the fiscal year ended December 31, 2006, HECO Exhibit 99.4 page 36.

For Year Ended December 31, 2007 (FORECAST)
Capital Structure Ratios

Fcst Yr ended December 31, 2007	HECO Consolidated
Short-Term Debt	1.7%
Long-Term Debt	41.0%
Hybrid Securities	2.4%
Preferred Stock	1.6%
Common Equity	53.2%
	100.0%

Supporting Data for Capital Structure Ratios
($ in thousands)

Fcst Yr ended December 31, 2007	HECO Consolidated
Short-Term Debt	$36,668
Long-Term Debt	868,765
Hybrid Securities	51,546
Preferred Stock	34,293
Common Equity	1,126,466
	$2,117,738

Note: HECO Consolidated forecast capital structure presented in the HEI 2006 Statistical Supplement and Utility Forecast, page 20.

Confidential Information Deleted Pursuant To Protective Order No. 23379.

For Year Ended December 31, 2007 (FORECAST)
Capital Structure Ratios

Fcst Yr ended December 31, 2007	MECO
Short-Term Debt	[redacted]
Long-Term Debt	
Hybrid Securities	
Preferred Stock	
Common Equity	

Supporting Data for Capital Structure Ratios
($ in thousands)

Fcst Yr ended December 31, 2007	MECO
Short-Term Debt	[redacted]
Long-Term Debt	
Hybrid Securities	
Preferred Stock	
Common Equity	

CA-IR-7

Please provide a schedule that shows the capital structure for Hawaiian Electric Industries, Inc. (consolidated), Hawaiian Electric Company (consolidated), Hawaiian Electric Company (Oahu only), Maui Electric Company, and Hawaii Electric Light Company for the period 2002 – 2006 and for the test period in this proceeding.

MECO Response:

Please refer to HECO's responses filed to CA-IR-101, 492, 493, and 494 in Docket No. 04-0113 (HECO's 2005 Test Year Rate Case) for the 2001-2004 information and HELCO's response filed to CA-IR-207 in Docket No. 05-0315 (HELCO's 2006 Test Year Rate Case) for the 2005 information being requested. See page 4 attached for the 2006 capital structures for Hawaiian Electric Industries, Inc. (consolidated), Hawaiian Electric Company (consolidated), Hawaiian Electric Company (HECO), Maui Electric Company (MECO), and Hawaii Electric Light Company (HELCO), and page 5 for the 2007 forecast capital structure for Hawaiian Electric Company (consolidated).

MECO objects to providing the 2007 forecast capital structures for MECO, except under protective order. The information is privileged commercial and financial information which is maintained as non-public, confidential information, and will be provided once a protective order is issued in this docket. MECO objects to providing the requested forecast capital structures for HECO and HELCO for 2007, even under protective order, on the grounds that such information is not relevant to this docket. (The financial information is privileged commercial and financial information, and the unprotected disclosure of the information could trigger broader release of the information).

MECO objects to providing the requested forecast capital structures for Hawaiian Electric Industries, Inc. (consolidated) for 2007, even under protective order, on the grounds that:

(1) The requested information is privileged commercial and financial information, which is maintained by HEI and its subsidiaries as non-public, confidential information.

(2) The disclosure of HEI forecast information from which income and earnings information (such as retained earnings) could be derived, could trigger requirements under the rules and guidelines of the Securities and Exchange Commission and/or the New York Stock Exchange that information that would be meaningful to an investor (such as earnings estimates) be released to all investors, if the information is disclosed beyond a limited number of "insiders". Forecasts of earnings, etc. are the types of information that, if selectively released, could violate such requirements.

(3) Such information is not relevant to this docket. While HEI is the parent of HECO, which is MECO's parent, the Commission generally has ruled that HEI, as a diversified holding company, is not an appropriate proxy for HECO or its utility subsidiaries in determining their cost of capital. (See Decision and Order No. 11317 in Docket No. 6531 (HECO's 1990 Test Year) and Decision and Order No. 10923 in Docket No. 6432 (HELCO's 1990 Test Year).)

(4) MECO is providing the forecast utility information that HECO and its subsidiaries are required to provide under the Commission's rules. (The Commission's rules specify where five-year utility forecasts are required.) In accordance with the Commission's rules, the utilities provide the Commission and the CA with five-year capital expenditures budget which are due by January 1 of each year, pursuant to paragraph 2.3(g)(1) of General Order No. 7. On December 21, 2006, the Commission granted HECO and its subsidiaries an extension to file their capital expenditures reports no later than March 2, 2007, which is after the Form 10-K is filed. The most recent five-year capital expenditures budget was filed with the Commission on March 1, 2007. HECO and its subsidiaries also provide five-year financing plans in financing dockets (unless the

requirement is waived). See Exhibits 3-7 filed January 13, 2006 in Docket No. 05-0330 pursuant to Protective Order No. 22718 (January 12, 2006) for the most recent five-year financing plans filed with the Commission.

CA-IR-8

Please provide a schedule that shows the segment information for Hawaiian Electric Industries, Inc. for each year 2002 – 2006.

MECO Response:

For the requested schedule showing the segment information for Hawaiian Electric Industries, Inc. please refer to the Hawaiian Electric Industries, Inc. 2002 Annual Report to Stockholders, Appendix A, page 51 for the year 2002, and the Hawaiian Electric Industries, Inc. 2005 Annual Report to Shareholders, Appendix A, page 65 for the year 2003-2005, which was previously filed with the PUC on March 24, 2003 and April 13, 2006, respectively, which the Division of Consumer Advocacy also received a copy. The 2006 segment information is available in the 2006 Annual Report to Shareholders, Appendix A, page 70. A copy of the 2006 Annual Report to Shareholders is being provided in response to CA-IR-4.

CA-IR-9

Please identify any methodological or data changes, except for the time frame of information contained in the capital structure and/or cost rates of fixed cost components, of MECO's current application.

MECO Response:

MECO's calculation of the capital structure and capital costs is consistent with the methodology HELCO used in calculating the capital structure and capital costs in the HELCO 2000 test year rate case (Docket No. 99-0207) which is the latest rate case in which the Commission has issued a final decision and order; however, in the HELCO 2000 test year rate case, hybrid securities and preferred stock were combined in the capital structure summary. In this rate proceeding (MECO 2007 test year rate case), the hybrid securities and the preferred stock are shown separately.

MECO's calculation of the capital structure and capital costs is consistent with the methodology HECO used in calculating the capital structure and capital costs in HECO 2005 test year rate case (Docket No. 04-0113), for which the final decision is pending with the Commission. Subsequent to the HECO 2005 test year rate case, the Companies had new transactions that are addressed in this docket: 1) the issuance costs for the Syndicated Credit Facility ("SCF") and 2) charges to accumulated other comprehensive income ("AOCI").

For MECO's 2007 test year, MECO is proposing to recover the unamortized SCF issuance cost through the cost of capital calculation for ratemaking. (See MECO T-17, pages 41 to 42 for discussion on the cost recovery of the unamortized issuance cost.) MECO's proposal to recover the unamortized SCF issuance cost through the cost of capital calculation for ratemaking is consistent with the methodology HELCO used in the HELCO 2006 test year rate case (Docket No. 05-0315), for which an interim Decision and Order No. 23342 was issued on April 4, 2007.

In addition for ratemaking purposes, the Company proposes to restore common equity for the charge to equity related to AOCI for the pension and OPEB plans. (See MECO T-17, pages 46-48.) MECO also recognizes that as a result of HELCO's 2006 test year rate case (Docket No. 05-0315), MECO is considering pension and OPEB tracking mechanisms as described in HELCO RT-18 of HELCO's 2006 test year rate case (Docket No. 05-0315), pages 13 to 19. Although the methodology of determining common equity may change because of the elimination of the AOCI charges to common equity for both book and ratemaking as a result of the pension and OPEB tracking mechanisms, the common equity balances for ratemaking purposes would still reflect the balances as if there were no charges to equity related to the AOCI for the pension and OPEB plans.

MECO's calculation of the capital structure and capital costs is consistent with the methodology HELCO used in the HELCO 2006 test year rate case (Docket No. 05-0315) and the methodology HECO used in the HECO 2007 test year rate case (Docket No. 2006-0386).

CA-IR-10

Please provide a schedule that shows the various security ratings of HEI, HECO and MECO for each year 2002 to the present.

MECO Response:

Please refer to pages 2 to 4 of the response to CA-IR-104 filed in Docket No. 04-0113 (HECO's 2005 Test Year Rate Case) for rating information for HEI, HECO, and MECO. An update to the HEI, HECO, and MECO rating information is that on April 22, 2005 S&P's outlook for HEI, HECO, and MECO's securities was revised to negative from stable.

CA-IR-11

Please provide copy of any presentations of HEI and HECO given to security analyses and rating agencies for the period 2006 to present.

MECO Response:

Presentations to Security Analysts

Copies of the presentations by HEI to security analysts in 2006 were provided in HECO's response filed in CA-IR-12 of Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case) and HELCO's response filed in CA-IR-211 of Docket No. 05-0315 (HELCO's 2006 Test Year Rate Case). To this date, there have been no presentations made to security analysts in 2007.

Presentations to Rating Agencies

MECO objects to providing the presentations by HEI and its subsidiaries to the rating agencies on the grounds that the presentations contain privileged commercial and financial information (including earnings forecast information), which is maintained by HEI, its subsidiaries and the rating agencies as non-public, confidential information, and on the grounds that those portions of the presentations related to HEI and its non-utility subsidiaries are irrelevant to the issues in this proceeding. MECO is willing to make non-confidential portions of the May 2006 presentation to rating agencies relating to the utilities available for inspection (which copies have already been provided to the Consumer Advocate in HECO's response filed in CA-IR-12 in Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case)), and to make selected confidential portions of the presentation relating to the utilities available for inspection pursuant to an appropriate protective order. MECO objects to making available forecast earnings and forecast return information, which disclosure might trigger requirements under rules and guidelines of the Securities and Exchange Commission and/or the New York Stock Exchange (see discussion in MECO's

response to CA-IR-7) and customer information due to privacy concerns, even under protective order.

In addition, information in presentations to rating agencies related to HEI and its non-utility subsidiaries is not relevant to the issues in this docket. While HEI is the parent of HECO, which is MECO's parent, the Commission generally has ruled that HEI, as a diversified holding company, is not an appropriate proxy for HECO or its utility subsidiaries in determining their cost of capital. (See Decision and Order No. 11317 in Docket No. 6531 (HECO's 1990 Test Year) and Decision and Order No. 10993 in Docket No. 6432 (HELCO's 1990 Test Year).)

CA-IR-12

Please identify every public utility rate proceeding in which Dr. Morin has testified in since 2000 and provide the following information for each proceeding:

a. Name of Company;

b. Name of Jurisdiction;

c. Docket Number;

d. Date of Testimony;

e. Cost of Equity Recommended; and

f. Cost of Equity Authorized.

Dr. Morin's Response:

a. – f. *Because old testimonies are available in public records and/or on-line in the* Lexis/Nexis data base and/or on regulatory commission Web sites, Dr. Morin does not keep historical records of past testimonies in his archives in view of the public nature of such documents, nor does he rely on such information in his direct testimony. In the response to CA-IR-196 filed in Docket No. 05-0315, the Hawaii Electric Light Company, Inc. rate case, a listing of testimonies in then concluded dockets is provided and includes company name, regulatory agency, docket number and ROE recommended and awarded. The document from Regulatory Research Associates provided in response to CA-IR-13 provides a compilation of ROE awards on a quarterly basis. Dr. Morin notes that ROE recommendations are frequently updated prior to, or during, formal hearings. Dr. Morin also notes that several ROE awards are part of incentive mechanism with substantial upside potential.

CA-IR-13

Please provide copy of the source data used in deriving the "Allowed Risk Premiums", as cited on pages 41-45.

Dr. Morin's Response:

With reference to the Allowed ROE Risk Premium Analysis of Dr. Morin's testimony pages 41-45, the annual allowed ROE data was taken from Regulatory Research Associates, Inc.'s ("Regulatory Focus", Major Rate Case Decisions – December 2005) comprehensive survey of ROE decisions by regulators over the period 1996-2005 for electric utilities. The underlying data necessary for the analysis along with the statistical regression are shown below. The dependent variable is the Risk Premium data shown in Column 5 while the independent variable is the bond yield data shown in Column 4.

Number of Decisions (1)	Year (2)	ROE Gas (3)	Bond Yield (4)	Risk Premium (5)
22	1996	11.4	6.7	4.7
11	1997	11.4	6.6	4.8
10	1998	11.7	5.6	6.1
20	1999	10.8	5.9	4.9
12	2000	11.4	5.9	5.5
18	2001	11.1	5.5	5.6
22	2002	11.2	5.4	5.7
22	2003	11.0	5.0	6.0
19	2004	10.8	5.1	5.7
29	2005	10.5	4.5	6.0

Regression Results from Lotus 123 Regression function

1995-2005	Regression	Output
Constant		**9.1508**
Std Err of Y Est		0.2828
R Squared		**0.74**
No. of Observations		10
Degrees of Freedom		8
X Coefficient(s)	**-0.6505**	
Std Err of Coef.	0.1371	
t-value	-4.7	

A copy of the most recent edition of this document is attached. The attached is being provided under the "fair use" exception to the copyright laws. Any copies made of the attachments are subject to the copyright laws. The bond yields were obtained from the Federal Reserve Bank Web site:

30-Year Treasury Constant Maturity Rate
Averages of Business Days
Percent
Source: H.15 Release -- Federal Reserve Board of Governors

Regulatory Research Associates
An SNL Energy Company

Regulatory Study
October 5, 2006

MAJOR RATE CASE DECISIONS--JANUARY-SEPTEMBER 2006

For the first nine months of 2006, the average electric equity return authorization by state commissions was 10.34% (15 determinations), slightly below the 10.54% average for calendar-2005. The average gas equity return authorization for the first three quarters of 2006 was 10.49% (9 determinations), which is in line with the 10.46% average for calendar-2005. Not included in these averages is a September 20, 2006 steam rate case decision for Consolidated Edison of New York, in which the New York Public Service Commission adopted a settlement that incorporates a 9.8% return on common equity (48% of capital) and a 7.74% return on rate base.

After reaching a low in the late-1990's and early-2000's, the total number of equity return determinations for energy companies increased somewhat and stabilized beginning in 2002. Relatively low inflation and interest rates, competitive pressures, technological improvements, the use of settlements that do not specify return parameters, and a reduced number of companies due to mergers, may continue to prevent the number of determinations from increasing substantially. However, increased costs (especially medical insurance and pension expenses) and the need for generation and delivery system infrastructure upgrades and expansion at many companies, argue for at least a modest increase in the number of cases to be filed and decided over the next several years. We also note that electric industry restructuring in many states has led to the unbundling of rates, with state commissions authorizing revenue requirement and return parameters for transmission and/or distribution operations only (which we footnote in our chronology table), thus complicating data comparability. The tables included in this study are extensions of those contained in the January 12, 2006 Regulatory Study entitled *Major Rate Case Decisions--January 2004-December 2005--Supplemental Study*. Refer to that report for information concerning individual rate case decisions that were rendered in 2004 and 2005.

The table on page 2 shows annual average equity returns authorized since 1996, and by quarter since 2000, in major electric and gas rate decisions, followed by the number of determinations during each period. The tables on page 3 present the composite industry data for items in the chronology of this and earlier reports, summarized annually since 1996, and quarterly for the most recent seven quarters. The individual electric and gas cases decided in the first nine months of 2006 are listed on pages 4 and 5, with the decision date shown first, followed by the company name, the abbreviation for the state issuing the decision, the authorized rate of return (ROR), return on equity (ROE), and percentage of common equity in the adopted capital structure. Next we show the month and year in which the adopted test year ended, whether the commission utilized an average or a year-end rate base, and the amount of the permanent rate change authorized. The dollar amounts represent the permanent rate change ordered at the time decisions were rendered. Fuel adjustment clause rate changes are not reflected in this study.

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2. RRA

Average Equity Returns Authorized January 1996 - September 2006

(Return Percent - No. of Observations)

	Period	Electric Utilities	Gas Utilities
1996	Full Year	11.39 (22)	11.19 (20)
1997	Full Year	11.40 (11)	11.29 (13)
1998	Full Year	11.66 (10)	11.51 (10)
1999	Full Year	10.77 (20)	10.66 (9)
2000	1st Quarter	11.06 (5)	10.71 (1)
	2nd Quarter	11.11 (2)	11.08 (4)
	3rd Quarter	11.68 (2)	11.33 (5)
	4th Quarter	12.08 (3)	12.50 (2)
2000	Full Year	11.43 (12)	11.39 (12)
2001	1st Quarter	11.38 (2)	11.16 (4)
	2nd Quarter	10.88 (2)	10.75 (1)
	3rd Quarter	10.78 (8)	— (0)
	4th Quarter	11.50 (6)	10.65 (2)
2001	Full Year	11.09 (18)	10.95 (7)
2002	1st Quarter	10.87 (5)	10.67 (3)
	2nd Quarter	11.41 (6)	11.64 (4)
	3rd Quarter	11.08 (4)	11.50 (3)
	4th Quarter	11.20 (7)	10.78 (11)
2002	Full Year	11.16 (22)	11.03 (21)
2003	1st Quarter	11.47 (7)	11.38 (5)
	2nd Quarter	11.16 (4)	11.36 (4)
	3rd Quarter	9.95 (5)	10.61 (5)
	4th Quarter	11.09 (6)	10.84 (11)
2003	Full Year	10.97 (22)	10.99 (25)
2004	1st Quarter	11.00 (3)	11.10 (4)
	2nd Quarter	10.54 (6)	10.25 (2)
	3rd Quarter	10.33 (2)	10.37 (8)
	4th Quarter	10.91 (8)	10.66 (6)
2004	Full Year	10.75 (19)	10.59 (20)
2005	1st Quarter	10.51 (7)	10.65 (2)
	2nd Quarter	10.05 (7)	10.54 (5)
	3rd Quarter	10.84 (4)	10.47 (5)
	4th Quarter	10.75 (11)	10.40 (14)
2005	Full Year	10.54 (29)	10.46 (26)
2006	1st Quarter	10.38 (3)	10.63 (6)
	2nd Quarter	10.69 (5)	10.50 (2)
	3rd Quarter	10.06 (7)	9.60 (1)
2006	Year-To-Date	10.34 (15)	10.49 (9)

RRA

3.

Electric Utilities--Summary Table*

	Period	ROR %	ROE %	Eq. as % Cap. Struc.	Amt. $ Mil.
1996	Full Year	9.21 (20)	11.39 (22)	44.34 (20)	-5.6 (38)
1997	Full Year	9.16 (12)	11.40 (11)	48.79 (11)	-553.3 (33)
1998	Full Year	9.44 (9)	11.66 (10)	46.14 (8)	-429.3 (31)
1999	Full Year	8.81 (18)	10.77 (20)	45.08 (17)	-1,683.8 (30)
2000	Full Year	9.20 (12)	11.43 (12)	48.85 (12)	-291.4 (34)
2001	Full Year	8.93 (15)	11.09 (18)	47.20 (13)	14.2 (21)
2002	Full Year	8.72 (20)	11.16 (22)	46.27 (19)	-475.4 (24)
2003	Full Year	8.86 (20)	10.97 (22)	49.41 (19)	313.8 (22)
2004	Full Year	8.44 (18)	10.75 (19)	46.84 (17)	1,092.6 (30)
2005	1st Quarter	8.57 (6)	10.51 (7)	44.55 (7)	482.1 (8)
	2nd Quarter	8.27 (5)	10.05 (7)	48.30 (5)	180.2 (9)
	3rd Quarter	7.78 (4)	10.84 (4)	43.58 (4)	40.2 (5)
	4th Quarter	8.37 (11)	10.75 (11)	48.55 (11)	671.2 (14)
2005	Full Year	8.31 (26)	10.54 (29)	46.73 (27)	1,373.7 (36)
2006	1st Quarter	8.13 (3)	10.38 (3)	50.25 (3)	444.6 (9)
	2nd Quarter	8.02 (5)	10.69 (5)	45.40 (4)	130.7 (6)
	3rd Quarter	7.89 (7)	10.06 (7)	46.86 (6)	177.0 (9)
2006	Year-To-Date	7.98 (15)	10.34 (15)	47.19 (13)	752.3 (24)

Gas Utilities--Summary Table*

1996	Full Year	9.25 (23)	11.19 (20)	47.69 (19)	193.4 (34)
1997	Full Year	9.13 (13)	11.29 (13)	47.78 (11)	-82.5 (21)
1998	Full Year	9.46 (10)	11.51 (10)	49.50 (10)	93.9 (20)
1999	Full Year	8.86 (9)	10.66 (9)	49.06 (9)	51.0 (14)
2000	Full Year	9.33 (13)	11.39 (12)	48.59 (12)	135.9 (20)
2001	Full Year	8.51 (6)	10.95 (7)	43.96 (5)	114.0 (11)
2002	Full Year	8.80 (20)	11.03 (21)	48.29 (18)	303.6 (26)
2003	Full Year	8.75 (22)	10.99 (25)	49.93 (22)	260.1 (30)
2004	Full Year	8.34 (21)	10.59 (20)	45.90 (20)	303.5 (31)
2005	1st Quarter	8.19 (3)	10.65 (2)	43.00 (1)	50.8 (4)
	2nd Quarter	8.17 (5)	10.54 (5)	47.69 (4)	99.5 (6)
	3rd Quarter	8.15 (6)	10.47 (5)	49.54 (5)	75.3 (7)
	4th Quarter	8.33 (15)	10.40 (14)	49.03 (14)	232.8 (17)
2005	Full Year	8.25 (29)	10.46 (26)	48.66 (24)	458.4 (34)
2006	1st Quarter	8.62 (6)	10.63 (6)	51.18 (6)	138.7 (6)
	2nd Quarter	7.98 (1)	10.50 (2)	44.38 (2)	-4.8 (2)
	3rd Quarter	7.05 (1)	9.60 (1)	45.00 (1)	14.1 (1)
2006	Year-To-Date	8.35 (8)	10.49 (9)	48.98 (9)	148.0 (9)

* Number of observations in each period indicated in parentheses.

4. RRA

ELECTRIC UTILITY DECISIONS

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
1/5/06	Northern States Power (WI)	8.94 (G)	11.00	53.66	12/06-A	43.4
1/25/06	Wisconsin Electric Power (WI)	—	—	—	—	229.7 (1)
1/27/06	United Illuminating (CT)	6.88 (2)	9.75	48.00	12/04-A	41.2 (R,Di,Z,2)
2/22/06	PacifiCorp (WY)	—	—	—	—	25.0 (B,Z)
2/23/06	Aquila Networks-MPS (MO)	—	—	—	—	22.4 (B)
2/23/06	Aquila Networks-L&P (MO)	—	—	—	—	3.9 (B)
3/3/06	Interstate Power and Light (MN)	8.58	10.39	49.10	12/04-A	1.2 (I,B)
3/14/06	Kentucky Power (KY)	—	—	—	—	41.0 (B)
3/29/06	Entergy Gulf States (LA)	—	—	—	—	36.8 (I,B)
2006	***1ST QUARTER: AVERAGES/TOTAL***	**8.13**	**10.38**	**50.25**		**444.6**
	MEDIAN	**8.58**	**10.39**	**49.10**		**—**
	OBSERVATIONS	**3**	**3**	**3**		**9**
4/17/06	PacifiCorp (WA)	8.10	10.20	46.00	9/04-A	0.0
4/18/06	MidAmerican Energy (IA)	—	11.90 (3)	—	—	—
4/25/06	Delmarva Power & Light (DE)	7.17	10.00	47.72	3/05-A	-11.1 (DI)
4/26/06	Sierra Pacific Power (NV)	8.96	10.60	40.76	5/05-YE	-14.0
5/12/06	Idaho Power (ID)	8.10	—	—	12/05	18.1 (B)
5/17/06	Southern California Edison (CA)	—	—	—	12/06-A	133.9 (4)
6/27/06	Upper Peninsula Power (MI)	7.75	10.75	47.12	12/06	3.8 (B)
2006	***2ND QUARTER: AVERAGES/TOTAL***	**8.02**	**10.69**	**45.40**		**130.7**
	MEDIAN	**8.10**	**10.60**	**46.56**		**—**
	OBSERVATIONS	**5**	**5**	**4**		**6**
7/6/06	Maine Public Service (ME)	8.45	10.20	50.00	12/05	1.8 (B,DI)
7/24/06	Central Hudson Gas & Electric (NY)	7.05 (5)	9.60	45.00	3/06-A	53.7 (B,Z,TD)
7/26/06	AEP West Virginia (WV)	7.60	10.50	—	12/04-A	111.7 (B,Z)
7/28/06	Commonwealth Edison (IL)	8.01	10.05	42.86	12/04-YE	8.3 (TD,6)
8/23/06	New York State Electric & Gas (NY)	7.18	9.55	41.60	12/07-A	-36.3 (TD)
8/31/06	Detroit Edison (MI)	—	—	—	—	-78.8 (B,Z)
9/1/06	Northern States Power (MN)	8.81	10.54	51.67	12/06-A	131.5 (I,7)
9/5/06	CenterPoint Energy Houston Electric (TX)	—	—	—	—	-57.9 (B,TD)
9/14/06	PacifiCorp (OR)	8.16	10.00	50.00	12/07-A	43.0 (B,6)
2006	***3RD QUARTER: AVERAGES/TOTAL***	**7.89**	**10.06**	**46.86**		**177.0**
	MEDIAN	**8.01**	**10.05**	**47.50**		**—**
	OBSERVATIONS	**7**	**7**	**6**		**9**
2006	***YEAR-TO-DATE: AVERAGES/TOTAL***	**7.98**	**10.34**	**47.19**		**752.3**
	MEDIAN	**8.10**	**10.20**	**47.42**		**—**
	OBSERVATIONS	**15**	**15**	**13**		**24**

RRA 5.

GAS UTILITY DECISIONS

Date	Company (State)	ROR %	ROE %	Common Eq. as % Cap. Str.	Test Year & Rate Base	Amt. $ Mil.
1/5/06	Northern States Power (WI)	8.94 (G)	11.00	53.66	12/06-A	3.9
1/25/06	Wisconsin Electric Power (WI)	8.52 (G)	11.20	56.34	12/06-A	21.4
1/25/06	Wisconsin Gas (WI)	8.29 (G)	11.20	50.20	12/06-A	38.7
2/3/06	Public Service of Colorado (CO)	8.70	10.50	55.49	12/04-A	22.5 (B)
2/23/06	Southwest Gas (AZ)	8.40	9.50	40.00 (Hy)	8/04-YE	49.3
3/1/06	Aquila (IA)	8.88	10.40 (E)	51.39	12/04-A	2.9 (I,B)
2006	***1ST QUARTER: AVERAGES/TOTAL***	**8.62**	**10.63**	**51.18**		**138.7**
	MEDIAN	**8.61**	**10.75**	**52.53**		**—**
	OBSERVATIONS	**6**	**6**	**6**		**6**
4/26/06	Sierra Pacific Power (NV)	7.98	10.60	40.76	5/05-YE	4.9
5/25/06	LA Gas Service/Trans LA Gas (LA)	—	10.40	48.00 (Hy)	—	—(B)
5/26/06	Questar Gas (UT)	—	—	—	—	-9.7 (B)
2006	***2ND QUARTER: AVERAGES/TOTAL***	**7.98**	**10.50**	**44.38**		**-4.8**
	MEDIAN	**7.98**	**10.50**	**44.38**		**—**
	OBSERVATIONS	**1**	**2**	**2**		**2**
7/24/06	Central Hudson Gas & Electric (NY)	7.05 (5)	9.60	45.00	3/06-A	14.1 (B,Z,Di)
2006	***3RD QUARTER: AVERAGES/TOTAL***	**7.05**	**9.60**	**45.00**		**14.1**
	MEDIAN	**7.05**	**9.60**	**45.00**		**—**
	OBSERVATIONS	**1**	**1**	**1**		**1**
2006	***YEAR-TO-DATE: AVERAGES/TOTAL***	**8.35**	**10.49**	**48.98**		**148.0**
	MEDIAN	**8.46**	**10.50**	**50.20**		**—**
	OBSERVATIONS	**8**	**9**	**9**		**9**

FOOTNOTES

A- Average
B- Order followed stipulation or settlement by the parties. Decision particulars not necssarily precedent-setting or specifically adopted by the regulatory body.
Di- Rate change applicable to electric distribution rates only.
E- Estimated
G- Return on capital
Hy- Hypothetical capital structure utilized
I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
TD- Rate change applicable to electric transmission and distribution rates only.
YE- Year-end
Z- Rate change implemented in multiple steps.
* Capital structure includes cost-free items or tax credit balances at the overall rate of return.

(1) The electric rate increase was not supported by a traditional cost-of-service analysis, but reflected recovery of certain specific costs.
(2) Indicated rate increase to be phased-in over four years, with a 6.88% ROR authorized for 2006, 6.89% for 2007, 7.09% for 2008, and 7.48% for 2009.
(3) ROE applies only to a proposed 545-mW wind generation project.
(4) Increase is net of a $139.6 million one-time reduction resulting from a post-retirement-benefits-other-than-pensions overcollection. Additional increases of $73.5 million and $104.1 million authorized for 2007 and 2008, respectively.
(5) Multi-year rate increase adopted. Authorized ROR for year one is 7.05%, for year two is 7.09%, and for year three is 7.13%.
(6) Rate increase to become effective 1/1/07.
(7) Rate increase declines to $114.9 million effective 1/1/07.

Dennis Sperduto

CA-IR-14

Please indicate if Dr. Morin is aware of any academic or other studies that maintain that all investors rely exclusively on analysts' forecasts of earnings per share in making investment decisions. Please cite any such studies that maintain this and indicate specifically where in the studies such a claim is made.

Dr. Morin's Response:

Extensive academic research in the past two decades has documented and confirmed repeatedly the overwhelming superiority of analysts' earnings forecasts over the uni-variate time-series forecasts. This latter category includes many *ad hoc* forecasts from statistical models, ranging from the naive methods of simple averages, moving averages, etc. to the sophisticated time-series techniques such as the Box-Jenkins modeling techniques.

In other words, this literature suggests that analysts' earnings forecasts incorporate all the public information available to the analysts and the public at the time the forecasts are released. Furthermore, these forecasts are statistically more accurate than forecasts solely based on historical earnings, dividends, book value equity, and the like.

This finding is based on researches on data from 1950s to 1980s. Important papers include Brown and Rozeff (1978), Cragg and Malkiel (1982), Harris (1986), Vander Weide and Carleton (1988), and Lys and Sohn (1990). The cited sources were consulted by Dr. Morin at the university library and are available from most university libraries. A summary of these papers follows.

Summary of Papers Reviewed

Lawrence D. Brown and Michael S. Rozeff, 1978, **The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings**, *Journal of Finance*, Vol. XXXIII, No. 1, pp. 1 to 16

Using data (1951 to 1975) from 50 non-utility firms, the authors compared forecasting errors between forecasts reported in Value Line Investment Survey and forecasts from a sophisticated time-series methodology (Box-Jenkins). They concluded that "Value Line Investment Survey consistently makes significantly better earnings forecasts than the BJ [Box-Jenkins] and naive time series models." (p.13)

J. Cragg and B. G. Malkiel, *Expectations and the Structure of Share Prices*, National Bureau of Economic Research, University of Chicago Press, 1982

See quotation below from Harris (1986).

Robert S. Harris, 1986, **Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return**, *Financial Management*, Spring 1986, pp. 58 - 67

The main focus of this paper was to derive required return on equity using expected rather than historical earnings growth rates. Harris used IBES consensus earnings forecasts as a proxy for investor expectation. In his review of the literature on financial analysts' forecasts (FAF), Harris wrote:

> Moreover, a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices. Such studies typically employ a consensus measure of FAF calculated as a simple average of forecasts by individual analysts. Elton, Gruber, and Gultekin show that stock prices react more to changes in analysts' forecasts of earnings than they do to changes in earnings themselves, suggesting the usefulness of FAF as a surrogate for market expectations. In an extensive NBER study using analysts' earnings forecasts, Cragg and Malkiel conclude "the expectations formed by Wall Street professionals get quickly and thoroughly impounded into the prices of securities. Implicitly, we have found that the evaluations of companies that analysts make are the sorts of ones on which market valuation is based." (p.59, footnote omitted)

James H. Vander Weide and Willard T. Carleton, 1988, **Investor Growth Expectations: Analysts vs. History**, *The Journal of Portfolio Management*, Spring 1988, pp. 78 - 82

This paper updated the study by Cragg and Malkiel (1982), which suggests that the stock valuation process embodies analysts' forecasts rather than historically based growth figures such as the ten-year historical growth in dividends per share or the five-year growth in book value per share. (The Cragg and Malkiel study is based on data for the 1960s).

In this paper, the authors used data from 1971- 1983 for approximately sixty-five utility firms. They "found overwhelming evidence that the consensus analysts' forecasts of future growth is superior to historically oriented growth measures in predicting the firm's stock price." Their results "also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions." (p. 81)

Thomas Lys and Sungkyu Sohn, 1990, **The Association between Revisions of Financial Analysts' Earnings Forecasts and Security-Price Changes**, *Journal of Accounting and Economics*, vol. 13, pp. 341 - 363

Using virtually all publicly available analyst earnings forecasts for a sample of 58 companies in the 1980 - 86 period (over 23,000 individual forecasts by 100 analyst firms), the authors showed that stock returns responded to individual analyst earnings forecasts, even when they were closely preceded by earnings forecast made by other analysts or by corporate accounting disclosures.

Empirical studies have also been conducted showing that investors who rely primarily on data obtained from several large reputable investment research houses and security dealers obtain better results than those who do not[1]. Thus, both empirical research and common sense indicate

[1]Examples of these studies include Stanley, Lewellen & Schlarbaum (1981) and Touche Ross Co. (1982).

that investors rely primarily on analysts' growth rate forecasts rather than on historical growth rates alone.

See attached reference list.

Analyst Forecasts References

Brown. L.D. and Rozeff, M.S. "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings." *Journal of Finance,* March 1978, 1-16.

Cragg, J.G. and Malkiel, B.G. "Expectations and the Structure of Share Prices." National Bureau of Economic Research. Chicago: University of Chicago Press, 1982.

Cragg, J.G. and Malkiel, B.G. "The Consensus and Accuracy of Some Predictions of the Growth of Corporate Earnings." *Journal of Finance,* March 1968, 67-84.

Easterwood, J. C. and Nutt, S. R., "Inefficiency in Analysts' Earnings Forecasts: Systematic Misreaction or Systematic Optimism?" *Journal of Finance*, Vol. LIV, No. 5, 1999, pp. 1777-1797.

Elton, E.J., Gruber, M.J., and Gultekin, J. "Expectations and Share Prices." *Management Science,* September 1981, 975-981.

Fried, D. and Givoly, D., "Financial Analysts Forecasts of Earnings, A Better Surrogate for Market Expectations", *Journal of Accounting and Economics,* Vol. 4, 1982.

Harris, R. S., "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return." *Financial Management*, Spring 1986, pp. 58-67.

Harris, R. S., and Marston, F. C., "The Market Risk Premium: Expectational Estimtaes Using Analysts' Forecasts," *Journal of Applied Finance*, 11:6-16, 2001.

Lys, T. and Sohn, S., "The Association between Revisions of Financial Analysts' Earnings Forecasts and Security-Price Changes," *Journal of Accounting and Economics*, vol. 13, 1990, pp. 341-363.

Moyer, R. C., Chatfield, R. E., and Kelley, G. D., "The Accuracy of Long-Term Earnings Forecasts in the Electric Utility Industry," *International Journal of Forecasting* Vol. I, 1985.

Stanley, L., Lewellen, W., and Schlarbaum, G. "Further Evidence on the Value of Professional Investment Research," *Journal of Financial Research,* Spring 1981, 1-9.

Timme, S.G. and Eiseman, P.C. "On the Use of Consensus Forecasts of Growth in the Constant Growth Model: The Case of Electric Utilities." *Financial Management,* Winter 1989, 23-35.

Touche Ross Co. "Proxy Disclosures and Stockholder Attitude Survey." Washington DC: National Association of Corporate Directors, May 1982.

Vander Weide, J.H. and Carleton, W. T. "Investor Growth Expectations: Analysts vs. History." *The Journal of Portfolio Management,* Spring 1988, 78-87.

CA-IR-15

Re: Statement on page 53, lines 12-13.

Please indicate if Dr. Morin is aware of any "evidence" that challenges the use of analysts' forecasts of earnings as an indicator of stock price performance and/or cost of capital estimation.

Dr. Morin's Response:

Some studies provide evidence that analysts make biased forecasts and misinterpret the impact of new information[1]. For example, several studies in the early 1990s suggest that analysts either systematically under-react or over-react to new information. Easterwood & Nutt (1999) discriminate between these different reactions and reported that analysts under-react to negative information, but over-react to positive information. The recent studies do not necessarily contradict the earlier literature. The earlier research focused on whether analysts' earnings forecasts are better at forecasting future earnings than historical averages, whereas the recent literature investigates whether the analysts' earnings forecasts are unbiased estimates of future earnings. It is possible that even if the analysts' forecasts are biased, they are still closer to future earnings than the historical averages, although this hypothesis has not been tested in the recent studies. One way to assess the concern that analysts' forecasts may be biased upward is to incorporate into the analysis the growth forecasts of independent research firms, such as Value Line, in addition to the analyst consensus forecast. Unlike investment banking firms and stock brokerage firms, independent research firms such as Value Line have no incentive to distort earnings growth estimates in order to bolster interest in common stocks.

[1] Other relevant papers corroborating the superiority of analysts forecasts as predictors of future returns versus historical growth rates include: Fried & Givoly (1982), Moyer, Chatfield & Kelley (1985), and Gordon, Gordon & Gould (1989).

Some argue that analysts tend to forecast earnings growth rates that exceed those actually achieved and that this optimism biases the DCF results upward. The magnitude of the optimism bias for large rate-regulated companies in stable segments of an industry is likely to be very small. Empirically, the severity of the optimism problem is unclear for regulated utilities, if a problem exists at all. It is interesting to note that Value Line forecasts for utility companies made by independent analysts with no incentive for over- or understating growth forecasts are not materially different from those published by analysts in security firms with incentives not based on forecast accuracy, and may in fact be more robust. If the optimism problem exists at all, it can be circumvented by relying on multiple-stage DCF models that substitute long-term economic growth for analysts growth forecasts in the second and/or third stages of the model.

See reference list attached to response to CA-IR-14.

CA-IR-16

Please identify and provide copy of any analyses used by Dr. Morin in deriving the 0.25% risk adjustment he adds to the cost of equity for the average risk electric utility in order to develop a 11.25% cost of equity for MECO.

Dr. Morin's Response:

Dr. Morin adjusted the initial cost of equity estimate based on the industry average upward by 25 basis points in order to reflect the Company's much smaller size.

Dr. Morin notes that the Commission has recognized MECO's higher relative risk on account of its small size. In Amended Decision and Order No. 16922 in Docket No. 97-0346, the Commission agreed that a size adjustment is appropriate for MECO on account of its smaller size, as demonstrated by its higher operating ratio, lower quality of earnings, and weak level of internally generated funds for construction.

One can also examine utility bond yield spreads as a guide for the proper risk adjustment. Dr. Morin notes that at the time of preparing his testimony, yield spreads between A-rated and BBB-rated bonds were approximately 40 basis points.

Another framework to quantify the risk differential is based on the CAPM. Given the observed range in the betas of electric utilities, it is reasonable to state that on account of its small size relative to other electric utilities, the Company's beta factor increases by 0.05. The CAPM formula can then be used to approximate the return (cost of equity) differences implied by the increase in beta. The basic form of the CAPM states that the return differential is given by the differential in beta times the excess return on the market, $(R_M - R_F)$. The return differential implied by an increase in beta of 0.05 is given by 0.05 times the market risk premium $(R_M - R_F)$. Using an estimate of 7% for $(R_M - R_F)$, the return adjustment is 35 basis points.

Based on all these considerations and various frameworks, a very conservative increase of 25 basis points is warranted.

CA-IR-17

Re: Risk adjustment proposed for MECO.

Please provide the following information for each cost of equity analysis that Dr. Morin has performed over the period 2000 to the present:

a. Average cost of equity (i.e., CAPM, Risk Premium, and DCF – as shown on page 63) for the average risk electric or natural gas utility; and

b. Adjustment proposed for subject utility in each case.

Dr. Morin's Response:

a. – b. Dr. Morin does not possess such historical information, and nor did he rely on such information in his testimony. Whenever a risk adjustment was warranted, Dr. Morin has typically applied a risk premium ranging from +-25 to +-50 basis points in order to account for risk differentials between a subject utility and the industry average, including size, bond rating, and/or common equity differentials.

CA-IR-18

Please provide copies of S&P articles cited in footnote 17.

MECO Response:

The first two articles cited in footnote 17 were provided in Docket No. 05-0315 (HELCO 2006 Test Year Rate Case) filed on May 5, 2006 as Exhibit HELCO-1811 and HELCO-1812. A copy of these two articles were also provided in HECO's response filed in CA-IR-20 of Docket No. 2006-0386 (HECO's 2007 Test Year Rate Case). The third article cited in footnote 17 was provided in MECO-1713 of this proceeding.

CA-IR-19

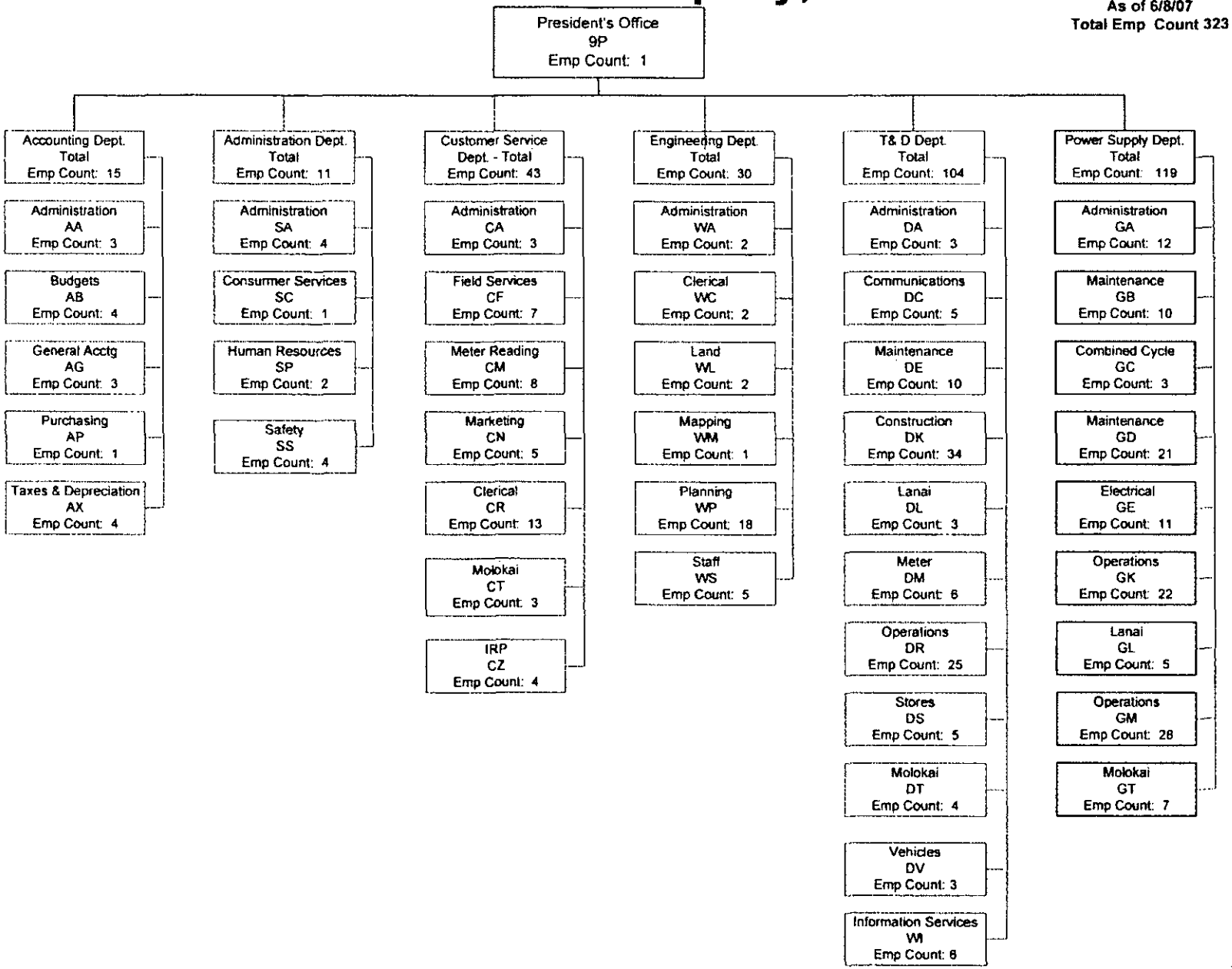
Please provide a complete copy of the most current available MECO management organization chart, illustrating reporting relationships among management personnel, departmental organizations and relative staffing levels within each department.

MECO Response:

See Attachment A for the MECO management organization charts as of 6/8/07.

Maui Electric Company, Ltd.

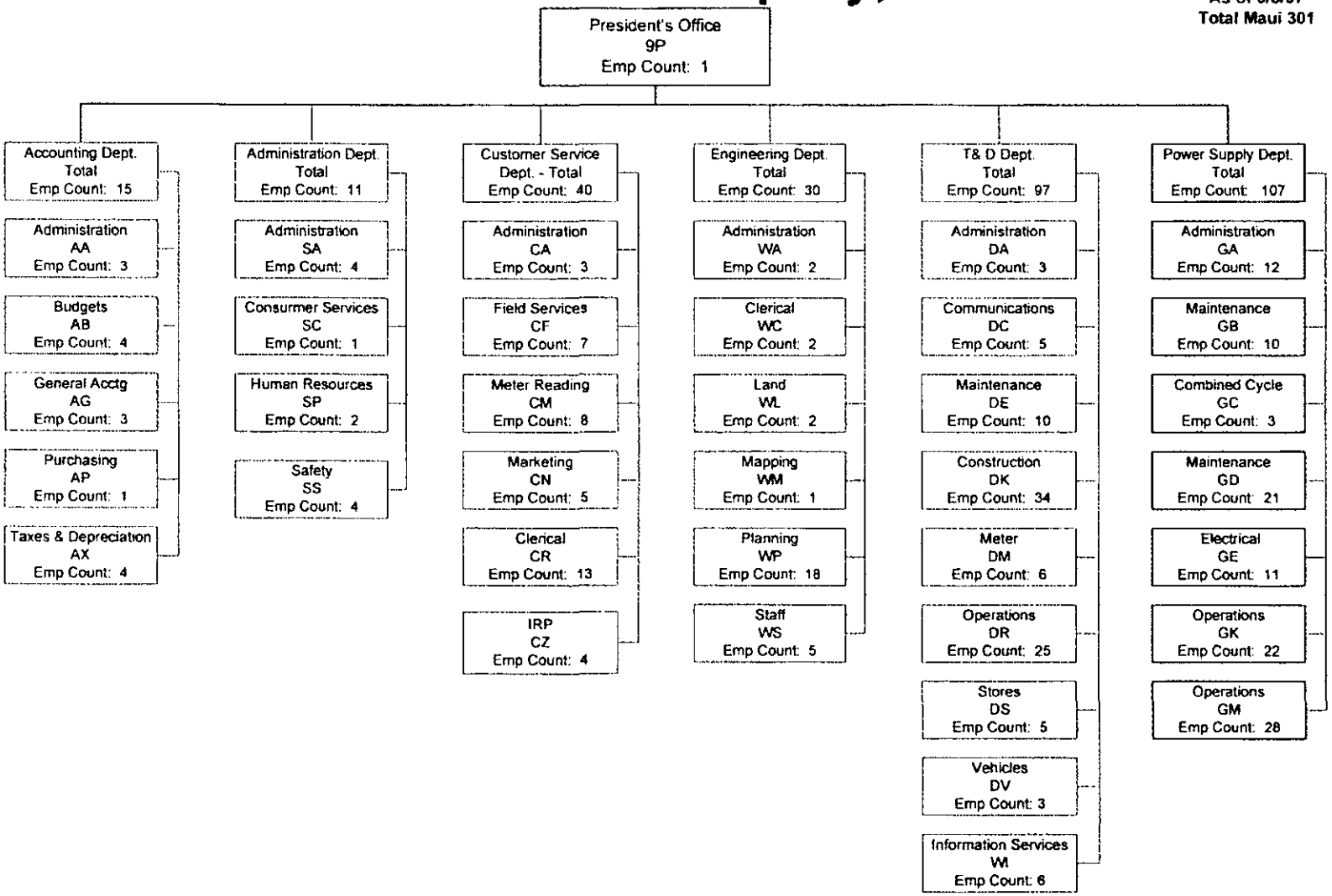
As of 6/8/07
Total Emp Count 323



CA-IR-19
DOCKET NO. 2006-0387
MECO T-11
ATTACHMENT A
PAGE 1 OF 4

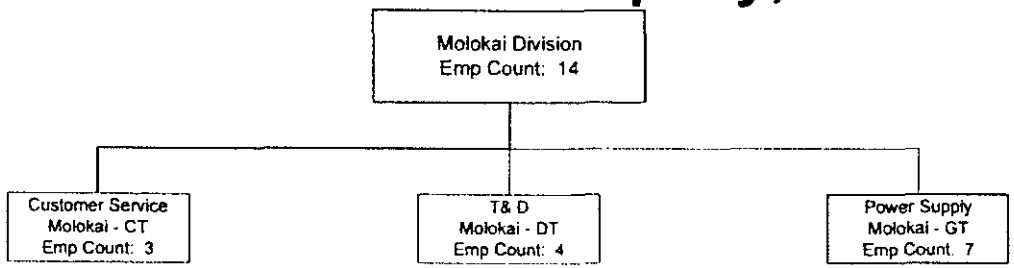
Maui Electric Company, Ltd.

As of 6/8/07
Total Maui 301



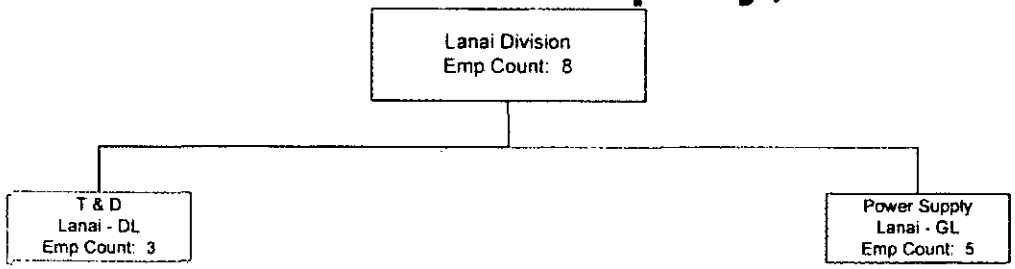
Maui Electric Company, Ltd.

As of 6/8/07
Total Molokai 14



Maui Electric Company, Ltd.

As of 6/8/07
Total Lanai 8



CA-IR-20

Please provide a complete copy of the most current available Hawaiian Electric Company, Inc. ("HECO") management organization chart, illustrating reporting relationships among management personnel, departmental organizations and relative staffing levels within each department, with an explanation of which departments are supportive of MECO operations and the services/activities provided to MECO by such departments.

MECO Response:

See HECO's response to CA-IR-21, pages 2 to 15 in Docket No. 2006-0386, for HECO's management organization charts as of March 31, 2007 with the relative staffing levels within each department. Supporting services/activities provided to MECO by HECO are charged and expensed under the proper activity code as identified in the ABM Activity List provided as Attachment A.

Process Group	Major Process	Business Process	Activity	No.
Non-ABM	Other Income & Deductions	Other Income & Deductions	Rev fr Merch, Jobbing & Contract Work	010
			Income from Nonutility Operations	015
			Interest Income	017
	Other Operating Revenues	Other Operating Revenues	Late Payment Penalties/Fees Received from Customers	020
			Miscellaneous Service Revenues	022
			Rent from Electric Property	025
			Other Electric Revenues	030
	General Excise Tax	General Excise Tax	General Excise Tax	040
	AFUDC	AFUDC	Allowance for Funds Used During Construction	050
	Payroll Cost Center	Payroll Cost Center	Payroll Cost Center	098
	Other non-ABM	Other non-ABM	Financial Securities Issuance	042
Develop & Retain Business	Develop Business-Regulated	Plan & Develop Markets & Products-Regulated	Conduct Market Research-Regulated	100
			Develop Marketing Plans-Regulated	101
			Plan & Develop Marketing Programs	102
			Plan & Develop Marketing Programs-Non Core (inactive eff. 9/1/01)	103
			Plan & Develop Marketing Rebates & Co-Funding Prog (inactive eff. 9/1/01)	104
		Sell Products/Services-Regulated	Implement Marketing Programs-Core	110
			Implement Marketing Programs-Non Core	111
			Develop & Manage Customer Relationships	112
			Manage Power Sales & Wheeling Agreements	113
		Maintain Relations with Customers	Maintain Relations with Customers	750
	Develop Business-Non-Regulated	Develop Business-Non Regulated	Conduct Market Research-Non-Regulated	130
			Identify & Select Opps for Revenue Enhancement-Non Reg	131
			Implement Marketing Programs-Non Regulated	140
			Sell Products & Services-Non-Regulated (inactive eff. 9/1/01)	141
Generate Electricity	Plan for Demand & Energy Needs	Plan for Demand & Energy Needs	Develop Generation Forecasts	200
			Perform Generation Planning Studies	201
	Engineer, Design & Construct Generation Facilities	Engineer, Design & Construct Generation Facilities	Plan & Approve Projects	210
			Engineer, Design & Manage Projects	211
			Construct Projects	212
			Construct Small Betterment Projects	213
	Manage Fuel and Purchase Power	Procure Fuel/Services	Manage Fuel Supply Procurement	220
			Administer Fuel Supply & Logistics Contracts	221
			Manage Procurement of Fuel Transport & Distribution Srvs	222
		Manage & Handle Fuel	Manage Operation & Maintenance for Fuel Facilities	230
			Manage Fuel Delivery Operations & Inventory Planning	231
		Purchase Power	Administer "As Available" Contracts	120
			Administer "Firm Capacity" Contracts	121
			Evaluate & Negotiate New HECO/HELCO/MECO Contracts	122
	Operate & Maintain Power Plants	Operate Plant Systems & Equipment	Develop & Maintain Policies & Procedures	240
			Operate & Monitor Fuel Feed System	241
			Operate & Monitor Plant Equipment (Make Rounds)-Boiler Rel	242
			Operate & Monitor Plant Equipment (Make Rounds)-TurboGen	243

Process Group	Major Process	Business Process	Activity	No.
Generate Electricity	Operate & Maintain Power Plants	Operate Plant Systems & Equipment	Operate & Monitor Plant Equipment (Make Rounds)-Non-Steam/Other	244
			Monitor Plant/Operational Performance-Boiler Related	245
			Monitor Plant/Operational Performance-TurboGen	246
			Monitor Plant/Operational Performance-Non-Steam/Other	247
			Perform Water Treatment & Analysis (Purification)	248
		Maintain Plant Systems & Equipment	Develop Outage & Project Plans	255
			Plan/Schedule Maintenance & Construction	256
			Maintain Boiler Plant & Related Eq.-Preventive	257
			Maintain Boiler Plant & Related Eq.-Predictive	258
			Maintain Boiler Plant & Related Eq.-Corrective	259
			Maintain Steam TurboGenerator & Related Eq-Preventive	260
			Maintain Steam TurboGenerator & Related Eq-Predictive	261
			Maintain Steam TurboGenerator & Related Eq-Corrective	262
			Maintain Station Common Structure(s) & Systems-Preventive	263
			Maintain Station Common Structure(s) & Systems-Predictive	264
			Maintain Station Common Structure(s) & Systems-Corrective	265
			Maintain Station Common Misc Equipment-Preventive	266
			Maintain Station Common Misc Equipment-Predictive	267
			Maintain Station Common Misc Equipment-Corrective	268
			Maintain Fuel Feed System-Preventive	269
			Maintain Fuel Feed System-Predictive	270
			Maintain Fuel Feed System-Corrective	271
			Maintain Combustion Turbine Generator & Electrical Equip-Preventive	272
			Maintain Combustion Turbine Generator & Electrical Equip-Predictive	273
			Maintain Combustion Turbine Generator & Electrical Equip-Corrective	274
			Maintain Internal Combustion Engine, Generator & Related Eq-Preventive	275
			Maintain Internal Combustion Engine, Generator & Related Eq-Predictive	276
			Maintain Internal Combustion Engine, Generator & Related Eq-Corrective	277
			Maintain Renewable Energy & Related Eq-Preventive	278
			Maintain Renewable Energy & Related Eq-Predictive	279
			Maintain Renewable Energy & Related Eq-Corrective	280
Transmit Electricity	Plan, Engineer, Design & Construct Transmission System & Facilities	Plan, Engineer & Design Trans Sys & Facilities	Perform Transmission Planning Studies	300
			Develop & Maintain Transmission Standards & Specs	301
			Engr & Design Transmission Facilities-OH Line	302
			Engr & Design Transmission Facilities-UG Line	303
			Engr & Design Transmission Facilities-Substation Equipment	304
			Engr & Design Transmission Facilities-Substation Structure	305
			Engr & Design Transmission SCADA System & Equipment	306
			Manage Trans Projects (Plan, Schedule & Control)	307
		Construct Transmission System & Facilities	Construct Transmission Facilities-OH Line	315
			Construct Transmission Facilities-UG Line	316
			Construct Transmission Facilities-Substation Equipment	317
			Construct Transmission Facilities-Substation Structure	318
			Construct Transmission SCADA System & Equipment	319
			Manage Transmission Construction Projects	320
Transmit Electricity	Operate & Maintain Trans Facilities	Operate Transmission Facilities	Develop & Maintain Trans Oper, Inspect & Maint Proced	325

Process Group	Major Process	Business Process	Activity	No.
			Compile & Update Transmission Maps & Prints	326
			Read, Analyze & Test Transmission Data Recording Equipment	327
			Perform Transmission OH Line Inspection-Prev/Predictive	328
			Perform Transmission UG Line Inspection-Prev/Predictive	329
			Perform Substation Transmission Structure & Equip Inspection - Prev/Pred	330
			Operate Transmission Facilities-OH Line	331
			Operate Transmission Facilities-UG Line	332
			Operate Transmission Facilities-Substation	333
		Maintain Transmission Facilities	Repair Transmission Data Recording Equipment (Voltage Meters)	340
			Test, Treat & Restore Wooden Trans Pole	341
			Maintain Transmission OH Line-Preventive	342
			Maintain Transmission OH Line-Predictive	343
			Maintain Transmission OH Line-Corrective	344
			Maintain Transmission UG Line-Preventive	345
			Maintain Transmission UG Line-Predictive	346
			Maintain Transmission UG Line-Corrective	347
			Maintain Substation Transmission Equipment-Preventive	348
			Maintain Substation Transmission Equipment-Predictive	349
			Maintain Substation Transmission Equipment-Corrective	350
			Maintain Substation Transmission Structure-Preventive	351
			Maintain Substation Transmission Structure-Predictive	352
			Maintain Substation Transmission Structure-Corrective	353
			Maintain Transmission SCADA System	354
			Perform Vegetation Management-Transmission	355
		Manage Transmission Emergency Events Caused by External Party or Storm	Make Emergency Trans OH Line Repairs-Caused by external party	360
			Make Emergency Trans UG Line Repairs-Caused by external party	361
			Make Emergency Subst Trans Equip Repairs-Caused by external party	362
			Make Emergency Subst Trans Structure Repairs-Caused by external party	363
			Make Emergency Trans OH Line Repairs-Storm	364
			Make Emergency Trans UG Line Repairs-Storm	365
			Make Emergency Subst Trans Equip Repairs-Storm	366
			Make Emergency Subst Trans Structure Repairs-Storm	367
		Dispatch Power	Schedule Generation Resources	375
			Dispatch & Monitor Generation, Transmission SCADA Resources	376
			Dispatch & Monitor Distribution SCADA Resources	377
Distribute Electricity	Plan, Engineer, Design & Construct Distribution & C.S. System & Facilities	Plan, Engineer & Design Distr Sys & Facilities	Perform Distribution Planning Studies	400
			Perform Reliability Distribution Studies	401
			Develop & Maintain Distribution Standards & Specs	402
			Engineer & Design Distribution Facilities-OH Line	403
			Engineer & Design Distribution Facilities-UG Line	404
			Engineer & Design Distribution Facilities-Substation Equipment	405
			Engineer & Design Distribution Facilities-Substation Structure	406
			Engr & Design Distribution SCADA System & Equipment	407
			Manage Distrib Projects (Plan, Schedule & Control)	408
Distribute Electricity	Plan, Engineer, Design & Construct Distribution & C.S. System & Facilities	Construct Distribution System & Facilities	Construct Distribution Facilities-OH Line	415
			Construct Distribution Facilities-UG Line	416

CODE BLOCK REFERENCE: Chapter 3

Activities

Process Group	Major Process	Business Process	Activity	No.
			Construct Distribution Facilities-Substation Equipment	417
			Construct Distribution Facilities-Substation Structure	418
			Construct Distribution SCADA System & Equipment	419
			Manage Distrib Construction Projects	420
		Engineer & Design Customer Service Facilities	Engineer & Design New Residential Facilities-OH Line	425
			Engineer & Design New Residential Facilities-UG Line	426
			Engineer & Design New Com/Industrial Facilities-OH Line	427
			Engineer & Design New Com/Industrial Facilities-UG Line	428
			Engineer & Design Replacements/Upgrades Res Facil.-OH Line	429
			Engineer & Design Replacements/Upgrades Res Facil.-UG Line	430
			Engineer & Design Replacements/Upgrades Com/Indus Facil.-OH Line	431
			Engineer & Design Replacements/Upgrades Com/Indus Facil.-UG Line	432
		Construct Customer Service Facilities	Install New Residential Facilities-OH Line	440
			Install New Residential Facilities-UG Line	441
			Install New Commercial/Industrial Facilities-OH Line	442
			Install New Commercial/Industrial Facilities-UG Line	443
			Install New Customer Lighting Facilities	444
			Replace/Upgrade Existing Residential Facilities-OH Line	445
			Replace/Upgrade Existing Residential Facilities-UG Line	446
			Replace/Upgrade Existing Comm/Industrial Facilities-OH Line	447
			Replace/Upgrade Existing Comm/Industrial Facilities-UG Line	448
			Replace/Upgrade Existing Customer Lighting Facilities	449
	Operate & Maintain Distribution Facilities	Operate Distribution Facilities	Develop & Maintain Distrib Operating, Insp & Maint Proced	455
			Compile & Update Distribution Maps & Prints	456
			Read, Analyze & Test Distribution Data Recording Equipment	457
			Perform Distribution OH Line Inspection-Pred/Preventive	458
			Perform Distribution UG Line Inspection-Pred/Preventive	459
			Perform Subst Distribution Structure & Equip Inspection-Pred/Preventive	460
			Operate Distribution Facilities-OH Line	461
			Operate Distribution Facilities-UG Line	462
			Operate Distribution Facilities- Substation	463
			Coordinate & Locate Underground Facilities (Toneouts)	464
			Test In-Service Revenue Meters & Related Equipment	465
		Maintain Distribution Facilities	Repair Distrib Data Recording Equipment	470
			Test, Treat & Restore Wooden Distribution Pole	471
			Test, Restore & Replace Distribution Primary Cable	472
			Maintain Distribution OH Lines-Preventive	473
			Maintain Distribution OH Lines-Predictive	474
			Maintain Distribution OH Lines-Corrective	475
			Maintain Distribution UG Lines-Preventive	476
			Maintain Distribution UG Lines-Predictive	477
			Maintain Distribution UG Lines-Corrective	478
			Maintain Distribution OH Line Transformers-Preventive	479
			Maintain Distribution OH Line Transformers-Predictive	480
Distribute Electricity	Operate & Maintain Distribution Facilities	Maintain Distribution Facilities	Maintain Distribution OH Line Transformers-Corrective	481
			Maintain Distribution UG Line Transformers-Preventive	482
			Maintain Distribution UG Line Transformers-Predictive	483

Process Group	Major Process	Business Process	Activity	No.
			Maintain Distribution UG Line Transformers-Corrective	484
			Maintain Substation Distribution Equipment-Preventive	485
			Maintain Substation Distribution Equipment-Predictive	486
			Maintain Substation Distribution Equipment-Corrective	487
			Maintain Substation Distribution Structure-Preventive	488
			Maintain Substation Distribution Structure-Predictive	489
			Maintain Substation Distribution Structure-Corrective	490
			Maintain Distribution SCADA System	491
			Maintain Distribution Tools & Equipment	492
			Maintain Customer & Street Lighting Facilities	493
			Perform Vegetation Management-Distribution	494
			Repair Revenue Meters & Related Equipment	495
		Manage Distribution Emergency Events Caused by External Party or Storm	Make Emergency Dist OH Line Repairs-Caused by external party	500
			Make Emergency Dist UG Line Repairs-Caused by external party	501
			Make Emergency Subst Dist Equip Repairs-Caused by exter party	502
			Make Emergency Subst Dist Struct Repairs-Caused by exter party	503
			Make Emerg Dist OH Line Transfr Repairs-Caused by exter party	504
			Make Emerg Dist UG Line Transfr Repairs-Caused by exter party	505
			Make Emergency Dist Meter Repairs-Caused by external party	506
			Make Emergency Dist OH Line Repairs-Storm	507
			Make Emergency Dist UG Line Repairs-Storm	508
			Make Emergency Subst Dist Equip Repairs-Storm	509
			Make Emergency Subst Dist Structure Repairs-Storm	510
			Make Emergency Dist OH Line Transformer Repairs-Storm	511
			Make Emergency Dist UG Line Transformer Repairs-Storm	512
			Make Emergency Dist Meter Repairs-Storm	513
Provide Customer Service	Provide Customer Service-Regulated	Provide Customer Account Service-Regulated	Respond to Customer Inquiries & Service Requests	600
			Perform Meter Service Work	601
			Perform Service Connection Work	602
			Maintain Meter Information Records	603
			Maintain Customer Account Information	604
		Bill & Collect from Customers-Reg	Read Billing Meters	610
			Manage & Resolve Billing & Account Problems	611
			Process OCARS (Other Corp Accts Receivable)	612
			Process Customer Advance Refunds	613
			Process, Verify & Mail Customer Bills	614
			Process Customer Payments	616
			Manage Customer Assistance Programs	617
			Manage Past Due Accounts	618
			Perform Disconnects & Reconnects for Non-Pay	619
			Manage & Investigate Unauthorized Use of Energy	620
Provide Customer Service	Provide Customer Service - Non-Reg	Provide Customer Account Service - Non-Reg	Respond to Customer Inquiries & Serv Requests-Non Reg	625
			Plan & Schedule Service Installations-Non Reg	626
			Perform Non-Reg Services Work	627
		Bill & Collect from Customers - Non-Reg	Process Bills & Collections from Customers-Non Reg	635

Process Group	Major Process	Business Process	Activity	No.
Manage & Support the Business	Plan & Improve the Business	Develop Corporate Strategy, Goals & Plans	Develop & Administer Business Plans	700
			Develop & Manage Forecasts	701
		Forecast & Manage Demand & Energy Needs	Develop & Manage Forecasts- Sales & Load	710
			Administer & Implement IRP Programs-Base	711
			Administer & Implement IRP Programs-Incremental	712
			Administer & Implement DSM Programs-Base	713
			Administer & Implement DSM Programs-Incremental	714
		Improve the Organization & Business Processes	Improve Business Processes	720
			Develop Measures & Analyze Org. Performance	721
			Design, Deploy & Assess Org. Development Strategies	722
			Manage & Administer Incentive & Recognition Programs	723
		Research & Develop New Technology	Research New Technology	730
			Develop & Demonstrate New Technology	731
	Manage Government Relations	Develop & Support Rates & Tariffs	Prepare & Support Rate Case Filings	735
			Perform Pricing Analyses & Develop Pricing Proposals	736
			Prepare & Support Cost Recovery & Rate Adj. Filings	737
			Prepare & Support Other PUC Regulatory Filings	738
			Prepare & Support PUC Capital Project Filings	739
		Maintain Relations with Legislators & Governmental Agencies	Maintain Relations with Legislators & Governmental Agencies	745
	Promote Corporate Citizenship	Promote Corporate Citizenship	Manage & Participate in Environmental Initiatives	747
			Maintain Relations with Industry, Professional & Trade Assoc.	749
			Maintain Relations with Customers (See process group "Develop & Retain Business")	*750*
			Administer Informational Advertising	751
			Maintain Relations with Media	752
			Maintain Relations with the Community	753
			Administer Institutional or Goodwill Advertising	754
	Maintain Relations with the Board of Directors & Investors	Maintain Relations with the Board of Directors & Investors	Maintain Relations with Board of Directors	755
			Maintain Relations with Investors	756
		Coordinate & Conduct Audits (See major process "Accounting & Finance")	*Coord, Conduct & Assist with Audit-Internal*	*760*
			Coord, Conduct & Assist with Audit-External	*761*
	Manage Employee Relations	Develop & Manage Employment Practice	Develop, Manage & Admin Employ Pol., Prac & Proced	765
			Maintain Employee Records	766
			Develop, Manage & Admin Recruitment Pol., Prac & Proced	767
		Manage Employee Compensation & Benefits	Develop, Manage & Admin Empl. Comp Pol., Prac & Proc	775
			Develop & Manage Empl. Benefit Plans Pol., Prac & Proc	776
			Process Payroll	777
			Administer Flexible Benefits Program	778
			Administer Retirement Programs	779
			Administer Benefit Plans, Pol. & Proc. Other than Flex & Retir	780
Manage & Support the Business	Manage Employee Relations	Provide for Employee Develop & Training	Plan for & Determine Employee Training & Develop Needs	785
			Manage & Administer Apprenticeship Program	786
			Develop Employee Training	787
			Conduct Employee Training	788

Process Group	Major Process	Business Process	Activity	No.
			Attend Training	789
		Provide a Safe & Healthy Work Environment	Develop, Mng. & Administer Safety Programs & Training	795
			Provide & Mng. Fire Protection	796
			Attend Safety Training	797
		Manage Labor Agreements/Employ Comm	Manage Bargaining Unit & Other Labor Agreements	805
			Administer & Participate in Labor Grievances (inactivate eff. 9/1/01)	806
			Manage & Provide Companywide Employee Communications	807
	Manage Accounting & Finance	Coordinate & Conduct Audits	Coord, Conduct & Assist with Audit-Internal	760
			Coord, Conduct & Assist with Audit-External	761
		Maintain Accounting & Statistical Records	Develop & Administer Acc'tg. Policies & Procedures	815
			Perform Fuel Accounting	816
			Maintain Fixed Asset Records	817
			Maintain General Ledger, Subledgers & Statistical Information	818
			Administer Tax Returns & Reports	819
		Manage Financial Resources	Manage Cash	825
			Manage Financing	826
			Perform Economic/Financial Analysis	827
		Provide/Prepare Financial & Reg Reporting	Prepare & File Financial Reports/Stat Info-Internal	835
			Prepare & File Financial Reports/Stat Info-External	836
	Manage Materials & Outside Services	Procure Materials & Services	Administer Other Procurement Programs	840
			Interview & Qualify New Suppliers/Contractors/Consultants	841
			Order Materials, Equipment, Supplies & Services	842
			Process Invoices & Other Payments	843
			Prepare & Manage Contracts for Services & Materials	844
		Manage Inventory & Warehouse Ops.	Process Material & Transactions	850
			Reclaim/Refurbish Materials - Stock	851
			Recover Investment & Materials-Direct Charge	852
			Perform Inventory Control for Materials	853
	Manage Environmental Permitting & Compliance	Manage Environmental Permitting	Determine Environmental Permittability	860
			Apply for & Obtain Envir Permits-Air -(PSD, covered source, non-covered source)	865
			Apply for & Obtain Envir Permits-Water -(NPDES, UIC, indust wastewater, 401, Supply Well (DLNR))	866
			Apply for, Obtain & Comply with Land Use Permits - (SMA, CDUA, CUP special use, 401, 404, Stream Alteration, CZM, & CIZ)	867
		Manage Environmental Compliance	Comply with Ongoing Permit and/or Regulatory Reqs-Air	875
			Comply w/ Ongoing Permit and/or Regulatory Reqs-Wastewater	876
			Comply w/ Ongoing Permit and/or Regulatory Reqs-Solid & Haz Waste, oil related	877
			Comply w/ Ongoing Permit and/or Regulatory Reqs/Exemptions-Solid & Haz Waste, non-oil related	878
			Apply for, Obtain, & Comply with Ongoing Permit and/or Regulatory Reqs-Noise	879
Manage & Support the Business	Manage Environmental Permitting & Compliance	Partic in Environmental Rule/Regulation Making	Participate in Environ Rule/Regulation Making Proceedings with Regulatory Agencies	885
	Manage Information Technology Resources	Develop & Maintain Computer Applications	Develop New Computer Applications	890
			Maintain Existing Computer Applications	891

Process Group	Major Process	Business Process	Activity	No.
		Operate & Maintain Computer Systems - Existing	Operate & Maintain Mainframe	895
			Operate & Maintain LAN	896
			Operate & Maintain Desktop-Business	897
			Operate & Maintain Desktop-Technical	898
			Maintain Applications (inactive eff. 9/1/01)	899
			Provide IT Customer Assistance	901
		Develop & Deploy Communications Systems- New	*Develop & Maintain Stds & Specifications-Telecommunications*	905
			Plan the System-Telecommunications	906
			Manage, Engineer & Design System-Telecommunications	907
			Construct System & Eq.-Telecommunications	908
			Manage Regulatory Compliance-Telecommunications	909
		Operate & Maintain Communication Systems - Existing	Operate Desktop Office Telecommunications	900
			Troubleshoot & Repair System-Telecomm (Desktop)	915
			Operate System & Equip-Telecommunications	916
			Maintain System & Equip-Telecommunications	917
	Manage Facilities & Vehicles	Manage Real Property & Facilities	Purchase Real Property	925
			Manage Owned, Leased & Jointly Owned Property	926
			Sell/Dispose of Property	927
			Process Easements	928
			Manage, Construct & Reconfigure Facilities	930
		Manage Real Property & Facilities	Care of Buildings & Grounds	931
			Repair Buildings & Grounds	932
			Provide & Manage Services-Security	933
			Provide & Manage Services-Custodial	934
			Provide & Manage Services-Food	935
			Provide & Manage Services-Waste (non-haz)	936
		Manage & Maintain Vehicles	Manage/Administer Vehicle Program, Policies & Procs	940
			Acquire/Dispose of Vehicles	941
			Maintain Vehicles	942
			Manage Vehicle Fueling	943
	Manage & Control Risks & Loss	Manage Risks & Loss Control Programs	Provide & Manage Risk Management Services-Liability	950
			Provide & Manage Risk Management Services-Property	951
			Provide & Manage Risk Management Services-Marine	952
			Provide & Manage Risk Management Services-Workers Comp	953
		Manage Legal Documentation & Services	Manage Service & Process Documentation	960
			Conduct Legal Due Diligence	961
	Provide Document Services	Provide Document Services	Provide Records Management Services	965
			Handle & Deliver Mail	966
			Provide Printing Services	967
			Provide Word Processing Services	968
			Provide Library & Research Services	969

CA-IR-21

Please provide in hard copy and electronic media a complete table of HECO and MECO Departmental and Responsibility Area ("RA") reporting structure documentation, showing RA descriptions and indicating how each department/RA is aligned with the MECO and HECO organization charts provided in response to the preceding two information requests.

MECO Response:

For MECO, please see attachment A. For HECO, please see pages 2 to 4 of HECO's response to CA-IR-23 in Docket No. 2006-0386. The RA and descriptions are noted on the management organizational charts provided in response to CA-IR-19 and CA-IR-20.

Maui Electric Company
Listing of Responsibility Areas and Rollups

RA	Resp Area	Dept	President
M9P	Presidents Office	President	President
MAA	Administrative	General Accounting	President
MAB	Budgets	General Accounting	President
MAG	General Accounting	General Accounting	President
MAP	Purchasing	General Accounting	President
MAT	Molokai Accounting	General Accounting	President
MAW	Accounting warehouse	General Accounting	President
MAX	Tax and Plant Accounting	General Accounting	President
MCA	Administrative	Customer Service	President
MCD	Collections	Customer Service	President
MCF	Field Service	Customer Service	President
MCM	Meter Reading	Customer Service	President
MCN	Energy Services	Customer Service	President
MCR	Customer Operations	Customer Service	President
MCT	Molokai Customer Service	Customer Service	President
MCZ	Forecasts	Customer Service	President
MDA	Administrative	Distribution	President
MDC	Communications/Electronics	Distribution	President
MDE	Maintenance	Distribution	President
MDH	Hana	Distribution	President
MDK	Construction	Distribution	President
MDL	Lanai	Distribution	President
MDM	Meter	Distribution	President
MDR	Operation	Distribution	President
MDS	Stores	Distribution	President
MDT	Molokai T&D	Distribution	President
MDV	Vehicles	Distribution	President
MGA	Administrative	Production	President
MGB	Maintenance-Kahului	Production	President
MGC	Combined Cycle Maintenance	Production	President
MGD	Maintenance-Maalaea	Production	President
MGE	Electrical Maintenance	Production	President
MGK	Operations-Kahului	Production	President
MGL	Lanai Production	Production	President
MGM	Operations-Maalaea	Production	President
MGT	Molokai Production	Production	President
MSA	Admin & Home Service	Administration	President
MSC	Consumer Services	Administration	President
MSL	Engineering-Land	Administration	President
MSP	Personnel	Administration	President
MSS	Safety	Administration	President
MWA	Administrative	Engineering	President
MWC	Engineering Clerical	Engineering	President
MWH	Engineering Charges from HECO	Engineering	President
MWI	Information Services	Distribution	President
MWL	Engineering-Land	Engineering	President
MWM	Mapping	Engineering	President
MWP	Engineering Planning	Engineering	President
MWS	Engineering Staff	Engineering	President

CA-IR-22

Please provide a chart showing each separate legal entity within HEI and provide the following additional information:

a. Explain and quantify the types of recurring and non-recurring affiliate transactions that took place in 2006 and 2007 (to-date) between MECO and each affiliated entity.

b. Describe the basis of pricing each form of affiliate transaction listed in your response to part (a) of this information request, for example fully distributed cost, market price, appraised value, etc.

c. If any affiliate service agreements exist in connection with MECO affiliate transactions, please provide complete copies of same.

d. Identify and describe each affiliate relationship of MECO for which Hawaii PUC notification and/or approval has been sought or received.

e. Provide complete copies of any documents associated with your response to part (d) of this information request.

MECO Response:

See page 3 of this response for a chart showing each separate legal entity within HEI.

a. The requested information for HECO services provided to MECO is provided on pages 4 through 6 of this response. The requested information for HEI services provided to MECO is provided on page 7 of this response.

b. Charges from HECO to MECO are based on actual costs including applicable on-cost loadings. Charges from HEI to MECO are based on actual costs including applicable on-cost loadings. The HEI-MECO service agreement provides the basis used by HEI to allocate (when direct charging is not possible or practical) billing amounts to its various subsidiaries.

c. In compliance with the requirements of Hawaii Revised Statutes ("HRS") section 269-19.5 the HEI/MECO Administrative Services Agreement dated February 3, 1993 was filed with

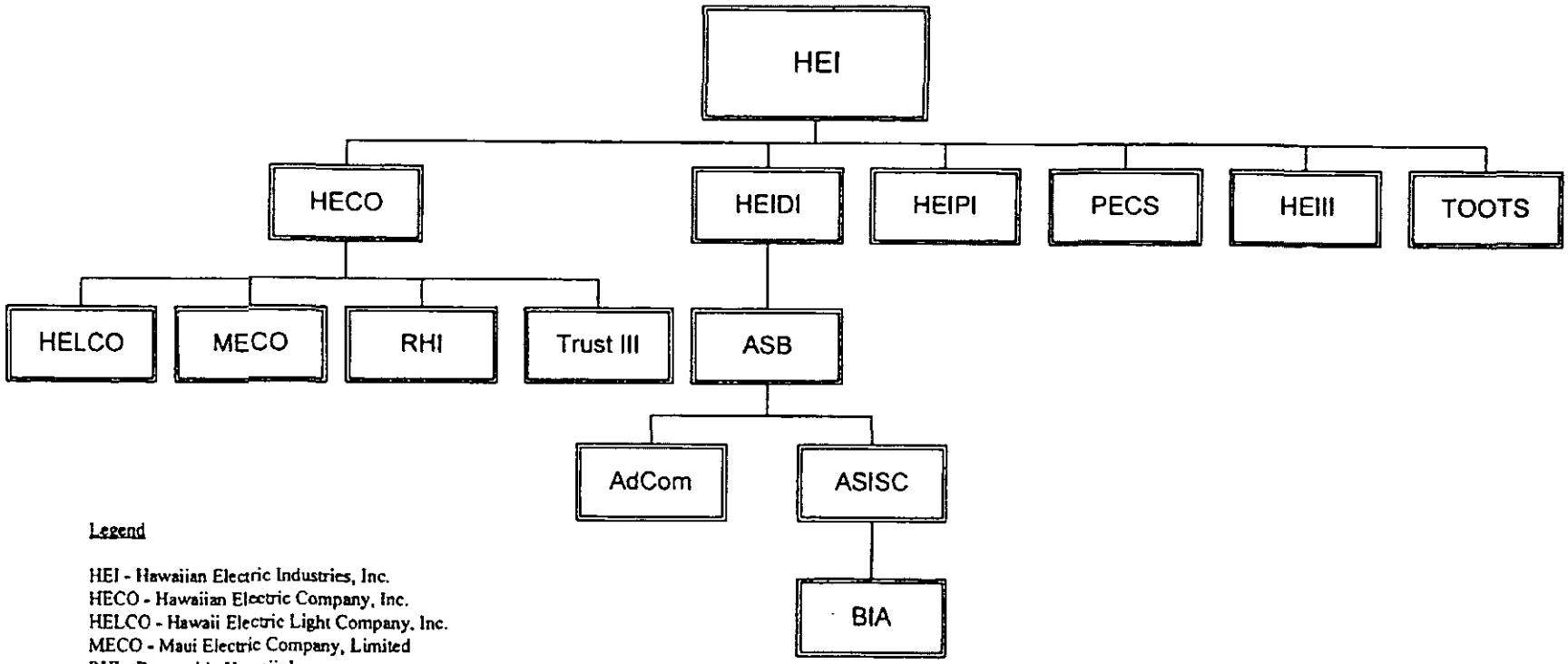
the Commission on April 26, 1993. Addendums to the HEI/MECO Administrative Services Agreement and Updated Exhibit A to the Administrative Services Agreement were filed with the Commission and the Consumer Advocate on February 15, 2005. This agreement and addendums were included as MECO-WP-903, pages 1 through 20.

In addition, the HECO and Wholly-Owned Subsidiaries (MECO) Agreement dated February 1, 1971 was provided in HECO's 2005 test year rate proceeding, Docket No. 04-0113, in HECO's response to CA-IR-6, pages 44 - 56.

d. Please see the response to part c. above. Agreements between MECO and any affiliated interests having a face value of at least $300,000 have been filed with the Commission in accordance with HRS Section 269-19.5.

e. Please see the response to part c. above.

Corporate Organizational Structure of HEI and HECO Holding Company Systems



Legend

HEI - Hawaiian Electric Industries, Inc.
HECO - Hawaiian Electric Company, Inc.
HELCO - Hawaii Electric Light Company, Inc.
MECO - Maui Electric Company, Limited
RHI - Renewable Hawaii, Inc.
Trust III - HECO Capital Trust III
HEIDI - HEI Diversified, Inc.
ASB - American Savings Bank, F.S.B.
AdCom - Ad Communications, Inc.
ASISC - American Savings Investment Services Corp.
BIA - Bishop Insurance Agency of Hawaii, Inc.
~~HEIPG - HEI Power Corp.~~ dissolved 12/20/06
HEIII - HEI Investments, Inc.
HEIPI - HEI Properties, Inc.
PECS - Pacific Energy Conservation Services, Inc.
TOOTS - The Old Oahu Tug Service, Inc.

1/07

MAUI ELECTRIC CO., LTD.
Outside Services - Associated Companies
Account 923.03

Acty	Type Of Service	Recorded 2001	2002	2003	2004	2005	2006	YTD Apr 07	2007 Operating Budget	Adjust	Norm Adjust	2007 Test Year Estimate
700	Develop & Administer Business Plans	342,947	416,104	526,461	611,324	600,821	652,828	67,260	592,252	(120,178)		472,074
701	Develop & Manage Forecasts	6,569	728	12,091	17,197	70,664	32,356	26	19,462			19,462
710	Develop & Manage Forecasts-Sales & Load	4,779	1,729	12,361	17,342	18,130	21,582	3,193	4,938			4,938
720	Improve Business Processes	322,046	302,010	341,708	138,211	146,258	115,026	52,107	269,354			269,354
721	Develop, Measure & Analyze Org Performance	3,046	0	0	666	1,010	1,119	2,976	2,898			2,898
722	Design, Deploy & Assess Org Develop Strategies	0	0	0	624	0	722	0	2,317			2,317
723	Manage & Admin Incentive & Recog Prog	9,125	3,445	3,459	3,971	3,038	2,402	369	3,907			3,907
735	Prepare & Support Rate Case Filings	0	0	0	0	0	0	0	0			0
736	Perf Pricing Analyses & Dev Pricing Prop	15,789	25,626	33,101	15,889	26,040	99,136	17,552	16,974			16,974
737	Prep & Supp Cost Recov& Rate Adj Filings	2,230	2,211	30,065	5,154	4,044	20,688	1,872	12,491			12,491
738	Prepare & Support Othr PUC Reg Filings	9,985	15,643	22,889	28,443	12,792	7,920	5,209	21,026			21,026
739	Prep & Support PUC Cap Project Filings	0	0	3,503	1,163	209	0	390	1,339			1,339
745	Maintain Rel w/Legis & Govt Agencies	5,894	8,515	6,309	7,264	11,681	15,269	4,585	20,942			20,942
752	Maintain Relations with Media	508	0	2,430	0	179	538	1,001	6,244			6,244
753	Maintain Relations with Community	0	0	0	0	51	0	0	1,656			1,656
756	Maintain Relations with Investors	74	390	19	257	0	19	0	3,050			3,050
760	Coord, Conduct & Assist w/Audit-Internal	15,075	3,227	26,828	329	799	41,536	4,996	51,158			51,158
761	Coord, Conduct & Assist w/Audit-External	131	4,669	409	64	558	194	886	4,854			4,854
765	Dev, Mnge & Admin Empl Pol,Prac & Proced	707	870	872	1,236	1,613	7,354	1,203	5,184			5,184
766	Maintain Employee Records	1,895	1,210	1,611	2,420	2,746	3,741	701	7,032			7,032
767	Develop, Manage & Admin Recruit Policies, Practices & Procedures	106	0	0	32	0	0	0	56			56

MAUI ELECTRIC CO., LTD.
Outside Services - Associated Companies
Account 923.03

Acty	Type Of Service	Recorded 2001	2002	2003	2004	2005	2006	YTD Apr 07	2007 Operating Budget	Adjust	Norm Adjust	2007 Test Year Estimate
775	Dev,Mnge& Admin Empl Comp Pol,Prac& Proc	20,752	9,127	17,250	22,141	16,325	12,873	3,559	33,212			33,212
777	Process Payroll	3,390	1,174	768	2,880	1,848	7,052	1,813	11,886			11,886
788	Conduct Employee Training	25,207	(1)	0	0	1,127	0	0	454			454
805	Manage BU & Othr Labor Agreements	416	327	16,492	1,768	2,132	1,213	657	27,662		(8,593)	19,069
807	Manage & Provide Companywide Emp Comm	4,682	7,932	7,679	7,455	8,510	6,952	817	8,644			8,644
815	Develop & Admin Acctg Policies & Proced	0	88	330	976	38	511	214	6,610			6,610
817	Maintain Fixed Asset Records	8,947	7,707	45,320	7,133	14,894	22,990	12,527	27,496			27,496
818	Maintain G/L & Subledgers & Stat Info	265,369	205,020	120,627	154,390	228,730	298,620	84,550	290,674			290,674
819	Administer Tax Returns & Reports	197,795	208,951	96,000	(128,510)	45	0	0	0			0
825	Manage Cash	(12,698)	34,488	36,850	35,838	(18,087)	49,842	27,269	63,329			63,329
827	Perform Economic/Financial Analysis	92	3,713	5,288	227	230	139	0	2,230			2,230
835	Prep & File Fin Rpts/Stat Info-Int	723	2,942	5,424	5,975	6,293	3,421	1,080	3,958			3,958
836	Prep & File Fin Rpts/Stat Info-Ext	8,427	4,941	10,870	225,650	143,218	74,142	26,266	75,966	1,000		76,966
842	Order Materials, Eq, Supplies & Svcs	20,095	13,260	26,570	18,996	37,654	27,284	13,438	50,728			50,728
843	Process Invoices & Other Payments	57,725	83,421	120,821	115,955	111,753	138,041	49,037	178,674			178,674
844	Prep & Mnge Contracts for Svcs & Mat	0	341	3,633	1,029	0	10,577	4,579	24,111			24,111
891	Maintain Existing Computer Applications	56,722	33,020	140,493	8,068	15,816	4,316	1,105	102,048		(52,500)	49,548
899	Maintain Applications (Inactive eff. 9/1/01)	2,564	0	0	0	0	0	0	0			0
901	Provide IT Customer Assistance	0	0	0	0	0	0	0	0			0

MAUI ELECTRIC CO., LTD.
Outside Services - Associated Companies
Account 923.03

Acty	Type Of Service	Recorded 2001	2002	2003	2004	2005	2006	YTD Apr 07	2007 Operating Budget	Adjust	Norm Adjust	2007 Test Year Estimate
916	Operate System & Equip-Telecommunications	25,116	27,156	25,966	25,116	25,116	10,465	0	0			0
926	Manage Owned, Leased & Jointly Owned Property	1,429	0	0	0	0	0	0	0			0
928	Process Easements	223	618	408	807	602	476	128	3,167			3,167
950	Provide & Mnge Risk Mgmt Svcs-Liability	11,882	10,277	13,052	15,668	14,481	24,131	3,006	35,120			35,120
951	Provide & Mnge Risk Mgmt Svcs-Property	9,549	11,807	14,192	15,615	36,497	32,807	3,281	41,858			41,858
953	Provide & Manage Risk Management Services-Workers Comp	1,136	3,136	3,067	3,236	5,030	4,134	1,490	5,081			5,081
960	Manage Service & Process Documentation	10,081	15,546	17,155	13,959	11,850	12,879	4,198	11,196			11,196
961	Conduct Legal Due Diligence	216	267	0	0	0	0	0	0			0
965	Provide Records Management Services	0	0	0	0	0	1,106	0	3,997			3,997
	Total Associated Companies Services (Includes HEI)	1,460,756	1,471,635	1,752,371	1,405,958	1,564,735	1,766,401	403,340	2,055,235	(119,178)	(61,093)	1,874,964

2007 HEI Charges to MECO
Excluding incentive compensation

		2005 Recorded	2006 Recorded	YTD 04/30/07 Recorded	2006 Estimate Before Adjustment and Escalation	Adjustments	2006 Adjusted Estimate Before Escalation	2.5% Escalation	(See MECO-WP-904, Pages 1 - 5) 2007 Estimate (2)
ACC	ACCOUNTING	3,970.34	4,474.24	1,986.41	4,165.37	0.00	4,165.37	104.14	4,269.51
ADM	ADMINISTRATIVE	371.82	456.01	127.87	383.35	0.00	383.35	9.58	392.93
ANN	ANNUAL MEETING	3,270.98	4,706.97	2,343.89	3,372.38	0.00	3,372.38	84.31	3,456.69
AUD	AUDITS	117.26	139.89	53.04	120.89	0.00	120.89	3.02	123.91
BOD	BOARD OF DIRECTORS MEETINGS	8,886.80	14,841.83	4,899.58	9,162.29	0.00	9,162.29	229.06	9,391.35
CON	CONSULTING	4,537.35	0.00	0.00	5,947.55	2,973.78	8,921.33	223.03	9,144.36
FIN	FINANCING	0.00	3,537.43	752.28	0.00		0.00		0.00
HUM	HUMAN RESOURCES	8,522.24	11,439.90	4,776.37	2,706.67	292.95	2,999.62	74.99	3,074.61
INV	INVESTOR RELATIONS	67,965.65	66,757.38	21,252.56	70,422.42	(105.30)	70,317.12	1,757.94	72,075.06
PEN	PENSION PLAN	24,560.50	32,372.11	13,274.01	25,671.64	(199.80)	25,471.84	636.81	26,108.65
RPT	REPORTING	157,772.57	197,472.38	104,194.49	159,712.37	278.40	159,990.77	3,999.77	163,990.54
STO	STOCK TRANSFER ACTIVITIES	88,552.70	90,469.64	42,959.75	98,437.14	(8,061.38)	90,375.76	2,259.39	92,635.15
TAX	TAX	67,323.97	69,039.63	21,930.16	79,076.25	12,114.23	91,190.48	2,279.78	93,470.26
	Total	435,852.18	495,707.41	218,550.41	459,178.32	7,292.88	466,471.20	11,661.82	478,133.02
	Less: HEIRS Administrative Expense								(6,058.81)
									472,074.21

CA-IR-23

Please provide complete copies of the consolida**ting** financial statement workpapers (income statements and balance sheets) for the HEI financial statements issued publicly for calendar 2005 and calendar 2006. Include in your response the most detailed available stand-alone income statements and balance sheets for each legal entity within HEI for each period/date, as well as details regarding elimination entries and any reclassifications made in preparing consolidated public financial statements.

MECO Response:

Please refer to HECO's response to CA-IR-25 in Docket No. 2006-0386 for the requested information.

CA-IR-24

Please provide a complete and detailed description of the HECO/MECO budget process and cycle, indicating the time line for each individually significant budget activity/step throughout a typical year and identifying the documents produced at each step of such process/cycle. Provide specimen copies of each type of document routinely created within the most recently completed budget cycle, including but not limited to budget assumption statements, calendars, input forms, staffing documentation, presentation graphics and budget review/approval documentation.

MECO Response:

MECO's capital and operating budgets are prepared annually with input from all departments about the costs of their planned activities for the budget period. Budget preparation begins around the end of the first quarter of the year and involves preparation or refinements of projections for the next two years for non-project/non-program work and five years for project/program work.

The estimates are created in two types of files: 1) project/program files and 2) non-project/non-program files (Responsibility Area "RA" files). When budgeting for a project/program, all costs for a project/program are included in the project/program file, without regard to the RA performing the work. When budgeting for non-project/non-program work, costs for only the RA are included in the non-project/non-program file.

Preparation is generally delegated to department administrators, department budget analysts and project managers, and generally includes the following steps:

- Considering the work to be accomplished and activities to be performed;
- Estimating the hours and dollars required for each activity;
- Projecting company staffing available each month; and
- Reviewing available staffing against the demand, considering overtime, contract services, temporary hires, and regular hires.

The approval process generally requires the following steps:

- The budget is reviewed and approved by the department managers;
- The budget is approved by the MECO president; and
- The HECO president convenes the other HECO officers and subsidiary presidents to review the capital and operating budget and to decide the level of capital and operation and maintenance expenditures for MECO.

Budget instructions for the 2007 budget were provided in MECO-WP-908. The calendar for the initial development of the 2007 budget, which identifies the time line for the significant budget activities/steps throughout a typical year, can be found on pages 5 through 7 of MECO-WP-908.

Specimen copies of documents produced at each step of the budget process/cycle varies from department to department. These documents were provided with MECO's response to CA-IR-1 and CA-IR-2.

Information related to the budget assumptions for general wage rate increase and the general inflation adjustment are generally stated in the MECO Budget Preparation Guidelines provided on pages 2 through 3 of MECO-WP-908. For assumptions used for the 2007 budget, see the following:

- o General wage rate increase assumption: Refer to MECO T-9, page 77.
- o General Inflation adjustment: Refer to MECO T-9, pages 81 through 83.

The resulting budget, in the form of a pro forma income statement, is transmitted and presented to the HECO Board of Directors.

CA-IR-25

Please provide a detailed statement of MECO and HECO actual employee levels on a quarterly basis for each year 2005 through 2007, to-date, indicating the numbers of full-time, part-time and temporary employees in each department and RA and/or other reportable work groups and the comparable numbers of authorized, but unfilled positions of each type within each department, RA or work groupage.

MECO Response:

Please see Attachment A for schedules containing the requested information regarding MECO's actual employee levels by department, RA and employee type (full-time and temporary) at the end of each quarter from 2005 to March 31, 2007. Please note that MECO did not employ any part-time employees during these time periods. For HECO's actual employee levels by department, RA and employee type at the end of each quarter from 2005 to March 31, 2007, please see HECO's response to CA-IR-27, pages 3 to 20, in Docket No. 2006-0386.

For the purpose of responding to this information request, the actual employee counts presented in Attachment A are compared to the budgeted employee counts.

Maui Electric Company, Ltd.
Actual vs Budget Employee Count - TOTAL COMPANY

		AS OF 3/31/05					AS OF 6/30/05				
		ACTUAL					ACTUAL				
DEPARTMENT	RA	FULL TIME	TEMP	TOTAL	BUDGET	DIFF	FULL TIME	TEMP	TOTAL	BUDGET	DIFF
Administration	MSA	4		4	4	0	4		4	4	0
Administration	MSC	1		1	1	0	1		1	1	0
Administration	MSP	2		2	2	0	2		2	2	0
Administration	MSS	3		3	4	(1)	2		2	4	(2)
Administration		10	0	10	11	(1)	9	0	9	11	(2)
Customer Service	MCA	2		2	2	0	2		2	2	0
Customer Service	MCF	6		6	6	0	6		6	6	0
Customer Service	MCM	8		8	8	0	8	1	9	8	1
Customer Service	MCN	2		2	4	(2)	3		3	4	(1)
Customer Service	MCR	12		12	13	(1)	12		12	13	(1)
Customer Service	MCT	3		3	3	0	3		3	3	0
Customer Service	MCZ	3		3	4	(1)	3		3	4	(1)
Customer Service		36	0	36	40	(4)	37	1	38	40	(2)
T&D	MDA	2		2	2	0	2		2	2	0
T&D	MDC	6		6	6	0	6		6	6	0
T&D	MDE	9		9	9	0	9		9	9	0
T&D	MDK	32		32	36	(4)	31		31	36	(5)
T&D	MDL	3		3	3	0	3		3	3	0
T&D	MDM	5		5	7	(2)	6		6	7	(1)
T&D	MDR	25		25	25	0	25		25	25	0
T&D	MDS	5		5	5	0	5		5	5	0
T&D	MDT	4		4	4	0	4		4	4	0
T&D	MDV	3		3	2	1	2		2	2	0
T&D	MWI	4		4	6	(2)	5		5	6	(1)
T&D		98	0	98	105	(7)	98	0	98	105	(7)
Engineering	MWA	3		3	4	(1)	3		3	4	(1)
Engineering	MWC	2		2	2	0	2		2	2	0
Engineering	MWL	2		2	2	0	2		2	2	0
Engineering	MWM	1		1	1	0	1		1	1	0
Engineering	MWP	17		17	17	0	17		17	17	0
Engineering	MWS	4		4	4	0	4		4	4	0
Engineering		29	0	29	30	(1)	29	0	29	30	(1)
General Accounting	MAA	3		3	3	0	3		3	3	0
General Accounting	MAB	4		4	4	0	4		4	4	0
General Accounting	MAG	3		3	3	0	3		3	3	0
General Accounting	MAP	1		1	1	0	1		1	1	0
General Accounting	MAX	3		3	3	0	3		3	3	0
General Accounting		14	0	14	14	0	14	0	14	14	0
Power Supply	MGA	11		11	12	(1)	11		11	12	(1)
Power Supply	MGB	10		10	10	0	10		10	10	0
Power Supply	MGC	3		3	3	0	3		3	3	0
Power Supply	MGD	21		21	23	(2)	21		21	23	(2)
Power Supply	MGE	11		11	11	0	11		11	11	0
Power Supply	MGK	23		23	21	2	24		24	21	3
Power Supply	MGL	5		5	5	0	5		5	5	0
Power Supply	MGM	30		30	30	0	30		30	30	0
Power Supply	MGT	7		7	8	(1)	7		7	8	(1)
Power Supply		121	0	121	123	(2)	122	0	122	123	(1)
President's Office	M9P	1		1	1	0	1		1	1	0
President's Office		1	0	1	1	0	1	0	1	1	0
Totals		309	0	309	324	(15)	310	1	311	324	(13)

Notes:
1. Above includes Company temps but excludes agency temps.

Maui Electric Company, Ltd.
Actual vs Budget Employee Count - TOTAL COMPANY

		AS OF 9/30/05					AS OF 12/31/05				
		ACTUAL					ACTUAL				
DEPARTMENT	RA	FULL TIME	TEMP	TOTAL	BUDGET	DIFF	FULL TIME	TEMP	TOTAL	BUDGET	DIFF
Administration	MSA	4		4	4	0	3		3	4	(1)
Administration	MSC	1		1	1	0	1		1	1	0
Administration	MSP	2		2	2	0	2		2	2	0
Administration	MSS	4		4	4	0	4		4	4	0
Administration		11	0	11	11	0	10	0	10	11	(1)
Customer Service	MCA	2		2	2	0	2		2	2	0
Customer Service	MCF	6		6	6	0	6		6	6	0
Customer Service	MCM	8		8	8	0	8		8	8	0
Customer Service	MCN	3		3	4	(1)	3		3	4	(1)
Customer Service	MCR	12		12	13	(1)	12		12	13	(1)
Customer Service	MCT	3		3	3	0	3		3	3	0
Customer Service	MCZ	3		3	4	(1)	3		3	4	(1)
Customer Service		37	0	37	40	(3)	37	0	37	40	(3)
T&D	MDA	2		2	2	0	2		2	2	0
T&D	MDC	6		6	6	0	6		6	6	0
T&D	MDE	9		9	9	0	9		9	9	0
T&D	MDK	28		28	36	(8)	31		31	36	(5)
T&D	MDL	3		3	3	0	3		3	3	0
T&D	MDM	6		6	7	(1)	5		5	7	(2)
T&D	MDR	25		25	25	0	23		23	25	(2)
T&D	MDS	5		5	5	0	4		4	5	(1)
T&D	MDT	4		4	4	0	4		4	4	0
T&D	MDV	2		2	2	0	2		2	2	0
T&D	MWI	5		5	6	(1)	5		5	6	(1)
T&D		95	0	95	105	(10)	94	0	94	105	(11)
Engineering	MWA	3		3	4	(1)	3		3	4	(1)
Engineering	MWC	2		2	2	0	2		2	2	0
Engineering	MWL	2		2	2	0	2		2	2	0
Engineering	MWM	1		1	1	0	1		1	1	0
Engineering	MWP	17		17	17	0	16		16	17	(1)
Engineering	MWS	4		4	4	0	4		4	4	0
Engineering		29	0	29	30	(1)	28	0	28	30	(2)
General Accounting	MAA	3		3	3	0	3		3	3	0
General Accounting	MAB	4		4	4	0	3		3	4	(1)
General Accounting	MAG	3		3	3	0	3		3	3	0
General Accounting	MAP	1		1	1	0	2		2	1	1
General Accounting	MAX	3		3	3	0	3		3	3	0
General Accounting		14	0	14	14	0	14	0	14	14	0
Power Supply	MGA	11		11	12	(1)	11		11	12	(1)
Power Supply	MGB	10		10	10	0	10		10	10	0
Power Supply	MGC	3		3	3	0	3		3	3	0
Power Supply	MGD	20		20	23	(3)	20		20	23	(3)
Power Supply	MGE	11		11	11	0	11		11	11	0
Power Supply	MGK	22		22	21	1	24		24	21	3
Power Supply	MGL	5		5	5	0	5		5	5	0
Power Supply	MGM	30		30	30	0	29		29	30	(1)
Power Supply	MGT	7		7	8	(1)	7		7	8	(1)
Power Supply		119	0	119	123	(4)	120	0	120	123	(3)
President's Office	M9P	1		1	1	0	1		1	1	0
President's Office		1	0	1	1	0	1	0	1	1	0
Totals		306	0	306	324	(18)	304	0	304	324	(20)

Notes:
1. Above includes Company temps but excludes agency temps.

Maui Electric Company, Ltd.
Actual vs Budget Employee Count - TOTAL COMPANY

		AS OF 3/31/06					AS OF 6/30/06				
		ACTUAL					ACTUAL				
DEPARTMENT	RA	FULL TIME	TEMP	TOTAL	BUDGET	DIFF	FULL TIME	TEMP	TOTAL	BUDGET	DIFF
Administration	MSA	4		4	4	0	4		4	4	0
Administration	MSC	1		1	1	0	1		1	1	0
Administration	MSP	2		2	2	0	2		2	2	0
Administration	MSS	4		4	4	0	4		4	4	0
Administration		11	0	11	11	0	11	0	11	11	0
Customer Service	MCA	2		2	3	(1)	2		2	3	(1)
Customer Service	MCF	6		6	6	0	6		6	6	0
Customer Service	MCM	8		8	8	0	8		8	8	0
Customer Service	MCN	4		4	4	0	4		4	4	0
Customer Service	MCR	13		13	13	0	13		13	13	0
Customer Service	MCT	3		3	3	0	3		3	3	0
Customer Service	MCZ	2		2	4	(2)	2		2	4	(2)
Customer Service		38	0	38	41	(3)	38	0	38	41	(3)
T&D	MDA	2		2	2	0	2		2	2	0
T&D	MDC	6		6	6	0	6		6	6	0
T&D	MDE	9		9	9	0	9		9	9	0
T&D	MDK	32		32	36	(4)	32		32	36	(4)
T&D	MDL	3		3	3	0	3		3	3	0
T&D	MDM	6		6	7	(1)	7		7	7	0
T&D	MDR	26		26	25	1	25		25	25	0
T&D	MDS	5		5	5	0	5		5	5	0
T&D	MDT	4		4	4	0	4		4	4	0
T&D	MDV	2		2	2	0	1	1	2	2	0
T&D	MWI	5		5	7	(2)	4		4	7	(3)
T&D		100	0	100	106	(6)	98	1	99	106	(7)
Engineering	MWA	3		3	3	0	3		3	3	0
Engineering	MWC	2		2	2	0	2		2	2	0
Engineering	MWL	2		2	2	0	2		2	2	0
Engineering	MWM	1		1	1	0	1		1	1	0
Engineering	MWP	16		16	17	(1)	17		17	17	0
Engineering	MWS	4		4	4	0	4		4	4	0
Engineering		28	0	28	29	(1)	29	0	29	29	0
General Accounting	MAA	3		3	3	0	3		3	3	0
General Accounting	MAB	3		3	4	(1)	3		3	4	(1)
General Accounting	MAG	4		4	3	1	3		3	3	0
General Accounting	MAP	1		1	1	0	1		1	1	0
General Accounting	MAX	3		3	4	(1)	4		4	4	0
General Accounting		14	0	14	15	(1)	14	0	14	15	(1)
Power Supply	MGA	11		11	12	(1)	11		11	12	(1)
Power Supply	MGB	10		10	10	0	10		10	10	0
Power Supply	MGC	3		3	3	0	3		3	3	0
Power Supply	MGD	21		21	21	0	21		21	21	0
Power Supply	MGE	11		11	11	0	11		11	11	0
Power Supply	MGK	22		22	21	1	21		21	21	0
Power Supply	MGL	5		5	5	0	5		5	5	0
Power Supply	MGM	29		29	30	(1)	28		28	30	(2)
Power Supply	MGT	7		7	7	0	7		7	7	0
Power Supply		119	0	119	120	(1)	117	0	117	120	(3)
President's Office	M9P	1		1	1	0	1		1	1	0
President's Office		1	0	1	1	0	1	0	1	1	0
Totals		311	0	311	323	(12)	308	1	309	323	(14)

Notes:
1. Above includes Company temps but excludes agency temps.

Maui Electric Company, Ltd.
Actual vs Budget Employee Count - TOTAL COMPANY

		AS OF 9/30/06					AS OF 12/31/06				
		ACTUAL					ACTUAL				
DEPARTMENT	RA	FULL TIME	TEMP	TOTAL	BUDGET	DIFF	FULL TIME	TEMP	TOTAL	BUDGET	DIFF
Administration	MSA	4		4	4	0	4		4	4	0
Administration	MSC	1		1	1	0	1		1	1	0
Administration	MSP	2		2	2	0	2		2	2	0
Administration	MSS	4		4	4	0	4		4	4	0
Administration		11	0	11	11	0	11	0	11	11	0
Customer Service	MCA	2		2	3	(1)	2		2	3	(1)
Customer Service	MCF	6		6	6	0	6		6	6	0
Customer Service	MCM	8		8	8	0	8	1	9	8	1
Customer Service	MCN	3		3	5	(2)	4		4	5	(1)
Customer Service	MCR	13		13	13	0	12		12	13	(1)
Customer Service	MCT	3		3	3	0	3		3	3	0
Customer Service	MCZ	3		3	4	(1)	4		4	4	0
Customer Service		38	0	38	42	(4)	39	1	40	42	(2)
T&D	MDA	2		2	2	0	2		2	2	0
T&D	MDC	5		5	6	(1)	5		5	6	(1)
T&D	MDE	9		9	9	0	9		9	9	0
T&D	MDK	29		29	36	(7)	29		29	36	(7)
T&D	MDL	3		3	3	0	3		3	3	0
T&D	MDM	7		7	7	0	7		7	7	0
T&D	MDR	23		23	25	(2)	24		24	25	(1)
T&D	MDS	5		5	5	0	5		5	5	0
T&D	MDT	4		4	4	0	4		4	4	0
T&D	MDV	1	1	2	2	0	2		2	2	0
T&D	MWI	6		6	7	(1)	6		6	7	(1)
T&D		94	1	95	106	(11)	96	0	96	106	(10)
Engineering	MWA	3		3	3	0	3		3	3	0
Engineering	MWC	2		2	2	0	2		2	2	0
Engineering	MWL	2		2	2	0	2		2	2	0
Engineering	MWM	1		1	1	0	1		1	1	0
Engineering	MWP	17		17	17	0	17		17	17	0
Engineering	MWS	4		4	4	0	4		4	4	0
Engineering		29	0	29	29	0	29	0	29	29	0
General Accounting	MAA	3		3	3	0	3		3	3	0
General Accounting	MAB	3		3	4	(1)	4		4	4	0
General Accounting	MAG	3		3	3	0	3		3	3	0
General Accounting	MAP	1		1	1	0	1		1	1	0
General Accounting	MAX	4		4	4	0	4		4	4	0
General Accounting		14	0	14	15	(1)	15	0	15	15	0
Power Supply	MGA	13		13	12	1	12		12	12	0
Power Supply	MGB	10		10	10	0	10		10	10	0
Power Supply	MGC	3		3	3	0	3		3	3	0
Power Supply	MGD	20		20	21	(1)	20		20	21	(1)
Power Supply	MGE	11		11	11	0	10		10	11	(1)
Power Supply	MGK	21		21	21	0	22		22	21	1
Power Supply	MGL	5		5	5	0	5		5	5	0
Power Supply	MGM	29		29	30	(1)	29		29	30	(1)
Power Supply	MGT	8		8	7	1	7		7	7	0
Power Supply		120	0	120	120	0	118	0	118	120	(2)
President's Office	M9P	1		1	1	0	1		1	1	0
President's Office		1	0	1	1	0	1	0	1	1	0
Totals		307	1	308	324	(16)	309	1	310	324	(14)

Notes:
1. Above includes Company temps but excludes agency temps.

Maui Electric Company, Ltd.
Actual vs Budget Employee Count - TOTAL COMPANY

		AS OF 3/31/07				
		ACTUAL				
DEPARTMENT	RA	FULL TIME	TEMP	TOTAL	BUDGET	DIFF
Administration	MSA	4		4	4	0
Administration	MSC	1		1	1	0
Administration	MSP	2		2	2	0
Administration	MSS	4		4	4	0
Administration		11	0	11	11	0
Customer Service	MCA	3		3	3	0
Customer Service	MCF	7		7	7	0
Customer Service	MCM	7		7	8	(1)
Customer Service	MCN	4		4	5	(1)
Customer Service	MCR	13		13	13	0
Customer Service	MCT	3		3	3	0
Customer Service	MCZ	3		3	4	(1)
Customer Service		40	0	40	43	(3)
T&D	MDA	3		3	2	1
T&D	MDC	5		5	6	(1)
T&D	MDE	10		10	10	0
T&D	MDK	31		31	37	(6)
T&D	MDL	3		3	3	0
T&D	MDM	6		6	7	(1)
T&D	MDR	24		24	27	(3)
T&D	MDS	5		5	6	(1)
T&D	MDT	4		4	4	0
T&D	MDV	3		3	3	0
T&D	MWI	6		6	6	0
T&D		100	0	100	111	(11)
Engineering	MWA	2		2	3	(1)
Engineering	MWC	2		2	2	0
Engineering	MWL	2		2	2	0
Engineering	MWM	1		1	1	0
Engineering	MWP	18		18	18	0
Engineering	MWS	5		5	5	0
Engineering		30	0	30	31	(1)
General Accounting	MAA	3		3	3	0
General Accounting	MAB	4		4	4	0
General Accounting	MAG	3		3	3	0
General Accounting	MAP	1		1	1	0
General Accounting	MAX	4		4	4	0
General Accounting		15	0	15	15	0
Power Supply	MGA	12		12	12	0
Power Supply	MGB	10		10	11	(1)
Power Supply	MGC	3		3	3	0
Power Supply	MGD	21		21	21	0
Power Supply	MGE	11		11	12	(1)
Power Supply	MGK	23		23	21	2
Power Supply	MGL	5		5	6	(1)
Power Supply	MGM	29		29	30	(1)
Power Supply	MGT	7		7	7	0
Power Supply		121	0	121	123	(2)
President's Office	M9P	1		1	1	0
President's Office		1	0	1	1	0
Totals		318	0	318	335	(17)

Notes:

1. Above includes Company temps but excludes agency temps.

CA-IR-26

Please provide a complete copy of the most recently completed Federal and State income tax returns for MECO, including all supporting schedules.

MECO Response:

MECO stand alone proforma federal and Hawaii income tax returns for 2005, which are extracted from the HEI consolidated income tax returns, are confidential and will be provided pursuant to Protective Order No. 23379, issued on April 23, 2007.

Pages 2 to 37 contain confidential information and are being provided pursuant to Protective Order No. 23379, issued on April 23, 2007.

CA-IR-27

Please provide a complete copy of employee benefit documentation associated with each existing employee health, welfare or retirement plan, in the form currently provided to employees to advise them of such benefits.

MECO Response:

The requested information is voluminous and is available for inspection at the Regulatory Affairs Division of Hawaiian Electric Company, Inc., Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information.

CA-IR-28

a. Has the Company initiated any individually significant efficiency or cost reduction programs since January 1, 2005?

b. If affirmative, please identify and describe each such program and provide copies of all reports analyses, projections, workpapers and other documentation related to same.

MECO Response:

a. Yes. See the response to b. MECO is continuously evaluating and reviewing programs that can result in efficiency improvements or cost reductions.

b. An example of such programs implemented since January 1, 2005 is the ABB Strategic Alliance Agreement renewal. In March 2005, MECO, together with HECO and HELCO, renewed a Strategic Alliance Agreement with ABB Inc. Power Technologies Division. This strategic alliance agreement provides several benefits including services and products at discounted rates, priority scheduling for delivery of products and services, dedicated project management team from ABB, spare parts management, and discounted rates on software maintenance. The benefits are enumerated on pages 10 to 13 in the Agreement. A copy of the Agreement is included as Attachment 1 of this response. The Agreement is confidential and is provided pursuant to Protective Order No. 23379, issued April 23, 2007.

In addition, MECO is continuing to implement programs that it initiated prior to January 1, 2005, such as:

1. The Transmission System Inspection and Infrared ("IR") Inspections. The Transmission and Distribution ("T&D") Department is continuing to perform transmission line inspections from the ground and via helicopter. Due to the limited accessibility to sections of the transmission circuits, inspectors have incorporated the use of helicopters to perform inspections of the transmission

circuits. Annual infrared imaging was added to the inspection procedure to identify potential problems in the transmission system. In addition, the T&D Department performs monthly visual inspections of all the substations. Infrared imaging is also performed on the substation equipment on an annual basis.

2. The Automatic Meter Reading ("AMR") Turtle project, which is discussed in more detail by Ms. Sharon Suzuki in MECO T-7, beginning on page 16, line 19.

Confidential Information
Deleted Pursuant To
Protective Order No. 23379

Attachment 1 contains confidential information and is being provided subject to

Protective Order No. 23379, dated April 23, 2007.

CA-IR-29

Ref: MECO-102 – MECO Financial Statements.

Please provide an updated version of the Balance Sheet and Income Statement, substituting December 31, 2006 data in place of September 30, 2006 information.

MECO Response

The requested information is provided on pages 2 through 5.

Maui Electric Company, Limited
BALANCE SHEET
(Unaudited)
As of December 31, 2006

UTILITY PLANT AT COST :		
In Service :		
Land	$	1,713,140
Plant and Equipment		767,299,905
Utility Plant in Service		769,013,045
Property Held for Future Use		2,633,044
Construction Work in Progress		5,575,848
Plant Acquisition Adjustment		93,152
Less Accumulated Provision for Depreciation		(307,136,132)
Net Utility Plant		470,178,957
Other Property:		
Non-Utility Property		228,584
Less Accumulated Provision for Depreciation		(26,942)
Net Other Property		201,642
CURRENT ASSETS :		
Cash		518,469
Notes Receivable from Associated Companies		-
Customer Accounts Receivable		19,455,287
Less Allowance for Uncollectible Accounts		(70,748)
Net Customer Accounts Receivable		19,384,539
Accrued Unbilled Revenues, net		13,523,233
Other Accounts Receivable, net		772,686
Fuel Oil Stock, at Average Cost		13,871,618
Construction & Operating Materials & Supplies, at Average Cost		11,730,206
Prepaid Pension Benefit Cost		-
Other		1,246,814
Total Current Assets		61,047,565
OTHER ASSETS		
Regulatory Assets		14,883,892
Unamortized Debt Expense		2,117,298
Other		2,902,133
Total Other Assets		19,903,323
TOTAL ASSETS	$	551,331,487

Maui Electric Company, Limited
BALANCE SHEET
(Unaudited)
As of December 31, 2006

CAPITALIZATION :		
Common Stock Equity		
Common Stock @ $10 Par Value	$	15,826,020
Premium on Capital Stock, net of Capital Stock Expense		64,867,347
Retained Earnings		111,537,545
Total Common Stock Equity		192,230,912
Cumulative Preferred Stock of $100 Par Value		5,000,000
Total Stockholders' Equity		197,230,912
QUIDS		10,000,000
Long-Term Debt		
Revenue Bonds, net of discount, and Less Funds on Deposit with Trustee		143,899,621
Total Capitalization		351,130,533
CURRENT LIABILITIES		
Short Term Borrowings from Associated Companies		5,000,000
Accounts Payable		18,267,637
Payable To Associated Companies		993,261
Customer Deposits		3,381,702
Taxes Accrued		28,355,166
Interest and Preferred Dividends Payable		1,717,319
Other		20,471,077
Total Current Liabilities		78,186,162
DEFERRED CREDITS		
Deferred Income Taxes		11,965,393
Unamortized Tax Credits		12,393,601
Regulatory Liabilities		32,406,461
Other		12,548,571
Total Deferred Credits		69,314,026
CONTRIBUTIONS IN AID OF CONSTRUCTION		52,700,766
TOTAL CAPITALIZATION & LIABILITIES	$	551,331,487

Maui Electric Company, Limited
STATEMENT OF INCOME
(Unaudited)
For the Year Ended December 31, 2006

OPERATING REVENUES		
Electric Revenues	$	343,915,950
Other		1,349,214
Total Operating Revenues		345,265,164
OPERATING EXPENSES		
Production		
Fuel Oil		180,271,987
Purchased Power		26,454,365
Other Production		10,290,827
Transmission and Distribution Operations		3,111,993
Maintenance		13,816,285
Customer Accounts & Customer Service		6,470,544
Administrative and General		10,368,828
Depreciation		25,644,288
Taxes, Other Than Income Taxes		32,011,314
Tax Credits, Deferred, Net		1,192,514
Income Taxes		10,634,656
Total Operating Expenses		320,267,601
OPERATING INCOME		24,997,563
OTHER INCOME AND DEDUCTIONS		
Allowance for Equity Funds Used During Construction		2,094,493
Other		1,176,146
Total Other Income & Deductions		3,270,639
INTEREST CHARGES		
Interest on Long-Term Debt		8,908,390
Amortization of Net Bond Premium & Expense		408,663
Other Interest Charges		753,896
Allowance for Debt Funds Used During Construction		(973,177)
Total Interest Charges		9,097,772
NET INCOME		19,170,430
Preferred Stock Dividends		381,250
NET INCOME FOR COMMON STOCK	$	18,789,180

Maui Electric Company, Limited
STATEMENT OF RETAINED EARNINGS
(Unaudited)
For the Year Ended December 31, 2006

Retained Earnings, Beginning of Period	$	99,270,365
Net Income for Common Stock		18,789,180
Common Stock Dividends		(6,522,000)
Retained Earnings, End of Period	$	111,537,545

CA-IR-30

Ref: MECO-WP-101(G) - Non-Labor Projected Test Year Expenses Block/Account/Department/RA/Activity/Location/EE.

Please provide a report showing an alternative sort of Non-Labor actual expenses for the years 2002 through 2006 compared to budget 2007, using the following sort sequence: Block of Accounts/RA/Expense Element/Activity. Please provide your response in hard copy and electronic (excel) format.

MECO Response:

The requested hard copy report of recorded direct non-labor charges for 2002 through 2006 and the 2007 operating budget amounts by block of accounts, account, RA, expense element and activity (pages 2 to 164 of this response) is voluminous and is available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. The electronic version of the requested report is being provided on a compact disc.

Pages 2-164 are voluminous and available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. The electronic version of the requested report is being provided on a compact disc.

CA-IR-31

Ref: MECO-WP-101(F) - Direct Labor Projected Test Year Expenses Block/Account/Department/RA/Activity/Location.

Please provide a report showing an alternative sort of Direct Labor actual expenses for the years 2002 through 2006 compared to budget 2007, using the following sort sequence: Block of Account/RA/Expense Element/Activity. Please provide your response in hard copy and electronic (excel) format.

MECO Response:

The requested hard copy report of recorded direct labor charges for 2002 through 2006 and the 2007 operating budget amounts by block of accounts, account, RA, expense element and activity (pages 2 to 196 of this response) is voluminous and is available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. The electronic version of the requested report is being provided on a compact disc.

Pages 2 to 196 are voluminous and available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. The electronic version of the requested report is being provided on a compact disc.

CA-IR-32

Ref: T-1, page 17, lines 10-11.

a. Is MECO using the same "2007 O&M Expense Budget" for internal cost management monitoring purposes in 2007 that was developed and filed with the PUC for rate case purposes?

b. If your response is anything but an unqualified "yes," please identify and describe each different type of budget that is developed in the normal course of business and explain the differences between MECO's 2007 rate case budget and each of its other 2007 internal cost management budget(s).

MECO Response:

a. Yes, except that the 2007 O&M Expense Budget filed with the PUC for rate case purposes represents an updated version of the budget developed for internal cost management monitoring purposes. As described in T-9, page 75, beginning at line 4, the budget estimates were developed as part of the regular Company-wide detailed budgeting and management review process from March to December 2006. The planning and budgeting instructions and assumptions used in developing the Operating Budget are provided in MECO-WP-908. The Operating Budget for 2007 (the O&M portion is the 2007 O&M Expense Budget) was presented by MECO management to Hawaiian Electric Company, Inc.'s (HECO's) officers in a process similar to HECO's review session, as described by Mr. Dennis Lee in HECO T-12, Docket No. 7766, pages 37 through 46.

The Operating Budget for 2007 presented by MECO management to HECO's officers was based on Pillar files finalized in July 2006. The 2007 Operating Budget that was filed with the PUC for rate case purposes was based on the 2007 Operating Budget presented by MECO management to HECO's officers, but included adjustments

intended to provide the most updated estimates available for rate case purposes. The adjustments resulted in a 2007 O&M Expense Budget filed with the PUC for rate case purposes that was $789,000 lower than the O&M Expense Budget portion of the 2007 Operating Budget presented by MECO management to HECO's officers.

b. See response to (a) above.

CA-IR-33

Ref: T-1, page 18, lines 10 - 25.

Please provide complete copies of all documents developed and circulated among MECO employees to inform them of common budget assumptions to be employed in the development of the rate case projections.

MECO Response:

See MECO response to CA-IR-24.

CA-IR-34 **Ref: MECO-108, MECO-109, MECO-110 - Proposed Rate Schedules.**

Please provide the Company's proposed rate schedules in electronic Word format, indicating by "track changes" or other editing markups each change being proposed to the existing tariffs.

MECO Response:

See the accompanying electronic Word documents: "CA-IR-34 REDLINED 2007 Maui Rates.doc"; "CA-IR-34 REDLINED 2007 Lanai Rates.doc"; and "CA-IR-34 REDLINED 2007 Molokai Rates.doc".

CA-IR-35 **Ref: MECO-112 - Proposed Rule 7 and Rule 8 Changes.**

Please provide the Company's proposed rules in electronic Word format, indicating by "track changes" or other editing markups each change being proposed to the existing Rule 7 and Rule 8.

MECO Response:

See the accompanying electronic Word document "CA-IR-35 REDLINED 2007 Maui Rules 7-8.doc".

CA-IR-36

Ref: MECO-102 – Non-utility Property.

Please provide a detailed descriptive breakdown of the Company's Non-utility property as of December 31, 2006 indicating why/how such property is being held as well as actual calendar 2006 revenues and expenses associated with such property

MECO Response:

The Company presently owns the following Non-Utility properties: (1) a 25 acre property on Kaunakakai Road, on the island of Molokai, which is the non-utility portion of vacant land where the Palaau Power Plant is also located; and (2) a 16,096 square feet property on Lahainaluna Road in Lahaina on the island of Maui that comprises of an office building with office furniture and equipment. Both of these Non-Utility properties were acquired during the Company's acquisition of Molokai Electric Company and Lahaina Light & Power, respectively.

See Attachment 1 for a more detailed descriptive breakdown of the Company's Non-Utility properties as of December 1, 2006 as well as actual calendar 2006 revenues and expenses associated with such properties. In 2006, $7,683.89 in allocable expenses to the non-utility portion of the 25 acre Molokai property was incurred due to the maintenance of the property. Although these costs were inadvertently charged to NARUC Account no. 549M (Misc. Expense – Other Production), such costs along with the allocable portion of non-utility costs budgeted in NARUC Account no. 549M for the 2007 test year will be corrected in 2007 and reclassified to NARUC Account no. 417.

Maui Electric Company, Limited
Non-Utility Property
As of December 31, 2006

Description	Location	Basis	Revenues	Expenses
Land - 25 Acres	Kaunakakai Road, Molokai	175,000.00	-	7,683.89
Land - 16,096 Sq. Feet	Lahainaluna Road, Maui	24,205.80	-	867.28
Land & Land Rts	Lahainaluna Road, Maui	2,106.00	-	-
Office Bldg & Improvements	Lahainaluna Road, Maui	25,066.89	-	-
Office Machines	Lahainaluna Road, Maui	1,926.42	-	48.14
Office Furniture	Lahainaluna Road, Maui	279.08	-	-
Total Non-Utility Property		**228,584.19**	**-**	**8,599.31**

CA-IR-37

Ref: MECO-102, page 1 - Balance Sheet "Regulatory Assets."

Please provide the following information regarding the Company's per book balance of "Regulatory Assets:"

a. A detailed itemization of each item and amount within "Regulatory Assets" as of September 30, 2006 and December 31, 2006.

b. Identify and describe each prior Hawaii PUC Decision or other authority relied upon to record each item listed in your response to part (a) of this information request.

c. Explain how each listed item is treated in your rate filing, indicating where any rate base or operating effects are recognized within filed Exhibits or Workpapers.

d. State with specificity any amortization period or other accounting convention that is expected to control changes in the balance for each item listed in your response to part (a) of this information request.

MECO Response:

a. Please see page 13.

b. The establishment of regulatory assets and regulatory liabilities results from guidance provided in Statement of Financial Accounting Standards ("SFAS") No. 71, "Accounting for the Effects of Certain Types of Regulation." Generally, SFAS No. 71 states that regulated entities may capitalize incurred costs if regulation provides assurance that those incurred costs will be recovered in the future. If there is current recovery of costs expected to be incurred in the future, then SFAS No. 71 states that those current receipts can be recognized as a regulatory liability. The regulatory assets recorded by the Company, as presented on page 13, were established in accordance with SFAS No. 71.

1. Unamortized Net SFAS No. 109 – This regulatory asset was established upon adoption of SFAS No. 109 "Accounting for Income Taxes", effective January 1, 1993. SFAS

No. 109 includes requirements for: 1) items to be calculated and capitalized on a gross-of-tax basis, 2) recognition of a deferred tax liability for the equity component of the allowance for funds used during construction, 3) establishment of deferred tax liabilities and assets to reflect changes in income tax laws and rates. Mr. Lon Okada provides a detailed explanation and breakdown of the SFAS No. 109 regulatory asset in MECO T-13 and MECO-1307. Prior to the effective date of SFAS 109, AFUDC was capitalized to construction work in progress (CWIP) on a net of tax basis. Upon the adoption of SFAS 109, the debt portion of AFUDC was prospectively recognized on a gross-of-tax basis. However, for the AFUDC previously capitalized to CWIP on a net of tax basis, a one time transition adjustment was allowed whereby this gross-up adjustment was reflected in aggregate in the SFAS No. 109 regulatory asset, with the offsetting credit to the deferred income tax liability account. SFAS No. 109 also required the equity portion of AFUDC, and any flow through items that were previously excluded from deferred income tax treatment, to be presented on a gross-of-tax basis. This adjustment is recorded in the SFAS No. 109 regulatory asset, with an offsetting credit to the deferred income tax liability account. The SFAS No. 109 regulatory asset also includes the net tax effects resulting from tax rate changes.

The inclusion of the SFAS No. 109 regulatory asset in rate base was accepted by the Commission in amended Decision and Order No. 16922 (dated April 6, 1999) in Docket No. 97-0346 (MECO's test year 1999 rate case). It was also accepted in Decision and Order No. 16134 (dated December 23, 1997) in Docket No. 96-0040 (MECO's test year 1997 rate case). It was also accepted by the Commission in

Decision and Order No. 15544 (dated April 28,1997) in Docket No. 94-0345 (MECO's test year 1996 rate case).

The unamortized net SFAS No. 109 regulatory asset is included in rate base as an investment in assets. There is an equal and offsetting amount included in accumulated deferred income tax in funds from non-investors. Mr. Okada presents this reconciliation in MECO-1307. There is no net impact on rate base.

The regulatory asset balance increases for the tax gross-up of any AFUDC equity recorded for any Construction Work In Progress ("CWIP"). In general, the regulatory asset balance is amortized based on the reversal of the underlying timing differences. Mr. Okada explains the amortization calculations and ratemaking treatment of the amortization of the SFAS No. 109 regulatory asset in MECO T-13.

2. Unamortized Debt Expenses – This regulatory asset is comprised of unamortized debt issue costs and premiums paid on the early retirement of debt. It is also comprised of unamortized issue costs for redeemed hybrid securities. For financial reporting purposes, any unamortized debt issue costs and premiums paid related to an issue of long-term debt would normally be charged to expense upon retirement. However, in lieu of recording these unamortized costs to expense, for financial statement purposes, MECO records a regulatory asset in accordance with SFAS No. 71, as these amounts are expected to be recovered in future rates. MECO records the balance of any unamortized debt issue costs and premiums paid upon retirement for long-term debt as a regulatory asset and amortizes the balance over the remaining original life of the debt. This methodology is consistent with that presented in recent rate cases, including Docket No. 97-0346, MECO's test year 1999 rate case and in Docket No. 96-0040,

MECO's test year 1997 rate case. It has been accepted by the Commission in amended D&O No. 16922 and in D&O No. 16134, respectively.

Similar to unamortized debt expenses, any unamortized issue costs related to a hybrid security would also normally be charged to expense upon redemption. However, in lieu of recording these unamortized costs to expense, for financial statement purposes, MECO records a regulatory asset in accordance with SFAS No. 71 as these amounts are expected to be recovered in future rates. Similar to the amortized debt expenses, the annual amortization of the unamortized issue costs for the redeemed hybrid securities are included in the calculation of the cost of hybrid securities. This methodology is consistent with that presented in recent rate cases, including Docket No. 97-0346, MECO's test year 1999 rate case and in Docket No. 96-0040, MECO's test year 1997 rate case. It has been accepted by the Commission in amended D&O No. 16922 and in D&O No. 16134, respectively.

The annual amortization expenses are included in the total annual requirement. The effective cost of long-term debt is then determined by dividing the total annual requirement by the total net proceeds of the bond issues and total proceeds of the hybrid securities. This calculation is shown in MECO-1703 for long-term debt and in MECO-1704 for the hybrid securities. It is discussed by Ms. Tayne Sekimura in MECO T-17. The effective cost of long-term debt is included in the calculation of required operating income which is included in test year revenue requirements.

3. Unamortized SFAS No. 106 Postretirement Benefits Other Than Pensions ("OPEB") – This regulatory asset arose from the issuance of SFAS No. 106 "Employers' Accounting for Postretirement Benefits Other Than Pensions." For financial reporting

purposes, SFAS No. 106 required that the Company recognize OPEB costs on an accrual basis and applied to the Company beginning January 1, 1993. The Commission addressed the issue of accounting for OPEB in Docket No. 7243 and 7233 (consolidated). In Interim Decision and Order No. 12286 dated April 6, 1993 the Commission allowed MECO to establish a regulatory asset for costs calculated on an accrual basis in excess of the amounts calculated on a pay-as-you-go basis for the period January 1, 1993 to December 31, 1994. In Decision and Order No. 13659, dated November 29, 1994, The Commission specified that this regulatory asset was to be amortized over an 18-year period beginning on January 1, 1995.

The unamortized SFAS No. 106 OPEB regulatory asset is included in rate base as a component of the OPEB amount (which amount is zero) shown in MECO-1501. As shown in MECO-929, page 2, other components of the OPEB amount included in rate base are the SFAS 158 OPEB AOCI and the OPEB liability. The net impact of these three components on rate base is zero. The annual amortization of the OPEB regulatory asset is reflected in employee benefits expense, as shown in MECO-1003 and discussed by Ms. Julie Price in MECO T-10.

4. Vacation Liability not yet taken - This regulatory asset represents vacation earned by employees (i.e. recognized as a liability for financial statement purposes) but not yet taken (i.e. not paid and not yet included in ratemaking expense). For financial reporting purposes, GAAP normally requires the accrual of a liability and recognition of the expense for vacation earned by employees but not yet taken. Under SFAS No. 71, for financial statement purposes, MECO records the amounts earned but not yet paid as a regulatory asset because these amounts are expected to be recovered in future rates.

There is an off-setting accrued liability of the same amount recorded for financial statement purposes. For ratemaking purposes, vacation expense is recorded on the pay-as-you-go method and is recognized in the period in which the vacation is taken. The recovery of vacation expense in the test year revenue requirements on a pay-as-you-go basis is consistent with the Company's presentation in Docket No. 97-0346, MECO's test year 1999 rate case and in Docket No. 96-0040, MECO's test year 1997 rate case. It was accepted by the Commission in amended D&O No. 16922 and in D&O No. 16134, respectively.

This regulatory asset is not included in rate base. An estimate of test year vacation expenses is included in the 2007 test year as a component of labor expense. Labor expense within specific functional areas are discussed by the respective witnesses.

Any changes in the balance of vacation liability not yet taken, is recorded to both the regulatory asset and the accrued liability. As vacation is taken by employees, the value of the vacation is reclassified from regulatory asset to expense.

5. Demand Side Management ("DSM") Costs – This regulatory asset represents the incremental DSM program costs incurred, in excess of the recovery of these costs through the DSM Surcharge component ("DSM Surcharge") of the Integrated Resource Planning Cost Recovery Provision ("IRP Clause"). There is a timing lag between the recognition of the DSM program costs and the recovery of those costs through the DSM Surcharge. For financial statement purposes, DSM program costs would normally be expensed as incurred. However, in lieu of recording these costs to expense, MECO records a regulatory asset in accordance with SFAS No. 71, as these amounts are expected to be recovered through the DSM Surcharge in the future. As such, the

Company has established this regulatory asset to ensure that the recognition of DSM program costs will match the recovery of costs through the DSM Surcharge and the recognition of revenue. The Commission allows MECO to recover incremental DSM program costs by inclusion in the DSM Surcharge which approval was granted in D&O Nos. 14806, 15009, 15008, 15007, dated July 26, 1996, September 23, 1996, September 23, 1996, and September 23, 1996, in Dockets No. 95-0139, 95-0140, 95-0141 and 95-0142, respectively. MECO is also required to file an Annual Program Accomplishments and Surcharge Report detailing the DSM program costs incurred and revenues received through the DSM Surcharge.

This regulatory asset is not included in rate base and is charged to expense as revenues are received via the DSM Surcharge. As the regulatory asset balance accrues interest it is not included in rate base. Further, as the incremental DSM costs are recovered via a separate surcharge, and not through base rates, these expenses are not reflected in the 2007 test year.

The regulatory asset increases when incremental DSM costs are incurred. The regulatory asset decreases when revenues are received via the DSM Surcharge.

DSM program expenses and the recovery of those expenses are discussed further by Ms. Sharon Suzuki in MECO T-8.

6. Integrated Resource Planning Costs - This regulatory asset represents the incremental IRP planning costs incurred, in excess of the recovery of these costs through the IRP Clause. There is a timing lag between the recognition of the incremental IRP costs and the recovery of those costs through the IRP Clause. For financial statement purposes, incremental IRP costs would normally be expensed as incurred. However, in lieu of

recording these costs to expense, MECO records a regulatory asset in accordance with SFAS No. 71, as these amounts are expected to be recovered through the IRP Clause in the future. As such, the Company has established this regulatory asset to ensure that the recognition of IRP costs will match the receipt of the IRP Clause and the recognition of revenue. The Commission allows MECO to recover incremental IRP costs by inclusion in the IRP Clause which approval was granted in D&O No. 14707, dated May 29, 1996, in Docket No. 7258. MECO is also required to file an annual evaluation report of its IRP program and program implementation schedule.

This regulatory asset is not included in rate base and is charged to expense as revenues are received via the IRP Clause. As the regulatory asset balance accrues interest it is not included in rate base. Further, as the incremental IRP costs are recovered via a separate surcharge, and not through base rates, these expenses are not reflected in the 2007 test year.

The regulatory asset increases when incremental IRP costs are incurred. The regulatory asset decreases when revenues are received via the IRP clause.

IRP expenses and the recovery of those expenses are discussed further by Ms. Sharon Suzuki in MECO T-8.

7. Unamortized Investment Income Differential – This regulatory asset is comprised of unamortized investment income differentials related to issues of long-term debt that are retired early. For financial reporting purposes, any unamortized investment income differentials related to an issue of long-term debt would normally be charged to expense upon retirement. However, in lieu of recording the unamortized investment income differentials to expense, MECO records a regulatory asset in accordance with SFAS

No. 71, as these amounts are expected to be recovered in future rates. This treatment is similar to how MECO treats the unamortized debt and hybrid securities expenses. MECO records a regulatory asset for the balance of any unamortized investment income differentials and amortizes the balance over the remaining original life of the debt. The annual amortization is included in the calculation of the cost of long-term debt. This methodology is consistent with the Company's treatment of amortized debt issue costs as previously discussed. Inclusion of the annual amortization in the calculation of the cost of long-term debt has been presented in recent rate cases including Docket No. 97-0346, MECO's test year 1999 rate case and in Docket No. 96-0040, MECO's test year 1997 rate case. It has been accepted by the Commission in amended D&O No. 16922 and in D&O No. 16134, respectively.

The annual amortization expenses are included in the total annual requirement. The effective cost of long-term debt is then determined by dividing the total annual requirement by the total net proceeds of the bond issues. This calculation is shown in MECO-1703 and discussed by Ms. Tayne Sekimura in MECO T-17. The effective cost of long-term debt is included in the calculation of required operating income which is included in test year revenue requirements.

8. Unamortized Preferred Stock Expense – This regulatory asset is comprised of unamortized issuance and redemption costs paid on the redemption of preferred stock issuances. For financial reporting purposes, any unamortized issuance and redemption costs related to a preferred stock issue would normally be charged to expense upon retirement. However, in lieu of recording these unamortized costs to expense, MECO records a regulatory asset in accordance with SFAS No. 71, as these amounts are

expected to be recovered in future rates. This treatment is similar to how MECO treats the unamortized debt and hybrid securities expenses and the unamortized investment income differentials as previously discussed. MECO records a regulatory asset for the balance of any unamortized issuance and redemption costs and amortizes the balance over 30 years. This amortization period represents the estimated life of the hybrid securities whose proceeds were used to redeem the preferred stock.

The annual amortization is included in the calculation of the cost of long-term debt. This methodology is consistent with the Company's treatment of amortized debt issue costs, amortized hybrid issue costs and amortized investment income differentials as previously discussed. Inclusion of the annual amortization in the calculation of the cost of preferred stock has been presented in recent rate cases including Docket No. 97-0346, MECO's test year 1999 rate case and in Docket No. 96-0040, MECO's test year 1997 rate case. It has been accepted by the Commission in amended D&O No. 16922 and in D&O No. 16134, respectively.

The annual amortization expenses are included in the total annual requirement. The effective cost of the preferred stock is then determined by dividing the total annual requirement by the total net proceeds of the preferred stock issues. This calculation is shown in MECO-1705 and discussed by Ms. Tayne Sekimura in MECO T-17. The effective cost of preferred stock is included in the calculation of required operating income which is included in test year revenue requirements.

9. Rate Case Costs – This regulatory asset represents external rate case costs estimated by MECO for its current 2007 test year rate case. For financial reporting purposes external costs incurred for a rate case proceeding would normally be expensed. However, in lieu

of recording these costs to expense, MECO records a regulatory asset in accordance with SFAS No. 71, as these amounts are expected to be recovered in future rates. As discussed in MECO T-9, the Commission has accepted the deferral and amortization of external rate case costs in previous MECO rate cases, and has included amortization amounts in test year estimates. Thus, MECO anticipates that deferred external rate case costs for the instant docket will be recovered in future rates.

MECO has included an estimate of the annual amortization of the estimated costs incurred for the 2007 test year rate case as an expense in the revenue requirement. As explained in MECO T-9 and presented in MECO-915, MECO has included $341,800 in regulatory commission expense in the 2007 test year. This represents the estimated test year amortization (amortized over three years) of $1,025,500 of deferred external costs MECO expects to incur, related to the 2007 test year rate case. With respect to rate base, MECO has not included a regulatory asset in rate base for estimated external costs to be incurred for the 2007 test year rate case.

10. SFAS No. 112 Costs - This regulatory asset represents MECO's expected Long Term Disability ("LTD") liability for disability and medical coverage payments to employees and health benefit payments to survivors of LTD employees. Recording of the regulatory asset arose from the issuance of SFAS No. 112 "Employers' Accounting for Postemployment Benefits". For financial reporting purposes, SFAS No. 112 requires the accrual of a liability and would normally require the recognition of the expense for LTD benefits incurred but not yet paid. However, in lieu of recording these LTD benefit costs as expense for financial statement purposes, MECO records a regulatory asset in accordance with SFAS No. 71 as these costs are expected to be recovered in

future rates. There is an off-setting accrued liability of the same amount recorded for financial statement purposes. For ratemaking purposes, LTD benefit costs are recorded on a pay-as-you-go basis and are recognized in the period in which they are paid. The recovery of LTD benefit costs in the test year revenue requirements on a pay-as-you-go basis is consistent with the Company's presentation in Docket No. 97-0346, MECO's test year 1999 rate case and in Docket No. 96-0040, MECO's test year 1997 rate case. It has been accepted by the Commission in amended D&O No. 16922 and in D&O No. 16134, respectively.

This regulatory asset is not included in rate base. An estimate of LTD benefit payments is included in the 2007 test year as employee benefit expense and is discussed in MECO T-9 and by Ms. Julie Price in MECO T-10. Any change in the LTD benefit liability is recorded to both the regulatory asset and the accrued liability. As LTD benefits are paid, the amounts are reclassified from regulatory asset to expense.

c. Please see response to part b above.

d. Please see response to part b above.

Maui Electric Company, Ltd.
Regulatory Assets - Recorded

Item	Description	9/30/2006	12/31/2006
1	Unamortized Net SFAS 109 Regulatory Asset	8,940,911	9,039,802
2	Unamortized Debt Expenses	1,892,710	1,849,927
3	Unamortized SFAS 106 OPEB Regulatory Asset	1,399,994	1,343,996
4	Vacation Liability not yet taken	891,115	771,043
5	DSM Costs	132,103	59,008
6	IRPCosts	842,627	806,865
7	Unamortized Investment Income Differential	73,998	73,485
8	Unamortized Preferred Stock Expense	223,846	221,331
9	Rate Case Costs	2,726	60,609
10	Reg asset established under SFAS 112	646,472	657,826
		15,046,502	14,883,892

CA-IR-38

Ref: MECO-102, page 2 - Balance Sheet "Regulatory Liabilities."

Please provide the following information regarding the Company's per book balance of "Regulatory Liabilities:"

a. A detailed itemization of each item and amount within "Regulatory Liabilities" as of September 30, 2006 and at December 31, 2006.

b. Identify and describe each prior Hawaii PUC Decision or other authority relied upon to record each item listed in your response to part (a) of this information request.

c. Explain how each listed item is treated in your rate filing, indicating where any rate base or operating effects are recognized within filed Exhibits or Workpapers.

d. State with specificity any amortization period or other accounting convention that is expected to control changes in the balance for each item listed in your response to part (a) of this information request.

MECO Response:

a. Please see page 3.

b. The establishment of regulatory assets and regulatory liabilities results from guidance provided in Statement of Financial Accounting Standards ("SFAS") No. 71, "Accounting for the Effects of Certain Types of Regulation." Generally, SFAS No. 71 states that regulated entities may capitalize incurred costs if regulation provides assurance that those incurred costs will be recovered in the future. If there is current recovery of costs expected to be incurred in the future, than SFAS No. 71 states that those current receipts can be recognized as a regulatory liability. The regulatory liability presented on page 3, was established in accordance with SFAS No. 71.

The regulatory liability for removal costs represents the accumulated amount of removal costs that have been included in depreciation expense in the past and which have been recovered in rates. As described in T-12, beginning on page 13, line 26, in early 2004,

MECO received guidance from the Securities and Exchange Commission requiring that for financial statement purposes, the accumulated removal costs previously included in accumulated depreciation should instead be presented as a liability. This amount was reclassified from accumulated depreciation to regulatory liability for removal costs as of December 31, 2003. Hawaiian Electric Company, Inc, (HECO) and Hawaii Electric Light Company, Inc. (HELCO) also made similar reclassifications as of December 31, 2003. These reclassifications were presented in Docket No. 04-0113, HECO's test year 2005 rate case and accepted by the Commission in Interim Decision and Order No. 22050 (dated September 27, 2005) and accepted by all parties as documented in the stipulated settlement letter, dated September 16, 2005 ("HECO 2005 Stipulation") in HECO's test year 2005 rate case. These reclassifications were also presented in Docket No. 05-0315, HELCO's test year 2006 rate case and accepted by the Commission in Interim Decision and Order No. 23342 (dated April 4, 2007).

c. The presentation of the regulatory liability for removal costs in this rate case reclassifies accumulated removal costs from accumulated depreciation. Therefore, in substance, there has been no change to the accounting method for rate making or for financial statement purposes. Further, the reclassification has no impact to operating expenses or to rate base. The regulatory liability for removal costs is presented as a component of net cost of plant in service and is shown in MECO-WP-1503.

d. The balance of the regulatory liability for removal costs will change based on the amount of removal costs included in depreciation expense, as well as the removal costs incurred for any assets that are retired.

Description	9/30/2006	12/31/2006
Regulatory Liability for Removal Costs	(31,808,126)	(32,406,461)

CA-IR-39

Ref: T-1, page 19, lines 13 to 17 - Eliminated Costs; MECO-104, pages 24 to 29 - Executive Compensation.

Please provide a detailed itemization of any amounts of HEI-allocated, HECO allocated or MECO directly-incurred expenses associated with the listed (on page 24 of MECO-104) Executive Salary, Executive Bonus, Restricted Stock, Options, Stock Appreciation Rights, LTIP or any other stock-based compensation program that were not eliminated by the company in preparing its rate filing.

MECO Response:

All amounts of HEI allocated, HECO allocated or MECO directly incurred expenses associated with Executive Bonus, Restricted Stock, Options, Stock Appreciation Rights, LTIP or other stock-based compensation program were excluded in determining the test year estimates. See the discussion at MECO T-9, pages 8-9. The adjustments to exclude these amounts were identified in MECO T-9's response to CA-IR-3, Attachment A, which was filed on April 23, 2007.

Salary for the MECO executive is included in the test year estimate for A&G labor costs in Account No. 920 as addressed by Mr. Lyle Matsunaga in MECO T-9. HECO allocated executive salaries are included as part of HECO's inter-company billing costs and are primarily included in MECO's test year estimate for A&G outside services – associated companies, Account No. 923.03. HEI allocated executive salaries are included as part of HEI inter-company billing costs in Account No. 923.03.

CA-IR-40

General Information Requests

Ref: T-2, pages 2-3; MECO-WP-201a - "MECO July 2006 Forecast."

Please provide a complete copy of the most detailed available documentation in support of this forecast, including but not limited to Forecast Planning Committee Reports, Energy Services Analysis reports, data tables, summary reports, Powerpoint presentations, alternative scenarios and economic outlook documentation that was relied upon.

MECO Response:

See following attachments.

ATTACHMENT	TITLE	PAGE(S)
1	MECO 2006 Economic Outlook Meeting	1-13
2	MECO Forecast Planning Committee Minutes	1-4
3	MECO Forecast Planning Subcommittee Minutes	1-8
4	Recommended Sales Forecast (MWH)	1-3
5	Recorded Sales vs. Forecast and 2005 - as of May 2006	1-2
6	Molokai Engineering Projects	1
7	Molokai Schedule P Forecast	1-6
8	Molokai Customer Service Forecast	1-7
9	Molokai Historical Sales and Bills by Rate Schedule	1-6
10	Molokai Comparison of Forecast Models by Rate Schedule	1-5
11	Lanai Engineering Projects	1
12	Lanai Schedule P Forecast Overview	1-2
13	Lanai Schedule P Forecast	1-8
14	Lanai Customer Service Forecast	1-8
15	Lanai Historical Sales and Bills by Rate Schedule	1-6
16	Lanai Comparison of Forecast Models by Rate Schedule	1-5
17	MECO Forecast Planning Subcommittee Presentation	1-10
18	Maui Engineering Projects	1-2
19	Maui Schedule P Forecast	1-29
20	Maui Historical Sales and Bills by Rate Schedule	1-6
21	Maui Comparison of Forecast Models by Rate Schedule	1-5
22	Change to Maui Schedule P forecast - Email	1
23	2006-2011 Sales and Customer Forecast	1-4

The requested information for detailed documentation in support of the July 2006 Forecast is voluminous and is available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. The electronic versions of the main files used for the forecast are being provided on a compact disk.

CA-IR-41

Ref: MECO-203, MECO-204, MECO-205 (Sales & Customer Data.

For **each** of the referenced Exhibits, please provide the following information:

a. An updated data table and graph including actual 2006 data in place of the 2006 forecasted information.

b. Electronic Excel format files for all data provided in response to part (a) of this information request.

c. Actual cooling degree day ("CDD") data for each year.

d. Provide Weather Normalized Use/Average Customer and Billed Sales in each actual year 1995 through 2006, if available.

e. Provide the calculation algorithms employed to determine the response to part (d) of this information request in each year.

MECO Response:

a. See attached.

b. The electronic version of the data is provided on a compact disk.

c. See attached.

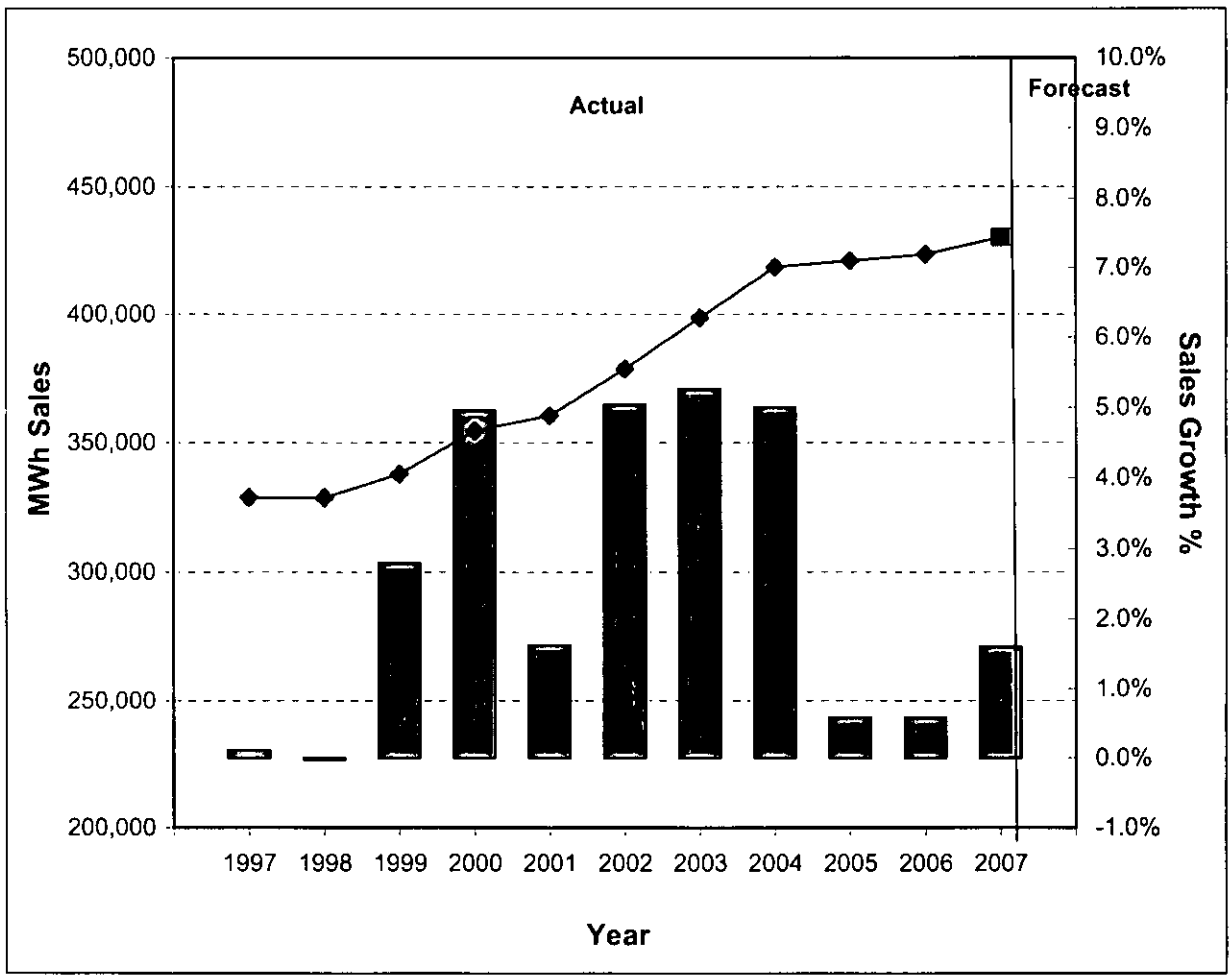
d. The information requested in not available, as MECO does not weather normalize its sales. However, MECO recognizes that several factors can affect electricity usage including weather given the high penetration of air conditioning and water pumping loads. The top five commercial sectors which make up over 60% of all commercial sales as shown in the response to CA-IR-42 d, are large users of air conditioning and pump motors. These end

uses are affected by temperature, humidity and rainfall. Most of the new homes built are in the hotter areas of west, central and south Maui and include central air conditioners.

c. Not applicable.

Maui Electric Company, Inc.

SCHEDULE R - RESIDENTIAL SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MAUI DIVISION



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Forecast 2007
MWh Sales	328,772	328,697	337,898	354,648	360,423	378,588	398,494	418,450	420,903	423,354	430,167
Customers	42,843	43,374	44,048	44,940	45,908	46,788	47,736	48,692	49,648	50,529	51,398
Growth %	0.12%	-0.02%	2.80%	4.96%	1.63%	5.04%	5.26%	5.01%	0.59%	0.58%	1.61%

Maui Electric Company, Ltd.
Maui Division

BILLED DATA

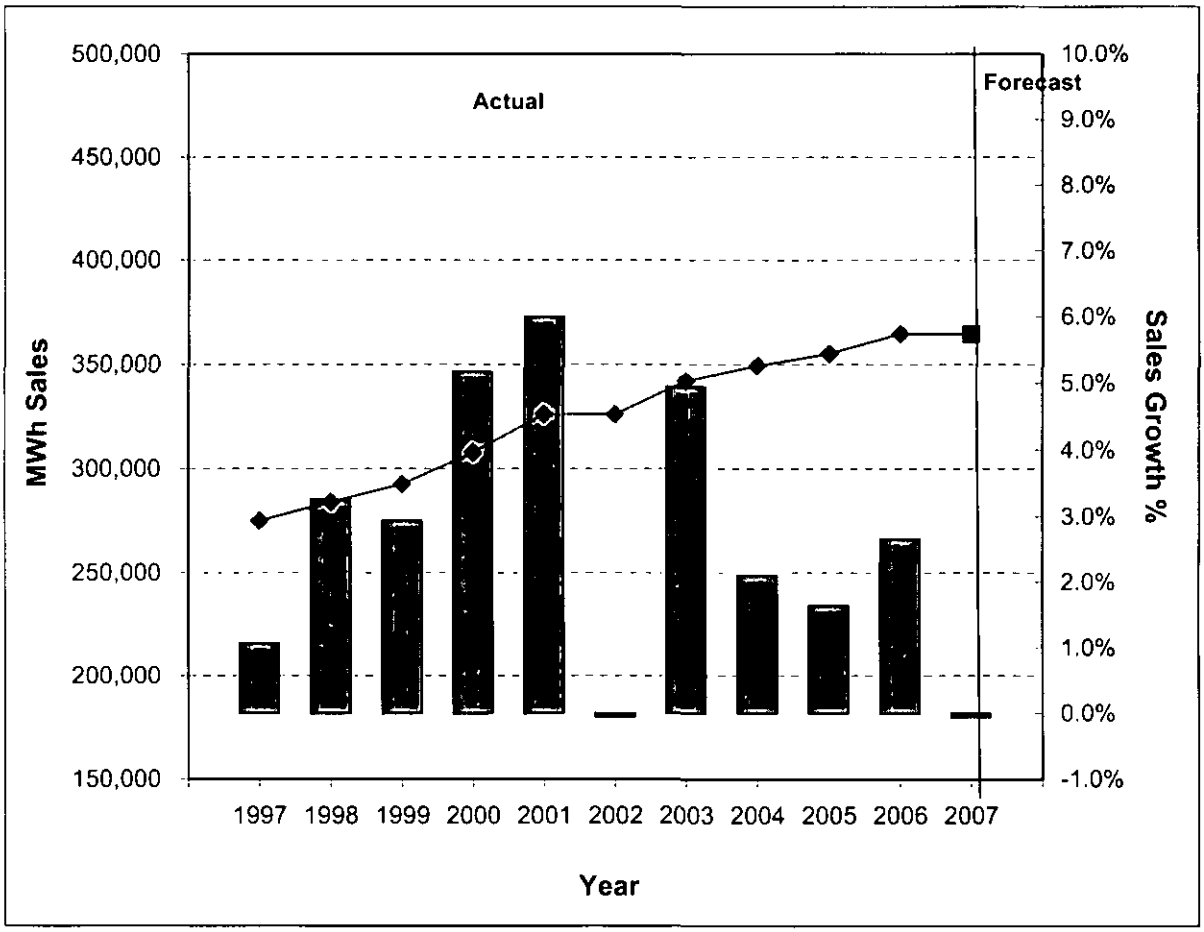
SCHEDULE R : RESIDENTIAL SERVICE

Year	Billed Sales			Average Customers			Use / Average Customer		
	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	105,058			16,631			6,317		
1976	114,664	9,606	9.1%	18,004	1,373	8.3%	6,369	52	0.8%
1977	124,250	9,586	8.4%	19,001	997	5.5%	6,539	170	2.7%
1978	134,508	10,258	8.3%	20,030	1,029	5.4%	6,715	176	2.7%
1979	145,351	10,843	8.1%	21,639	1,609	8.0%	6,717	2	0.0%
1980	147,432	2,081	1.4%	23,447	1,808	8.4%	6,288	(429)	-6.4%
1981	156,287	8,855	6.0%	25,204	1,757	7.5%	6,201	(87)	-1.4%
1982	158,700	2,413	1.5%	26,062	858	3.4%	6,089	(112)	-1.8%
1983	160,663	1,963	1.2%	27,391	1,329	5.1%	5,866	(223)	-3.7%
1984	167,620	6,957	4.3%	28,076	685	2.5%	5,970	104	1.8%
1985	174,240	6,620	4.0%	28,674	598	2.1%	6,077	107	1.8%
1986 **	189,519	15,279	8.8%	29,432	758	2.6%	6,439	362	6.0%
1987	202,704	13,185	7.0%	30,597	1,165	4.0%	6,625	186	2.9%
1988	215,646	12,942	6.4%	31,911	1,314	4.3%	6,758	133	2.0%
1989	233,802	18,156	8.4%	33,680	1,769	5.5%	6,942	184	2.7%
1990	253,484	19,682	8.4%	35,521	1,841	5.5%	7,136	194	2.8%
1991	262,523	9,039	3.6%	37,355	1,834	5.2%	7,028	(108)	-1.5%
1992	276,396	13,873	5.3%	38,934	1,579	4.2%	7,099	71	1.0%
1993	285,575	9,179	3.3%	39,943	1,009	2.6%	7,150	51	0.7%
1994	301,585	16,010	5.6%	41,017	1,074	2.7%	7,353	203	2.8%
1995	312,743	11,158	3.7%	41,794	777	1.9%	7,483	130	1.8%
1996	328,386	15,643	5.0%	42,322	528	1.3%	7,759	276	3.7%
1997	328,772	386	0.1%	42,843	522	1.2%	7,674	(85)	-1.1%
1998	328,697	(75)	0.0%	43,374	531	1.2%	7,578	(96)	-1.3%
1999	337,898	9,201	2.8%	44,048	674	1.6%	7,671	93	1.2%
2000	354,648	16,750	5.0%	44,940	892	2.0%	7,892	221	2.9%
2001	360,423	5,775	1.6%	45,908	968	2.2%	7,851	(41)	-0.5%
2002	378,588	18,165	5.0%	46,788	880	1.9%	8,092	241	3.1%
2003	398,494	19,906	5.3%	47,736	948	2.0%	8,348	256	3.2%
2004	418,450	19,956	5.0%	48,692	956	2.0%	8,594	246	3.0%
2005	420,903	2,453	0.6%	49,648	956	2.0%	8,478	(116)	-1.4%
2006	423,354	2,452	0.6%	50,529	881	1.8%	8,378	(100)	-1.2%
2005 @	136,396			49,380			2,762		
2006 @	137,945	1,549	1.1%	50,339	959	1.9%	2,740	(22)	-0.8%

* Formerly called Schedule D.
** Includes refolio adjustment of 494 mwh.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE G/J - GENERAL SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MAUI DIVISION



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Forecast 2007
MWh Sales	275,350	284,303	292,652	307,796	326,253	326,076	342,227	349,408	355,141	364,596	364,386
Customers	6,604	6,752	6,927	7,198	7,491	7,657	7,902	8,105	8,342	8,660	8,773
Growth %	1.06%	3.25%	2.94%	5.17%	6.00%	-0.05%	4.95%	2.10%	1.64%	2.66%	-0.06%

Maui Electric Company, Ltd.
Maui Division

BILLED DATA

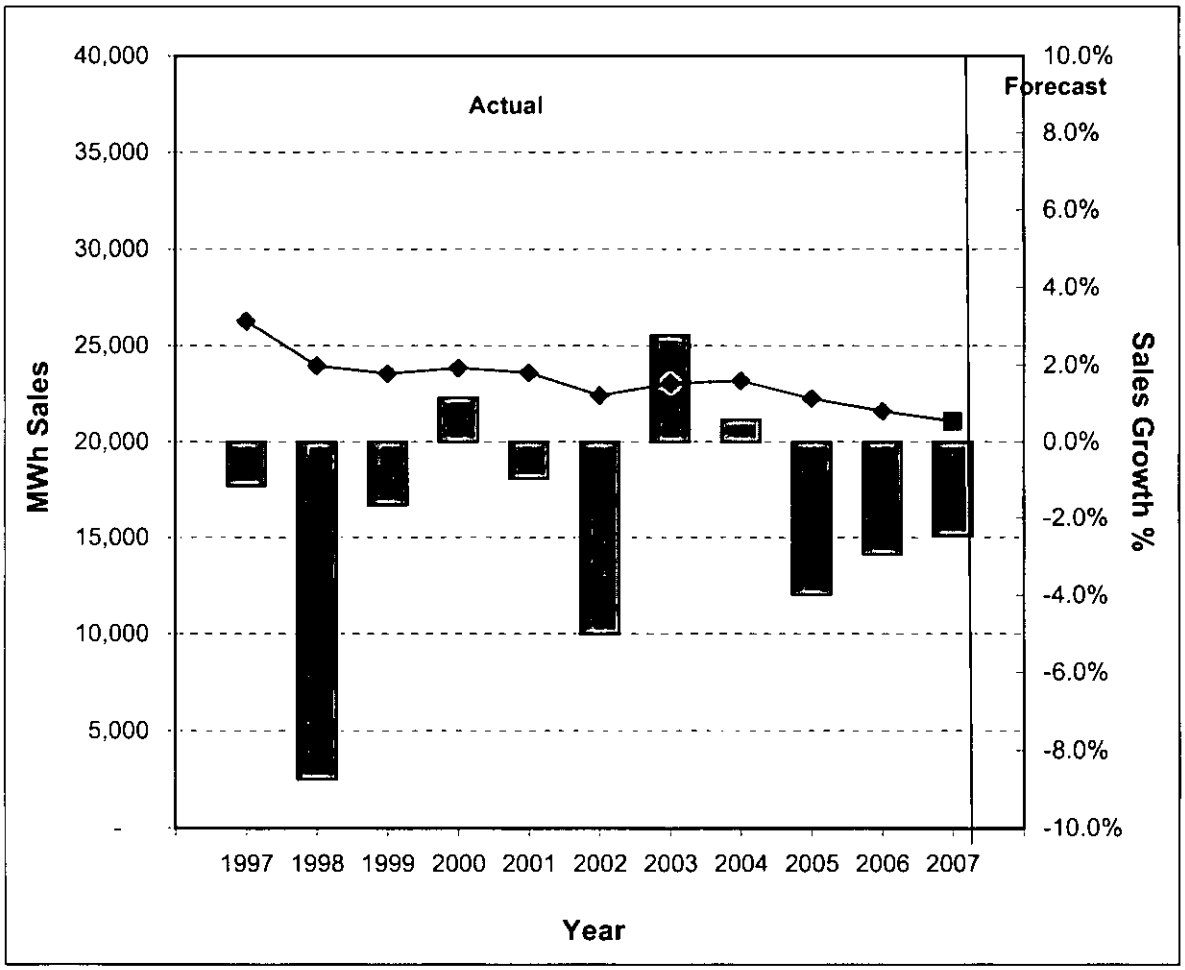
SCHEDULE G/J : GENERAL SERVICE

Year	Billed Sales			Average Customers			Use / Average Customer		
	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	74,754			2,718			27,503		
1976	93,907	19,153	25.6%	2,905	187	6.9%	32,326	4,823	17.5%
1977	103,305	9,398	10.0%	3,113	208	7.2%	33,185	859	2.7%
1978	115,916	12,611	12.2%	3,401	288	9.3%	34,083	898	2.7%
1979	126,644	10,728	9.3%	3,679	278	8.2%	34,423	340	1.0%
1980	132,773	6,129	4.8%	3,808	129	3.5%	34,867	444	1.3%
1981	147,846	15,073	11.4%	3,906	98	2.6%	37,851	2,984	8.6%
1982	136,463	(11,383)	-7.7%	3,964	58	1.5%	34,426	(3,425)	-9.1%
1983	142,946	6,483	4.8%	4,070	106	2.7%	35,122	696	2.0%
1984	154,140	11,194	7.8%	4,236	166	4.1%	36,388	1,266	3.6%
1985	155,593	1,453	0.9%	4,383	147	3.5%	35,499	(889)	-2.4%
1986 **	173,663	18,070	11.6%	4,540	157	3.6%	38,252	2,753	7.8%
1987	190,634	16,971	9.8%	4,891	351	7.7%	38,976	724	1.9%
1988	203,973	13,339	7.0%	5,135	244	5.0%	39,722	746	1.9%
1989	212,423	8,450	4.1%	5,419	284	5.5%	39,200	(522)	-1.3%
1990	221,592	9,169	4.3%	5,699	280	5.2%	38,883	(317)	-0.8%
1991	232,230	10,638	4.8%	5,828	129	2.3%	39,847	964	2.5%
1992	239,552	7,322	3.2%	6,000	172	3.0%	39,925	78	0.2%
1993	245,037	5,485	2.3%	6,103	103	1.7%	40,150	225	0.6%
1994	256,946	11,909	4.9%	6,256	153	2.5%	41,072	922	2.3%
1995	262,489	5,543	2.2%	6,368	112	1.8%	41,220	148	0.4%
1996	272,453	9,964	3.8%	6,459	91	1.4%	42,179	959	2.3%
1997	275,350	2,898	1.1%	6,604	144	2.2%	41,698	(481)	-1.1%
1998	284,303	8,953	3.3%	6,752	149	2.3%	42,107	409	1.0%
1999	292,652	8,349	2.9%	6,927	175	2.6%	42,248	141	0.3%
2000	307,796	15,144	5.2%	7,198	271	3.9%	42,761	513	1.2%
2001	326,253	18,457	6.0%	7,491	293	4.1%	43,553	792	1.9%
2002	326,076	(177)	-0.1%	7,657	166	2.2%	42,585	(968)	-2.2%
2003	342,227	16,151	5.0%	7,902	245	3.2%	43,309	724	1.7%
2004	349,408	7,181	2.1%	8,105	203	2.6%	43,110	(199)	-0.5%
2005	355,141	5,732	1.6%	8,342	237	2.9%	42,573	(537)	-1.3%
2006	364,596	9,456	2.7%	8,660	318	3.8%	42,101	(472)	-1.1%
2005 @	110,526			8,249			13,398		
2006 @	114,394	3,868	3.5%	8,544	294	3.6%	13,390	(8)	-0.1%

* Formerly called Schedules L-1, H-2, C and P-1, which have been combined.
** Includes refolio adjustment of 935 mwh.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE H - COMMERCIAL COOKING, AIR CONDITIONING, HEATING, AND REFRIGERATION SERVICE ACTUAL & FORECAST SALES (MWH) & SALES GROWTH % MAUI DIVISION



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007 Forecast
MWh Sales	26,261	23,966	23,569	23,843	23,612	22,430	23,051	23,184	22,260	21,606	21,075
Customers	285	276	265	251	241	240	239	236	233	228	233
Growth %	-1.1%	-8.7%	-1.7%	1.2%	-1.0%	-5.0%	2.8%	0.6%	-4.0%	-2.9%	-2.5%

Maui Electric Company, Ltd.
Maui Division

BILLED DATA

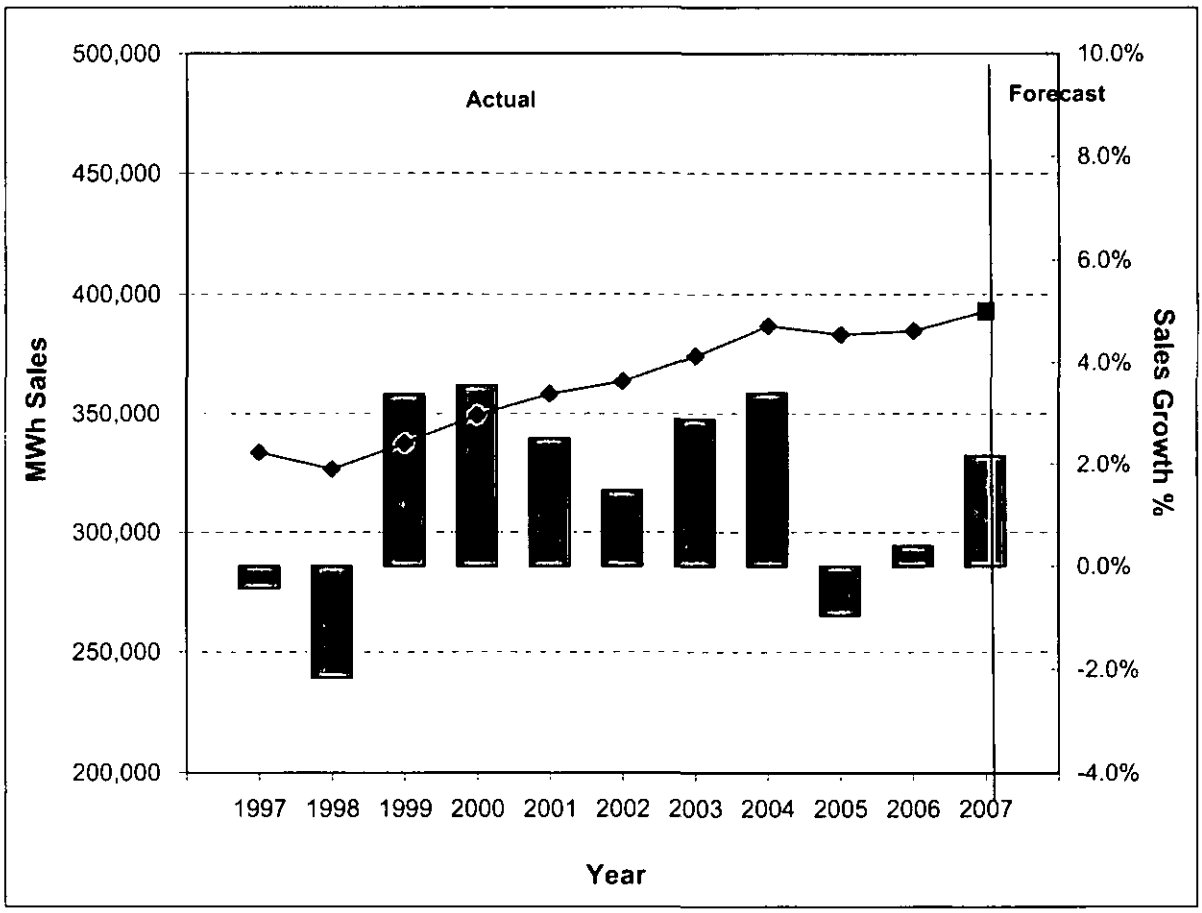
SCHEDULE H : COMMERCIAL COOKING, AIR CONDITIONING, HEATING & REFRIGERATION SERVICE

Year	Billed Sales			Average Customers			Use / Average Customer		
	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	5,223			196			26,648		
1976	6,036	813	15.6%	187	(9)	-4.6%	32,278	5,630	21.1%
1977	7,553	1,517	25.1%	187	0	0.0%	40,390	8,112	25.1%
1978	8,772	1,219	16.1%	196	9	4.8%	44,755	4,365	10.8%
1979	9,869	1,097	12.5%	216	20	10.2%	45,690	935	2.1%
1980	11,477	1,608	16.3%	230	14	6.5%	49,900	4,210	9.2%
1981	12,852	1,375	12.0%	235	5	2.2%	54,689	4,789	9.6%
1982	14,068	1,216	9.5%	250	15	6.4%	56,272	1,583	2.9%
1983	14,900	832	5.9%	258	8	3.2%	57,752	1,480	2.6%
1984	15,830	930	6.2%	256	(2)	-0.8%	61,836	4,084	7.1%
1985	16,246	416	2.6%	259	3	1.2%	62,726	890	1.4%
1986 **	19,656	3,410	21.0%	268	9	3.5%	73,343	10,617	16.9%
1987	21,399	1,743	8.9%	287	19	7.1%	74,561	1,218	1.7%
1988	23,309	1,910	8.9%	294	7	2.4%	79,282	4,721	6.3%
1989	23,625	316	1.4%	296	2	0.7%	79,814	532	0.7%
1990	24,717	1,092	4.6%	296	0	0.0%	83,503	3,689	4.6%
1991	25,485	768	3.1%	306	10	3.4%	83,284	(219)	-0.3%
1992	26,525	1,040	4.1%	317	11	3.6%	83,675	391	0.5%
1993	26,619	94	0.4%	317	0	0.0%	83,972	297	0.4%
1994	26,629	10	0.0%	314	(3)	-1.0%	84,806	834	1.0%
1995	26,659	30	0.1%	306	(8)	-2.6%	87,120	2,314	2.7%
1996	26,565	(93)	-0.4%	290	(16)	-5.3%	91,683	4,563	5.2%
1997	26,261	(304)	-1.2%	285	(5)	-1.6%	92,062	379	0.4%
1998	23,966	(2,295)	-8.7%	276	(9)	-3.2%	86,834	(5,228)	-5.7%
1999	23,569	(397)	-1.7%	265	(11)	-4.0%	88,939	2,105	2.4%
2000	23,843	275	1.2%	251	(14)	-5.3%	94,994	6,055	6.8%
2001	23,612	(231)	-1.0%	241	(10)	-4.0%	97,976	2,982	3.1%
2002	22,430	(1,182)	-5.0%	240	(1)	-0.4%	93,457	(4,519)	-4.6%
2003	23,051	621	2.8%	239	(1)	-0.4%	96,447	2,990	3.2%
2004	23,184	133	0.6%	236	(3)	-1.3%	98,235	1,788	1.9%
2005	22,260	(923)	-4.0%	233	(3)	-1.3%	95,537	(2,698)	-2.8%
2006	21,606	(654)	-2.9%	228	(5)	-2.2%	94,764	(773)	-0.8%
2005 @	6,653			234			28,431		
2006 @	6,523	(130)	-2.0%	230	(4)	-1.7%	28,362	(69)	-0.2%

* Formerly called Schedule H-1.
** Includes refolio adjustment of 38 mwh.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE P - LARGE POWER SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MAUI DIVISION



										Forecast	
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	333,654	326,436	337,466	349,445	358,205	363,511	374,011	386,731	383,086	384,615	392,961
Customers	107	106	107	109	113	116	118	117	117	120	121
Growth %	-0.4%	-2.2%	3.4%	3.5%	2.5%	1.5%	2.9%	3.4%	-0.9%	0.4%	2.2%

Maui Electric Company, Ltd.
Maui Division

BILLED DATA

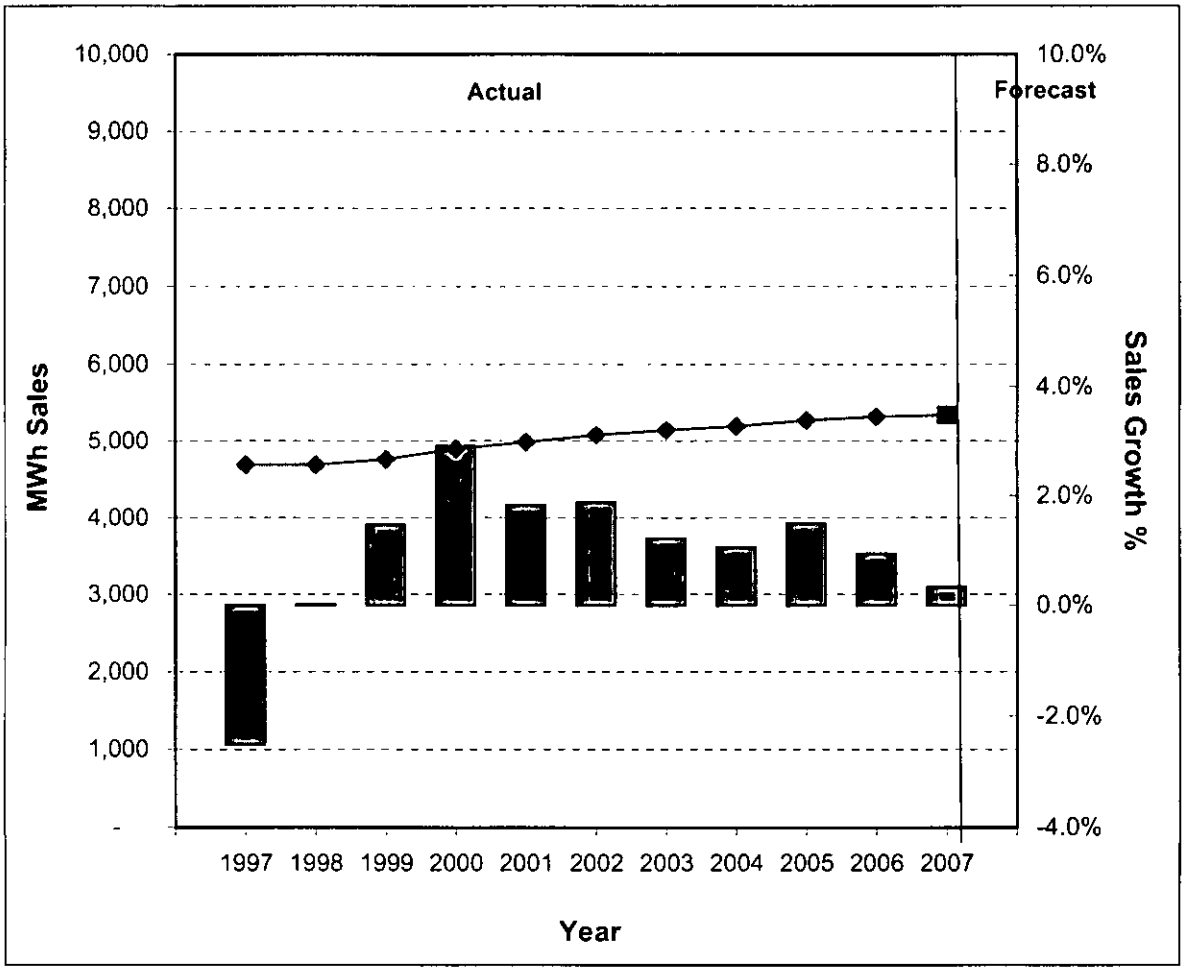
SCHEDULE P : LARGE POWER SERVICE

Year		Billed Sales			Average Customers			Use / Average Customer		
		Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975	*	78,278			54			1,449,593		
1976		87,143	8,865	11.3%	35	(19)	-35.2%	2,489,800	1,040,207	71.8%
1977		103,361	16,218	18.6%	44	9	25.7%	2,349,114	(140,686)	-5.7%
1978		110,367	7,006	6.8%	47	3	6.8%	2,348,234	(880)	0.0%
1979		119,005	8,638	7.8%	51	4	8.5%	2,333,431	(14,803)	-0.6%
1980		139,110	20,105	16.9%	53	2	3.9%	2,624,717	291,286	12.5%
1981		150,456	11,346	8.2%	55	2	3.8%	2,735,564	110,847	4.2%
1982		163,429	12,973	8.6%	60	5	9.1%	2,723,817	(11,747)	-0.4%
1983		167,586	4,157	2.5%	63	3	5.0%	2,660,095	(63,722)	-2.3%
1984		186,909	19,323	11.5%	70	7	11.1%	2,670,129	10,034	0.4%
1985		182,578	(4,331)	-2.3%	72	2	2.9%	2,535,806	(134,323)	-5.0%
1986	**	197,168	14,590	8.0%	71	(1)	-1.4%	2,777,014	241,208	9.5%
1987		200,781	3,613	1.8%	71	0	0.0%	2,827,901	50,887	1.8%
1988		218,048	17,267	8.6%	72	1	1.4%	3,028,444	200,543	7.1%
1989		218,846	798	0.4%	73	1	1.4%	2,997,890	(30,554)	-1.0%
1990		234,593	15,747	7.2%	78	5	6.9%	3,007,603	9,713	0.3%
1991		252,471	17,878	7.6%	80	2	2.6%	3,155,888	148,285	4.9%
1992		287,670	35,199	13.9%	88	8	10.0%	3,268,977	113,089	3.6%
1993		298,642	10,972	3.8%	93	5	5.7%	3,211,204	(57,773)	-1.8%
1994		309,483	10,841	3.6%	98	5	5.4%	3,157,990	(53,214)	-1.7%
1995		327,180	17,697	5.7%	103	5	5.1%	3,176,506	18,516	0.6%
1996		335,085	7,905	2.4%	104	1	1.3%	3,211,679	35,173	1.1%
1997		333,654	(1,431)	-0.4%	107	2	2.2%	3,130,449	(81,230)	-2.5%
1998		326,436	(7,218)	-2.2%	106	(1)	-0.6%	3,079,585	(50,864)	-1.6%
1999		337,466	11,030	3.4%	107	1	0.9%	3,153,889	74,304	2.4%
2000		349,445	11,979	3.6%	109	2	1.9%	3,205,921	52,032	1.7%
2001		358,205	8,759	2.5%	113	4	3.7%	3,169,953	(35,968)	-1.1%
2002		363,511	5,306	1.5%	116	3	2.7%	3,133,711	(36,242)	-1.1%
2003		374,011	10,500	2.9%	118	2	1.7%	3,169,585	35,874	1.1%
2004		386,731	12,720	3.4%	117	(1)	-0.9%	3,305,396	135,811	4.3%
2005		383,086	(3,646)	-0.9%	117	0	0.0%	3,274,236	(31,160)	-0.9%
2006		384,615	1,529	0.4%	120	3	2.6%	3,205,124	(69,112)	-2.1%
2005	@	120,342			116			1,037,430		
2006	@	122,672	2,330	1.9%	119	3	2.2%	1,035,204	(2,226)	-0.2%

* Formerly called Schedule P-4.
** Includes refolio adjustment of 4966 mwh.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE F - STREET LIGHTING
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MAUI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	4,688	4,689	4,758	4,896	4,986	5,079	5,141	5,196	5,273	5,322	5,340
Customers	131	132	132	137	142	144	149	150	158	167	169
Growth %	-2.5%	0.0%	1.5%	2.9%	1.8%	1.9%	1.2%	1.1%	1.5%	0.9%	0.3%

Maui Electric Company, Ltd.
Maui Division

BILLED DATA

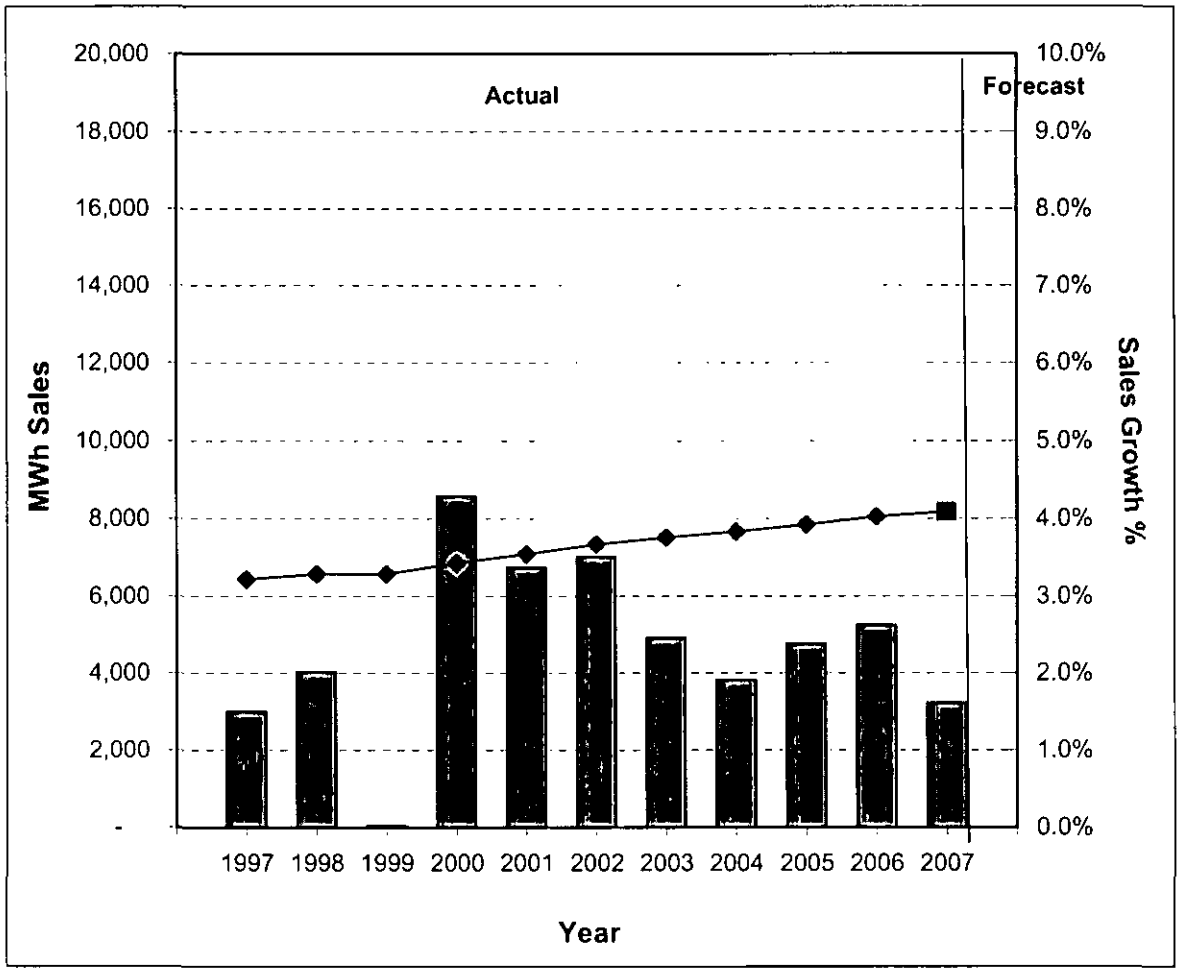
SCHEDULE F : STREET LIGHTING

Year	Billed Sales			Average Customers			Use / Average Customer		
	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	3,253			345			9,429		
1976	3,410	157	4.8%	354	9	2.6%	9,633	204	2.2%
1977	3,505	95	2.8%	358	4	1.1%	9,791	158	1.6%
1978	3,690	185	5.3%	361	3	0.8%	10,222	431	4.4%
1979	3,634	(56)	-1.5%	361	0	0.0%	10,066	(156)	-1.5%
1980	3,606	(28)	-0.8%	362	1	0.3%	9,961	(105)	-1.0%
1981	3,815	209	5.8%	369	7	1.9%	10,339	378	3.8%
1982	4,083	268	7.0%	370	1	0.3%	11,035	696	6.7%
1983	3,993	(90)	-2.2%	370	0	0.0%	10,792	(243)	-2.2%
1984	3,925	(68)	-1.7%	371	1	0.3%	10,580	(212)	-2.0%
1985	3,901	(24)	-0.6%	371	0	0.0%	10,515	(65)	-0.6%
1986 **	4,027	126	3.2%	373	2	0.5%	10,796	281	2.7%
1987	4,115	88	2.2%	375	2	0.5%	10,973	177	1.6%
1988	4,204	89	2.2%	374	(1)	-0.3%	11,241	268	2.4%
1989	4,139	(65)	-1.6%	373	(1)	-0.3%	11,097	(144)	-1.3%
1990	4,205	66	1.6%	367	(6)	-1.6%	11,458	361	3.3%
1991	4,325	120	2.9%	367	0	0.0%	11,785	327	2.9%
1992	4,472	147	3.4%	367	0	0.0%	12,185	400	3.4%
1993	4,532	60	1.3%	368	1	0.3%	12,315	130	1.1%
1994	4,631	99	2.2%	368	0	0.0%	12,584	269	2.2%
1995	4,799	168	3.6%	368	0	0.0%	13,040	456	3.6%
1996 #	4,808	10	0.2%	124	(244)	-66.3%	38,726	25,686	197.0%
1997	4,688	(120)	-2.5%	131	7	5.4%	35,833	(2,893)	-7.5%
1998	4,689	1	0.0%	132	1	0.9%	35,523	(310)	-0.9%
1999	4,758	69	1.5%	132	0	0.0%	36,044	521	1.5%
2000	4,896	138	2.9%	137	5	3.8%	35,737	(307)	-0.9%
2001	4,986	90	1.8%	142	5	3.7%	35,110	(627)	-1.8%
2002	5,079	94	1.9%	144	2	1.4%	35,273	163	0.5%
2003	5,141	62	1.2%	149	5	3.5%	34,506	(767)	-2.2%
2004	5,196	54	1.1%	150	1	0.7%	34,637	131	0.4%
2005	5,273	77	1.5%	158	8	5.3%	33,373	(1,264)	-3.7%
2006	5,322	49	0.9%	167	9	5.7%	31,870	(1,503)	-4.5%
2005 @	1,756			155			11,345		
2006 @	1,780	24	1.4%	166	11	7.0%	10,752	(593)	-5.2%

* Formerly called Schedule SL.
** Includes refolio adjustment of 4 mwh.
\# Change in source of customer count.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE R - RESIDENTIAL SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
LANAI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	6,446	6,576	6,577	6,859	7,091	7,339	7,520	7,664	7,847	8,053	8,183
Customers	1,176	1,195	1,221	1,262	1,303	1,313	1,314	1,332	1,342	1,368	1,372
Growth %	1.5%	2.0%	0.0%	4.3%	3.4%	3.5%	2.5%	1.9%	2.4%	2.6%	1.6%

Maui Electric Company, Ltd.
Lanai Division

BILLED DATA

SCHEDULE R : RESIDENTIAL SERVICE

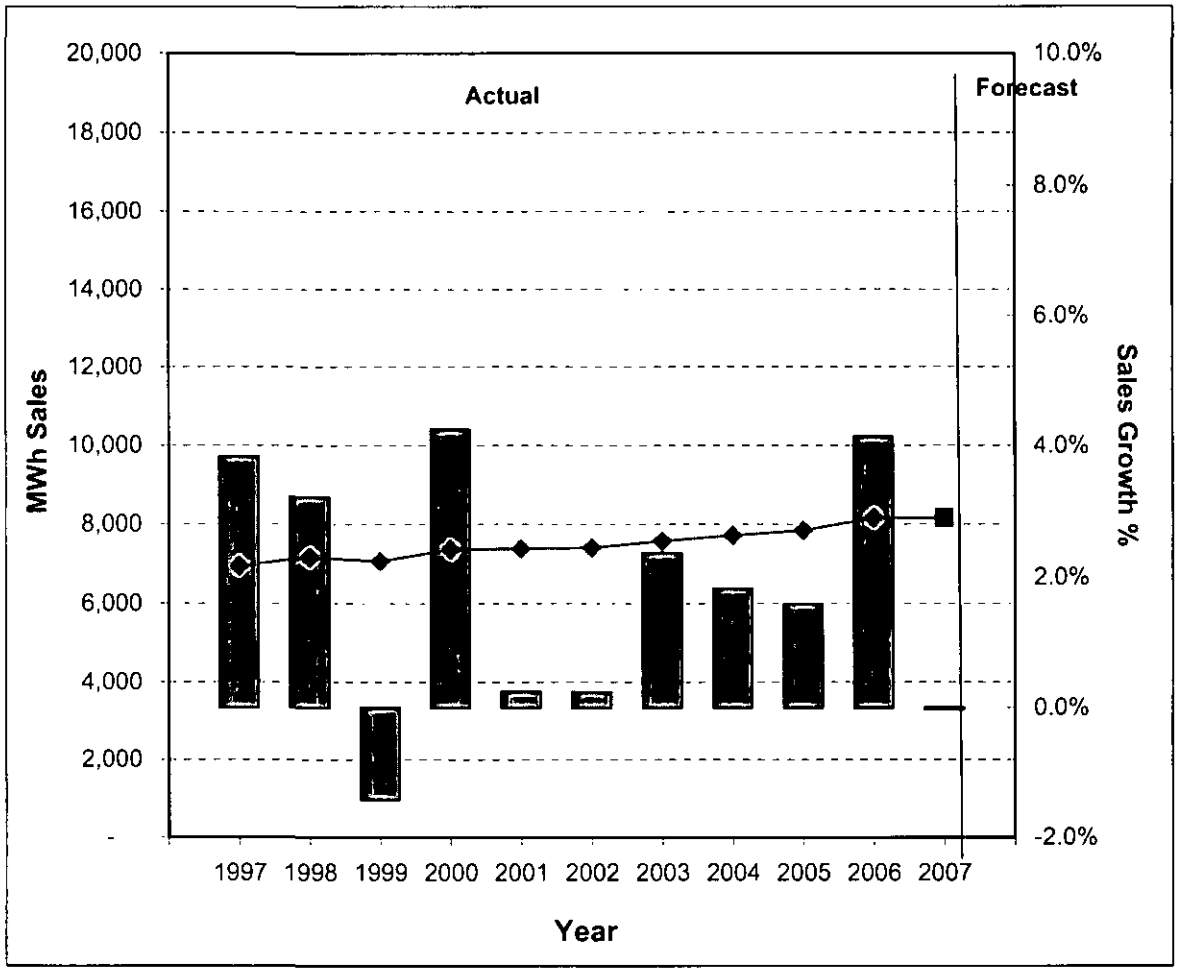
Year	Billed Sales			Average Customers			Use / Average Customer		
	Kwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	3,554,991			668			5,322		
1976	3,628,732	73,741	2.1%	677	9	1.4%	5,360	38	0.7%
1977	3,629,816	1,084	0.0%	679	2	0.3%	5,346	(14)	-0.3%
1978	3,575,617	(54,199)	-1.5%	677	(2)	-0.3%	5,282	(64)	-1.2%
1979	3,600,854	25,237	0.7%	680	3	0.4%	5,295	13	0.3%
1980	3,565,079	(35,775)	-1.0%	686	6	0.9%	5,197	(98)	-1.9%
1981	3,555,554	(9,525)	-0.3%	706	20	2.9%	5,036	(161)	-3.1%
1982	3,502,761	(52,793)	-1.5%	714	8	1.1%	4,906	(130)	-2.6%
1983	3,431,718	(71,043)	-2.0%	718	4	0.6%	4,780	(126)	-2.6%
1984	3,433,138	1,420	0.0%	732	14	2.0%	4,690	(90)	-1.9%
1985	3,382,006	(51,132)	-1.5%	750	18	2.5%	4,509	(181)	-3.9%
1986	3,463,744	81,738	2.4%	756	6	0.8%	4,582	73	1.6%
1987	3,541,223	77,479	2.2%	764	8	1.1%	4,635	53	1.2%
1988	3,720,422	179,199	5.1%	770	6	0.8%	4,832	197	4.3%
1989	4,072,459	352,037	9.5%	849	79	10.3%	4,797	(35)	-0.7%
1990	4,651,663	579,204	14.2%	909	60	7.1%	5,117	320	6.7%
1991	4,935,368	283,705	6.1%	972	63	6.9%	5,078	(39)	-0.8%
1992	5,338,053	402,685	8.2%	1,035	63	6.5%	5,158	80	1.6%
1993	5,878,343	540,290	10.1%	1,110	75	7.3%	5,296	138	2.7%
1994	5,985,484	107,141	1.8%	1,114	4	0.4%	5,373	77	1.5%
1995	6,121,152	135,668	2.3%	1,137	23	2.1%	5,384	11	0.2%
1996	6,351,061	229,909	3.8%	1,173	36	3.2%	5,414	30	0.6%
1997	6,446,231	95,170	1.5%	1,176	3	0.2%	5,482	68	1.3%
1998	6,576,195	129,964	2.0%	1,195	19	1.6%	5,503	21	0.4%
1999	6,577,297	1,102	0.0%	1,221	26	2.2%	5,387	(116)	-2.1%
2000	6,859,323	282,026	4.3%	1,262	41	3.4%	5,435	48	0.9%
2001	7,090,709	231,386	3.4%	1,303	41	3.3%	5,442	7	0.1%
2002	7,339,483	248,774	3.5%	1,313	10	0.8%	5,590	148	2.7%
2003	7,520,118	180,635	2.5%	1,314	1	0.1%	5,723	133	2.4%
2004	7,664,206	144,088	1.9%	1,332	18	1.4%	5,754	31	0.5%
2005	7,846,797	182,591	2.4%	1,342	10	0.8%	5,847	93	1.6%
2006	8,052,812	206,015	2.6%	1,368	26	1.9%	5,887	40	0.7%
2005 @	2,646,001			1,336			1,981		
2006 @	2,703,360	57,359	2.2%	1,360	24	1.8%	1,988	7	0.4%
5 year average (2001-2005):			2.7%			1.4%			1.3%
10 year average (1996-2005):			2.5%			1.7%			0.8%

* Formerly called Schedule D.

@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE G/J - GENERAL SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
LANAI DIVISION



										Forecast	
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	6,947	7,171	7,069	7,369	7,388	7,406	7,581	7,719	7,842	8,166	8,164
Customers	160	170	175	188	192	196	197	198	204	222	224
Growth %	3.8%	3.2%	-1.4%	4.2%	0.3%	0.2%	2.4%	1.8%	1.6%	4.1%	0.0%

Maui Electric Company, Ltd.
Lanai Division

BILLED DATA

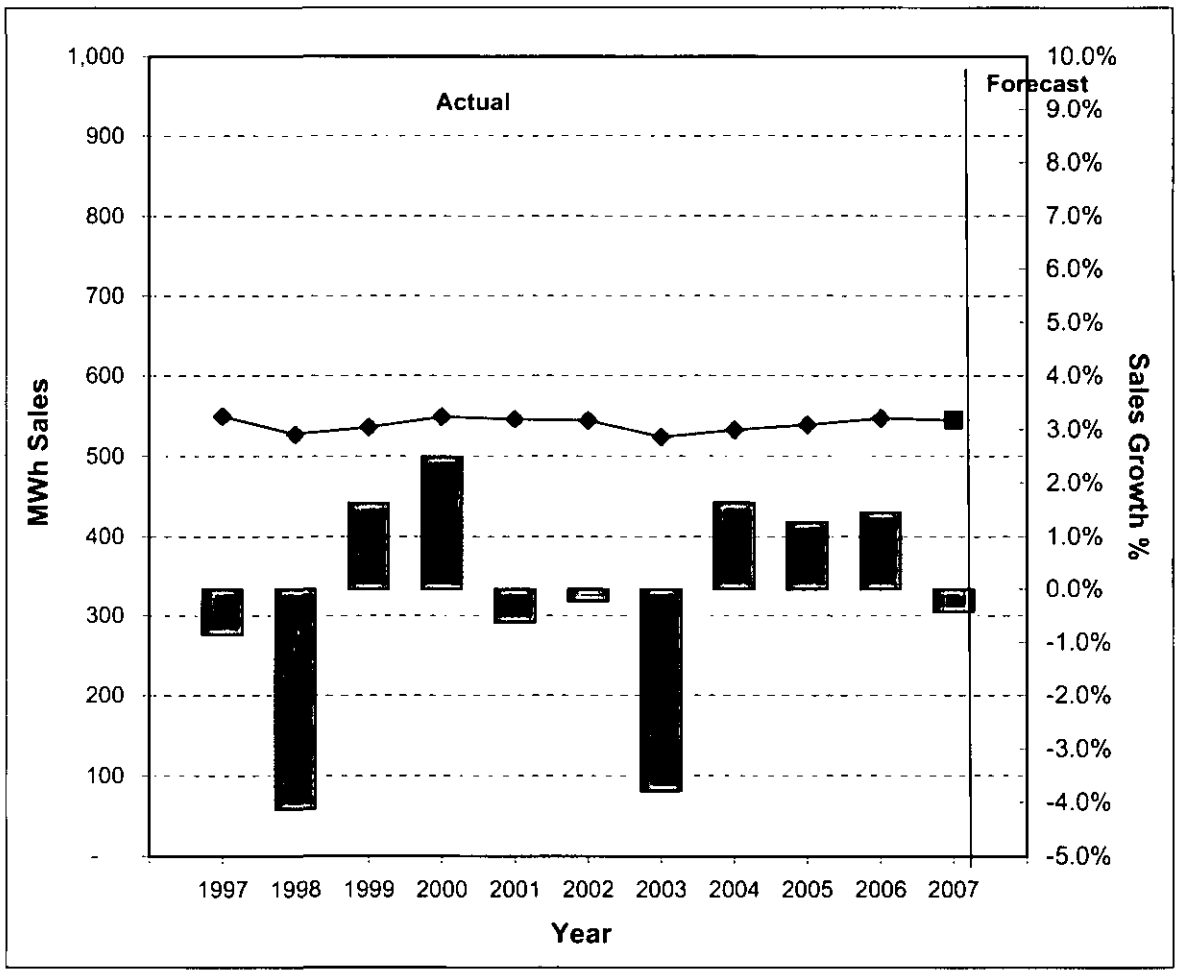
SCHEDULE G/J : GENERAL SERVICE

Year	Billed Sales			Average Customers			Use / Average Customer		
	Kwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	1,502,440			128			11,738		
1976	1,580,241	77,801	5.2%	124	(4)	-3.1%	12,744	1,006	8.6%
1977	1,775,333	195,092	12.4%	123	(1)	-0.8%	14,434	1,690	13.3%
1978	1,816,538	41,205	2.3%	126	3	2.4%	14,417	(17)	-0.1%
1979	1,797,636	(18,902)	-1.0%	125	(1)	-0.8%	14,381	(36)	-0.3%
1980	1,848,697	51,061	2.8%	126	1	0.8%	14,672	291	2.0%
1981	1,740,673	(108,024)	-5.8%	118	(8)	-6.4%	14,751	79	0.5%
1982	1,713,154	(27,519)	-1.6%	120	2	1.7%	14,276	(475)	-3.2%
1983	1,698,342	(14,812)	-0.9%	123	3	2.5%	13,808	(468)	-3.3%
1984	1,557,932	(140,410)	-8.3%	109	(14)	-11.4%	14,293	485	3.5%
1985	1,427,826	(130,106)	-8.4%	98	(11)	-10.1%	14,570	277	1.9%
1986	1,502,077	74,251	5.2%	97	(1)	-1.0%	15,485	915	6.3%
1987	1,505,928	3,851	0.3%	97	0	0.0%	15,525	40	0.3%
1988	2,065,761	559,833	37.2%	97	0	0.0%	21,297	5,772	37.2%
1989	2,659,655	593,894	28.8%	105	8	8.3%	25,330	4,033	18.9%
1990	3,520,966	861,311	32.4%	111	6	5.7%	31,720	6,390	25.2%
1991	5,694,162	2,173,196	61.7%	126	15	13.5%	45,192	13,472	42.5%
1992	4,466,985	(1,227,177)	-21.6%	130	4	3.2%	34,361	(10,831)	-24.0%
1993	4,484,319	17,334	0.4%	127	(3)	-2.3%	35,310	949	2.8%
1994	6,002,104	1,517,785	33.9%	135	8	6.3%	44,460	9,150	25.9%
1995	6,547,154	545,050	9.1%	146	11	8.2%	44,844	384	0.9%
1996	6,691,202	144,048	2.2%	152	6	4.0%	44,069	(775)	-1.7%
1997	6,947,493	256,291	3.8%	160	8	5.4%	43,422	(647)	-1.5%
1998	7,170,643	223,150	3.2%	170	10	6.3%	42,180	(1,242)	-2.9%
1999	7,069,276	(101,367)	-1.4%	175	5	2.9%	40,396	(1,784)	-4.2%
2000	7,369,129	299,853	4.2%	188	13	7.4%	39,197	(1,199)	-3.0%
2001	7,387,635	18,506	0.3%	192	4	2.1%	38,477	(720)	-1.8%
2002	7,405,813	18,178	0.3%	196	4	2.1%	37,785	(692)	-1.8%
2003	7,580,897	175,084	2.4%	197	1	0.5%	38,482	697	1.8%
2004	7,719,161	138,264	1.8%	198	1	0.5%	38,986	504	1.3%
2005	7,842,381	123,220	1.6%	204	6	3.0%	38,443	(543)	-1.4%
2006	8,166,112	323,731	4.1%	222	18	8.8%	36,784	(1,659)	-4.3%
2005 @	2,476,310			203			12,184		
2006 @	2,540,170	63,860	2.6%	216	13	6.3%	11,760	(424)	-3.5%

* Formerly called Schedules L-1, H-2, P-1 and P-4, which have been combined.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE H - COMMERCIAL COOKING, AIR CONDITIONING, HEATING, AND REFRIGERATION SERVICE ACTUAL & FORECAST SALES (MWH) & SALES GROWTH % LANAI DIVISION



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Forecast 2007
MWh Sales	550	528	536	549	546	545	524	533	540	547	545
Customers	5	5	5	5	6	5	4	4	4	4	4
Growth %	-0.9%	-4.1%	1.6%	2.5%	-0.6%	-0.2%	-3.8%	1.6%	1.3%	1.5%	-0.4%

Maui Electric Company, Ltd.
Lanai Division

BILLED DATA

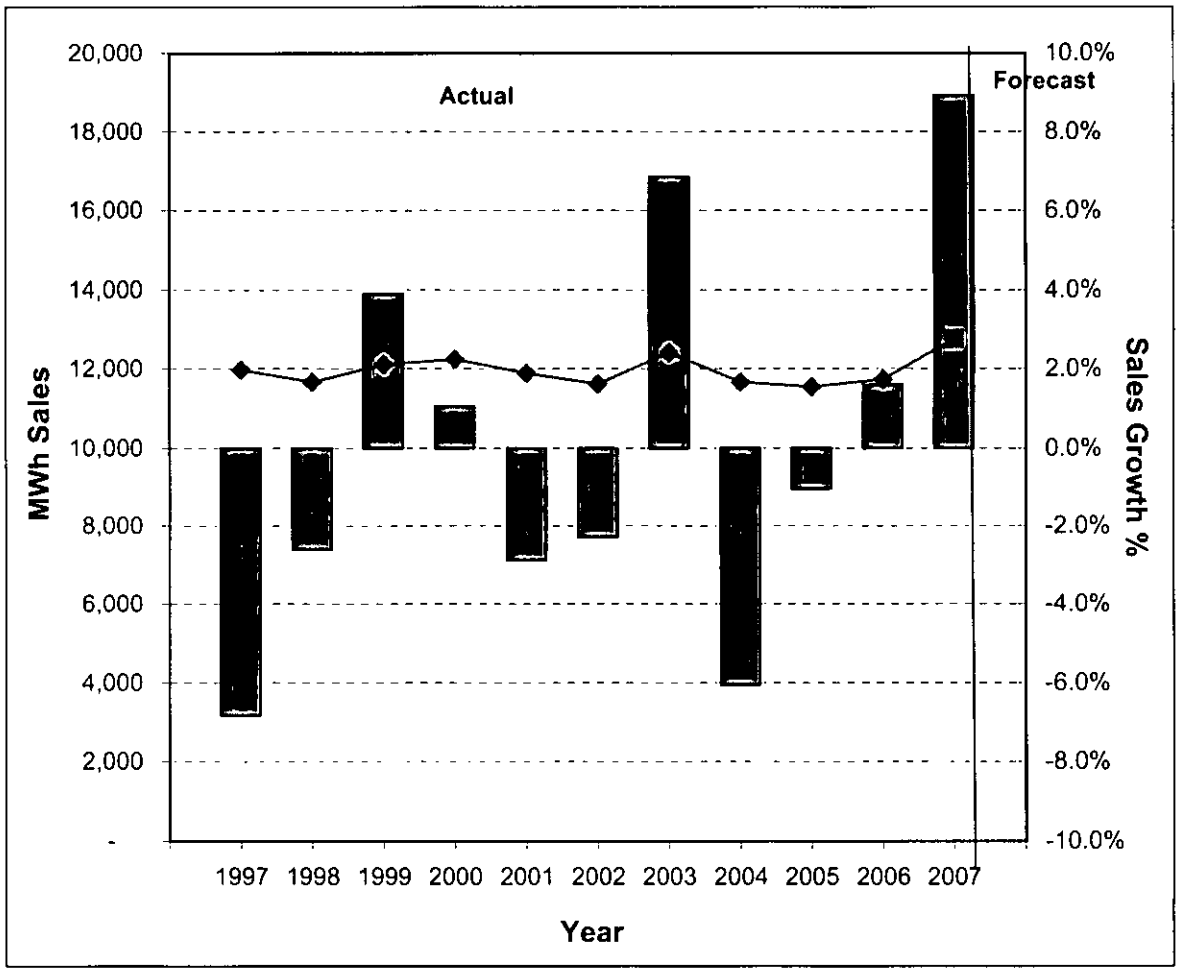
SCHEDULE H : COMMERCIAL COOKING, AIR CONDITIONING, HEATING, & REFRIGERATION SERVICE

	Billed Sales			Average Customers			Use / Average Customer		
Year	Kwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	518,569			41			12,648		
1976	543,116	24,547	4.7%	42	1	2.4%	12,931	283	2.2%
1977	563,281	20,165	3.7%	40	(2)	-4.8%	14,082	1,151	8.9%
1978	577,480	14,199	2.5%	38	(2)	-5.0%	15,197	1,115	7.9%
1979	606,620	29,140	5.1%	38	0	0.0%	15,964	767	5.1%
1980	634,047	27,427	4.5%	37	(1)	-2.6%	17,136	1,172	7.3%
1981	650,406	16,359	2.6%	32	(5)	-13.5%	20,325	3,189	18.6%
1982	631,206	(19,200)	-3.0%	30	(2)	-6.3%	21,040	715	3.5%
1983	638,607	7,401	1.2%	32	2	6.7%	19,956	(1,084)	-5.2%
1984	609,578	(29,029)	-4.6%	27	(5)	-15.6%	22,577	2,621	13.1%
1985	588,201	(21,377)	-3.5%	21	(6)	-22.2%	28,010	5,433	24.1%
1986	589,897	1,696	0.3%	19	(2)	-9.5%	31,047	3,037	10.8%
1987	621,292	31,395	5.3%	18	(1)	-5.3%	34,516	3,469	11.2%
1988	663,415	42,123	6.8%	19	1	5.6%	34,917	401	1.2%
1989	636,483	(26,932)	-4.1%	17	(2)	-10.5%	37,440	2,523	7.2%
1990	600,556	(35,927)	-5.6%	16	(1)	-5.9%	37,535	95	0.3%
1991	598,579	(1,977)	-0.3%	15	(1)	-6.3%	39,905	2,370	6.3%
1992	616,772	18,193	3.0%	15	0	0.0%	41,118	1,213	3.0%
1993	553,992	(62,780)	-10.2%	14	(1)	-6.7%	39,571	(1,547)	-3.8%
1994	523,418	(30,574)	-5.5%	14	0	0.0%	37,387	(2,184)	-5.5%
1995	475,364	(48,054)	-9.2%	13	(1)	-7.1%	36,566	(821)	-2.2%
1996	554,926	79,562	16.7%	9	(5)	-34.6%	65,285	28,719	78.5%
1997	550,209	(4,717)	-0.9%	5	(4)	-41.2%	110,042	44,757	68.6%
1998	527,542	(22,667)	-4.1%	5	0	0.0%	105,508	(4,534)	-4.1%
1999	536,108	8,566	1.6%	5	0	0.0%	107,222	1,714	1.6%
2000	549,444	13,336	2.5%	5	0	0.0%	109,889	2,667	2.5%
2001	546,033	(3,411)	-0.6%	6	1	20.0%	91,006	(18,883)	-17.2%
2002	544,825	(1,208)	-0.2%	5	(1)	-16.7%	108,965	17,959	19.7%
2003	524,230	(20,595)	-3.8%	4	(1)	-20.0%	131,058	22,093	20.3%
2004	532,757	8,527	1.6%	4	0	0.0%	133,189	2,131	1.6%
2005	539,516	6,759	1.3%	4	0	0.0%	134,879	1,690	1.3%
2006	547,352	7,836	1.5%	4	0	0.0%	136,838	1,959	1.5%
2004 @	172,820			4			43,205		
2005 @	174,628	1,808	1.1%	4	0	0.0%	43,657	452	1.1%

* Formerly called Schedule H-1.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE P - LARGE POWER SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
LANAI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	11,970	11,659	12,114	12,241	11,890	11,618	12,416	11,665	11,544	11,728	12,774
Customers	3	3	3	3	3	3	3	3	3	3	3
Growth %	-6.8%	-2.6%	3.9%	1.1%	-2.9%	-2.3%	6.9%	-6.0%	-1.0%	1.6%	8.9%

Maui Electric Company, Ltd.
Lanai Division

BILLED DATA

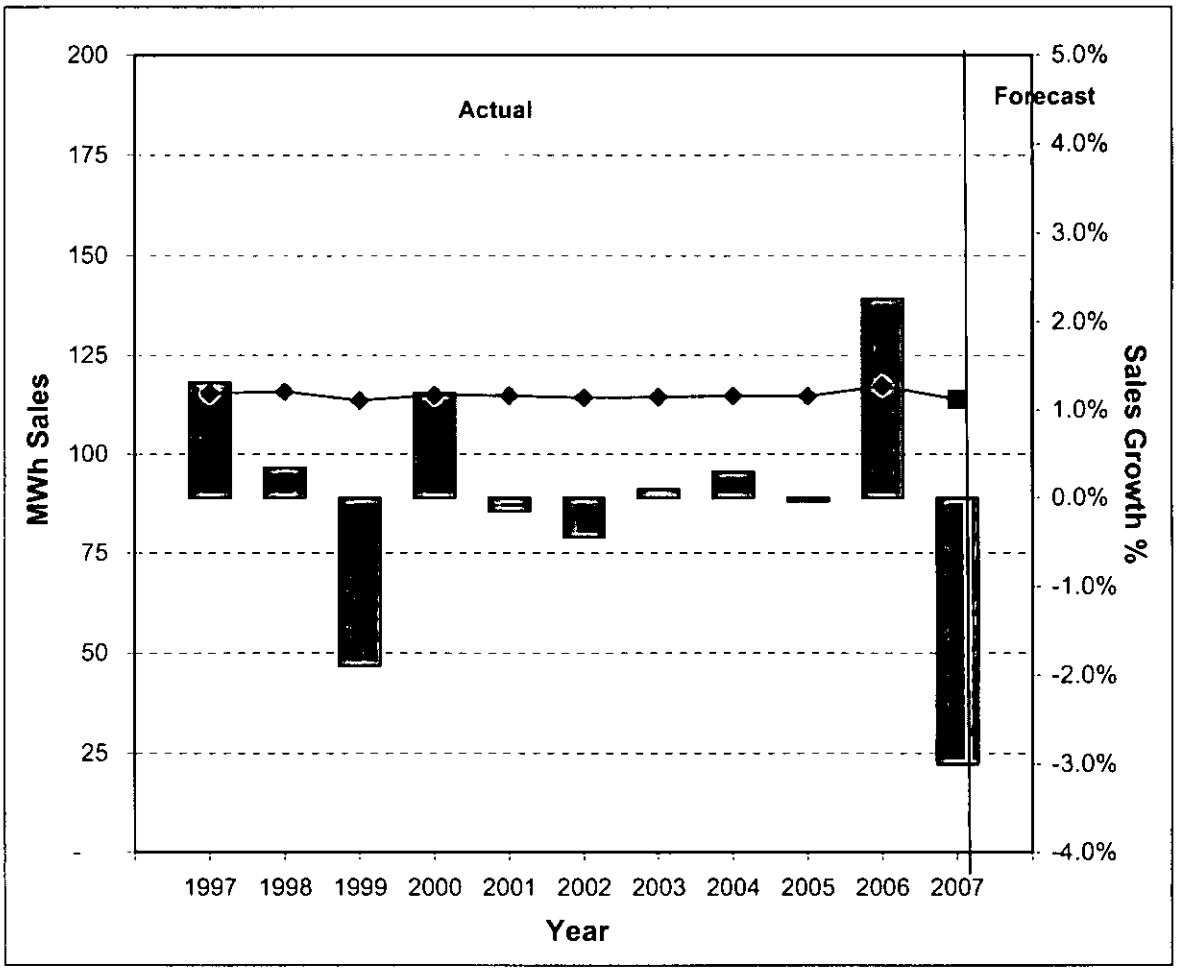
SCHEDULE P : LARGE POWER SERVICE

	Billed Sales			Average Customers			Use / Average Customer		
Year	Kwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975									
1976									
1977									
1978									
1979									
1980									
1981									
1982									
1983									
1984									
1985									
1986									
1987									
1988 *	1,925,500			1			1,925,500		
1989	4,469,600	2,544,100	132.1%	1	0	0.0%	4,469,600	2,544,100	132.1%
1990	6,496,600	2,027,000	45.4%	2	1	100.0%	3,248,300	(1,221,300)	-27.3%
1991	8,466,200	1,969,600	30.3%	2	0	0.0%	4,233,100	984,800	30.3%
1992	12,280,300	3,814,100	45.1%	3	1	50.0%	4,093,433	(139,667)	-3.3%
1993	12,732,000	451,700	3.7%	3	0	0.0%	4,244,000	150,567	3.7%
1994	13,544,400	812,400	6.4%	3	0	0.0%	4,514,800	270,800	6.4%
1995	12,721,600	(822,800)	-6.1%	3	0	0.0%	4,240,533	(274,267)	-6.1%
1996	12,847,400	125,800	1.0%	3	0	0.0%	4,282,467	41,934	1.0%
1997	11,969,600	(877,800)	-6.8%	3	0	0.0%	3,989,867	(292,600)	-6.8%
1998	11,658,600	(311,000)	-2.6%	3	0	0.0%	3,886,200	(103,667)	-2.6%
1999	12,113,600	455,000	3.9%	3	0	0.0%	4,037,867	151,667	3.9%
2000	12,241,200	127,600	1.1%	3	0	0.0%	4,080,400	42,533	1.1%
2001	11,889,600	(351,600)	-2.9%	3	0	0.0%	3,963,200	(117,200)	-2.9%
2002	11,618,400	(271,200)	-2.3%	3	0	0.0%	3,872,800	(90,400)	-2.3%
2003	12,415,600	797,200	6.9%	3	0	0.0%	4,138,533	265,733	6.9%
2004	11,665,000	(750,600)	-6.1%	3	0	0.0%	3,888,333	(250,200)	-6.1%
2005	11,543,600	(121,400)	-1.0%	3	0	0.0%	3,847,867	(40,466)	-1.0%
2006	11,728,000	184,400	1.6%	3	0	0.0%	3,909,333	61,466	1.6%
2005 @	3,624,200			3			1,208,067		
2006 @	4,047,800	423,600	11.7%	3	0	0.0%	1,349,267	141,200	11.7%

* Dole Company pumps came on line as Schedule "P" from September, 1988.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE F - STREET LIGHTING
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
LANAI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	115	116	114	115	115	114	114	115	115	117	114
Customers	4	4	4	3	3	3	3	3	3	3	3
Growth %	1.3%	0.3%	-1.9%	1.2%	-0.1%	-0.4%	0.1%	0.3%	0.0%	2.3%	-3.0%

Maui Electric Company, Ltd.
Lanai Division

BILLED DATA

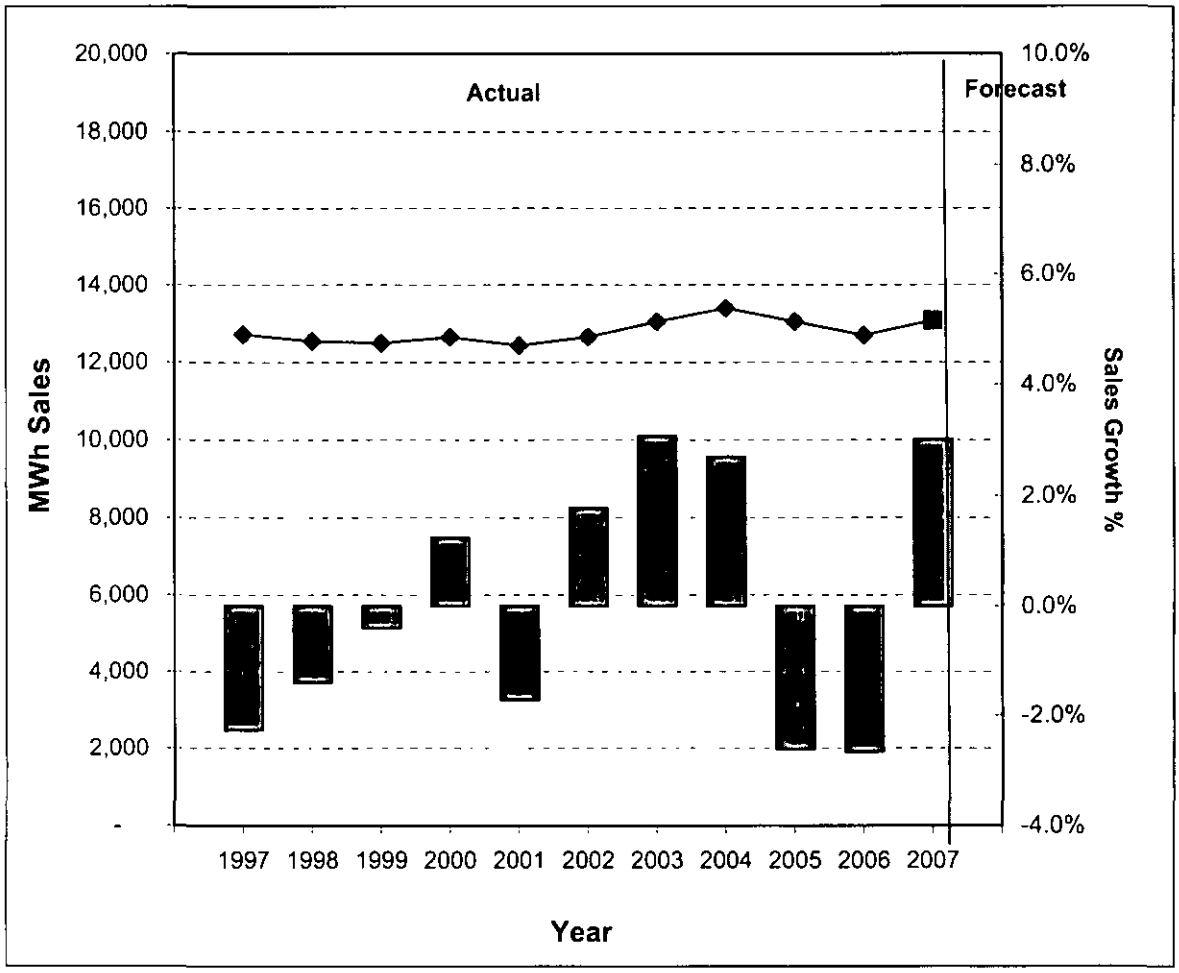
SCHEDULE F : STREET LIGHTING

Year	Billed Sales			Average Customers			Use / Average Customer		
	Kwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975 *	49,991			6			8,332		
1976	62,310	12,319	24.6%	6	0	0.0%	10,385	2,053	24.6%
1977	83,069	20,759	33.3%	6	0	0.0%	13,845	3,460	33.3%
1978	87,312	4,243	5.1%	6	0	0.0%	14,552	707	5.1%
1979	89,262	1,950	2.2%	6	0	0.0%	14,877	325	2.2%
1980	93,956	4,694	5.3%	6	0	0.0%	15,659	782	5.3%
1981	101,811	7,855	8.4%	6	0	0.0%	16,969	1,310	8.4%
1982	100,361	(1,450)	-1.4%	6	0	0.0%	16,727	(242)	-1.4%
1983	98,810	(1,551)	-1.6%	6	0	0.0%	16,468	(259)	-1.6%
1984	100,306	1,496	1.5%	6	0	0.0%	16,718	250	1.5%
1985	108,665	8,359	8.3%	6	0	0.0%	18,111	1,393	8.3%
1986	98,613	(10,052)	-9.3%	6	0	0.0%	16,436	(1,675)	-9.3%
1987	96,429	(2,184)	-2.2%	5	(1)	-16.7%	19,286	2,850	17.3%
1988	96,159	(270)	-0.3%	4	(1)	-20.0%	24,040	4,754	24.7%
1989	108,690	12,531	13.0%	6	2	50.0%	18,115	(5,925)	-24.7%
1990	128,125	19,435	17.9%	8	2	33.3%	16,016	(2,099)	-11.6%
1991	114,304	(13,821)	-10.8%	8	0	0.0%	14,288	(1,728)	-10.8%
1992	114,505	201	0.2%	7	(1)	-12.5%	16,358	2,070	14.5%
1993	136,843	22,338	19.5%	6	(1)	-14.3%	22,807	6,449	39.4%
1994	125,526	(11,317)	-8.3%	6	0	0.0%	20,921	(1,886)	-8.3%
1995	125,357	(169)	-0.1%	6	0	0.0%	20,893	(28)	-0.1%
1996	113,859	(11,498)	-9.2%	4	(2)	-29.2%	26,790	5,897	28.2%
1997	115,356	1,497	1.3%	4	0	-5.9%	28,839	2,049	7.7%
1998	115,756	400	0.4%	4	0	0.0%	28,939	100	0.4%
1999	113,566	(2,190)	-1.9%	4	0	0.0%	28,392	(547)	-1.9%
2000	114,918	1,352	1.2%	3	(1)	-25.0%	38,306	9,914	34.9%
2001	114,746	(172)	-0.2%	3	0	0.0%	38,249	(57)	-0.2%
2002	114,237	(509)	-0.4%	3	0	0.0%	38,079	(170)	-0.4%
2003	114,353	116	0.1%	3	0	0.0%	38,118	39	0.1%
2004	114,695	342	0.3%	3	0	0.0%	38,232	114	0.3%
2005	114,652	(43)	0.0%	3	0	0.0%	38,217	(15)	0.0%
2006	117,248	2,596	2.3%	3	0	0.0%	39,083	866	2.3%
2005 @	38,251			3			12,750		
2006 @	38,064	(187)	-0.5%	3	0	0.0%	12,688	(62)	-0.5%

* Formerly called Schedule SL.
@ April year-to-date

Maui Electric Company, Inc.

SCHEDULE R - RESIDENTIAL SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MOLOKAI DIVISION



										Forecast	
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	12,722	12,544	12,494	12,648	12,432	12,652	13,041	13,392	13,042	12,694	13,077
Customers	2,340	2,331	2,357	2,355	2,361	2,400	2,442	2,457	2,481	2,522	2,546
Growth %	-2.3%	-1.4%	-0.4%	1.2%	-1.7%	1.8%	3.1%	2.7%	-2.6%	-2.7%	3.0%

Maui Electric Company, Ltd.
Molokai Division

BILLED DATA

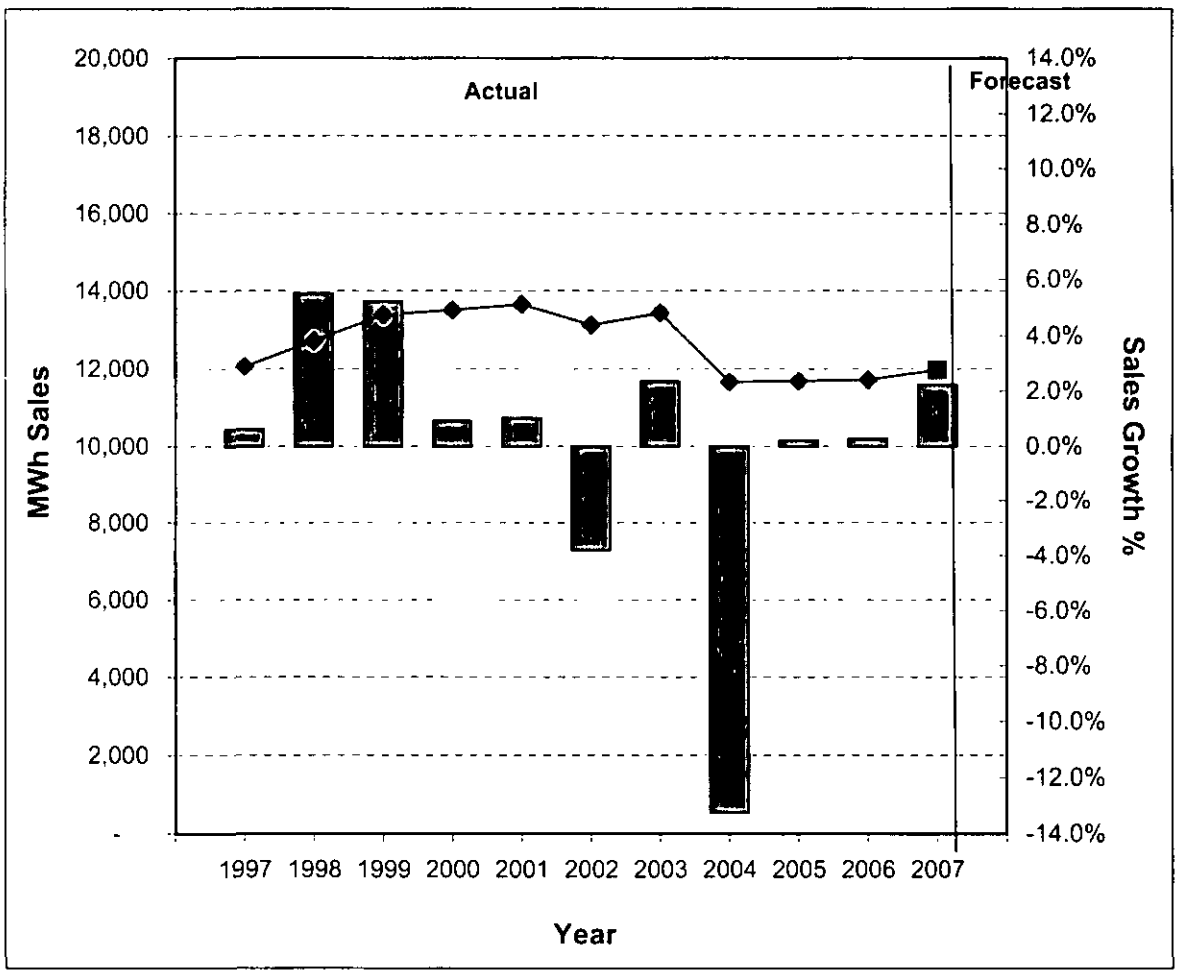
SCHEDULE R : RESIDENTIAL SERVICE

	Billed Sales			Average Customers			Use / Average Customer		
Year	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975									
1976									
1977									
1978									
1979									
1980	10,332			1,838			5,621		
1981	10,232	(99)	-1.0%	1,866	28	1.5%	5,484	(137)	-2.4%
1982	10,010	(223)	-2.2%	1,921	55	3.0%	5,211	(273)	-5.0%
1983	9,346	(664)	-6.6%	1,946	25	1.3%	4,803	(408)	-7.8%
1984	9,512	166	1.8%	2,004	58	3.0%	4,747	(56)	-1.2%
1985	9,778	266	2.8%	2,057	53	2.6%	4,753	6	0.1%
1986	10,187	409	4.2%	2,080	23	1.1%	4,898	145	3.1%
1987	10,594	407	4.0%	2,113	33	1.6%	5,014	116	2.4%
1988	10,756	162	1.5%	2,150	37	1.8%	5,003	(11)	-0.2%
1989	11,048	292	2.7%	2,164	14	0.7%	5,105	102	2.0%
1990	11,420	372	3.4%	2,194	30	1.4%	5,205	100	2.0%
1991	11,605	184	1.6%	2,218	24	1.1%	5,232	27	0.5%
1992	12,017	413	3.6%	2,269	51	2.3%	5,296	64	1.2%
1993	12,199	182	1.5%	2,275	6	0.3%	5,362	66	1.3%
1994	12,500	301	2.5%	2,307	32	1.4%	5,418	56	1.0%
1995	12,734	234	1.9%	2,310	3	0.1%	5,512	94	1.7%
1996	13,016	282	2.2%	2,323	13	0.6%	5,604	92	1.7%
1997	12,722	(295)	-2.3%	2,340	17	0.7%	5,438	(166)	-3.0%
1998	12,544	(178)	-1.4%	2,331	(9)	-0.4%	5,381	(57)	-1.1%
1999	12,494	(50)	-0.4%	2,357	26	1.1%	5,301	(80)	-1.5%
2000	12,648	154	1.2%	2,355	(2)	-0.1%	5,371	70	1.3%
2001	12,432	(216)	-1.7%	2,361	6	0.3%	5,265	(106)	-2.0%
2002	12,652	220	1.8%	2,400	39	1.7%	5,272	7	0.1%
2003	13,041	388	3.1%	2,442	42	1.8%	5,340	68	1.3%
2004	13,392	352	2.7%	2,457	15	0.6%	5,451	111	2.1%
2005	13,042	(351)	-2.6%	2,483	26	1.1%	5,252	(199)	-3.7%
2006	12,694	(347)	-2.7%	2,522	39	1.6%	5,033	(219)	-4.2%
2005 @	4,432			2,473			1,792		
2006 @	4,282	(150)	-3.4%	2,511	39	1.6%	1,705	(87)	-4.9%

Note: Data from 1975 through 1979 not available.
@ April year-to-date.

Maui Electric Company, Inc.

SCHEDULE G/J - GENERAL SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MOLOKAI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	12,061	12,725	13,389	13,512	13,651	13,132	13,440	11,662	11,685	11,718	11,979
Customers	454	471	493	498	496	493	493	492	510	518	540
Growth %	0.6%	5.5%	5.2%	0.9%	1.0%	-3.8%	2.3%	-13.2%	0.2%	0.3%	2.2%

Maui Electric Company, Ltd.
Molokai Division

BILLED DATA

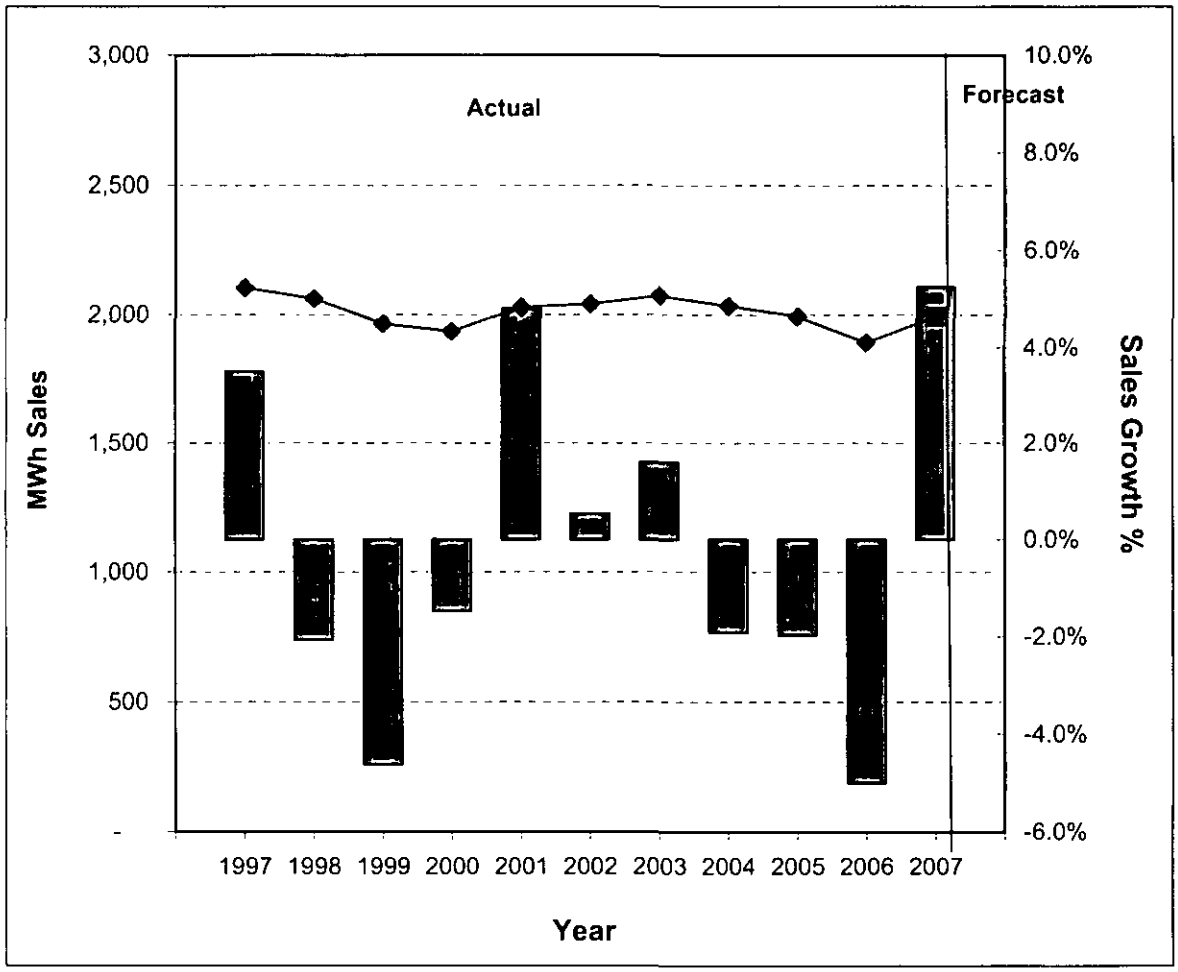
SCHEDULE G/J : GENERAL SERVICE

	Billed Sales			Average Customers			Use / Average Customer		
Year	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975									
1976									
1977									
1978									
1979									
1980	9,354			358			26,128		
1981	9,560	207	2.2%	371	13	3.6%	25,769	(359)	-1.4%
1982	9,768	207	2.2%	374	3	0.8%	26,117	348	1.4%
1983	9,798	30	0.3%	381	7	1.9%	25,716	(401)	-1.5%
1984	10,627	829	8.5%	382	1	0.3%	27,820	2,104	8.2%
1985	9,919	(709)	-6.7%	404	22	5.8%	24,551	(3,269)	-11.8%
1986	10,429	510	5.1%	411	7	1.7%	25,374	823	3.4%
1987	10,487	58	0.6%	412	1	0.2%	25,454	80	0.3%
1988	10,721	234	2.2%	421	9	2.2%	25,466	12	0.1%
1989	10,693	(28)	-0.3%	428	7	1.7%	24,985	(481)	-1.9%
1990	11,294	600	5.6%	436	8	1.9%	25,903	918	3.7%
1991	11,928	634	5.6%	440	4	0.9%	27,108	1,205	4.7%
1992	12,546	619	5.2%	439	(1)	-0.2%	28,579	1,471	5.4%
1993	12,756	210	1.7%	440	1	0.2%	28,991	412	1.4%
1994	13,799	1,043	8.2%	446	6	1.4%	30,939	1,948	6.7%
1995	12,925	(874)	-6.3%	454	8	1.8%	28,468	(2,471)	-8.0%
1996	11,987	(937)	-7.3%	445	(9)	-2.0%	26,943	(1,525)	-5.4%
1997	12,061	74	0.6%	454	9	2.0%	26,576	(367)	-1.4%
1998	12,725	664	5.5%	471	17	3.8%	27,017	441	1.7%
1999	13,389	664	5.2%	493	22	4.7%	27,163	146	0.5%
2000	13,512	123	0.9%	498	5	1.0%	27,132	(31)	-0.1%
2001	13,651	139	1.0%	496	(2)	-0.4%	27,522	390	1.4%
2002	13,132	(518)	-3.8%	493	(3)	-0.6%	26,638	(884)	-3.2%
2003	13,440	307	2.3%	493	0	0.0%	27,262	624	2.3%
2004	11,662	(1,778)	-13.2%	492	(1)	-0.2%	23,702	(3,560)	-13.1%
2005	11,685	23	0.2%	510	18	3.7%	22,911	(791)	-3.3%
2006	11,718	34	0.3%	518	8	1.6%	22,622	(289)	-1.3%
2005 @	3,685			505			7,293		
2006 @	3,751	66	1.8%	522	16	3.2%	7,192	(101)	-1.4%

Note: Data from 1975 through 1979 not available.
@ April year-to-date.

Maui Electric Company, Inc.

SCHEDULE H - COMMERCIAL COOKING, AIR CONDITIONING, HEATING, AND REFRIGERATION SERVICE ACTUAL & FORECAST SALES (MWH) & SALES GROWTH % MOLOKAI DIVISION



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Forecast 2007
MWh Sales	2,104	2,061	1,966	1,937	2,030	2,041	2,074	2,034	1,994	1,895	1,994
Customers	30	30	29	30	30	31	31	31	32	32	32
Growth %	3.5%	-2.1%	-4.6%	-1.5%	4.8%	0.5%	1.6%	-1.9%	-2.0%	-5.0%	5.2%

Maui Electric Company, Ltd.
Molokai Division

BILLED DATA

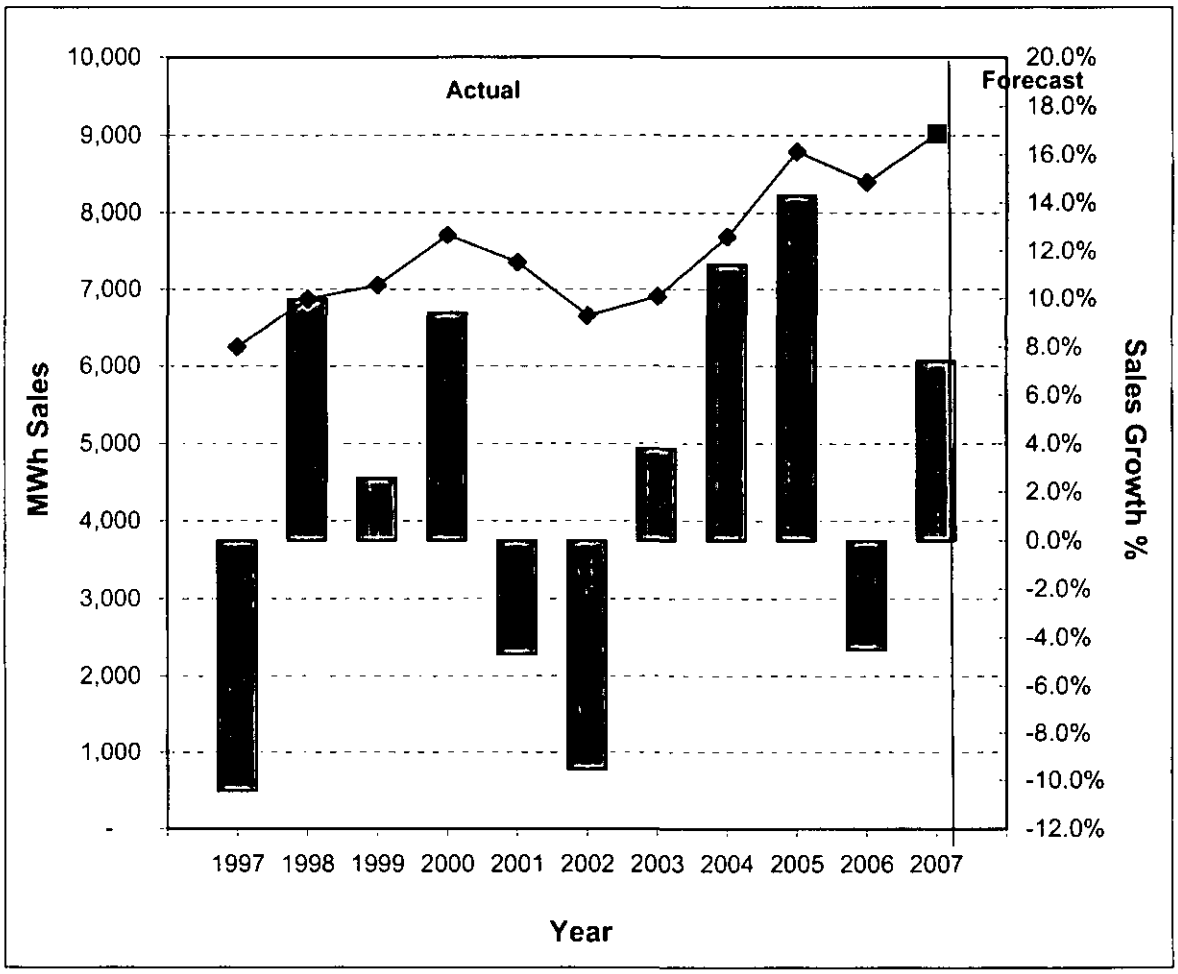
SCHEDULE H : COMMERCIAL COOKING, AIR CONDITIONING, HEATING, & REFRIGERATION SERVICE

	Billed Sales			Average Customers			Use / Average Customer		
Year	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975									
1976									
1977									
1978									
1979									
1980	1,321			42			31,451		
1981	1,372	51	3.9%	39	(3)	-7.1%	35,183	3,732	11.9%
1982	1,298	(74)	-5.4%	36	(3)	-7.7%	36,068	885	2.5%
1983	1,333	34	2.6%	33	(3)	-8.3%	40,382	4,314	12.0%
1984	1,437	104	7.8%	34	1	3.0%	42,264	1,882	4.7%
1985	1,394	(43)	-3.0%	33	(1)	-2.9%	42,253	(11)	0.0%
1986	1,438	44	3.1%	32	(1)	-3.0%	44,940	2,687	6.4%
1987	1,417	(21)	-1.5%	35	3	9.4%	40,493	(4,447)	-9.9%
1988	1,711	294	20.8%	35	0	0.0%	48,900	8,407	20.8%
1989	1,758	47	2.7%	35	0	0.0%	50,238	1,338	2.7%
1990	1,812	54	3.1%	37	2	5.7%	48,981	(1,257)	-2.5%
1991	1,758	(54)	-3.0%	36	(1)	-2.7%	48,829	(152)	-0.3%
1992	1,794	36	2.1%	33	(3)	-8.3%	54,362	5,533	11.3%
1993	1,646	(148)	-8.3%	30	(3)	-9.1%	54,867	505	0.9%
1994	1,701	55	3.3%	30	0	0.0%	56,700	1,833	3.3%
1995	1,912	211	12.4%	30	0	0.0%	63,728	7,028	12.4%
1996	2,033	121	6.3%	30	0	-1.4%	68,725	4,997	7.8%
1997	2,104	71	3.5%	30	0	-0.3%	71,336	2,611	3.8%
1998	2,061	(43)	-2.1%	30	1	1.7%	68,700	(2,636)	-3.7%
1999	1,966	(95)	-4.6%	29	(1)	-3.3%	67,789	(911)	-1.3%
2000	1,937	(29)	-1.5%	30	1	3.5%	64,569	(3,220)	-4.8%
2001	2,030	93	4.8%	30	0	0.0%	67,665	3,096	4.8%
2002	2,041	11	0.5%	31	1	3.3%	65,837	(1,828)	-2.7%
2003	2,074	33	1.6%	31	0	0.0%	66,892	1,055	1.6%
2004	2,034	(40)	-1.9%	31	0	0.0%	65,616	(1,276)	-1.9%
2005	1,994	(40)	-2.0%	32	1	3.2%	62,320	(3,296)	-5.0%
2006	1,895	(99)	-5.0%	32	0	0.0%	59,216	(3,104)	-5.0%
2005 @	597			31			19,253		
2006 @	562	(35)	-5.9%	32	1	3.2%	17,559	(1,694)	-8.8%

Note: Data from 1975 through 1979 not available.
@ April year-to-date.

Maui Electric Company, Inc.

SCHEDULE P - LARGE POWER SERVICE
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MOLOKAI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	6,249	6,872	7,048	7,711	7,349	6,649	6,902	7,691	8,793	8,397	9,019
Customers	12	12	12	12	13	13	12	16	16	14	14
Growth %	-10.4%	10.0%	2.6%	9.4%	-4.7%	-9.5%	3.8%	11.4%	14.3%	-4.5%	7.4%

Maui Electric Company, Ltd.
Molokai Division

BILLED DATA

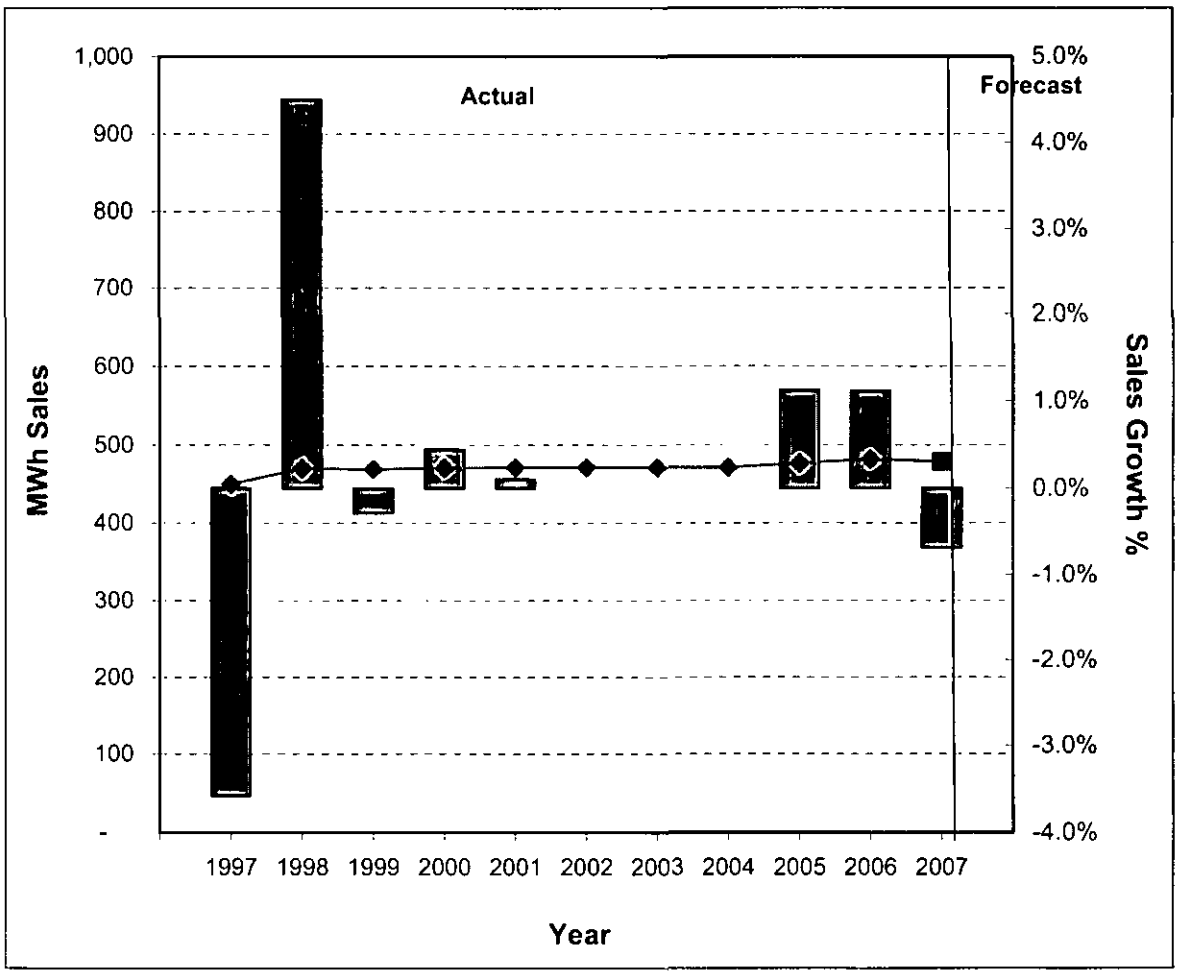
SCHEDULE P : LARGE POWER SERVICE

	Billed Sales			Average Customers			Use / Average Customer		
Year	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975									
1976									
1977									
1978									
1979									
1980	1,289			3			429,600		
1981	1,755	467	36.2%	4	1	33.3%	438,857	438,857	2.2%
1982	1,777	21	1.2%	4	0	0.0%	444,140	5,283	1.2%
1983	2,165	388	21.9%	6	2	50.0%	360,833	355,550	-18.8%
1984	2,253	88	4.0%	8	2	33.3%	281,569	(73,981)	-22.0%
1985	3,032	780	34.6%	9	1	12.5%	336,913	410,894	19.7%
1986	2,784	(248)	-8.2%	8	(1)	-11.1%	348,029	(62,865)	3.3%
1987	2,437	(347)	-12.5%	8	0	0.0%	304,669	367,534	-12.5%
1988	2,613	175	7.2%	8	0	0.0%	326,574	(40,960)	7.2%
1989	2,359	(254)	-9.7%	8	0	0.0%	294,880	335,840	-9.7%
1990	2,652	293	12.4%	9	1	12.5%	294,634	(41,206)	-0.1%
1991	2,700	49	1.8%	10	1	11.1%	270,029	311,235	-8.4%
1992	2,913	213	7.9%	10	0	0.0%	291,307	(19,928)	7.9%
1993	3,783	870	29.9%	11	1	10.0%	343,909	363,837	18.1%
1994	4,278	495	13.1%	10	(1)	-9.1%	427,800	63,963	24.4%
1995	5,847	1,569	36.7%	9	(1)	-10.0%	649,651	585,688	51.9%
1996	6,978	1,131	19.3%	12	3	33.3%	581,480	(4,208)	-10.5%
1997	6,249	(729)	-10.4%	12	0	0.0%	520,750	524,958	-10.4%
1998	6,872	623	10.0%	12	0	0.0%	572,667	47,709	10.0%
1999	7,048	176	2.6%	12	0	0.0%	587,302	539,593	2.6%
2000	7,711	663	9.4%	12	0	0.0%	642,542	102,949	9.4%
2001	7,349	(361)	-4.7%	13	1	8.3%	565,334	462,385	-12.0%
2002	6,649	(701)	-9.5%	13	0	0.0%	511,434	49,049	-9.5%
2003	6,902	253	3.8%	12	(1)	-7.7%	575,143	526,094	12.5%
2004	7,691	789	11.4%	16	4	33.3%	480,682	(45,412)	-16.4%
2005	8,793	1,102	14.3%	16	0	0.0%	549,537	594,949	14.3%
2006	8,397	(395)	-4.5%	14	(2)	-12.5%	599,798	4,849	9.2%
2005	2,584			16			159,001		
2006	2,290	(294)	-11.4%	14	14	-16.9%	169,625	169,625	6.7%

Note: Data from 1975 through 1979 not available.
@ April year-to-date.

Maui Electric Company, Inc.

SCHEDULE F - STREET LIGHTING
ACTUAL & FORECAST SALES (MWH) & SALES GROWTH %
MOLOKAI DIVISION



											Forecast
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
MWh Sales	450	470	469	471	471	471	471	471	477	482	479
Customers	10	10	10	9	9	9	9	9	9	8	9
Growth %	-3.6%	4.5%	-0.3%	0.4%	0.1%	0.0%	0.0%	0.0%	1.1%	1.1%	-0.7%

Maui Electric Company, Ltd.
Molokai Division

BILLED DATA

SCHEDULE F : STREET LIGHTING

Year	Billed Sales			Average Customers			Use / Average Customer		
	Mwh	Chg	% Chg	No.	Chg	% Chg	Kwh	Chg	% Chg
1975									
1976									
1977									
1978									
1979									
1980	397			6			66,227		
1981	399	2	0.5%	6	0	0.0%	66,572	345	0.5%
1982	400	1	0.2%	6	0	0.0%	66,732	160	0.2%
1983	416	16	3.9%	6	0	0.0%	69,329	2,597	3.9%
1984	418	2	0.6%	6	0	0.0%	69,716	387	0.6%
1985	422	3	0.8%	6	0	0.0%	70,285	569	0.8%
1986	433	12	2.7%	6	0	0.0%	72,213	1,928	2.7%
1987	454	20	4.7%	7	1	16.7%	64,817	(7,396)	-10.2%
1988	461	7	1.6%	8	1	14.3%	57,594	(7,223)	-11.1%
1989	464	3	0.7%	8	0	0.0%	57,993	399	0.7%
1990	456	(8)	-1.7%	9	1	12.5%	50,657	(7,336)	-12.7%
1991	453	(3)	-0.7%	9	0	0.0%	50,299	(358)	-0.7%
1992	457	4	0.9%	9	0	0.0%	50,730	431	0.9%
1993	459	2	0.5%	9	0	0.0%	51,000	270	0.5%
1994	454	(5)	-1.1%	9	0	0.0%	50,444	(556)	-1.1%
1995	463	9	2.1%	10	1	11.1%	46,339	(4,105)	-8.1%
1996	466	3	0.7%	10	0	0.0%	46,644	305	0.7%
1997	450	(17)	-3.6%	10	0	0.0%	44,974	(1,670)	-3.6%
1998	470	20	4.5%	10	0	0.0%	47,000	2,026	4.5%
1999	469	(1)	-0.3%	10	0	0.0%	46,866	(134)	-0.3%
2000	471	2	0.5%	9	(1)	-10.0%	52,305	5,439	11.6%
2001	471	0	0.1%	9	0	0.0%	52,360	55	0.1%
2002	471	0	0.0%	9	0	0.0%	52,360	0	0.0%
2003	471	0	0.0%	9	0	0.0%	52,360	0	0.0%
2004	471	0	0.0%	9	0	0.0%	52,360	0	0.0%
2005	477	5	1.1%	9	0	0.0%	52,949	589	1.1%
2006	482	5	1.1%	8	(1)	-11.1%	60,231	7,282	13.8%
2005 @	157			9			17,453		
2006 @	161	4	2.3%	9	0	0.0%	17,846	393	2.3%

Note: Data from 1975 through 1979 not available.
@ April year-to-date.

Maui Electric Company, Ltd
Kahului Airport Weather Data
Monthly Cooling Degree Days

		January	February	March	April	May	June	July	August	September	October	November	December
cooling degree days	CDD 1996	320	226	230	368	410	473	518	499	471	479	383	264
(Kahului Airport)	CDD 1997	239	244	306	300	336	439	468	478	496	460	324	261
	CDD 1998	214	200	266	269	302	347	412	442	392	385	334	223
	CDD 1999	199	174	252	268	341	366	398	420	412	361	310	252
	CDD 2000	172	197	268	273	345	388	438	444	394	412	318	227
	CDD 2001	239	204	252	281	327	376	434	459	430	381	327	276
	CDD 2002	220	168	233	286	337	397	422	465	394	393	306	258
	CDD 2003	211	199	273	305	353	414	477	492	448	441	350	245
	CDD 2004	208	249	243	267	357	419	460	505	438	453	346	263
	CDD 2005	258	207	203	283	379	407	448	426	453	392	325	269
	CDD 2006	254	218	312	271	291	391	446	475	442	412	329	274
	CDD 2007	262	202	277	283								

http://www.nws.noaa.gov/climate/index.php?wfo=hnl

CA-IR-42

Ref: MECO T-2, page 2, line 23 (MECO's July 2006 Forecast).

Please provide the following information regarding MECO's annual sales forecast and any quarterly update procedures:

a. A complete copy of the most recent "annual sales forecast," if any updates have been prepared after July 2006.

b. A complete copy of the most "recent quarterly sales update," if any updates are available.

c. A complete copy of any revised sales and customer forecast data for 2007 that was recently produced in connection with MECO Integrated Resource Planning efforts or filings.

d. Complete copies of documents prepared in the normal course of business to track and reconcile actual sales and customer levels in comparison to budgeted levels for 2007, to date.

MECO Response:

a. MECO is in the process of updating the July 2006 forecast through its annual forecasting process. This forecast is not yet available and will be provided upon completion in July.

b. The information requested in not available, as MECO does not conduct quarterly forecast updates.

c. See response to part a.

d. See attached tables.

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
FORECASTED AND ACTUAL RECORDED SALES FOR 2007
APRIL YEAR TO DATE

(MWH)

RATE	2007 FORECASTED 4/07	2007 ACTUAL 4/07	MWH 2007 VARIANCE	% 2007 VARIANCE
Maui Division				
R	138,606	138,130	-476	-0.3%
G/J	113,724	114,891	1,167	1.0%
H	6,308	6,380	73	1.2%
P	123,763	124,382	619	0.5%
F	1,790	1,746	-44	-2.4%
TOTAL	384,191	385,530	1,339	0.3%
Lanai Division				
R	2,741	2,848	107	3.9%
G/J	2,500	2,722	221	8.9%
H	171	180	9	5.2%
P	4,026	4,058	32	0.8%
F	38	43	5	12.0%
TOTAL	9,476	9,850	374	3.9%
Molokai Division				
R	4,293	4,178	-115	-2.7%
G/J	3,787	3,825	39	1.0%
H	599	591	-7	-1.2%
P	2,623	2,713	90	3.4%
F	159	161	2	1.2%
TOTAL	11,460	11,468	8	0.1%
MECO Consolidated				
R	145,640	145,156	-484	-0.3%
G/J	120,011	121,438	1,427	1.2%
H	7,077	7,151	74	1.0%
P	130,412	131,154	741	0.6%
F	1,987	1,950	-37	-1.9%
TOTAL	405,127	406,848	1,721	0.4%

*Uses July 2006 Sales Forecast

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
FORECASTED AND ACTUAL RECORDED SALES FOR 2007
MONTH OF APRIL

(MWH)

RATE	2007 FORECASTED 4/07	2007 ACTUAL 4/07	MWH 2007 VARIANCE	% 2007 VARIANCE
Maui Division				
R	34,412	33,548	-864	-2.5%
G/J	28,916	28,659	-257	-0.9%
H	1,668	1,654	-14	-0.8%
P	30,979	31,199	220	0.7%
F	449	432	-17	-3.8%
TOTAL	96,425	95,493	-932	-1.0%
Lanai Division				
R	668	732	63	9.5%
G/J	624	692	68	10.9%
H	43	48	5	10.8%
P	1,055	1,019	-36	-3.4%
F	10	12	2	25.7%
TOTAL	2,400	2,502	103	4.3%
Molokai Division				
R	1,036	1,040	4	0.4%
G/J	952	951	-1	-0.1%
H	160	152	-8	-4.9%
P	676	692	17	2.5%
F	39	40	1	2.7%
TOTAL	2,862	2,874	13	0.4%
MECO Consolidated				
R	36,117	35,320	-797	-2.2%
G/J	30,491	30,302	-190	-0.6%
H	1,871	1,854	-17	-0.9%
P	32,710	32,911	200	0.6%
F	498	484	-13	-2.7%
TOTAL	101,687	100,870	-817	-0.8%

*Uses July 2006 Sales Forecast

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
2006 AND 2007 YEAR-TO-DATE RECORDED SALES
APRIL YEAR TO DATE

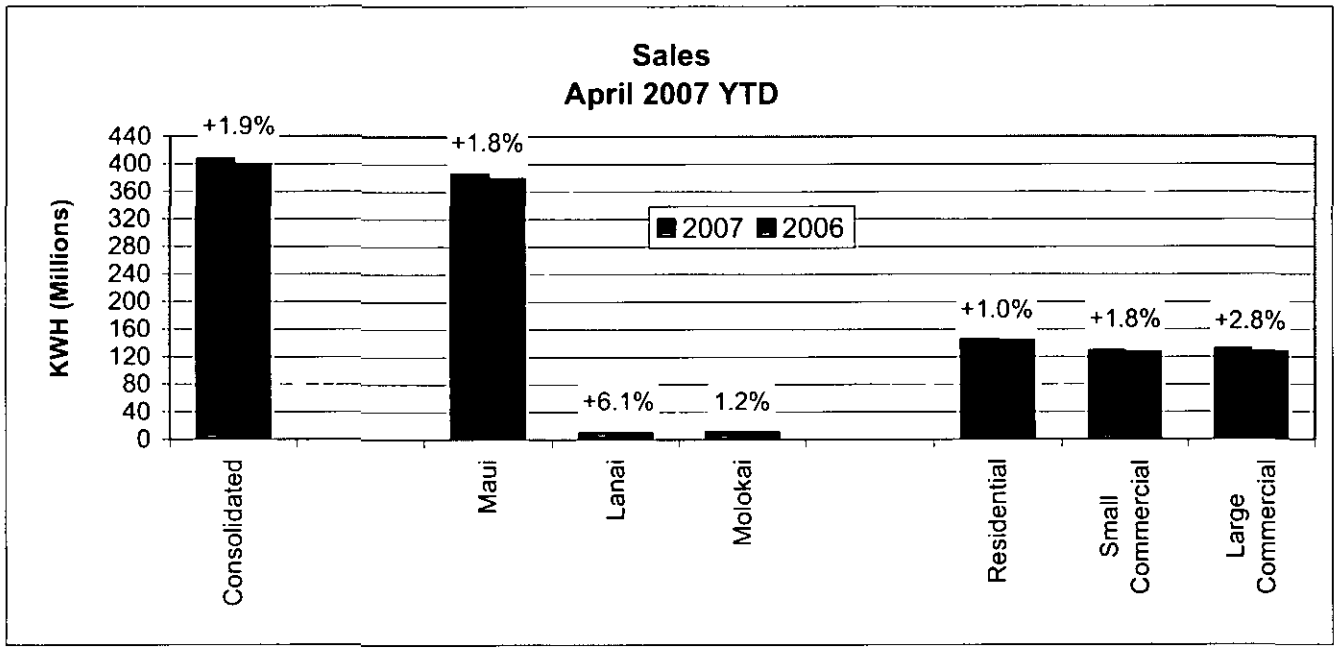
(MWH)

RATE	2006 RECORDED 4/06	2007 RECORDED 4/07	MWH 2007 CHANGE	% 2007 CHANGE
Maui Division				
R	136,744	138,130	1,385	1.0%
G/J	112,917	114,891	1,974	1.7%
H	6,430	6,380	-50	-0.8%
P	120,953	124,382	3,429	2.8%
F	1,786	1,746	-40	-2.2%
TOTAL	378,831	385,530	6,699	1.8%
Lanai Division				
R	2,664	2,848	184	6.9%
G/J	2,469	2,722	252	10.2%
H	170	180	10	5.7%
P	3,937	4,058	121	3.1%
F	38	43	4	10.9%
TOTAL	9,279	9,850	571	6.1%
Molokai Division				
R	4,243	4,178	-65	-1.5%
G/J	3,722	3,825	103	2.8%
H	558	591	34	6.0%
P	2,644	2,713	70	2.6%
F	161	161	0	0.0%
TOTAL	11,327	11,468	141	1.2%
MECO Consolidated				
R	143,652	145,156	1,504	1.0%
G/J	119,108	121,438	2,330	2.0%
H	7,158	7,151	-7	-0.1%
P	127,534	131,154	3,620	2.8%
F	1,985	1,950	-36	-1.8%
TOTAL	399,437	406,848	7,411	1.9%

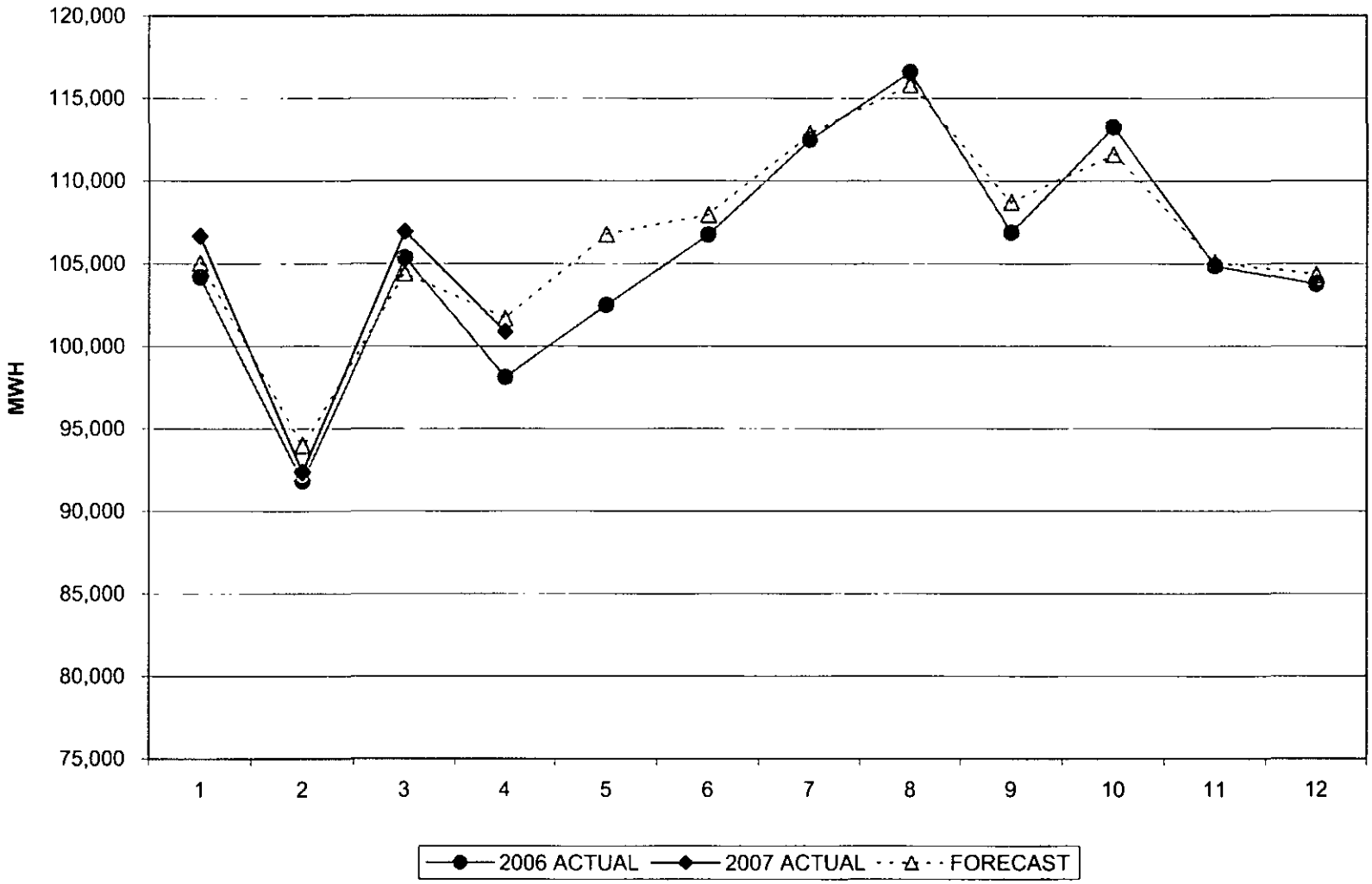
MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
2006 AND 2007 RECORDED SALES
MONTH OF APRIL

(MWH)

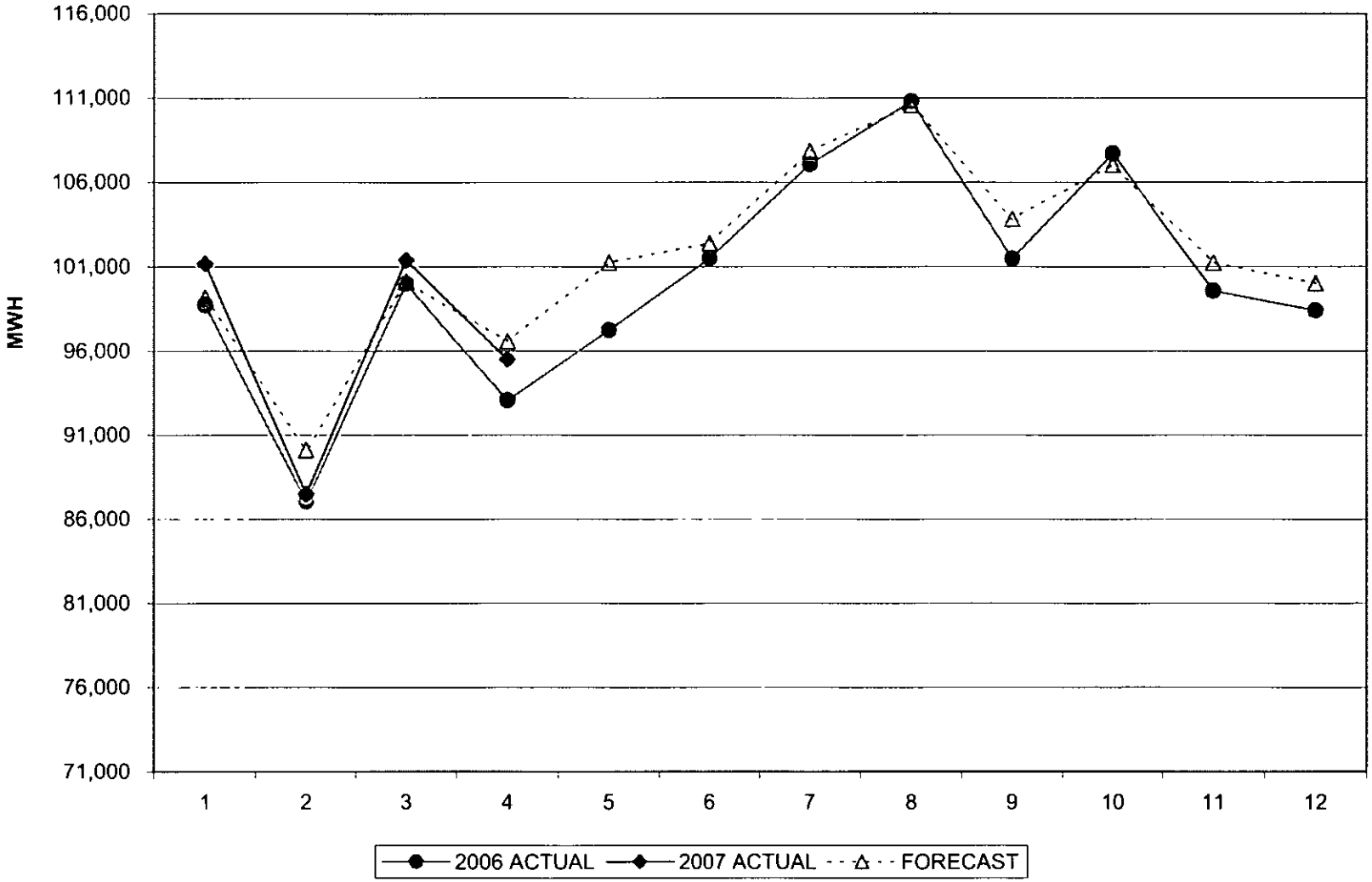
RATE	2006 RECORDED 4/06	2007 RECORDED 4/07	MWH 2007 CHANGE	% 2007 CHANGE
Maui Division				
R	33,367	33,548	181	0.5%
G/J	27,886	28,659	773	2.8%
H	1,632	1,654	23	1.4%
P	29,737	31,199	1,462	4.9%
F	451	432	-18	-4.1%
TOTAL	93,073	95,493	2,421	2.6%
Lanai Division				
R	652	732	79	12.2%
G/J	562	692	129	23.0%
H	43	48	5	10.8%
P	980	1,019	40	4.0%
F	10	12	2	17.4%
TOTAL	2,248	2,502	255	11.3%
Molokai Division				
R	1,066	1,040	-26	-2.4%
G/J	917	951	33	3.6%
H	143	152	9	6.5%
P	631	692	62	9.8%
F	40	40	0	-0.1%
TOTAL	2,796	2,874	78	2.8%
MECO Consolidated				
R	35,085	35,320	235	0.7%
G/J	29,366	30,302	936	3.2%
H	1,818	1,854	36	2.0%
P	31,347	32,911	1,563	5.0%
F	501	484	-17	-3.3%
TOTAL	98,116	100,870	2,754	2.8%

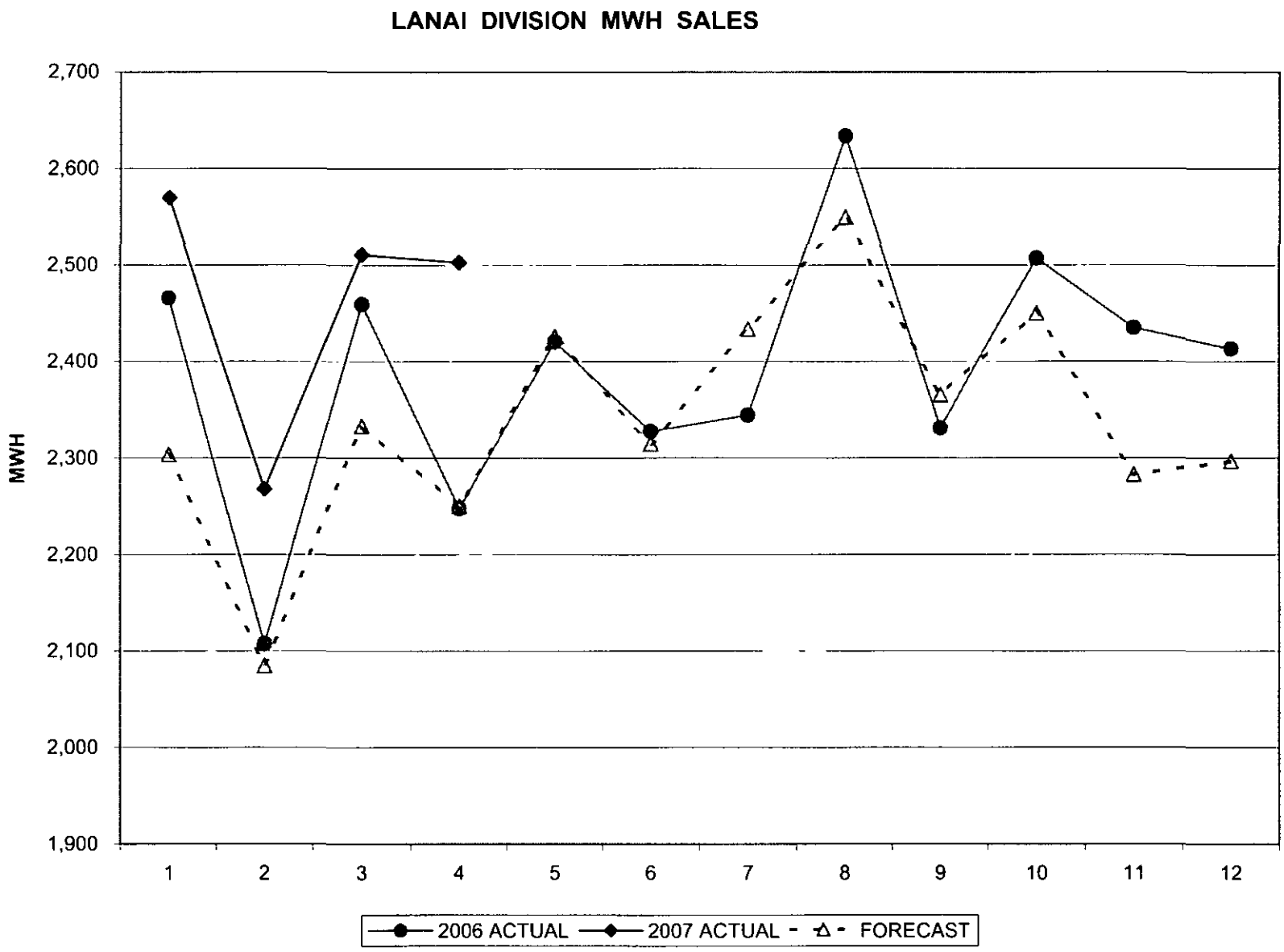

Sales
April 2007 YTD
KWH (Millions)
440
400
360
320
280
240
200
160
120
80
40
0
2007
2006
+1.9%
+1.8%
+6.1%
1.2%
+1.0%
+1.8%
+2.8%
Consolidated
Maui
Lanai
Molokai
Residential
Small Commercial
Large Commercial

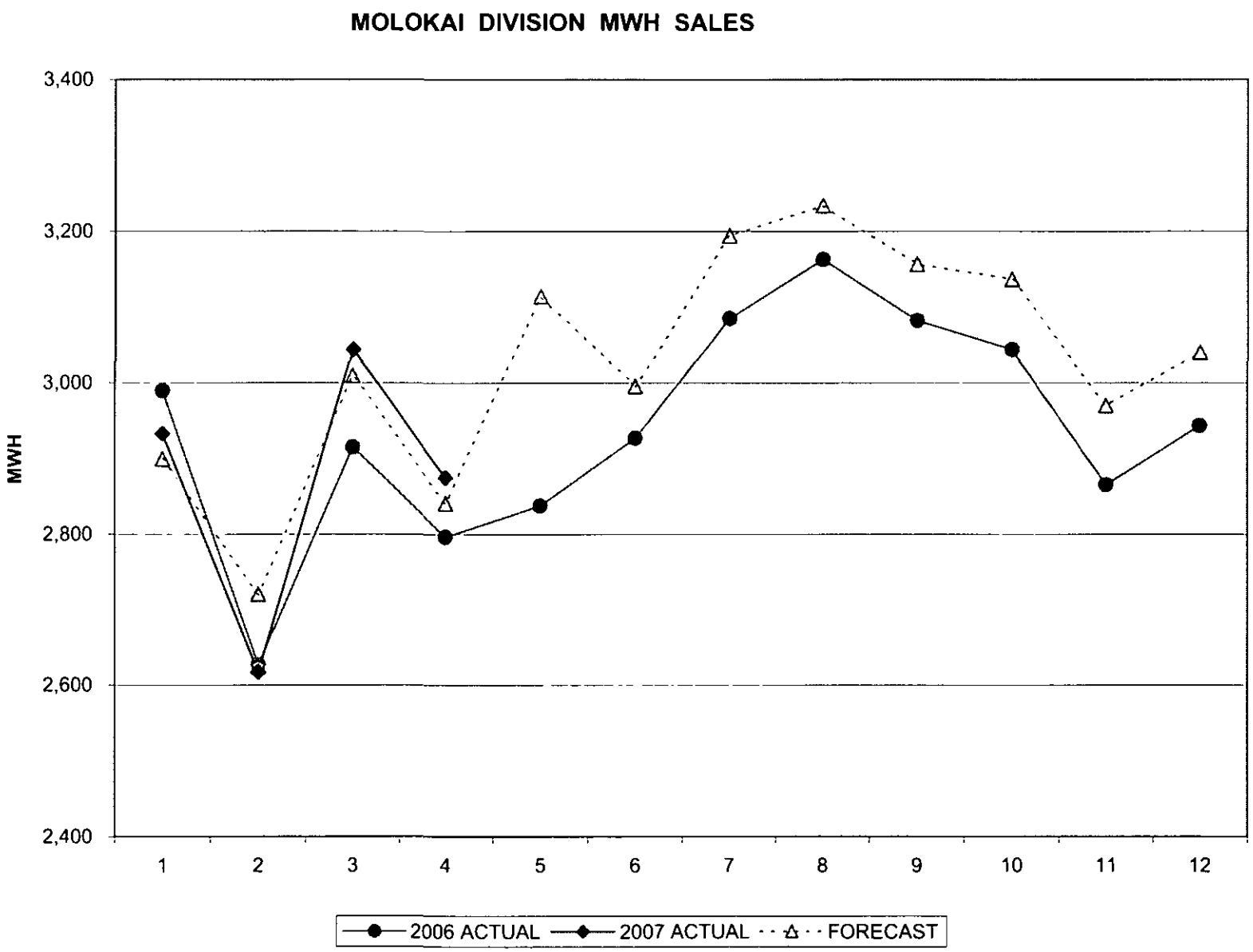
MECO CONSOLIDATED MWH SALES
COMPARISON OF ACTUALS TO FORECAST



MAUI ELECTRIC COMPANY, LIMITED
MAUI DIVISION SALES (MWH)




LANAI DIVISION MWH SALES
MWH
2,700
2,600
2,500
2,400
2,300
2,200
2,100
2,000
1,900
1
2
3
4
5
6
7
8
9
10
11
12
2006 ACTUAL
2007 ACTUAL
FORECAST


MOLOKAI DIVISION MWH SALES
MWH
3,400
3,200
3,000
2,800
2,600
2,400
1
2
3
4
5
6
7
8
9
10
11
12
2006 ACTUAL
2007 ACTUAL
FORECAST

Maui Electric Company, Ltd.
MWH SALES

Consolidated

	2002 ACTUAL	2003 ACTUAL	2004 ACTUAL	2005 ACTUAL	2006 ACTUAL	2007 ACTUAL	July 2007 FORECAST	July 2006 FORECAST
Jan	93,956	97,541	100,320	102,889	104,180	106,665	105,042	104,353
Feb	83,367	84,731	95,975	90,393	91,794	92,376	93,974	94,918
Mar	94,307	100,554	99,357	100,099	105,347	106,936	104,424	105,446
Apr	93,004	94,589	99,037	99,059	98,116	100,870	101,687	101,665
May	97,222	99,584	103,520	106,522	102,484		106,771	106,783
Jun	98,270	101,472	105,073	107,075	106,739		107,962	107,696
Jul	101,882	105,885	110,658	110,642	112,487		112,851	113,474
Aug	106,261	109,906	114,173	112,549	116,591		115,842	116,359
Sep	97,716	104,784	106,182	107,231	106,873		108,704	109,343
Oct	101,991	107,544	110,192	109,426	113,246		111,585	112,625
Nov	94,888	100,524	103,573	102,172	104,857		105,079	106,476
Dec	95,854	99,805	99,628	104,056	103,752		104,335	105,338
	1,158,717	1,206,719	1,247,689	1,252,112	1,266,467	406,848	1,278,257	1,284,475

Maui Division

	2002 ACTUAL	2003 ACTUAL	2004 ACTUAL	2005 ACTUAL	2006 ACTUAL	2007 ACTUAL	July 2007 FORECAST	July 2006 FORECAST
Jan	88874	92291	95290	97804	98,725	101,163	99,705	99,150
Feb	78979	80177	91059	85696	87,060	87,492	89,094	90,113
Mar	89203	95143	94261	94954	99,973	101,382	98,966	100,103
Apr	88118	89486	93943	93922	93,073	95,493	96,425	96,574
May	91869	94051	98228	100976	97,226		101,056	101,243
Jun	93083	96155	99881	101694	101,485		102,460	102,386
Jul	96612	100022	105225	105065	107,058		107,053	107,846
Aug	100441	104152	108500	106955	110,795		109,868	110,576
Sep	92376	99376	100754	101664	101,460		102,997	103,821
Oct	96731	101905	104721	103960	107,696		105,857	107,038
Nov	89771	95326	98398	96953	99,557		99,626	101,223
Dec	90684	94603	94283	98609	98,396		98,823	100,001
	1096739	1142689	1184544	1188253	1202503	385530	1,211,929	1220074

Lanai Division

	2002 ACTUAL	2003 ACTUAL	2004 ACTUAL	2005 ACTUAL	2006 ACTUAL	2007 ACTUAL	July 2007 FORECAST	July 2006 FORECAST
Jan	2210	2402	2249	2259	2,466	2,569	2446	2304
Feb	1900	1955	2150	2046	2,107	2,268	2183	2085
Mar	2211	2396	2230	2214	2,459	2,510	2447	2333
Apr	2154	2212	2321	2260	2,248	2,502	2400	2250
May	2369	2442	2353	2405	2,421		2551	2426
Jun	2264	2383	2320	2378	2,327		2498	2315
Jul	2285	2498	2346	2423	2,344		2572	2434
Aug	2569	2515	2520	2374	2,634		2676	2550
Sep	2261	2360	2358	2448	2,331		2524	2365
Oct	2346	2497	2397	2416	2,507		2590	2450
Nov	2244	2233	2245	2255	2,435		2419	2283
Dec	2244	2245	2312	2463	2,413		2474	2297
	27036	28136	27802	27942	28691	9850	29,780	28090

Molokai Division

	2002 ACTUAL	2003 ACTUAL	2004 ACTUAL	2005 ACTUAL	2006 ACTUAL	2007 ACTUAL	July 2007 FORECAST	July 2006 FORECAST
Jan	2872	2848	2781	2826	2,989	2,932	2890	2899
Feb	2488	2600	2765	2651	2,627	2,617	2698	2720
Mar	2893	3015	2865	2931	2,915	3,044	3011	3009
Apr	2732	2892	2774	2877	2,796	2,874	2862	2841
May	2984	3091	2939	3141	2,837		3164	3114
Jun	2924	2934	2872	3003	2,927		3005	2996
Jul	3005	3165	3088	3154	3,085		3226	3194
Aug	3251	3239	3153	3220	3,163		3299	3234
Sep	3078	3048	3070	3118	3,082		3183	3157
Oct	2914	3141	3073	3049	3,044		3138	3137
Nov	2873	2964	2930	2964	2,865		3035	2970
Dec	2927	2957	3033	2983	2,943		3039	3040
	34942	35894	35344	35918	35273	11468	36,548	36311

Confidential Information Deleted
Pursuant to Protective Order No. 23379

CA-IR-42
DOCKET NO. 2006-0387
ATTACHMENT 3

The requested information is confidential and will be provided pursuant to Protective Order No. 23379, dated April 23, 2007.

Confidential Information Deleted
Pursuant to Protective Order No. 23379

CA-IR-42
DOCKET NO. 2006-0387
ATTACHMENT 4

The requested information is confidential and will be provided pursuant to Protective Order No. 23379, dated April 23, 2007.

CA-IR-43

Ref: MECO T-2, MECO-202 (Maui, Lanai, Molokai Projects).

Please provide updated information for projects planned or under construction, indicating start of load dates and whether the project was included in test year load projections on such date.

MECO Response:

See attached updated projects lists. Note that the project list is used as one of several reference sources to validate sales growth, or lack of growth, in the residential and commercial sectors. The characteristics of each project such as type (single-family subdivisions or commercial rental units), size (number of units), location (Kihei versus Kula versus Manele) and start date of load are used to validate the sales and number of customers resulting from the various forecast models. For example, adding together the single-family and individually metered multi-family units identified for Maui results in a total of about 4,000 units. Over a period of five years, this averages to 800 new units per year. This number is used as a check for reasonableness to the projected 850 new Schedule R customers in 2007 over 2006.

The project list also specifically identifies new Schedule P customers and a rough estimate for the year in which the account will start service. For example, page 3 of this response, identifies two new commercial customers, Kihei Services Center and Kaanapali Hotel. These customers were expected to start as Schedule P customers in 2006 and 2007 respectively.

MAUI PROJECTS (5/31/2006) - Updated 05/2007

PROJECTS	EST DATE OF POWER FOR CONSTRUCTION	New Est Date for Power	PROJECTED START OF LOAD DATE	New Proj Start of Load Date	NO. OF LOTS or UNITS	COMMENTS
SINGLE-FAMILY						
LAHAINA SUBD. PH. 1	~~Aug-06~~	Jul-07			67	Lots only; No projected date for full load
LAHAINA SUBD. PH. 2	~~Aug-06~~	Sep-07			65	Lots only; No projected date for full load
KIHEI VILLAS	~~Dec-06~~	Nov-07	~~Dec-08~~	Jun-09	152	Condo Lot w/ 152 Individual Homes. Homes to be completed in 3 phases over two years.
KIHEI SUBD.	~~Dec-06~~	Completed			31	Lots only; No projected date for full load
KIHEI OCEAN SUBD.	~~Jul-06~~	Completed			90	Lots only; No projected date for full load
KIHEI VILLAGE SUBD.	~~Mar-07~~	Dec-08			65	Lots only; No projected date for full load
KEOKEA-WAIOHULI	~~Mar-07~~	Sep-08			164	Lots only; No projected date for full load. Tenants have one year from service date to start construction.
WAIKAPU SUBD.	~~Oct-07~~	Feb-08	~~Nov-07~~	Aug-08	392	Service date projects total build out of 5 phases. Phase 1 (59 homes) completed. Phase 2 completed. Phase 3 and 4 in progress. Phase 5 pending transmission line relocation.
WAILUKU SITE 11	~~May-07~~	Dec-07	Jan-08		114	Hse/Lot Subd. - Homes to be energized from service date to actual load date.
WAILEA MF-5	~~Jun-06~~	Completed	May-07		38	Condo Lot w/ 38 Individual Homes & Rec Center
WAILEA MF-9	~~Dec-06~~	Oct-07	~~Dec-07~~	Dec-08	120	Hse/Lot Subd. - Homes to be energized from service date to actual load date.
KIHEI SUBD.	~~Sep-06~~	Completed	~~Apr-07~~	Dec-08	60	Hse/Lot Subd. - Homes to be energized from service date to actual load date.
WAILUKU SITE 10	~~Sep-06~~	Dec-07			97	Lots only; No projected date for full load
WAILUKU SITE 22	~~Sep-06~~	Completed			44	Lots only; No projected date for full load
WAIKAPU SUBD.	~~Jan-07~~	Dec-07			105	Lots only; No projected date for full load
KAPALUA PH. 2	~~Oct-06~~	Completed			21	Lots only; No projected date for full load
WAILUKU SUBD.	Completed	Completed			108	Lots only; No projected date for full load
KAPALUA MAUKA	~~Jun-07~~	Jun-08			51	Lots only; No projected date for full load
KAANAPALI SUBD.	~~Jun-07~~	Jan-08			60	Lots only, No projected date for full load
MAUI LANI PH. 7 INCR. 2	~~Jul-06~~	Completed	Jul-07		134	Hse/Lot Subd. - Homes to be energized from service date to actual load date.
SPRECKELSVILLE SUBD.	~~Sep-06~~	Completed			19	Lots only; No projected date for full load
MAUI LANI PH. 1D	~~Dec-06~~	Dec-08			48	Lots only; No projected date for full load
HAIKU SUBD.	~~Dec-06~~	Dec-07			16	Lots only; No projected date for full load. Require substation installation.
MAUI LANI PH. 7 INCR. 3	~~Dec-06~~	Completed	~~Dec-07~~	Sep-08	161	Hse/Lot Subd. - Homes to be energized from service date to actual load date.
KAANAPALI LOT 10-H	~~Jun-07~~	Mar-08			23	Lots only; No projected date for full load
KULA SUBD.	~~Jul-06~~	Jul-07			64	Lots only; No projected date for full load
UKUMEHAME SUBD.	~~May-07~~	Oct-07			46	Lots only; No projected date for full load
WAIKAPU SUBD.	~~Nov-06~~	Oct-07			36	Lots only; No projected date for full load
UPCOUNTRY SUBD	~~Nov-06~~	Sep-08			49	Lots only; No projected date for full load
WAIEHU SUBD	Jul-07		~~Sep-07~~	Oct-07	99	House & lot package
KULA SUBD.	~~Dec-07~~	Dec-08			37	Lots only; No projected date for full load
MULTI-FAMILY						
KIHEI CONDOS	~~Oct-06~~	Sep-07		Sep-07	112	Individual meter
LAHAINA VILLAS PH. 1	~~May-07~~	Mar-08	~~Nov-07~~	Sep-08	125	Individual meter
KIHEI ESTATES	~~Jul-07~~	Dec-07			144	Single & Multi-family mixture, individual meters
KIHEI VILLAS	~~Dec-06~~	Dec-07	~~Jan-07~~	Dec-07	33	Individual meter
KIHEI VILLAS	~~Nov-06~~	Completed	~~Dec-06~~	Dec-07	144	Individual meter
WAILEA	~~Dec-06~~	Completed	~~Jun-07~~	Dec-07	152	Individual metered duplex units. Project is done in 4 phases. Phase 1 units (36) to be energized in 12/2006.
WAILUKU MODULE 5	~~May-07~~	Mar-08	~~Nov-07~~	Nov-08	80	Individual meter
KAHULUI STUDENT HOUSING	Aug-07	Aug-07	Sep-07		104	Master meter dorms
WAILUKU MODULE 23	~~Jan-07~~	Jun-08	~~May-07~~	Dec-08	94	Afforadable housing
KIHEI VILLAGE	~~Jun-07~~	Jun-08	~~Dec-07~~	Jun-08	99	Individual meter
KIHEI VILLAGE	~~Mar-07~~	Jun-08	~~Dec-07~~	Jun-08	77	Individual meter
KAANAPALI	~~Jun-07~~	Apr-08	~~Jun-08~~	Apr-08	93	Individual metered condos. Half load to be energized around 7/2007.
KIHEI ESTATES	~~Mar-07~~	Mar-08	~~Aug-07~~	Aug-08	32	Multi-family project.
LAHAINA LOT 3	Oct-07	Oct-07	~~Nov-07~~	Apr-08	100	Individual meter
WAILEA	~~Oct-06~~	May-07	~~Mar-07~~	Nov-07	24	Individual meter
WAILUKU CONDOS	~~Apr-07~~	Apr-08	~~May-07~~	Apr-08	28	Individual meter

MAUI PROJECTS (5/31/2006) - Updated 05/2007

PROJECTS	EST DATE OF POWER FOR CONSTRUCTION	New Est Date for Power	PROJECTED START OF LOAD DATE	PROJECTED START OF LOAD DATE	NO. OF LOTS or UNITS	COMMENTS
COMMERCIAL						
KAHULUI MULTIPLE USE PROJECT	~~Dec-06~~	unknown	Dec-06			Project down sized for office only.
LAHAINA MULTIPLE USE PROJECT	~~Aug-06~~	Completed			11 Units	Tenants have not been identified to determine full load usage.
KAHULUI SERVICES BUILDING	~~Jan-07~~	Dec-09	~~Jan-07~~	Dec-09		This project may be pushed out. We have no confirmation that this project has been contracted.
WAILUKU HEALTH CENTER	~~Feb-07~~	May-07	~~Feb-07~~	May-07		Total of 4 buildings; 1 building complete
WAILUKU MULTIPLE USE FACILITY	~~Sep-06~~	Cancelled	Sep-06	Cancelled		
KULA EDUCATION BUILDING	~~Feb-07~~	Completed	Feb-07			Office building for Upcountry Commecial Sub'd.
HALEAKALA SERVICES FACILITY	~~Feb-07~~	Feb-08	~~Feb-07~~	Feb-08		No work by MECO. Customer to add load only.
KAHULUI RETAIL	~~Jul-06~~	Completed	Jul-06			Additional load to existing customer in Kahului.
OTHER PUMPING	~~Jul-06~~	Completed	Jul-06			Expect full load in 7/2006.
KIHEI SERVICES CENTER	~~Jun-06~~	Completed	Aug-06			800 kW immediately with 700 kW future load (no timeframe).
KAHULUI EDUCATION	~~Dec-06~~	Completed	Dec-06			School should be open for 2007 school year.
FOOD SERVICE	~~Jun-06~~	Cancelled				
WAILEA RETAIL	~~Oct-07~~	Completed	Oct-07			Retail units. Expectation is that individual stalls to be energized by early 12/2006.
KIHEI EDUCATION	~~Jul-06~~	Completed	Jul-06			Additional load for A/C units.
KAHULUI CONCRETE WHOLE PRODUCTS	~~Sep-06~~	unknown				Project to be cancelled. No confimation from customer on service date.
HANA RETAIL	~~Dec-06~~	Cancelled	Dec-06			Additional load to existing customer.
OTHER PUMPING	Completed		Jan-07			Tranmission water line to be completed by 12/2006.
KAHULUI OFFICE SPACE	~~Aug-06~~	Completed			8	Office spaces; No projected date for full load
KIHEI SERVICES ANNEX	~~Jun-07~~	Mar-08	~~Jun-07~~	Mar-08		
KAHULUI RETAIL - FOOD	~~Sep-07~~	Jun-08	~~Sep-07~~	Jun-08		
KAPALUA SUBD	~~Nov-06~~	Completed	Nov-06			Good chance that full load may be achieved by 1st quarter 2007. We understand that all available retail spaces have a perspective tenant.
KIHEI RETAIL - NONFOOD	~~Mar-07~~	Dec-07			13	Retail spaces; No projected date for full load
KIHEI OFFICE SPACE	~~Oct-06~~	Apr-08			9	Office spaces; No projected date for full load
OFFICE SPACE	~~Jun-07~~	Jun-08			12	Office spaces; No projected date for full load
COMMERCIAL SUBD./COMPLEX						
LAHAINA MULTIPLE USE	~~Aug-06~~	Completed			27 LOTS	Lots only; No projected date for full load
LAHAINA RETAIL - NONFOOD	Completed	Completed			16 UNITS	Retail spaces; house meter energized
KAHULUI HOTEL RENOVATION	~~Apr-07~~	Dec-08	~~Apr-07~~	Dec-08	135 UNITS	Service upgrade
KAANAPALI HOTEL	~~Aug-06~~	Completed	Aug-07		256 UNITS	
WAIKAPU INDUSTRIAL	~~Jul-06~~	Completed			18 LOTS	Lots only; No projected date for full load
KIHEI MUILTIPLE USE	~~Jun-07~~	Completed			73 UNITS	Individual owned commercial units. No full load date available.
KIHEI LIVE/WORK	~~Oct-06~~	Oct-09			99 UNITS	Individual metered condos. Some units will be live/work units. No full load date available.
KAANAPALI HOTEL	~~Jan-07~~	Completed	~~Jan-07~~	Dec-07	78 UNITS	New master meter.
WEST MAUI ~~MULTIPLE USE~~ VILLAGE	~~Mar-07~~	Oct-08	~~Dec-07~~	Oct-08	~~86 RES./27 COMM.~~	~~Half commercial and half residential units.~~ Changed to all residential units (113).
KAANAPALI HOTEL	~~Jan-08~~	Jun-08	~~Jan-08~~	Jun-08	71 UNITS	New master meter.
KAANAPALI HOUSING - PHASE 1	~~Dec-08~~	Jan-08	~~Dec-08~~	May-08	318 UNITS	First building only.
KAANAPALI HOUSING - PHASE 2	~~Dec-09~~	Dec-09	Dec-09		320 UNITS	Second building only.
KAANAPALI HOUSING - PHASE 3	~~Dec-08~~	Dec-10	~~Dec-08~~	Dec-10	76 UNITS	4-unit clusters - 19 clusters.
LAHAINA GATEWAY		Dec-07				Project service request under review.
WAIKAPU BASEYARD	~~Jun-07~~	Dec-07				
KULA MULTIPLE USE	~~Jan-07~~	Mar-08			12 Bldgs	

LANAI (5/1/2006) - Updated 05/2007

PROJECTS	ESTIMATED DATE OF POWER FOR CONSTRUCTION	New Est Date for Power	# OF LOTS/UNITS	COMMENTS	Included in test year projections
SINGLE-FAMILY					
			LOTS		
LANAI SUBD	~~Oct-06~~	Dec-07	4		
MULTI-FAMILY					
			UNITS		
LANAI HOUSING	~~Jul-06~~	Completed	48		
MANELE SUBD	~~Oct-06~~	Oct-07	34		
COMMERCIAL					
SANDWICH ISLES	~~Jun-06~~	Completed			
LANAI SERVICES	~~Oct-06~~	Dec-07			
MANELE RETAIL	~~Nov-06~~	Completed			
LANAI SERVICES	~~Jan-07~~	Jul-08			
HOTEL UPGRADE	~~Mar-07~~	Completed			
LANAI SERVICES	~~TBD~~	Dec-07			
COMMERCIAL SUBD./COMPLEX					
			LOTS/UNITS		
RESIDENCES					
MANELE LOT	Apr-07	Apr-08			
MANELE LOT	Dec-07	Dec-08			

MOLOKAI (5/1/2006) - Updated 05/2007

PROJECTS	*ESTIMATED* DATE OF POWER FOR CONSTRUCTION	New Est Date for Power	# OF LOTS/UNITS	COMMENTS	Included in test year projections
SINGLE-FAMILY					
MULTI-FAMILY					
COMMERCIAL					
COMMUNICATIONS FACILITY	~~Dec-06~~	Complete			
MOLOKAI RETAIL	~~Dec-06~~	Cancelled			
KAUNAKAKAI SERVICES	~~Dec-06~~	Dec-08			
KAUNAKAKAI RETAIL	~~Dec-06~~	Complete			
KUALAPUU RETAIL	~~Dec-06~~	Jun-08			
MOLOKAI EDUCATION	~~Jan-07~~	Mar-08			
KAUNAKAKAI RETAIL	~~Jun-07~~	May-07			

CA-IR-44

Ref: MECO T-2, page 10, lines 18-23; MECO-206 (CHP Adjustments).

Please describe the present operational status of each existing CHP generation and any assumed "future 3rd party CHP", indicating MWH adjustments made for each CHP unit and the basis for such adjustments.

MECO Response:

There are three CHP units installed prior to 2006 embedded in the recorded sales data. Of the three units, only the smallest unit is currently operating. Plans to replace the other two have been expressed, however, a timeline has not been identified. As mentioned on page 10, of MECO T-2, the impacts from the existing units are embedded in the recorded sales and not easily identifiable. This is due to 1) the size of the CHP unit relative to the total load of the customer; 2) availability of the CHP unit data which resides on the customer's side of the electric meter; and 3) the amount of time the CHP unit was operational. Therefore, no adjustments were made in projecting future sales for the two customers with existing CHP units.

With regards to the two new 3rd party CHP units identified in the test year, MECO is assuming only one of two units will be installed in 2007. This new CHP unit has been installed and is operational as an emergency stand-by generator. The customer has expressed plans to operate as a CHP unit by the third quarter of this year. See MECO-206 for the MWH adjustments and basis for the adjustments. See attached for the updated CHP forecast.

Maui CHP Forecast - Small CHP Market
Annual Ramped Impacts

	3rd Party				Peak kW w/ T&D Loss [3]
			Impact on		
	Systems	kW	Cust kW [1]	Cust MWh [2]	5.960%
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	1	500	-455	-1,520	-484
2008	1	500	-910	-7,252	-968
2009	1	500	-1,365	-10,879	-1,452
2010	1	500	-1,820	-14,505	-1,935
2011	0	0	-1,820	-14,505	-1,935
2012	0	0	-1,820	-14,505	-1,935
2013	0	0	-1,820	-14,505	-1,935
2014	0	0	-1,820	-14,505	-1,935
2015	0	0	-1,820	-14,505	-1,935
2016	0	0	-1,820	-14,505	-1,935
2017	0	0	-1,820	-14,505	-1,935
2018	0	0	-1,820	-14,505	-1,935
2019	0	0	-1,820	-14,505	-1,935
2020	0	0	-1,820	-14,505	-1,935
2021	0	0	-1,820	-14,505	-1,935
2022	0	0	-1,820	-14,505	-1,935
2023	0	0	-1,820	-14,505	-1,935
2024	0	0	-1,820	-14,505	-1,935
2025	0	0	-1,820	-14,505	-1,935

Note: Availability for 3rd party at 91.0%

[1] Sales Level. Cumulative 3rd party CHP kW.

[2] Sales calculated using 8,760 hours less availability

[3] Net-to-system Level. Cust kW ÷ (1 - Loss Factor).

CA-IR-45

Ref: MECO T-2, page 7, lines 14-18 (Forecast Methodologies).

Please state with specificity which of the five listed methodologies were employed to derive the proposed test year sales and proposed customer forecasts for each rate class by Division; and provide complete copies of all formulae, algorithms, input data and other supporting documentation supporting the derivation of each projected MWH and customer amount being sponsored for each class.

MECO Response:

See attached table which identifies the specific method used to derive the test year sales and customer forecast for each rate schedule by division. For copies of the input data, formulas, algorithms and other supporting documentation, refer to the response to CA-IR-40.

MAUI ELECTRIC COMPANY, LIMITED
METHODOLOGY USED TO DERIVE TEST YEAR SALES

RATE	METHODOLOGY USED	COMMENTS
Maui Division		
R	Univariate Time-series (Box-Jenkins)	Refer to MECO T-2, page 13
G/J	Econometric	Refer to MECO T-2, page 15
H	Customer Service	Refer to MECO T-2, pages 16-17
P	Market Analysis	Refer to MECO T-2, pages 17-18
F	Customer Service	Refer to MECO T-2, pages 18-19
Lanai Division		
R	Customer Service	Refer to MECO T-2, page 21
G/J	Customer Service	Refer to MECO T-2, page 22
H	Customer Service	Refer to MECO T-2, page 23
P	Market Analysis	Refer to MECO T-2, pages 24-25
F	Customer Service	Refer to MECO T-2, page 25
Molokai Division		
R	Customer Service	Refer to MECO T-2, pages 27-28
G/J	Customer Service	Refer to MECO T-2, page 29
H	Customer Service	Refer to MECO T-2, pages 29-30
P	Market Analysis	Refer to MECO T-2, pages 30-31
F	Customer Service	Refer to MECO T-2, page 31

MAUI ELECTRIC COMPANY, LIMITED
METHODOLOGY USED TO DERIVE TEST YEAR AVERAGE NUMBER OF CUSTOMERS

RATE	METHODOLOGY USED	COMMENTS
Maui Division		
R	Customer Service	Refer to MECO T-2, page 14
G/J	Univariate Time-series (Box-Jenkins)	Refer to MECO T-2, page 16
H	Customer Service	Refer to MECO T-2, page 17
P	Market Analysis	Refer to MECO T-2, page 18
F	Customer Service	Refer to MECO T-2, page 19
Lanai Division		
R	Customer Service	Refer to MECO T-2, pages 21-22
G/J	Customer Service	Refer to MECO T-2, pages 22-23
H	Customer Service	Refer to MECO T-2, pages 23-24
P	Market Analysis	Refer to MECO T-2, page 25
F	Customer Service	Refer to MECO T-2, page 26
Molokai Division		
R	Customer Service	Refer to MECO T-2, page 28
G/J	Customer Service	Refer to MECO T-2, page 29
H	Customer Service	Refer to MECO T-2, page 30
P	Market Analysis	Refer to MECO T-2, page 31
F	Customer Service	Refer to MECO T-2, page 32

CA-IR-46

Ref: MECO-201a (Forecast 2007 Avg. No. of Customers).

To the extent not fully documented in the immediately preceding IR response, please explain the methodologies used and provide complete copies of all input values and calculations used to develop the projected number of customer by Division and rate schedule for the test year.

MECO Response:

See response to CA-IR-40.

CA-IR-47

Ref: MECO T-2, page 32 (Forecast Accuracy).

Please provide monthly 2007, to date, actual MWH sales data and customer count data by rate schedule, indicating how such amounts compare to projected test year monthly MWH sales and customer counts. Explain known reasons for any observed significant variances between projected and actual MWH/customers.

MECO Response:

See attached monthly January to April 2007, actual MWH sales data and customer count by rate schedule, by division. Some general trends that we have seen are summarized below:

1. April year-to-date recorded sales for Maui, Lanai and Molokai was 1.7 GWH or 0.4% above the forecast. April year-to-date customer counts for Maui, Lanai and Molokai was 184 or 0.3% above the forecast.
2. Maui sales in comparison to the same period last year for the four largest commercial sectors which make up approximately 56% of all commercial sales were as follows: hotel -2.6%, retail non-food -0.6%, pumping +11.7%, and housing (which includes apartments and condos) 1.5%.
3. Maui recorded 283 cooling degree days (CDD) to date compared to 271 CDD last year.
4. Kahului Airport recorded 0.25 inches of rain to date as compared to 0.20 inches last year. The 20 year rain fall average ending in 2006 for April to date is 1.57 inches.
5. As published in the Honolulu Advertiser, Hospitality Advisors LLC reported a drop in demand for Maui rooms of 4.1% for the first quarter 2007. The Pacific Business News is continuing to report weekly declines in visitor occupancy in April and May 2007 over 2006 in the low to mid double digit range.

6. The expected hotel demolition of the Renaissance Wailea Beach Resort did not materialize at the end of 2006 as expected. This delayed demolition has inflated 2007 year-to-date sales by 1.7 GWH over the forecast.

7. Higher than expected Schedule P sales due to the continuation of the Renaissance operation is partially offset by lower than forecasted average use. Several properties have implemented energy efficiency measures to decrease energy consumption as well as temporarily shut down some of their operations for renovations. Some sales will be regained when renovated hotel properties with expanded services and new amenities are re-opened; however, there will likely be fewer rooms than there originally were as the trend appears to be toward larger, higher-end hotel rooms and timeshares with energy efficiency measures.

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
FORECASTED AND ACTUAL RECORDED SALES FOR 2007
APRIL YEAR TO DATE

(MWH)

RATE	2007 FORECASTED 4/07	2007 ACTUAL 4/07	MWH 2007 VARIANCE	% 2007 VARIANCE
Maui Division				
R	138,606	138,130	-476	-0.3%
G/J	113,724	114,891	1,167	1.0%
H	6,308	6,380	73	1.2%
P	123,763	124,382	619	0.5%
F	1,790	1,746	-44	-2.4%
TOTAL	384,191	385,530	1,339	0.3%
Lanai Division				
R	2,741	2,848	107	3.9%
G/J	2,500	2,722	221	8.9%
H	171	180	9	5.2%
P	4,026	4,058	32	0.8%
F	38	43	5	12.0%
TOTAL	9,476	9,850	374	3.9%
Molokai Division				
R	4,293	4,178	-115	-2.7%
G/J	3,787	3,825	39	1.0%
H	599	591	-7	-1.2%
P	2,623	2,713	90	3.4%
F	159	161	2	1.2%
TOTAL	11,460	11,468	8	0.1%
MECO Consolidated				
R	145,640	145,156	-484	-0.3%
G/J	120,011	121,438	1,427	1.2%
H	7,077	7,151	74	1.0%
P	130,412	131,154	741	0.6%
F	1,987	1,950	-37	-1.9%
TOTAL	405,127	406,848	1,721	0.4%

*Uses July 2006 Sales Forecast

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
FORECASTED AND ACTUAL RECORDED SALES FOR 2007
MONTH OF APRIL

(MWH)

RATE	2007 FORECASTED 4/07	2007 ACTUAL 4/07	MWH 2007 VARIANCE	% 2007 VARIANCE
Maui Division				
R	34,412	33,548	-864	-2.5%
G/J	28,916	28,659	-257	-0.9%
H	1,668	1,654	-14	-0.8%
P	30,979	31,199	220	0.7%
F	449	432	-17	-3.8%
TOTAL	96,425	95,493	-932	-1.0%
Lanai Division				
R	668	732	63	9.5%
G/J	624	692	68	10.9%
H	43	48	5	10.8%
P	1,055	1,019	-36	-3.4%
F	10	12	2	25.7%
TOTAL	2,400	2,502	103	4.3%
Molokai Division				
R	1,036	1,040	4	0.4%
G/J	952	951	-1	-0.1%
H	160	152	-8	-4.9%
P	676	692	17	2.5%
F	39	40	1	2.7%
TOTAL	2,862	2,874	13	0.4%
MECO Consolidated				
R	36,117	35,320	-797	-2.2%
G/J	30,491	30,302	-190	-0.6%
H	1,871	1,854	-17	-0.9%
P	32,710	32,911	200	0.6%
F	498	484	-13	-2.7%
TOTAL	101,687	100,870	-817	-0.8%

*Uses July 2006 Sales Forecast

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
FORECASTED AND ACTUAL CUSTOMER COUNT FOR 2007
APRIL YEAR TO DATE

(AVERAGE CUSTOMER COUNT)

RATE	2007 FORECASTED 4/07	2007 ACTUAL 4/07	2007 VARIANCE	% 2007 VARIANCE
Maui Division				
R	51,100	51,155	55	0.1%
G/J	8,693	8,816	123	1.4%
H	234	220	-14	-6.0%
P	121	124	3	2.5%
F	167	175	8	4.8%
TOTAL	60,315	60,490	175	0.3%
Lanai Division				
R	1,369	1,376	7	0.5%
G/J	223	237	14	6.3%
H	4	4	0	0.0%
P	3	3	0	0.0%
F	3	4	1	33.3%
TOTAL	1,602	1,624	22	1.4%
Molokai Division				
R	2,535	2,542	7	0.3%
G/J	540	521	-19	-3.5%
H	32	32	0	0.0%
P	14	14	0	0.0%
F	9	8	-1	-11.1%
TOTAL	3,130	3,117	-13	-0.4%
MECO Consolidated				
R	55,004	55,073	69	0.1%
G/J	9,456	9,574	118	1.2%
H	270	256	-14	-5.2%
P	138	141	3	2.2%
F	179	187	8	4.5%
TOTAL	65,047	65,231	184	0.3%

*Uses July 2006 Sales Forecast

MAUI ELECTRIC COMPANY, LIMITED
COMPARISON OF
FORECASTED AND ACTUAL CUSTOMER COUNT FOR 2007
MONTH OF APRIL

(AVERAGE CUSTOMER COUNT)

RATE	2007 FORECASTED 4/07	2007 ACTUAL 4/07	2007 VARIANCE	% 2007 VARIANCE
Maui Division				
R	51,192	51,301	109	0.2%
G/J	8,738	8,798	60	0.7%
H	232	216	-16	-6.9%
P	121	123	2	1.7%
F	168	174	6	3.6%
TOTAL	60,451	60,612	161	0.3%
Lanai Division				
R	1,368	1,378	10	0.7%
G/J	222	241	19	8.6%
H	4	4	0	0.0%
P	3	3	0	0.0%
F	3	4	1	33.3%
TOTAL	1,600	1,630	30	1.9%
Molokai Division				
R	2,542	2,548	6	0.2%
G/J	542	524	-18	-3.3%
H	32	32	0	0.0%
P	14	14	0	0.0%
F	9	8	-1	-11.1%
TOTAL	3,139	3,126	-13	-0.4%
MECO Consolidated				
R	55,102	55,227	125	0.2%
G/J	9,502	9,563	61	0.6%
H	268	252	-16	-6.0%
P	138	140	2	1.4%
F	180	186	6	3.3%
TOTAL	65,190	65,368	178	0.3%

*Uses July 2006 Sales Forecast

CA-IR-48

Ref: MECO T-2; page 17, lines 21-24, page 24, line 13, page 30, line 22 (Marketing/Customer Service Analysis of Schedule P Accounts).

Please provide the following information:

a. A complete copy of all documentation associated with the "Marketing Analysis" referenced in the testimony.

b. Annual actual customer and KWH sales data for each of the 121 Maui Division Schedule P customers for each year 2002 through 2006 and for test year 2007 (projected).

c. Annual actual customer and KWH sales data for each of the 3 Lanai Division Schedule P customers for each year 2002 through 2006 and for test year 2007 (projected).

d. Annual actual customer and KWH sales data for each of the 14 Molokai Division Schedule P customers for each year 2002 through 2006 and for test year 2007 (projected).

e. Provide explanatory narrative for the individually significant changes in the comparative annual sales and customer data provided in your responses to parts (b) through (d) of this information request.

MECO Response:

a. Refer to the responses to part b, c, and d of this information request.

b. Refer to Attachment 19 of the response to CA-IR-40.

c. Refer to Attachment 13 of the response to CA-IR-40.

d. Refer to Attachment 7 of the response to CA-IR-40.

e. Refer to the response to CA-IR-47.

CA-IR-49 **Ref: T-3, page 5, lines 14 to 19 - Rider Revenue Calculations.**

Mr. Young describes in testimony how customers on rate riders were evaluated to develop test year revenue estimates. Please provide complete copies of individual rider customer billing data and other documentation relied upon to derive inputs to the various WP-302 and WP-304 electronic spreadsheet files used to price out the rate rider revenue adjustments.

MECO Response:

Maui Division has 31 Schedule J rider customers and seven Schedule P rider customers in the test year revenue estimates. Accompanying this response are the electronic supporting worksheets of individual Maui rider customer billing data relied upon to derive test year inputs. There are three rider customer files for Maui: 1) Schedule J at present rates with the current demand ratchet, 2) Schedule J at proposed rates with the average demand ratchet, and 3) Schedule P.

Molokai Division has two Schedule P rider customers. There is one accompanying electronic file for Molokai Division that contains the supporting worksheets of individual Molokai rider customer billing data. There are no rider customers at Lanai Division in the test year.

CA-IR-50

Ref: T-3, page 5, lines 9 to 13 - (Schedule R Inclining Blocks).

Please provide complete copies of all source data, studies and spreadsheet files (excel fo rmat) underlying the determination of test year sales and revenues within each block of proposed Schedule R rates. In addition please explain and provide documentation for each assumption made to allocate sales among rate blocks or to otherwise adjust billing determinants.

MECO Response:

Please see MECO-WP-302, pages 1 and 3 for Maui Division, MECO-WP-303, pages 1 and 3 for Lanai Division, and MECO-WP-304, pages 1 and 3 for Molokai Division, and the electronic spreadsheet files for Schedule R that were submitted with direct testimony: MAR_07final-rev-proposed-no e.xls; Lanai 3 tiers 19.35% increase-REV-no e.xls; and Molokai 3 tiers 10% increase-REV- No e.xls. The source data for the recorded number of bills and mWh sales in 2005 is only available in printed report form, is voluminous, and is available for inspection at HECO's Regulatory Affairs Division office, Suite 1301, Central Pacific Plaza, 220 South King Street, Honolulu, Hawaii. Please contact Dean Matsuura at 543-4622 to make arrangements to inspect the requested information. The proposed residential usage tiers for the non-fuel energy charges at each MECO division are determined based on the same concepts used to design similar Schedule R rate proposals in the HELCO TY 2006 rate case and the HECO TY 2007 rate case: the first or lowest tier is designed to include approximately 25% of the total Schedule R bills, and the second and third tier are designed such that approximately 10% of the total Schedule R kWh usage falls in the third or highest tier.

CA-IR-51

Ref: MECO-WP-303, page 34 - (Dole Lanai).

Please provide a complete copy of the Dole Lanai service contract and explain how the rate increase was applied to contract terms and conditions to derive new rate elements.

MECO Response:

Please see the attached copy of the applicable amendment to the Dole Lanai service contract, a copy of the Commission's Decision and Order No. 11724 in Docket No. 7060 that approved the amendment, MECO-WP-303, page 34, and the electronic spreadsheet file for Lanai Schedule P that was submitted with direct testimony, Copy of LAP_07final-proposed.xls.

The amendment to the Dole Lanai service contract indicates that the net energy charge will be adjusted to include any future rate increases or decreases that are approved by the Commission. The increases or decreases shall be based on the total overall average rate increase or decrease applicable to all of MECO Lanai Division's customers. In this docket, MECO has proposed a 5.27% increase for Lanai Division and for Lanai Division's Schedule P class, as shown in MECO-303. The proposed charges to Dole Lanai shown on MECO-WP-303, page 34 also reflect a 5.27% increase in the total effective rate and the total proposed billed revenue for this customer.

The Company believes the intent of the amendment is to assign to the Dole Lanai customer the same rate increases and decreases as all other Lanai Division customers. In this docket, at present rates, as shown on MECO-WP-303, page 34, the Dole Lanai customer pays a 15.4929 ¢ per kWh Energy charge and a Fuel Oil Adjustment Charge of 16.336 ¢ per kWh (which is the difference between the fuel oil adjustment factor at present rates of 13.913 ¢ per kWh and the -2.423 ¢ per kWh fuel factor which was based on the $34.41 per barrel delivered

price of oil at the time of the amendment). The total effective rate at present rates is 31.8289 ¢ per kWh (15.4929 + 16.336). Applying a 5.27% rate increase to this effective rate at present rates yields a proposed effective rate of 33.5063 ¢ per kWh. From this proposed effective rate, we subtract the fuel oil factor of 2.423 ¢ per kWh that continues in the rate (which is the difference between the fuel oil adjustment factor at proposed rates of 0.000 ¢ per kWh and the -2.423 ¢ per kWh fuel factor which was based on the $34.41 per barrel delivered price of oil at the time of the amendment), to derive the contract energy rate at proposed rates of 31.0833 ¢ per kWh. At proposed rates, this customer pays an energy rate of 31.0833 ¢ per kWh and a fuel oil adjustment charge at a rate that is the difference between the Lanai Division's calculated monthly fuel oil adjustment factor and the -2.423 ¢ per kWh base fuel factor adjustment in the contract amendment. At proposed rates, the customer is estimated to receive a 5.27% increase in its effective billing rate, which is the same increase proposed for all of Lanai Division's customers, consistent with the amendment to the contract.

AMENDMENT TO EXHIBIT 2

OF

AGREEMENT FOR THE SALE AND PURCHASE OF ASSETS

BETWEEN MAUI ELECTRIC COMPANY, LTD.

AND

CASTLE AND COOKE, INC.

This Amendment ("Amendment") to Exhibit 2 ("Exhibit 2") of the Agreement for the Sale and Purchase of Assets between Castle and Cooke, Inc. and Maui Electric Company, Ltd., dated January 20, 1988 ("Agreement") is made and entered into this 24th day of April 1991, by and between Castle and Cooke, Inc., a Hawaii corporation by its Dole Package Foods Co. ("C&C") and Maui Electric Company, Ltd., a Hawaii corporation ("MECO"). The parties hereto agree that Exhibit 2 is hereby amended in its entirety to read as follows: MECO agrees to sell electric energy to C&C under the following terms and conditions:

1) C&C's existing electrically driven well pumps and existing electrically driven booster pumps that were not being served by MECO prior to December 1, 1987 and also C&C's Well Pump No. 6 which was under construction on December 1, 1987 will be served under a single account on the basis of a Special Conjunctive Billing Agreement with the following terms or conditions:

a) The net energy charge will be 11.85 cents per kwh when the price of fuel containing 5.86 mmbtu/bbl delivered on Kaumalapau, Lanai is $34.41 per barrel and C&C's power factor is equal to 85%.

b) The Fuel Oil Adjustment Clause in MECO Lanai Division's Rate Schedule P (or its successor) shall apply such that when the price of fuel increases or decreases, such change in fuel price shall be reflected in the energy charge. The energy charge in cents per kwh will be calculated as the sum of the base energy charge of 11.85 cents per kwh plus the difference between the current fuel adjustment factor and the fuel factor of -2.423 cents per kwh which was based on a price of fuel of $34.41 per barrel and the currently effective Fuel Adjustment Clause for MECO's Lanai Division.

c) The net energy charge of 11.85 cents per kwh will be adjusted to include any future rate increases or decreases duly approved by the PUC. Such aforementioned increases or decreases shall be based on the total overall average rate increase or decrease applicable to all of MECO Lanai Division's customers.

d) Temporary refund adjustments or surcharges that may otherwise apply to MECO's regular rate customers shall not apply.

e) The power factor adjustment clause in MECO Lanai Division's Rate Schedule P (or its successor) will apply.

f) MECO shall install watthour meters and kilovarhour meters on the high voltage side of the stepdown transformers at each pumping station. C&C will transfer ownership to MECO of any existing pumping station meters that meet these requirements.

g) MECO shall read these individual pumping station meters monthly. The sum of the recorded kilowatthours and kilovarhours respectively from each pumping station shall be used to calculate each monthly billing.

h) MECO and C&C intend that the electric energy that MECO sells to C&C for its well pumps and its booster pumps described in this Item 1 shall be at a rate equivalent to the price paid by MECO for the electric energy that MECO previously purchased from C&C's Lanai Power Plant subject to adjustments to include future changes in fuel price as well as future rate increases or decreases as specified in this Item 1.

i) C&C may request at any time that MECO transfer one or more of these existing pumps from the coverage of this Exhibit to a regular MECO Lanai Division rate schedule.

2. C&C may replace any of the existing well pumps or existing booster pumps described in Item 1 of this amendment with larger or smaller replacements.

3. Any new pumping facilities, including but not limited to, new wells, new booster pumping facilities and/or new pipelines, shall be served under MECO Lanai Division's regular rate schedules.

4. All C&C electric loads and services not covered by the conditions listed in Items 1 and 2 of this Exhibit shall be served under MECO Lanai Division's regular rate schedule.

5. MECO shall provide sufficient generating capacity and/or submarine cable capacity to meet the daily peak demands of its regular rate utility customers, plus 1000 kw of C&C's pineapple plantation agricultural, irrigation and other water pumping loads in circumstances where MECO's largest engine generator or submarine power cable is out of service for scheduled maintenance.

6. This proposed Amendment to Exhibit 2 of the Agreement is subject to approval by the PUC and will become effective on the date of approval by the PUC.

7. MECO shall provide electric power service to C&C in accordance with and subject to MECO's effective rules and regulations, and in accordance with any change or modification of such rules and regulations or any part thereof made or authorized by the PUC.

8. This Amendment incorporates here in by reference all provisions in the Agreement. In the event that a conflict arises between this Amendment and the Agreement, this Amendment shall prevail, but the respective documents shall be interpreted to be in harmony with each other where possible.

IN WITNESS WHEREOF, MECO and C&C have caused this Amendment to be executed by their respective duly authorized officers as of the date first written above.

MAUI ELECTRIC COMPANY, LTD.

By Thomas Mezzenny
Its President Date 3/13/91

By Robert S. [illegible]
Its Ass't. Treas. Date 3/13/91

CASTLE AND COOKE, INC.

By [illegible]
Its VICE PRESIDENT Date APR 24 1991

By Tomas Romate
Its ASST. SECRETARY Date APR 24 1991

SENT BY:TECO MAILS ; -22-93 ; 4:51PM ; 8085434718→ Fax (808) 871-2350;# 2

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

NP file

In the Matter of the Application of)
)
MAUI ELECTRIC COMPANY, LIMITED)
)
For Approval of an Amendment to)
the Power Service Contract With)
Castle and Cooke, Inc.)
)

DOCKET NO. 7060

DECISION AND ORDER NO. 11724

Filed July 17, 1992
At 8:50 o'clock A .M.
Bertha F. Kurosawa
Chief Clerk of the Commission

ATTEST: A True Copy
BERTHA F KUROSAWA
Chief Clerk, Public Utilities
Commission, State of Hawaii.
Bertha F. Kurosawa

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Application of MAUI ELECTRIC COMPANY, LIMITED For Approval of an Amendment to the Power Service Contract With Castle and Cooke, Inc.	Docket No. 7060 Decision and Order No. 11724

DECISION AND ORDER

I.

By an application filed on August 31, 1991, MAUI ELECTRIC COMPANY, LIMITED (MECO) requests commission approval of an amendment to a power service contract between MECO and Castle and Cooke, Inc., by its Dole Package Foods Co. (C&C). The power service contract is attached as Exhibit 2 to an agreement between the parties, entitled, "Sale and Purchase of Assets". The agreement, together with the power service contract, was approved by the commission in Docket No. 6078, Decision and Order No. 9483 (July 26, 1988). MECO filed its application in this docket pursuant to MECO's rule 4, which provides that special contracts for service other than that provided under the tariffs or attached form contracts must be authorized by the commission.

MECO served a copy of its application on the Division of Consumer Advocacy, Department of Commerce and Consumer Affairs (Consumer Advocate). In a statement filed on September 4, 1991, the Consumer Advocate expressed its intent to participate in the proceeding. Subsequently, on February 6, 1992, the Consumer

Advocate advised the commission in writing that it does not object to MECO's application.

II.

By the Sale and Purchase of Assets agreement MECO acquired C&C's electric power plant and distribution facilities situated on the island of Lanai. Under the attached power service contract MECO is required to furnish (after the acquisition of C&C's facilities) electric service to certain C&C's well and booster pumps (mainly those that were not being served by MECO before December 1, 1987) under a single account at schedule P rate. Schedule P provisions, however, are modified for the purposes of servicing the pumps, including (1) calculation of monthly billing at a billing demand of 220 kw and (2) allowance of transmission voltage discount, regardless of the voltage actually supplied.

The amendment to the power service contract, among other things, deletes reference to schedule P rate and the two enumerated modifications to schedule P; and it substitutes a specific energy charge of 11.85 cents per kwh. The 11.85 cents per kwh is based on the price of fuel (containing 586 mmbtu/bbl delivered on Kaumalapau, Lanai) of $34.41 per barrel and on C&C's power factor of 85 per cent. The amendment provides for adjustments, pursuant to the fuel oil adjustment clause in MECO's schedule P for Lanai, whenever the price of fuel increases or decreases. The amendment further provides for an adjustment of the 11.85 cents per kwh in the event of any future rate increases or decreases approved by the commission.

III.

The commission will approve the amendment. The amendment is designed to fulfill the intent of item 1.g of the power service contract. Item 1.g provides that MECO is to furnish electric service to C&C at a rate "equivalent to the price paid by MECO" for the electric energy that MECO purchased from C&C before MECO's acquisition of C&C's power plant facilities.

A revision to the power service contract became necessary when MECO instituted a temporary rate decrease for Lanai on July 1, 1988. Without a revision to the power service contract, the rate at which C&C would have been required to compensate MECO for the energy C&C purchases from MECO would have been affected. Such effect would have violated the power service contract provision that expressly negates the application to C&C of any temporary adjustment that otherwise apply to MECO's regular rate customers. MECO's initial effort to revise the contract to avoid the application of the temporary rate reduction on Lanai to C&C appeared to result in C&C paying to MECO at a rate more than the rate at which MECO previously purchased energy from C&C.[1] The amendment is the result of negotiations that ensued from this sequence of events.

The amendment's provision making the energy charge of 11.85 cents subject to adjustments as the fuel price changes and as the commission approves future rate increases or decreases alters the current contract terms on the matter. Item 1.g currently

[1]MECO's initial effort included changing the monthly billing demand from 220 kw to 975 kw and substituting the inclusion of primary voltage discount for transmission voltage discount in all billings.

subjects the price C&C is required to pay to MECO (1) to "periodic adjustments to reflect changes in fuel price, labor and other operating and maintenance costs" and (2) to renegotiation if either party believes that implementation of the power service contract under any future commission decision modifying schedule P no longer satisfies the intent of item 1.q. The modifications here are consistent with the principal thrust of the amendment and are reasonable.

IV.

The commission orders that the amendment to the power service contract between MECO and C&C (executed by MECO on March 13, 1991, and by C&C on April 24, 1991) is approved.

DONE at Honolulu, Hawaii this 17th day of July, 1992.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By _____
Yukio Naito, Chairman

By _____
Patsy K. Young, Commissioner

APPROVED AS TO FORM:

_____
Colette H. Gomoto
Commission Counsel

MECO.CG

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 11724 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
DIVISION OF CONSUMER ADVOCACY
P. O. Box 541
Honolulu, HI 96809

THOMAS J. JEZIERNY, PRESIDENT
MAUI ELECTRIC COMPANY, LTD.
P. O. Box 398
Kahului, Maui, HI 96732

RICHARD K. McQUAIN, VICE PRESIDENT
HAWAIIAN ELECTRIC COMPANY, INC.
P. O. Box 2750
Honolulu, HI 96840-0001

Bertha F. Kurosawa
Bertha F. Kurosawa
Chief Clerk

DATED: July 17, 1992

CA-IR-52

Ref: T-4

a. Please provide for the test year period, in electronic spreadsheet format and hard copy format the input data for the following:

1. total energy and hourly load for each Division of the MECO electric system

2. **energy** and hourly load to be served by the MECO firm and non-firm generating units;

3. **energy** and hourly load to be served by firm and non-firm purchased power producers;

4. **please** indicate which units in the Maui model are on AGC;

5. **please** provide the minimum run time for each individual generating unit used by MECO, including purchased power; and

6. **operating** constraints such as must-run units and minimum energy purchases from purchased power producers.

b. Please provide all other input data files for the P-MONTH Production Simulation Model, for the test year period, in electronic format and hard copy that were not included in response to part (a) of this information request.

c. Please provide the energy generated by Generating Unit by month for 2005, 2006 and 2007 year-to-date for the Maui Division, the Molokai Division, and the Lanai Division.

d. Please provide actual monthly and annual heat rates, gross and net generation for each generating unit for the years 2004, 2005, 2006 and 2007 year-to-date for the Maui Division, the Molokai Division, and the Lanai Division.

e. Please provide in electronic spreadsheet format and hard copy format the hourly output of the P-MONTH Production Simulation Model for each Maui generating unit, including purchased power.

f. Is the Company intending to update the Maui Division Production Simulation inputs using 2006 generating information?

g. If the response to part (f) is yes, what does the Company intend to update and when will the Company provide updated Production Simulation Results?

h. Please indicate all MECO generating units or power purchases that operate during specific operating hours (i.e., limited to 6 am to 9 pm, etc.) and include the respective hours of operation.

i. Please provide the most up to date version of MECO's Integrated Resource Plan (IRP) including all amendments, attachments, and exhibits.

MECO Response:

a.

1. The total energy and hourly load of the MECO Maui Division system for the test year is provided in the electronic load summary file MECO_2007TY.EEI, and as shown on pages 6-20 of this response. The energy to be served by the total MECO system is shown by month in MECO-WP-404, page 6, and is not explicitly shown hourly in any of the input or output files of the production simulation.

   The total energy of the MECO Lanai Division system for the 2007 test year is 31,392 MWh. (MECO-WP-404, Page 93, Line 7). An 8,760 hourly load is not used as part of the Lanai Division calculations.

   The total energy of the MECO Molokai Division system for the 2007 test year is 40,198.1 MWh (MECO-WP-404, Page 96, Line 7). An 8,760 hourly load is not used as part of the Molokai Division calculations.

2. The energy and load to be served by the MECO Maui Division firm generating units are not inputs to the production simulation model but rather are outputs. MECO does not have any non-firm generating units.

   The energy and load for the firm and non-firm purchased power producers generating units are inputs, which are shown in MECO-WP-404, pages 99-101 and in the P-MONTH Fixed Energy Transaction Summary input file MECO_TY2007.trf, MECO-WP-404, Page 21. The production simulation model treats the non-firm generating units as having constant level outputs for all hours of a given month as described in MECO T-4, pages 16-21.

3. See response to part a.2. above.

4. Please refer to MECO T-4, pages 29-30 for information regarding units that MECO plans to dispatch using the AGC in the test year.

5. The minimum run time input into the production simulation for the firm MECO generating units are shown in MECO-WP-404, page 16, under the column "Up Time".

6. See MECO-WP-404, page 16, which contains a column labeled "Op Type" which indicates the operating type of each unit. The P-MONTH codes used for the MECO generating units are "1" for Must-run, "3" for High Capacity Factor Cycling, and "5" for Peaking. Kahului 3, 4, Maalaea M14 and M15, M15 and M16 and M17 and M18 are baseloaded units and are designated in the model to be operated 24 hours a day. See MECO T-4, pages 25-26 for additional operating constraints.

   With respect to minimum energy purchases from purchased power producers, MECO has an obligation to purchase a minimum of 50,000 MWh from HC&S annually; provided, that if the Equivalent Availability of HC&S should drop below 95.3% in normal years or 91.5% in extended shutdown years, then the minimum energy purchase required for any such year shall be reduced. MECO shall use its best efforts to take at least 8 MWH of energy during the firm capacity requirement period and at least 4 MWH during the reduced capacity period. MECO has no minimum purchase obligations from Kaheawa Wind Power, LLC or Makila Hydro, LLC.

b. Hard copies of the P-MONTH input data files that were used in the production simulation for MECO T-4 direct testimony were already provided in MECO-WP-404, pages 10-53. Electronic versions of those input files are provided with this response. The files that are included are listed below and can be viewed in any text editing program:

MECO_TY2007.stu	System Study Summary File	MECO-WP-404, page 10
MECO_TY2007.rfc	Report Control Summary File	MECO-WP-404, page 11
MECO_TY2007.ara	Area Summary File	MECO-WP-404, page 12
MECO_TY2007.plt	Plant Summary File	MECO-WP-404, page 13
MECO_TY2007.fcl	Fuel Class Summary File	MECO-WP-404, page 14
MECO_TY2007.sfu	Spot Fuel Summary File	MECO-WP-404, page 15
MECO_TY2007.uba	Thermal Basic Summary File	MECO-WP-404, page 16
MECO_TY20073.ucs	Thermal Cost and Variable Summary File	MECO-WP-404, page 17
MECO_TY2007.upf	Thermal Performance Summary File	MECO-WP-404, page 18-19
MECO_TY2007.umt	Thermal Maintenance Summary File	MECO-WP-404, page 20
MECO_TY2007.trf	Fixed Energy Transaction Summary File	MECO-WP-404, page 21
MECO_TY2007.eei	Load Summary File	MECO-WP-404, page 22
MECO_TY2007.spn	Regulating Reserve Requirement File	MECO-WP-404, page 23
MECO_TY2007.mcs	Monte Carlo Scenario Data	
PTN12.htr	Pattern File 12 – Kaheawa On-Peak	MECO-WP-404, page 24-29
PTN13.htr	Pattern File 13 – Kaheawa Off-Peak	MECO-WP-404, page 30-35
PTN15.htr	Pattern File 15 – Hana Diesel Units	MECO-WP-404, page 36-41
PTN19.hcp	Pattern File 19 – Kahului 1&2 Operating Hours	MECO-WP-404, page 42-53

c. Please refer to page 21 of this response for the energy generated by the Maui division, and refer to MECO's response to CA-IR-60 and CA-IR-61 for the data for the Molokai and Lanai divisions, respectively.

d. Please refer to pages 22 to 25 of this response for the Maui division, and refer to MECO's response to CA-IR-60 and CA-IR-61 for the data for the Molokai and Lanai divisions,

respectively.

e. Please refer to the electronic file that is provided (MECO_TY2007.hr) because this file does not translate well to a hard copy.

f. No, MECO does not intend to update the Maui Division production simulation inputs using 2006 generating information. Generating information from 2006 is considered anomalous given that Maalaea Unit 13 was out of service for the entire year due to a major forced outage.

g. Not applicable.

h. Please refer to item a.6. above regarding unit operating types and high capacity factor cycling units.

i. The most up-to-date version of MECO's IRP plan, including all exhibits, was submitted to the Commission with a copy provided to the Consumer Advocate in MECO's IRP-3 filing on April 30, 2007 in Docket No. 04-0077. There have been no amendments made since it was filed. The MECO IRP Report is available on the HECO.com website at

http://www.heco.com/portal/site/meco/menuitem.ed4aed221358a44973b5c410c510b1ca/?vgnextoid=eb282e1f9d380110VgnVCM1000005c011bacRCRD&vgnextfmt=default&cpsextcurrchannel=1

Total Energy and Hourly Load for Maui Division
Reference: MECO_2007TY.EEI

1	1	7	122.8	115.6	107.1	103.4	101.1	105.9	110.1	118.5	135.9	156.8	170.5	170.4
1	1	7	166.7	165.7	164.6	161.2	168.4	177.6	183.2	174.3	162.5	149.5	132.2	112.1
1	2	7	99	93.6	89.8	90.3	93.8	108.1	124.1	137.6	150.1	159.5	162.6	163
1	2	7	159.2	162.2	161.1	162.1	164.1	172.6	190.3	185.1	173	153.5	141.9	110.1
1	3	7	98	94.3	91.6	90.7	93.1	104.4	122.8	137.3	149	158.5	162.7	162.3
1	3	7	162.7	164.2	164.6	165.7	165.8	171.2	190.2	187.6	173.9	154.2	134.5	110.2
1	4	7	101.6	94.8	91.4	91.9	95.3	106.5	125.4	138.8	152.2	165.2	167.9	167.4
1	4	7	166.4	169.3	165.8	167.4	168.5	174	191	187.2	173.9	158.1	133.4	112.4
1	5	7	101	95.4	92.7	92.3	94.8	106.2	126.9	140.7	153.5	164	165.3	165.2
1	5	7	164.2	164.6	164.3	163.7	164.8	169.1	184.5	180.9	167	153.2	132.6	114.1
1	6	7	122.8	115.6	107.1	103.4	101.1	105.9	110.1	118.5	135.9	156.8	170.5	170.4
1	6	7	166.7	165.7	164.6	161.2	168.4	177.6	183.2	174.3	162.5	149.5	132.2	112.1
1	7	7	104.9	97.8	94.3	93.6	97.5	102.3	110.4	123.6	142.5	160.1	168.6	166.3
1	7	7	163	156.6	152.5	154	158.9	168.4	183	180.3	168.4	149.6	133.8	110.4
1	8	7	98.2	93.7	91.6	92.3	95.6	105.7	126	141	154.8	167.9	169.3	167.4
1	8	7	165.1	164.7	162.1	164.3	166.5	172.4	191.3	189.7	175.8	155.4	132.3	110.7
1	9	7	99	93.6	89.8	90.3	93.8	108.1	124.1	137.6	150.1	159.5	162.6	163
1	9	7	159.2	162.2	161.1	162.1	164.1	172.6	190.3	185.1	173	153.5	141.9	110.1
1	10	7	98	94.3	91.6	90.7	93.1	104.4	122.8	137.3	149	158.5	162.7	162.3
1	10	7	162.7	164.2	164.6	165.7	165.8	171.2	190.2	187.6	173.9	154.2	134.5	110.2
1	11	7	101.6	94.8	91.4	91.9	95.3	106.5	125.4	138.8	152.2	165.2	167.9	167.4
1	11	7	166.4	169.3	165.8	167.4	168.5	174	191	187.2	173.9	158.1	133.4	112.4
1	12	7	101	95.4	92.7	92.3	94.8	106.2	126.9	140.7	153.5	164	165.3	165.2
1	12	7	164.2	164.6	164.3	163.7	164.8	169.1	184.5	180.9	167	153.2	132.6	114.1
1	13	7	102.8	96.2	92.3	91.2	94.1	100.2	108	125.5	143.5	154.5	157.7	156.5
1	13	7	155.8	156.3	158.4	160.1	162.5	169.9	182.1	181.6	169.3	154.9	131.9	114.6
1	14	7	103.4	97.4	95.6	94.6	96.7	100.6	105.2	116.4	136	149.3	156.9	157.4
1	14	7	152	149.8	146.6	149.6	151.5	167.3	179.3	174.3	162.3	145.6	124.6	107
1	15	7	96.4	92.1	90.4	89.5	93.6	98.2	125.6	139.8	152	161.5	162.9	161.4
1	15	7	158.4	160.9	156.3	160.3	162.6	166.9	187	183.5	170.7	153.2	127.5	107.9
1	16	7	97.5	92.8	90.4	90.4	94.1	104.7	125.6	137.8	150.1	158.9	162.5	162.4
1	16	7	161.6	162.1	160.1	162.5	165.3	165.4	184.8	182.8	167.6	152.7	126.7	106.4
1	17	7	94.8	90.4	88.5	88.6	92.1	103.1	123.5	135.8	144.6	155.9	158.1	157
1	17	7	152.7	155.9	157.3	157.6	158	162.6	180.9	179.4	167.4	150.7	125.5	106.3
1	18	7	96.4	91.8	89.3	90	93.1	106.4	128.8	142.1	153.6	163.3	164.1	162.9
1	18	7	163.6	162.2	162.1	164.9	166.7	171.8	189.7	187.9	172.7	155.8	129.8	111.1
1	19	7	100.1	95.4	93.9	94.8	98.7	110.7	131.6	147.6	156.1	168	169.6	168.3
1	19	7	166.4	164.8	164.8	167.4	166.3	170.3	185.1	177.9	171.9	157.2	137.2	116.8
1	20	7	105.5	100.2	99.4	98.2	101.6	108.1	115.4	130.5	151.7	163.7	164.1	164.6
1	20	7	162.5	162.1	161.2	162.7	167.5	172.8	186	184.3	171.4	158.8	137.7	118.9
1	21	7	107.4	101.2	99.3	98.8	99.9	105.2	115.9	129.7	147.3	160.1	165.2	164.9
1	21	7	162.1	161.6	160.5	161.8	163.3	168.9	188.2	183.8	175.7	163.3	140.9	121.4
1	22	7	109.8	105.1	100.2	100.5	103.7	113.1	127.5	148.1	163.6	176.6	179.4	176.9
1	22	7	176.2	172.6	169.4	169.5	170.2	175.2	194.1	190.8	180.9	165.1	139.5	117.1
1	23	7	106.2	101.7	98.8	98.5	101.7	112.6	136.4	151.7	163.3	173.1	173.7	171.9
1	23	7	169.3	166	164.1	164.5	166	172.2	188.2	187.2	174.3	161.1	130.4	111.8

1	24	7	100.4	94.6	92.2	92.1	96.7	108.6	131.3	145.7	156.9	169.8	170.7	170.9
1	24	7	171.3	169.4	170.4	170.7	171.9	175.9	190.5	187.2	174.5	156.1	132.8	112.2
1	25	7	99.4	96.8	94.2	93.2	97.5	109.2	133.4	147.7	159.5	170.3	169.6	170.8
1	25	7	167.3	165.3	164.5	167.1	168.1	175.7	190.5	187.6	172.7	158.2	132.5	112.2
1	26	7	101.2	97.2	94.6	93.2	97.8	107.7	126.5	144.9	161.1	172.6	176.6	174.4
1	26	7	174.3	173.1	172.4	170.3	168.8	174.4	181.9	176.6	163.5	149.1	129.3	111.7
1	27	7	100.4	93.6	90.9	90.4	93.6	98.3	107.6	121.6	139.5	151.4	153.1	153.1
1	27	7	148.7	148.3	146	150.7	154.9	160.8	173.4	174.7	160.9	146.3	127.4	110.4
1	28	7	97.7	92.7	90.5	89.8	91.9	97.7	106.3	118.4	137.1	149.4	154.5	155.7
1	28	7	156.7	155	157.3	160.5	163.1	164.7	179.1	182.4	169.6	155.4	129.9	112
1	29	7	100.5	93.7	92.4	92.8	96.2	106.9	130.3	142.7	157	169	173.4	172.8
1	29	7	171.9	171.2	173.3	173.9	175.5	181.4	195.3	195.9	178.1	154.6	134.8	114.2
1	30	7	101.7	96.7	93.4	93.1	95.9	109.4	131.4	142.5	157	170	175.2	171.9
1	30	7	173	173.9	174.8	174.4	177.9	181.7	197.6	193.8	181	162.1	134.3	113.4
1	31	7	100.1	94.8	92.6	91.4	95.3	105.3	129.7	141.6	155.7	167.6	172.8	172.7
1	31	7	173.7	173.7	175.3	175.8	176.5	177.3	190.8	192.1	179.1	160.6	135.8	114.7
2	1	7	102.4	96.7	94.3	93.5	97.7	108.8	131.1	144.8	158.8	166.2	168.3	162.7
2	1	7	164.8	170.6	171.6	174.3	174.2	176.7	191.7	191.8	178.1	161.2	135.7	115.8
2	2	7	103.4	97.5	93.5	93.1	95.5	105.7	128.6	141.8	155.3	168.2	171.4	171.7
2	2	7	172	175	174.2	176.1	176.4	177.1	185.7	185.1	171	157	137.8	117.7
2	3	7	101.9	96.7	93.9	92.8	94.8	100.7	110	124.5	141.5	155.6	158.9	159.3
2	3	7	160.9	162.1	161.8	162.8	167	172	179.3	176.2	165.1	150.1	131	112.7
2	4	7	100.5	95.3	92.5	91.4	92.9	98.8	135.2	154.3	162.1	169.7	156.4	159.5
2	4	7	157	157.1	159.3	161.1	166	169.7	182.1	183.8	173.4	153.5	131.1	109.9
2	5	7	100	95.3	92.3	93.8	96.7	107.1	130.1	143.3	156.2	166.5	170.1	171
2	5	7	170.5	171.6	170.9	172.5	174	173.4	193.5	192.4	179.6	160.4	136.1	115.8
2	6	7	102.5	97.7	94	93.5	96.7	104.8	127.4	142.7	154.7	161.5	163.3	161.8
2	6	7	161.3	158.8	156.8	157.4	161.1	168.8	186.6	183.6	170.8	149.7	125.4	106.4
2	7	7	96.3	93.3	91.1	90.5	94.5	104.2	127	141.6	152.5	160.7	162.8	161.2
2	7	7	158.9	156.2	155.7	158.8	163.1	170.2	184.4	182.3	168.7	149	123.5	103.7
2	8	7	96.2	92	89.8	90.2	93.9	104	125.5	139.7	150.2	158.5	160.9	158.5
2	8	7	156.8	155.8	152	155.4	162.6	170.6	188.4	183.6	168.8	149	126.7	106
2	9	7	95.7	92.8	91.2	90.9	93.8	103.5	126.5	142	153.7	163.3	165.1	163.8
2	9	7	160.7	160	158.9	161.3	165.8	169.5	182.3	180.1	169.4	152	131.5	110.8
2	10	7	99	95	92	92.1	94.5	99.7	110.4	125.9	146.3	159.3	161.2	161.5
2	10	7	161.3	161.8	162.6	167.7	174.7	174	185.8	188.9	174.8	156.5	131.4	112.3
2	11	7	101	95.8	93.4	92.4	92.8	98.5	105.4	118.2	138.1	150.7	159.4	163.4
2	11	7	167.3	167.7	164.1	166	167	169.5	184.1	193.8	180.9	159.4	132.6	111.2
2	12	7	100.8	96.4	94.2	93.3	96	106.3	128.2	143.4	159.3	171.5	175.6	177.6
2	12	7	178.9	177.6	178.2	180.2	181.3	182.4	195.4	195.8	185.1	164.9	137.5	114.4
2	13	7	102.6	98	96.2	94.9	97.5	106.9	127.1	144.8	160.2	168	171.5	172.1
2	13	7	173.1	173.9	171.8	175.9	174.8	178	189.6	193.8	180.9	163.3	133.7	111.3
2	14	7	100.9	97.7	95.4	94.4	96.7	106.4	129	145.4	154.8	164.5	167.2	171.1
2	14	7	173.4	172.2	174.6	176.4	178.3	180	189.8	191.9	179.3	163.7	137.5	113.7
2	15	7	98.3	96.7	95	94.7	97.5	106.4	127.4	143.7	157.4	169.1	171.8	168.8
2	15	7	170.5	173.7	173.8	176.6	176.5	177	188.4	193	179.9	161.2	134.2	111.9
2	16	7	100.5	96.5	93.8	92.9	94.7	104.5	125.5	140.3	154.5	163.7	164.6	167
2	16	7	167.6	168	168.1	168.8	165.8	170.5	183.1	181.8	172.6	156	130.5	112.4
2	17	7	99.8	95.2	92.1	91.2	92.8	98	107.4	121.8	135.3	153	155.1	153.2

2	17	7	148.5	147.3	147.7	150.2	153.5	159.8	172.7	173.5	162.1	148.8	126.7	109.6
2	18	7	99.5	94.2	91.6	90.3	92.3	96.5	104.6	118.5	135.3	145.9	148.5	146.9
2	18	7	144	143.8	142.6	143.8	148.9	155.4	169.7	175.6	162.5	147.5	123.3	101.5
2	19	7	95.2	92.3	90.3	90.7	92.9	101.6	122.4	128.3	149.7	158.5	160.3	158.1
2	19	7	158.4	159.4	158.6	160.4	161.6	165.3	176.8	181.6	168.8	149.7	125.4	106.8
2	20	7	95.9	92.3	90.1	89.7	92.9	102.7	122.7	139.5	153.2	162.8	161.6	158.6
2	20	7	159.7	163.7	163.8	165	166.4	169.9	183.1	185.6	176.2	154.2	126.8	108.3
2	21	7	99.7	93.5	91	90.7	93	102.1	123.7	138.6	149.8	159.5	161.2	161.8
2	21	7	162.1	160.5	159.3	162.2	163.7	167.2	180.1	186.1	170.6	153.5	129	107.7
2	22	7	97.9	94.5	92.4	90.6	93.4	102.9	127.2	139.1	152.6	160.7	164.7	164.7
2	22	7	162.4	160.7	162.4	166.1	168.3	168.8	181.5	187	172.9	156.2	132.8	108.7
2	23	7	98.2	95.2	93	92	95.2	103.5	125.4	140	152.9	161.8	164.3	163.8
2	23	7	162.9	163	165.5	165.9	163.7	165.7	177.5	180.3	166.5	155.9	131.6	113.2
2	24	7	100.9	96.4	93.8	92.3	93.6	98.2	108.4	124.1	142.3	153.4	155.2	152.5
2	24	7	149.2	146.7	146.4	148.2	154.5	159.1	168.8	172.4	161	147.4	126.9	109.2
2	25	7	97.4	93.5	91.6	90.7	92.5	96.9	104.3	117.1	134.1	144.8	147.6	146.4
2	25	7	145.3	144.1	145.8	149.1	152.2	156.9	169.1	176.4	164.6	148.5	125.5	108.4
2	26	7	97.7	93.1	91	90.1	92	98.8	110.1	122.5	140	154.1	157	154.2
2	26	7	153.4	153.7	156.2	157.9	164.2	168.4	182.3	189	174.6	156.6	126.5	108.2
2	27	7	97	92.8	91.2	90	93.4	102.1	121.9	135.2	149.2	160.2	162.5	161.5
2	27	7	160.7	161.2	164.9	169.4	170.1	173.4	183.8	191.5	178.6	144.8	131.2	110.2
2	28	7	99.7	94.9	92.4	91.7	94.7	104.1	124.9	139	153.5	164.9	168.3	166.1
2	28	7	165	164.9	167	168.3	169.9	171.6	181.2	189	176.2	160.7	133.5	112.9
3	1	7	101.1	96.8	94.4	94	96.8	107.8	131.2	142.2	158.8	165.4	171.1	170.3
3	1	7	167.6	168.8	169.5	170.9	172.1	172.9	182.3	191.2	178.8	162.2	134.9	113.6
3	2	7	102	97.3	94.4	93.9	96.3	107	129.1	142.4	159.2	169.2	171.2	170.5
3	2	7	168.1	166.3	164.8	166.1	165.4	166.3	173.1	177.7	167.8	154.1	130.8	113.3
3	3	7	101.8	97.6	94.3	92.7	94.8	99.7	112.1	125.1	145.2	157.9	163.4	158.8
3	3	7	155.9	154.4	155.2	157.8	161.9	165.1	173.8	178.6	167.1	152.2	132.4	112.9
3	4	7	101.8	97.4	94	93	95.4	100.1	108	122	139.7	150.7	156.5	157
3	4	7	152.2	154	153.9	155.6	160.5	166.2	174.9	181.1	169.2	149.9	127.4	106.8
3	5	7	97.9	96.1	94	93.4	95.4	104.8	130.1	141.7	160.5	162.9	165.8	165
3	5	7	165	165.4	166.9	169.6	167.3	170.9	181.4	188.5	176.7	157.4	132.1	111.3
3	6	7	97.8	93.5	90.9	90.5	91	104	131.1	143.7	152.1	162.7	162.5	164
3	6	7	162.7	164	164.9	168.8	169.8	170	177.6	183.3	173	156.2	133.1	110.1
3	7	7	98.7	92.6	89.7	90	93.5	104.4	128.4	140	153.3	163.8	163.2	162.4
3	7	7	162.4	164	165.5	167.2	168.2	170.1	178.9	184.1	173.3	158.4	132	109.6
3	8	7	99.2	92.9	91.8	90.4	93.1	106.7	127.2	142.6	155	161.8	165.2	166.3
3	8	7	165.6	167.7	166.4	168.5	172.4	170.9	179.6	186.3	176.5	153.8	135.4	112.8
3	9	7	102.8	95.4	90.9	90.6	92.5	105.3	128.5	142.1	154.1	163.8	165.1	166
3	9	7	167.4	168.2	169.8	170.9	167.8	167.7	175.8	179	168.6	155.6	135.5	116.4
3	10	7	102.7	96.5	93.4	92.2	94.7	102.7	114.2	130.5	150.3	161.9	163.7	162.6
3	10	7	162.4	159.6	161.5	164.3	166.2	168.6	174	180.1	169.6	156.6	137.5	118.3
3	11	7	104	98.2	94.6	92.2	93.5	99.7	107.9	121.6	142.3	153.8	155.8	155.7
3	11	7	155.4	156.9	156	155.7	160.3	165	175	183.8	173.5	156.2	133	113.8
3	12	7	100.4	95.4	92.3	90.2	95	107.3	131	146.3	160.9	170.6	171.9	172
3	12	7	170.9	172.7	173.8	175	174.8	176.5	184.1	192	182.1	166	141.7	118.6
3	13	7	106.3	100.1	96.6	95	98.6	110.6	135.2	152.6	168.4	177.7	181	180.7
3	13	7	180	180.9	182.4	183.7	182.8	182.8	190.5	195.5	186	170.8	146.1	124

3	14	7	112.4	106.7	101.6	100.1	102.3	114.2	140	155.7	167.3	173.2	173.8	173.5
3	14	7	171	167.3	167.2	169.8	170.3	174.1	187	190.9	178.4	163.2	138	114.8
3	15	7	101.6	95.6	92.1	91.3	95.4	107	131.4	147.4	156.9	164.4	162.4	160.5
3	15	7	158.2	156.6	155.7	156.4	160.1	164.7	174.4	177.7	167.5	151.7	129	109
3	16	7	96.1	90.6	88.2	87.6	91.4	103.5	128.5	142.7	153.7	159.2	161.1	160.6
3	16	7	158.7	158.5	159	159.3	161.1	163.4	170.9	177.3	164.7	154.3	131.4	113.4
3	17	7	99	93.5	92.2	89.8	92.5	98.7	109.3	126.4	144.8	157	159.3	159.6
3	17	7	155.7	151.9	148.5	148.6	152.2	155.2	164.2	170	160.6	145.7	125.8	107.8
3	18	7	94.7	90.4	85.7	85.7	88.5	94.7	102.7	125.5	138	146	146.5	146.1
3	18	7	143.8	144.8	145.3	145.9	151.6	157.3	166.2	170.8	162.7	145	121.6	103.5
3	19	7	94.2	87	86.2	85.4	89.3	102.1	125.7	138.2	149.6	153.9	159.6	152.3
3	19	7	151.3	149.4	147.8	149.2	151.3	157.3	167.3	180.3	169.1	151.6	125.4	106.4
3	20	7	92.9	88.4	86.2	86	90.4	103.2	127.1	141.1	151.2	157.5	158.2	155.4
3	20	7	151.6	150.6	147.7	148.5	150.8	154.2	167.7	176.7	167.2	152.4	123.8	103.9
3	21	7	90.2	87	84.3	83.8	88.5	100.2	122.5	137.2	144.9	152.7	151.5	149.8
3	21	7	150.2	148.4	152.8	154.6	156.8	160.4	171.8	177.8	168.4	151.6	127.1	106.5
3	22	7	93.3	90	86.2	86.6	90	103.2	125	138.8	148	156.6	159	159
3	22	7	158.6	160.1	159.9	163.5	164.3	166	170.4	178.5	168.8	154.4	129.7	109.7
3	23	7	95.7	91.2	88	86.9	91.2	102.1	124.5	137.6	151	160.5	161.4	159.9
3	23	7	159.7	159.6	158.9	159.7	159.4	163.7	174.9	174.9	166.2	153	132.4	113.4
3	24	7	99.5	94.6	90.9	90.2	91.6	98.5	109.3	126.7	145.5	156.7	155.9	155.4
3	24	7	153.6	150.7	151.2	151.9	156.9	161.3	171.2	174	164.7	152.9	131.9	113.4
3	25	7	100	93.4	90.4	90.1	92.9	98.3	109	124.7	142.6	152.4	154.3	152.9
3	25	7	151.9	150.7	150.7	151.7	154.7	160.1	167.7	176.3	167.2	152.7	131.7	112.6
3	26	7	98.3	94.4	88.8	90.2	93.5	104.5	122.4	139.3	158.1	166.9	168.9	167.9
3	26	7	168	167.4	169.8	171.8	171.5	174.5	181.1	189.2	178.4	163.2	136.9	117
3	27	7	102.8	96.9	93.1	91.6	94.6	106.4	123.4	140.7	159.8	170.4	173	171.5
3	27	7	170.9	171.5	174.4	175.8	178.4	179.8	184.5	192.1	182.1	169.3	141.5	121.3
3	28	7	105.5	99.9	95.7	94.8	98.7	107.8	124.3	141.2	161.1	171.4	174.8	175.9
3	28	7	177.1	177.7	177.8	180.4	182.8	182.6	188.7	195.2	187	172	147.6	124.9
3	29	7	111	105	101.3	99.1	101	110.7	126.3	143.5	163.3	177.7	181.6	180.9
3	29	7	181.8	184.3	186.5	185.5	185.6	185.5	189.8	194.8	185.5	171.3	145.5	125
3	30	7	110	102.1	99.2	97.3	94.8	108.5	123.9	140.9	161.4	173.9	178.6	178.1
3	30	7	177.1	177.3	176.3	176.1	176.3	180.2	187.1	188	178.5	165	143.8	122.7
3	31	7	107.8	101.9	98.7	97.6	99.6	104.2	110.5	129.2	146.5	159.9	160.5	159.4
3	31	7	156.7	153	151.9	151.2	155.6	161.4	170.8	173.4	163.3	152.8	131	114.1
4	1	7	99.1	93.8	91.7	90.4	92.2	98.2	105.8	121.3	139.6	148.5	150.4	148.4
4	1	7	145.9	143.2	144	145.4	151.3	157	162.3	170.9	162.9	149.1	126.9	106.9
4	2	7	98.9	93.1	89	90.2	94.6	104.2	123.3	139.5	154.9	163.5	165.4	166.2
4	2	7	163.1	163.3	163.2	165.1	169.2	174.3	181.4	191.9	178.7	158.4	136.1	113.5
4	3	7	102	95.9	91.9	93.9	97.3	107.4	130	144.6	159.7	169.8	170.9	168.9
4	3	7	168.4	167.9	168.8	171.3	169.5	176.5	184.9	190.7	180.2	163.7	138.8	114.9
4	4	7	103.3	97.3	94.4	92.9	97.7	107.5	128	146	161.3	168.9	169.7	172.7
4	4	7	174.7	174.2	173.7	174.7	174.8	177.7	184.8	188.7	177.8	160.9	138.1	113.6
4	5	7	101	97.2	94.2	92.7	97.5	107.7	132.8	143.6	159.7	166.7	170.4	168.4
4	5	7	168.9	169	169.3	168.7	168.8	171.4	178.4	187.1	176.5	157.9	137.1	114.8
4	6	7	101.6	98	95.1	94.6	97.1	107.4	123.7	137.8	159.1	165.4	166.7	165.4
4	6	7	165.9	164.9	165.8	165.8	165.4	165.8	177	170.1	164.6	153.8	123.2	107.7
4	7	7	99.1	96.6	95.1	94.1	98.2	104.8	107.9	131.8	147.4	158.4	157.3	156

4	7	7	154.8	156.3	154.5	154.9	158.3	163.2	170.6	175	162.1	145.6	124	105.4
4	8	7	99.8	96.6	94.5	93.6	96.2	100.7	107.4	126.2	142.9	150	150.8	150.8
4	8	7	150.4	151.3	153.2	152.3	160.9	161.2	175.1	172.4	158.9	146	118.9	103.2
4	9	7	98.7	94.1	94	93.4	98.2	113.2	124	143.1	153.2	162.1	162.8	162.2
4	9	7	163	165.9	163.6	166.7	165.1	165.6	179.1	180.1	162.5	152	117.8	104.6
4	10	7	99.4	96.2	94.5	94.1	96.8	111.4	119.7	139.7	149.2	159.5	164.1	164.8
4	10	7	165.4	164.8	168	164	165.6	170.1	185.5	178.4	165.1	151.2	119.3	105.1
4	11	7	98.1	96	94.2	94.6	99.4	112.9	128.7	145.2	160.9	165.4	164.4	163.9
4	11	7	164.4	165.4	166.4	165.8	166.9	169.6	180.1	183.8	170.8	151.6	123	105.4
4	12	7	100.6	99.1	96.4	95.7	100.3	114.5	122.7	139.8	153.9	158.9	163.9	164.8
4	12	7	166.8	168.2	170.2	170.5	169.4	170.9	180.5	184.5	176.5	156.1	123.4	107.1
4	13	7	100.9	99.3	96.2	96.2	100.9	112	128.4	150	165.5	169.7	172.9	171.3
4	13	7	173.2	173.7	174.7	174.7	178.7	177.1	184.4	181.5	174.1	158.9	140.1	120.9
4	14	7	106.2	102.4	99.5	98.5	98.6	104	120.4	135.8	150.4	158.5	158.3	158.9
4	14	7	164	160.9	160.7	160.6	165.9	168.5	174.4	182	171.8	152.8	134.8	118.3
4	15	7	104.3	98.7	96.8	96	97.8	100.6	109.5	130.5	144.2	149	153.9	154.1
4	15	7	154.8	154.2	156.5	157.8	162.7	167.3	175.8	176.7	167.2	153.2	133.1	113.2
4	16	7	102.1	98.2	98.1	96.2	99.8	109.8	133.1	146.9	164.4	171.2	173.2	174
4	16	7	175	172.9	174.6	174.6	173.7	175.1	184.7	190.4	181.8	155	142.3	118
4	17	7	104	100.3	97.1	97.4	99.9	111.7	124.9	152.1	165.1	172.2	171.3	171.8
4	17	7	171.2	170.9	169.8	169.7	171.2	173.5	182.4	191.4	181.4	160.9	134.1	115.3
4	18	7	103.6	99.8	97.7	97.1	99.5	109.5	127.7	144.4	157.4	166.8	170.4	172
4	18	7	173.1	173.7	175.1	175.1	173.6	174.3	179.5	189.5	176.8	160.5	135.3	118
4	19	7	103.2	99.8	97.3	95.7	98	107.7	127.2	141.2	157.4	168.9	173.5	173.7
4	19	7	174.6	173.7	174.1	175	175.5	176.4	182	192.2	182.2	158.4	135.9	116.5
4	20	7	105.6	101.8	98.8	97.7	99.8	108.3	128.5	145.3	158.5	168.2	171.2	171.2
4	20	7	173.6	173.3	172.2	173.9	172.9	171.8	175.8	181.7	171.2	158.8	135.5	119.3
4	21	7	107.7	102	98.5	96.9	98	102.4	112.9	130.5	147.1	159	163.9	163.6
4	21	7	163.1	160.4	160.9	163	166.2	168	171.7	179.1	169.7	155.2	134.4	118.3
4	22	7	106.8	101.4	98.6	97.1	98.1	103	110.1	124.9	141.7	152.1	156	157.4
4	22	7	158.3	157.3	157.3	159	163.4	168.1	172.7	184.2	166.3	151.8	122.3	107.8
4	23	7	103.2	100.9	97.7	97.3	101.2	117.4	126.1	144.1	157.1	166.2	170.4	172.1
4	23	7	174.4	174.6	175.9	175.7	174.1	176.1	185.3	184.2	174.6	154.5	121.3	107.5
4	24	7	99.2	98.5	96.6	95.5	101.8	114.8	123.3	138.6	150.3	163.2	168.5	169.4
4	24	7	170.2	168.2	167.7	171.2	167.6	170.9	187.8	181.6	167.3	151.7	121.9	105.3
4	25	7	100.3	98	96.2	95.7	100	106.5	124.9	140.5	154.9	162	166.4	167.9
4	25	7	170.4	168	170.2	170.9	169.6	170.1	174.3	184.8	173.3	157.9	132.8	114.4
4	26	7	102.1	98.1	96.7	95.4	97.5	106.2	124.9	138.8	152.8	161.7	165.6	167.1
4	26	7	168	170.6	171.2	173.5	172.2	172.7	177.4	188.2	178.1	162	133.8	115.4
4	27	7	103.6	99.8	97.7	95.7	98.1	105.9	124	139.5	153.7	166.2	164.7	165.8
4	27	7	167.7	170.1	170.6	170.9	169.3	167.6	168.4	174.4	164.2	153.5	132.2	115
4	28	7	104.4	98.5	96.2	95.5	96.8	101.3	110.1	130.4	140.1	151.1	154.9	154.8
4	28	7	155.2	155.4	154.1	155.4	157.4	160.2	165.8	170.4	162.9	144.3	127.7	112.1
4	29	7	102.9	98.5	95.7	94.6	95.9	100.2	107.3	118	131.8	142.3	148.4	149.7
4	29	7	149.1	149.7	149	149.9	154.2	158.4	164	173.3	162.8	143.8	126.1	110.2
4	30	7	101.5	97.4	95.2	95.5	98.6	107	118.6	138.7	151.7	161.5	164.5	166.2
4	30	7	166.7	166.8	166.3	168.5	168.8	168.9	173.2	184.2	173.3	155.3	128.8	110.1
5	1	7	98.3	93.9	92.2	92.4	95.2	104	119.6	134.6	147.7	158.1	161.9	161
5	1	7	161.9	164	164.6	167.7	168.4	165.2	170.7	180.8	170.5	149.5	125.8	106.8

5	2	7	97.7	94.8	93.6	93.8	95.6	104.1	120.3	135.7	147.5	158.1	162.5	165.2
5	2	7	166.3	170.4	170.3	171.2	170.5	169.7	175.2	187.5	173.1	144.6	130	112.8
5	3	7	102.6	97.6	95.4	93.6	96.3	104.2	127.7	137	151.1	158.1	157.9	156.8
5	3	7	154.5	154.9	159.6	159.2	159.9	165.2	176.1	172.2	159.1	144.6	125.1	108.9
5	4	7	100.4	96	94.1	93	95.7	104	121.9	137.1	152.7	160.4	161	163.9
5	4	7	164	162.6	164.2	166.4	165.6	164.4	167.5	174.7	163.9	151.1	129.4	112.6
5	5	7	102.4	97.7	94.3	93.7	95.4	100	107.7	122.7	139.2	150.3	152.3	152.6
5	5	7	152.2	153.2	155.3	156.7	159.8	162.4	167.9	173.1	162.4	149.2	129.2	109.8
5	6	7	103.8	99.4	97	95.8	96.3	100.3	106.3	119.3	134.6	144.4	148.2	149.2
5	6	7	150.1	151.7	152	154.9	157.5	162.5	167.2	177.4	168	150.9	129	114.3
5	7	7	102.4	98.3	96.1	95.5	97.3	105.9	122.3	138.6	153.5	164.8	169	169.7
5	7	7	171.1	173.1	173.4	173.4	171.8	171.4	174.8	186.8	175.8	158.8	133.3	111.5
5	8	7	104.6	99.9	97.4	97.1	99.4	108.4	125.2	139.4	154.4	164.1	170	172.8
5	8	7	175.2	177.1	177.6	178	176.1	177.8	182.6	190.7	179.8	162.5	136.2	115.8
5	9	7	105.8	101.5	99	98.7	101.4	110.3	126.2	140.4	157.1	168	172.8	175.8
5	9	7	176.4	177.5	180.3	181.1	181.8	179.1	181.9	192.8	182.2	164.3	134.8	116.3
5	10	7	106.3	102.2	100.1	99.7	101.9	110.5	126.2	141.4	158.3	169.5	172.7	173.9
5	10	7	175.9	179.3	181.7	184.3	181.9	179.3	179.7	190.6	181.2	164.4	138.8	119.2
5	11	7	108.5	103.3	100.9	100.4	102.3	111.2	126.5	144	160.2	168.7	174.5	176.7
5	11	7	178.3	182.7	181.6	179.5	177.9	174.4	173.1	183	174.9	161.4	139.8	121.3
5	12	7	109	104.2	101.2	100.6	101.5	106.3	114.4	130.4	147.6	157.7	162	160.9
5	12	7	160.8	161.6	163.1	164.1	165.1	166	167.3	176	167.5	157.8	135.3	118.5
5	13	7	107.3	101.8	99.2	98.1	100.6	104	109.4	123.4	138.5	148.6	152.4	153
5	13	7	153.5	154	155.6	156.7	159.8	162.6	165.3	173.3	165.9	151.7	131.4	114.9
5	14	7	106.1	102.8	100	99.9	101.2	110.6	126.5	142.3	158	169.7	175.9	177.6
5	14	7	178.4	179.9	179	177.4	174.9	172.6	178.2	189.1	177.4	161.8	133.1	115.5
5	15	7	104.7	100.2	97.2	97.7	100.4	109.8	127.1	141.4	157.9	167	170.2	172.7
5	15	7	172.6	174.8	176.7	179.3	177	173.6	177.1	189.4	178.7	161.4	135.2	114.3
5	16	7	103.8	100.3	98.2	97.3	98.9	108.2	116.3	140.8	156	165.4	170.7	175.2
5	16	7	175.2	175.5	179.5	181.3	179.9	176.5	178.7	188.3	178.2	162.2	134.9	115.8
5	17	7	106.9	102.7	99.7	99.2	100.7	109.7	126.8	144.2	160.1	167.2	170.2	173.4
5	17	7	174.4	177.4	176.3	176.8	174.4	172.8	173.6	184.5	178	161.7	136.9	115.7
5	18	7	106.1	103.1	100.7	100.6	103.1	111.5	127.5	141.4	156.7	166.8	170.2	173.1
5	18	7	175.2	177	176.9	174	169.8	168.5	170.9	180.9	170.3	145.8	136.4	118.2
5	19	7	111.9	102.8	95.6	100.1	103.7	109.1	114.9	129.3	144.2	154.5	159	159.8
5	19	7	163.1	163.4	164	165.6	166.5	167.8	169.8	171.8	166.9	151.6	126.8	111.4
5	20	7	104.7	103.1	100.4	99.9	101.6	107.2	111.1	123.9	137.1	147.1	153.1	155.9
5	20	7	156.1	156.1	157.5	161.4	165.5	166.7	171.3	178.7	174.7	148.9	121.6	110.9
5	21	7	105	102.8	100.1	100.2	105.9	116.5	128.5	143.1	158.3	169.3	174.9	176.8
5	21	7	178.6	178.3	179.3	180.5	179.7	176.1	176.4	187.4	178.6	161.8	136.1	115.2
5	22	7	106.6	102	100.2	99.7	102.3	110.8	127.7	143.2	159	168.4	172	175.4
5	22	7	177.9	178.4	179.9	179	178.2	175.9	177.2	187.8	179.8	161.8	135.9	117.9
5	23	7	108.1	103.2	101.2	100.4	102.8	111.7	129.8	144.7	157.9	168.7	174.7	176.7
5	23	7	177.4	178.3	178.2	177.2	173.4	170.5	175.1	184.7	177.4	162.2	138	117
5	24	7	108.8	105.2	102.5	102.1	103.6	111.5	129	145.3	159.7	166.6	170.1	170
5	24	7	170.1	167.7	165.5	165.1	166.1	165.3	169.3	176	169	152.7	129.6	112.6
5	25	7	104.4	101.2	99.3	97.8	100.1	110	128.7	144.3	158.2	166.6	172	170.1
5	25	7	170.5	173.9	172.6	173.2	171.2	168.9	169.7	175.6	169.3	156.4	136.4	117.7
5	26	7	107.7	103.6	101.2	100.1	100.7	106.5	113.3	132	143.4	150.9	158.3	162.5

5	26	7	166.1	157.6	159.5	159.7	161.9	163.6	166.3	171.9	166.7	149.9	135.3	117.9
5	27	7	108.7	103.9	100.8	99.3	100.9	104.4	111.2	123.4	135.1	146	152.4	157.2
5	27	7	159.6	160.4	159.5	160.8	163.9	167.8	171.9	178	173.2	160.8	127.2	115.9
5	28	7	107.6	102.7	100.2	99.2	100.6	104	111.9	123.9	136.8	147.6	154.4	158.2
5	28	7	159.6	160.2	162.5	164.5	168	171	175.5	181.7	176	155.1	137.6	118.1
5	29	7	108.2	103.9	101.7	102.3	102.9	112.7	129.3	148.2	164.9	174.4	178	178.7
5	29	7	179.7	180.3	180.4	178.2	179.1	175.6	178	187.1	182.6	164.3	137.4	118.9
5	30	7	108.1	103.2	101.2	100.4	102.8	111.7	129.8	144.7	157.9	168.7	174.7	176.7
5	30	7	177.4	178.3	178.2	177.2	173.4	170.5	175.1	184.7	177.4	162.2	138	117
5	31	7	106.9	102.4	100.8	99.9	101.6	110.8	128.5	146.5	162.9	172.9	177.4	177.8
5	31	7	178.3	179.9	180.7	182.9	180.3	177	175.8	186.7	180.4	165.5	138.5	119.6
6	1	7	109.7	104	101.4	101.3	101.3	111.9	131.8	148.3	165.7	172.4	178.7	179.5
6	1	7	180	180.3	180.6	180.7	178.4	176	174.9	180.9	174.7	164.1	143.9	129.7
6	2	7	112.9	104.3	100.9	98.7	100.2	108	118.2	133.9	148.3	157.1	163.8	167.7
6	2	7	168.9	169.3	169.6	169.7	168.3	171.8	173.8	176	173.3	162.2	143.6	126.8
6	3	7	111.5	106	101.6	98.7	99.9	103	111.1	124.6	139.4	150.8	158.5	161.3
6	3	7	163.4	163.5	164.7	166.2	167.4	169.6	170.5	177.9	172.6	161	140.5	119.7
6	4	7	108.5	102.4	99.1	97.9	99.7	104	113.8	128.1	142.4	153.6	160.3	164
6	4	7	165.2	165.8	167.9	169.7	172.8	175.3	179.1	183.9	179.5	161	143.3	121.2
6	5	7	108.9	105.5	101.6	99	101.8	111.5	132.8	147.2	169.1	179.1	183.1	185.6
6	5	7	182.2	185.7	186.5	189.3	188.2	185.3	186.2	192.9	189.4	175.4	150.2	127.3
6	6	7	113.5	107.8	104.8	103.9	105.1	114.9	132.8	151.9	167	177.2	179.6	182
6	6	7	181.5	182.8	185.8	187.8	187.8	185.6	186	193.3	187	174	148.9	126.5
6	7	7	112.9	107.6	104.5	102.8	105.1	114.6	131.5	150.5	166.6	176.2	178.9	182.7
6	7	7	183.7	183.3	184.6	185.6	183.4	180.8	181.2	188	184.6	171.4	147.5	125.5
6	8	7	112.9	107.3	104.8	103.9	106.2	117	134.5	153	170.9	177.9	181.9	183.3
6	8	7	184.4	184.9	185.6	186.7	186	182.8	181.5	186.9	182.5	170.5	150.4	130.8
6	9	7	117.6	110.1	106	104.8	105.3	109.3	118.3	137	157.4	168.2	173.7	173.3
6	9	7	174.1	172.9	173.4	174.6	176.6	175.6	175.8	181.1	177.3	166.4	147.3	127.7
6	10	7	114.1	108.8	104.7	103	103.5	108.5	115.7	130.7	146.8	159.2	164.1	166
6	10	7	165.9	165.3	167	168.4	171.5	173.1	172.8	181.4	178.4	165.9	144.3	124
6	11	7	111.7	106.2	103.9	102.2	104.5	114.2	131.1	150.2	165.8	177.8	179.8	180.5
6	11	7	180.9	183.4	184.6	184.5	182.7	178.9	179.6	187.5	183.5	169.5	145.4	122.8
6	12	7	111.9	105.9	102.8	102.9	105.2	113.8	130.2	152	168.4	177.6	178.9	179.9
6	12	7	179.8	181.3	182.1	183.6	181.7	178.4	178.3	185.8	180.8	158.9	144.8	123.4
6	13	7	111.2	105.3	103.6	101.4	103.6	110.6	125.6	146.5	163.1	176	179.6	181.1
6	13	7	181.9	182.3	184.1	184.9	184.4	180.8	180.5	187.2	182.3	170.2	146.8	124.5
6	14	7	112.1	107.3	103.5	102.5	101.8	111.5	127.7	148	165.2	177.1	179.8	181
6	14	7	181.9	183.1	183.1	184.8	184.3	178.6	179.2	185.5	180.9	167.4	146	133.6
6	15	7	112.8	107	103.5	102.8	104	111.4	122.4	142.4	159.3	169.8	173.4	176.5
6	15	7	176.7	177	177.1	179.8	181.3	180.8	177.1	183.3	178.8	166.8	146.8	130
6	16	7	114.2	107.3	104.1	102.6	103.6	109.4	116.2	132.9	151	164.5	167.4	167.5
6	16	7	167.1	168.9	168.9	170.4	171.3	173.2	171.8	177.8	174.7	161.9	141.6	127.5
6	17	7	111	105.3	102	101.2	102.4	107.3	114.2	130.6	144.9	154.5	160.2	161.6
6	17	7	161.9	160.3	162.7	164.2	169.2	170.6	172.3	179.9	176	163.6	143.1	123.2
6	18	7	111.1	106.2	102.8	100.5	102.9	112.1	126.7	147.8	166	178.3	182.4	185.2
6	18	7	185.1	181.1	186.2	186.6	185.7	184.8	183.7	190.3	186.5	172.7	149.3	127.7
6	19	7	114.2	108.1	104.4	102.9	105.3	116.1	127.8	149.1	165.3	175.5	178	182.4
6	19	7	182.8	185.2	186.5	187.2	183.6	182.5	183.1	187	186.5	172.7	148.5	126.3

6	20	7	113.2	107.6	105.1	103.9	105.9	114.2	128.8	148.1	164.4	175.4	178.7	180.2
6	20	7	180.3	184.9	185.3	184.1	184.6	181.5	179.2	185.6	182.8	168.8	146.8	126.5
6	21	7	114.6	108.4	104.1	102.5	104.4	113.2	126.5	146.1	161.9	174.5	179.1	181
6	21	7	181.1	183.8	186.3	186.8	186	182.7	181.7	187.7	186	173.4	150	128
6	22	7	114.9	108.9	105.7	104.4	106	115.5	130	150	167.6	177.2	179.6	182.3
6	22	7	182.3	180.8	182.3	184.5	183.7	182.1	179.6	184	181	169.6	137.2	127.4
6	23	7	114.7	108.4	105.2	103.5	104.4	111.5	117.7	134.7	152.2	163.1	168.2	170
6	23	7	170.7	169.9	172	173.3	175.4	175.1	173.8	179.4	176.2	166.2	146.3	127.8
6	24	7	114.2	108	104	102.9	102.9	108.8	118.3	132.6	150	158.5	164.6	166.8
6	24	7	166	165.3	165.8	168.7	170.7	170.1	170.6	176.2	173.8	163.5	146.1	124.6
6	25	7	112.1	105.3	103.6	102	105.7	114.6	123.2	137.5	163.6	178	182.5	183.5
6	25	7	184.5	182.4	181.4	178.7	177.5	177.5	179.8	185.9	182.3	167.8	146.1	125.8
6	26	7	111.7	106.1	103.2	101.8	103.5	112.3	134.3	157.1	167.5	174.5	177.4	177.7
6	26	7	177.4	178	178.2	177.5	177.1	178.1	180.8	182.7	178.5	150.3	139.4	124
6	27	7	110.1	105.3	102.5	100.5	103.6	111.9	127.1	149.5	167.2	176.5	180.5	180.3
6	27	7	179.2	179.4	179.5	178.4	177.3	178.5	182.1	186.6	181.8	168.3	151.5	123.4
6	28	7	112.1	106.6	103.5	102.1	104.7	114.1	130	148.5	164.2	177.1	180.6	181.2
6	28	7	181.5	182.5	184.4	185.4	182.8	179.2	180.5	186.5	182.2	152.6	138.4	124.6
6	29	7	111.7	107.4	103.2	102.8	104.8	113.5	128.2	148.2	161.7	176	179.1	180.6
6	29	7	181	182	182.2	178.7	178.5	177	178.6	181.7	177	168.9	145.6	127.5
6	30	7	114.9	108.9	104.7	103	103.6	109.4	119.1	136.5	154.2	165.5	170.1	170.8
6	30	7	171.3	172.4	173.6	174.7	176.3	176.6	175.1	180.2	174.8	162.6	145.6	127.5
7	1	7	113.5	108.4	105.2	104.1	104.9	108.8	115.3	126.5	141.9	153.8	159	159.7
7	1	7	160	159.7	160.3	161.4	164.2	167	170.5	177.7	174.6	158.7	138.4	121
7	2	7	111.2	107.8	105.2	104.5	106.7	112.2	126.5	143.2	162	173.8	179.4	182.8
7	2	7	181	179.6	179.4	177.9	177.2	176.7	177.6	188.1	186	163	142.9	121.9
7	3	7	111.8	107.4	104.8	103.5	105.6	112.5	125	144.1	163.4	174.9	179	180.6
7	3	7	181.7	180.4	183.4	182	181.8	181	181.1	190.9	186.2	171.3	142.9	124
7	4	7	113.5	108.6	106.1	104.8	105.3	107.9	112.2	126.5	148.2	160	168.6	166.7
7	4	7	168.7	168.8	169.7	172	174.6	175.1	171.4	171	163.6	162.4	142.7	126.3
7	5	7	114	108.7	106.8	105.4	107	114.5	128.8	146.3	167.1	181.4	183.9	185.8
7	5	7	188.2	186.5	187	185.3	185.5	184.1	183	191.9	188.9	172.6	146.8	125.2
7	6	7	113.1	109.1	106.7	106.1	107.7	111.9	125.6	142.8	162.1	175.1	180.2	182.1
7	6	7	180.5	183.2	187.1	188.5	186.5	183.8	180.2	184	181.1	167.9	145.1	125.9
7	7	7	114.8	109.7	107.4	105.9	106.1	110.4	115.8	128.4	146.5	157.5	161.8	164
7	7	7	164.1	165.6	166.8	168.4	171	171.5	172.8	178.6	176.3	162.3	140.4	123
7	8	7	113.3	109.7	106.9	104.8	105.7	108.7	114.1	125.2	141.3	153.1	158.7	159.2
7	8	7	158.1	158.6	159.5	161.1	164	166.7	169.7	177.2	175.3	161.5	140	121.9
7	9	7	113.5	108.6	106.1	104.8	105.3	107.9	112.2	126.5	148.2	160	168.6	166.7
7	9	7	168.7	168.8	169.7	172	174.6	175.1	171.4	171	163.6	162.4	142.7	126.3
7	10	7	113.8	109.9	108.8	107.7	108.3	113.9	124.8	145.1	164.6	181.4	185.6	188.5
7	10	7	190.9	191.9	192.1	189.9	187.9	186	187.5	195.4	192.7	173	146.1	125.4
7	11	7	115.5	110.8	108.3	107	108.2	114.9	127.1	145.7	166.3	180.9	182.8	186
7	11	7	186	188.1	189.5	191.2	189.8	187.9	186.7	195.4	191.1	171.4	148.4	129.5
7	12	7	115.7	110.7	108.5	107.8	109.8	116	126.5	145.4	163.4	176.7	182.7	184.7
7	12	7	184.5	182.9	182.7	182.5	180.9	181.1	183.6	196	185	170.5	144.6	124
7	13	7	114.7	110.5	108.6	107.4	109	114.4	125.3	141.9	161.3	176.2	182.5	182.7
7	13	7	186.1	184.9	187.9	183.9	181.8	179.8	180.6	186.2	182	166.9	144.1	126.3
7	14	7	116.6	111.7	109	108.5	109.1	112.3	116.8	133	151.6	165.3	171.6	172.8

7	14	7	174	172.5	171.6	173.7	174.5	176.2	175.7	181.6	179.3	165.5	142.6	124.5
7	15	7	114.8	110.3	107.7	106.6	107	109.5	113.7	127.2	143.7	155.4	162.4	164.5
7	15	7	164.5	164.1	162.1	163.7	168.2	172.9	174	180.5	177.6	163.7	140.6	122.8
7	16	7	113.3	108.7	106.7	106.1	107.6	113.6	124.4	143.4	162	175.9	182.9	185.8
7	16	7	188.1	191.2	192.7	190.2	187.1	186	186.2	196.4	188.7	171.7	145.5	124.6
7	17	7	114.6	110.4	107.9	107.7	108.7	114.7	124.9	144	163.1	177.2	184.6	185.2
7	17	7	184.6	184.9	186.7	188.5	188.1	185.4	186.7	195.5	191.8	172.4	144.6	124.9
7	18	7	114.8	110.7	108.7	107.8	108.7	114.8	125	142.8	162	175.9	181.7	184
7	18	7	186.4	186.1	189.8	190.2	189.7	188.5	186.9	195.4	189.4	173.2	145.9	125.1
7	19	7	114.2	110.4	107.8	107.2	108.8	114.8	117.8	142.9	162.3	176.2	182.5	186.1
7	19	7	188.1	190.2	192.4	193.7	191.3	188.5	188.2	196.1	193.5	174.5	148.8	127.1
7	20	7	115.7	111.4	109	108.3	109.7	116.5	125.9	142.9	160.6	173.8	179.7	182.7
7	20	7	182.9	184.9	184.3	182.7	183.2	180.5	179.9	187.4	182.2	157.7	146.3	126.7
7	21	7	115.1	110.9	108.3	106.9	107.9	111.2	116.6	132.1	152.2	165.9	172.8	174.2
7	21	7	175.3	176.7	176.4	175.7	179.8	180.4	178.3	186	180.9	168.4	144	125.5
7	22	7	114.9	110.2	108.1	106.9	107.6	110.6	114.1	126.9	145.2	158.9	163.8	165.1
7	22	7	164.3	166.8	165.5	167.9	170.6	174.1	175.7	185	182.4	165.6	142.4	123.4
7	23	7	114.3	109.4	108	107.1	108.7	109.3	125.1	143.7	165.1	181	185.6	187.4
7	23	7	187.8	191.3	188.8	188.8	189.8	186.9	186.2	196	192.1	173.6	146.7	126.1
7	24	7	116.5	111.4	108.7	107.8	109.5	115.6	125.4	143.6	163.8	179.8	186.9	188.5
7	24	7	190.5	190.5	192.2	190.2	187.2	184.9	184.7	193.8	189.5	171.6	145.1	125.2
7	25	7	114.9	110.4	107.8	107.1	109	115.1	125	142.3	160.6	172.1	176	181.3
7	25	7	182.2	182.8	182	184.3	185.2	183.5	184.3	193.4	190.1	170.6	143.7	123.2
7	26	7	113.9	109.6	107.5	106.3	108.1	114.1	125.1	140.8	158.1	171.6	175.9	177.1
7	26	7	175.9	177.8	179.8	179.9	181.1	179.9	179.9	192.9	187.5	170.7	143.3	123.8
7	27	7	113.7	109	107	105.5	107.9	113.3	125.7	142.5	160.4	176.6	182.9	186.1
7	27	7	186	184.6	187.1	185.3	185.2	181.6	179.8	187.2	183.5	171.9	146.3	126.8
7	28	7	115.7	110.3	107.9	106.1	107.3	110.3	117.8	130.6	150.2	164.2	171.1	171.4
7	28	7	174.5	175.5	176.2	177.8	180.9	181.8	180.5	187.7	182.1	170.1	146.1	127.2
7	29	7	116.8	111.5	108.6	106.8	107.3	110.8	115.7	128.2	145.4	158.2	165.1	166.3
7	29	7	167.2	166.8	169.5	171.9	175.1	177.8	180.9	191.3	186.1	170.1	144.6	125.1
7	30	7	117.7	111.2	109	107.8	109.3	115.1	127.5	148.3	168.7	183.3	193.2	196.1
7	30	7	196.7	199.6	198.8	199	196.7	192.8	191.2	202.4	196.9	180.6	151.6	130.3
7	31	7	118.6	113.4	110.6	110.1	111.4	118.6	130.9	147.8	168.7	183.8	189.2	190.9
7	31	7	191.9	194.8	198.8	198.4	197.3	191.5	190.8	199.6	195.4	177.6	146.9	125.6
8	1	7	116.8	111.3	109	107.4	109.2	115.3	128.6	148.1	167.6	181.2	187	189.2
8	1	7	190.1	193.1	194.1	190.5	192.3	190.7	188.9	196.2	189.4	173.9	149.5	128.3
8	2	7	116.6	111.3	108.8	107.2	109.2	116.3	128.7	144.5	167.2	182.4	187.6	188.9
8	2	7	192.2	190.5	193.2	195.3	193.6	192	194.1	200.8	194.5	177.6	149.2	127.7
8	3	7	116.9	112.7	110	108.8	110.9	118.1	130.3	150.3	167.3	182.1	185.9	187.3
8	3	7	187.8	186.8	187.1	186.4	185.5	182.1	181.2	186.8	184	171	148.7	129.1
8	4	7	116.9	111.3	108.1	106.5	107.2	111.9	117.8	135.1	152.8	168	174.7	176.4
8	4	7	174.4	175.1	177.1	175.9	178.3	180.8	179.9	186.3	183.3	171.1	147.2	128.2
8	5	7	115.5	111.5	107.9	106.8	107.1	110.6	114.7	129.3	148.2	161	168.5	169.3
8	5	7	169.7	170.8	171.7	173.2	174.8	176.6	178.2	189.6	187	171.7	145.5	125.2
8	6	7	114.7	110	108.3	106.7	109.1	114.9	126.8	146	167.4	182.5	187.2	186.9
8	6	7	189.6	189.5	191.4	191.8	190.6	188.1	189.4	201.7	195.4	178.5	150	128
8	7	7	115.5	111.3	108.6	108.3	109.6	115.5	127.6	146.9	168.9	182.6	187.7	190
8	7	7	191.6	192	194	194.3	192.3	189.5	191.4	201.5	195.6	179.3	149.1	127.4

8	8	7	115.7	111	108.1	107.6	109.5	116.8	129.2	146.2	164.7	179.4	186.1	188.7
8	8	7	190.8	193.4	192.5	191.4	188.8	187.2	185.6	193.4	188.1	173.1	148	126
8	9	7	114	109.5	107.3	106.7	107.7	115.1	126.6	143.9	163.7	177.4	184	184.6
8	9	7	183.2	185.5	187.4	190.5	188.3	187.4	185.7	193.5	188.6	174.2	145.5	124.9
8	10	7	113.1	108.8	106.5	105.6	107.3	114.6	125.7	144.9	163.6	177.3	181.2	182.1
8	10	7	183.2	186.6	187.9	189.6	189.3	186.9	185.9	192.9	186.8	172.9	150.5	129.4
8	11	7	116.9	111.2	108.5	106.5	107.3	111.3	116.8	130.8	150.3	166	171.9	174.5
8	11	7	173.8	175.6	176.9	177.7	179.6	181.2	183.6	190.9	184.6	171.2	149.1	128.7
8	12	7	116.3	111.6	108.7	107.7	108.3	111.6	116	129.3	148.3	161.7	168.2	171.8
8	12	7	172	173.2	172.1	173.4	176.1	180.7	183.2	192.9	184.6	168.4	146.6	127.4
8	13	7	117	111.7	109.2	108.1	109.6	116.8	129.8	152.4	172.1	187.5	193.5	197.4
8	13	7	198.9	200.9	202.5	202.9	199.9	197	199.3	208.8	201.5	180.4	152	129.7
8	14	7	116.8	111.6	109	108.6	110.3	117.3	130.7	151.7	173.6	188.8	195.9	197.9
8	14	7	199.1	200.7	203.2	203.4	199.1	192.4	192.6	202.5	196.8	176.7	149.8	128.7
8	15	7	117.5	112.1	108.6	107.8	109.1	115.7	127.8	147.7	168.5	183.9	190.5	194.6
8	15	7	197.6	200.2	200.5	200.4	198.1	197.3	197	206.9	198.4	181.6	154.4	130.9
8	16	7	118.7	113.7	110.9	109.5	110.5	118.4	130.5	151.7	172.8	186.2	190	188.7
8	16	7	194.6	197.4	196.6	197.3	194.5	193.4	194	204.5	197.3	178	149.8	127.7
8	17	7	116.1	110.9	108.3	107.2	107.6	112.5	123.1	146.9	164.7	179	186.3	189.6
8	17	7	189.3	190	192.3	194.9	194.3	189.6	187.2	195.4	187.5	170.1	149.2	128.3
8	18	7	116.6	110.9	108.1	106.3	106.5	111.3	115.8	129.2	150	166.7	172	173.1
8	18	7	173.2	175.1	175.1	178	181.6	183	183.2	191.6	182.5	168.2	145.4	126.7
8	19	7	115	109.8	107.8	105.7	106.3	109.1	113.4	135.4	144.2	158.3	162.4	160.3
8	19	7	165.7	166.6	170.1	170.1	173.2	176.9	180.3	190.9	183.6	167.2	144.6	124.4
8	20	7	113.9	109.4	106.4	106.7	109.3	114.7	128.1	147.2	166	184.5	190	192.9
8	20	7	196.3	195.1	195.1	192.3	192.6	191.6	193.7	206.3	196.8	176.3	149.6	127.7
8	21	7	117	110.8	110.1	107.7	109.9	116.2	127	147.3	167.6	183.6	189.4	191.8
8	21	7	191.4	192.9	190.2	189.3	188.7	186.9	187.8	198.4	189.7	172.1	147.2	128.3
8	22	7	114.2	109	107.3	105.3	107.6	114	126.3	144.6	163.6	178.9	184.9	188.1
8	22	7	189.5	193.2	190.9	191.7	190.6	188.3	188.3	199.4	191.1	172.7	147.5	127
8	23	7	115.1	110.8	107.6	106.7	108.6	109	127.5	145.8	168.6	182.8	188.4	191.5
8	23	7	191.6	193.8	195.6	195.3	192.1	186.1	187.2	196.3	188.3	172.5	149.1	134.1
8	24	7	115.8	110.2	107.6	106.6	108.7	114.4	125.1	141.1	160.5	172.1	180.4	183
8	24	7	185.9	185.9	186.9	187.1	188.1	187.2	197.3	196.2	186.1	168.6	150.5	131.4
8	25	7	119.8	113.2	110	108.1	108.5	112.7	117.9	133.5	155	170.2	174.9	174.7
8	25	7	174	175.1	175.5	175.3	176.2	176.1	175	185.3	177	163.9	142.6	124.3
8	26	7	114.3	109.1	106	104.5	104.7	107.4	111.3	122.2	141.5	154.3	159.9	161
8	26	7	163.1	165.4	167.4	170.2	172.6	174.4	176.9	188.3	181.9	162.7	140.7	122.9
8	27	7	112.3	107.6	105.1	104.1	105.8	111.5	122.6	141.3	162.3	178.8	186.6	188.3
8	27	7	189.5	191.8	189.5	192.4	189	188.2	189.9	202.4	190.6	170.4	142.9	123.7
8	28	7	113.4	108.7	106.4	105.8	107.4	113.9	125.4	144.4	161.3	175.1	181	182.6
8	28	7	184.9	188.7	186.3	183.3	182.6	178.8	182.8	197	185.7	166.8	140.6	121
8	29	7	111.7	108.3	106.3	105.3	107.4	114.9	124.7	144.8	164.4	175.9	181	182.5
8	29	7	184.8	187.5	189.5	189.6	187.1	186.2	187.8	197.8	187.2	168.7	143	123.9
8	30	7	113.7	109.8	107.7	106.7	108.8	116.7	131.9	146.9	163.8	177.7	184.2	188.7
8	30	7	188.8	189.6	190.8	191.7	190.9	186.1	189.6	202.1	190.6	171.5	144.6	125.1
8	31	7	114.3	110	108.1	106.6	108.1	116.6	133.5	149.3	168.5	182.4	185.7	187.2
8	31	7	188.2	189.6	190.9	194.1	191.8	187.1	185.2	197.1	187.5	173.1	151	130.3
9	1	7	115.4	110.8	108	106.8	107.2	109.7	115.5	129.3	149.8	163.9	171	172.8

9	1	7	172	171.1	174.6	175.4	176.6	174.2	175.4	181.1	171.9	157.8	138.6	122.9
9	2	7	112.8	108.7	105.8	104.2	104.9	107.9	111.7	122.4	140	151.3	159.7	161
9	2	7	159.2	157.3	157.9	158.9	162.3	165.9	172.4	186.2	175.6	160	135.9	119.1
9	3	7	116.3	111.1	108.3	107.2	108	112.5	118.5	131.9	150.7	165.8	172.2	174.5
9	3	7	176.2	177.1	177	176.7	179	181.3	184.9	198.7	186	166.6	142.2	124.4
9	4	7	114.5	109.2	106.7	106.1	107.9	113.5	129.5	145.3	165	176.4	184.4	188.9
9	4	7	191.2	193.3	194.4	193.4	187.2	183.9	190.1	201.6	189.2	168.9	141.5	123.4
9	5	7	110.6	107.5	105.7	104.9	106.7	113.4	122.3	141.1	160.3	172.1	177.3	178.9
9	5	7	181.4	184.3	186.4	186.5	183.8	182.9	184.5	195.5	184	164.7	139.4	121.6
9	6	7	114.9	110.6	107.7	107.1	107.8	117	133.7	148.5	165.5	177.9	184.1	186.5
9	6	7	188.2	192.2	191.7	190.8	188.3	187.2	188.9	201.2	188.7	169.7	143.5	123.7
9	7	7	114.1	108.1	106.4	105.2	105.9	114.8	131.7	146.6	164.8	175.9	181.1	184.8
9	7	7	187.2	191.4	192.5	192.2	189.7	183.4	183	193.8	178.9	167.7	146.2	128.1
9	8	7	116.5	110.3	107.7	106.7	107.5	112.8	118.5	132.9	150.1	164	172.6	175.8
9	8	7	176.7	178.4	178.6	178.9	177.7	177.3	181.5	186.5	177.5	164	143	125.8
9	9	7	115.5	111.1	107.5	106.1	107.5	110.5	115	128.6	145.5	157.4	160.7	164.2
9	9	7	166.1	174	169.3	169.2	169.8	167.6	177.7	188.2	175.8	162.9	142.9	126.2
9	10	7	116.3	111.1	108.3	107.2	108	112.5	118.5	131.9	150.7	165.8	172.2	174.5
9	10	7	176.2	177.1	177	176.7	179	181.3	184.9	198.7	186	166.6	142.2	124.4
9	11	7	114.5	110.3	108.4	107.1	109	117	131.9	148.5	166.4	178.4	183.4	183.7
9	11	7	185.3	190.4	187.9	187.4	186.5	181.7	188.3	199.1	184.5	164.9	139.7	121.3
9	12	7	112.1	108	106	105.5	106.7	115.1	130.3	146.6	162.4	174.4	179.3	181.7
9	12	7	183.5	184.6	187.6	188	186.5	182.1	185.6	197.4	189.4	163.6	139.9	121.9
9	13	7	112.5	108.6	106.1	105.1	107.5	115.5	131.5	145.5	162.7	174.5	178	183.4
9	13	7	184.5	186.3	188.7	190	187.6	181.8	186.5	198.2	185.6	167.2	140.8	121.5
9	14	7	112.8	109.3	106.5	105.6	107.5	116.8	132	147.1	160.9	173.9	179	182.2
9	14	7	186.3	186.8	188.5	191.7	189.1	183.5	188.2	193.1	180	166.9	143.8	129.3
9	15	7	116.8	111.2	108.6	107.6	108.8	113.1	118.7	134.4	152.5	166	176.3	176.7
9	15	7	179.2	179.3	180.2	180.1	181.5	179.7	181.7	186.8	176.1	163.4	144	127.1
9	16	7	115.8	110.8	107.5	105.8	109.7	110.7	115.2	127.1	144.4	156.9	162.2	164.8
9	16	7	166.3	167.4	169	169.5	172.6	172.6	179.6	191.4	178.3	161.8	139.5	121.7
9	17	7	112.7	108.4	106.6	106.2	108.4	115.9	132	149.1	166.5	177.6	182.2	187.8
9	17	7	189.6	187.9	186.3	184.2	181.8	179.7	187.1	196.1	181.7	164.2	139.3	122.6
9	18	7	112.8	108.2	105.9	105.1	107.7	116.1	133.5	147.3	163.5	175.7	181.7	185.2
9	18	7	188.6	187.6	191.4	190.3	187.4	184.8	193.5	202.8	188.9	171	143.5	124.5
9	19	7	116.8	109.3	107.5	106.7	109.2	117.2	136.5	147.6	164.1	173.3	180.6	183
9	19	7	181.5	184.6	188.5	186.4	183.1	180.5	186.4	196.8	185.3	156.9	142.2	122.7
9	20	7	113.6	108.2	107.3	105.6	109.4	116.3	132.8	148.1	165.9	177	180.7	181.3
9	20	7	182.5	181.3	179.6	180.1	178	175.4	188.6	194.4	183.4	161	139.3	121.9
9	21	7	112.8	108.6	107.1	106.2	107.4	116.8	133.1	149.7	167.5	178.3	182.5	181.7
9	21	7	183.9	184.9	181.8	180.6	176.3	172.8	183.1	183.8	172	157.8	140.3	123.4
9	22	7	114.1	109.2	107	105	106.4	111.1	118.7	132.6	149.5	161	163.4	165.8
9	22	7	166.4	167.9	166.8	168.1	170	171.7	174.5	180.6	168.6	151.6	135.1	123.6
9	23	7	110.7	106.3	104.3	103.1	104.3	108	112.8	124.2	139.2	150.2	157.4	159.6
9	23	7	158.6	159.6	160	160.3	163.3	165.5	174.8	180.5	167.4	152	133.2	117.8
9	24	7	106.7	103.8	102.6	101.5	101.7	110.3	125.6	140.1	157.5	170.2	174.5	176.2
9	24	7	176.4	178.9	179	178.6	178.3	175.5	186.4	193.4	179	159.8	135.4	118.9
9	25	7	109.9	105.9	104	103.1	105.2	112.8	128	141.9	158.7	170.6	177.6	179
9	25	7	179	182.1	182.5	183.9	181.4	177.5	187.1	193.9	178	152.4	136	119.6

9	26	7	110.2	105.8	104.3	103.4	105.8	114	120.7	143.8	160	173.1	175.5	177.5
9	26	7	179.7	177.2	180	181	179.8	178.9	188.2	191.7	175.8	157.9	136.5	120.4
9	27	7	111.3	107.7	105.2	103.5	105.4	114.6	131.8	143.1	160.1	170.7	176.6	178.9
9	27	7	177.3	178.9	178.9	179.8	179.4	176.2	188	192.8	181.4	163.7	140	123.1
9	28	7	113.6	108.9	107.1	106.3	108.3	117.5	132.8	148.6	165.3	180.5	184.6	185.6
9	28	7	188.5	187.6	185.7	183.3	180.2	176.7	185.3	186.5	174.3	160.3	141.3	124.8
9	29	7	114.2	108.4	106.7	105.4	106.3	110.9	117.1	133.1	153.9	166.4	171.8	172.6
9	29	7	178.1	176.6	177.7	180.3	182.2	182.7	191.4	192.5	181	167.1	142.2	125
9	30	7	115.8	110.6	107.9	105.6	105.7	110.7	115.6	129.9	146.5	161	167.4	171.1
9	30	7	171.6	173.6	174.3	173.1	175.3	177.3	188.2	193.2	179	163.9	138.6	121.9
10	1	7	116.4	112.4	109.1	107.8	110	117.6	135.1	153.4	168.2	176.9	185.3	183
10	1	7	183.8	184.9	186.2	184.7	182.9	181.3	192.1	196.8	182.5	163.6	140.4	122
10	2	7	112.6	107.8	106.3	105.2	108.1	115.9	130.3	144.3	162.2	172.7	177.8	178.3
10	2	7	179.7	179.3	179.8	178.3	178.3	176.1	186.8	190.5	176.3	160.4	135.4	119.3
10	3	7	111.5	107.2	105.2	104.8	107.5	115.3	130.9	145	157	166.9	173.2	179.4
10	3	7	181.3	181.2	182.2	180.6	179.1	178.1	187.3	188.9	176.6	161.4	138.3	120.4
10	4	7	110.7	107.7	105.2	107.6	106.2	115.6	130.6	145.6	161.8	173.1	176.9	179.7
10	4	7	180	182.1	179.8	176.6	171.9	172.7	179.3	184.1	178.5	158.4	138.2	122.1
10	5	7	112.1	108.6	105.9	105.6	106	115.1	129.3	146.5	162.9	173.6	177.3	176.4
10	5	7	176.9	179.5	184.9	182.6	181.2	173.8	184.3	178.1	168.7	154.3	136.1	121.8
10	6	7	111.5	107.6	105.8	104.7	106	110.1	115.2	130.8	152	168.5	173.9	175
10	6	7	174.5	175.6	172	173.2	172.3	172.8	182.3	182.6	168.9	153.1	134.4	121.3
10	7	7	112.4	108	105.2	104	104.4	109.3	113.2	125.4	143.4	155.8	165.6	165.6
10	7	7	169.3	169.8	167.8	169.9	170.9	171	185.7	186.6	172.4	155.2	133.8	118.3
10	8	7	111	107.4	105.8	104.9	106.5	113.2	128.4	143.5	160.7	174.9	180.4	184.2
10	8	7	183.9	185.9	183.5	180.4	177.2	179.5	194.3	195.6	180.8	159.5	134.3	116.4
10	9	7	109.4	106.3	104.6	104.6	106.5	112.9	124.4	140.9	160.3	169.3	174.5	176.7
10	9	7	178.8	183.5	183.5	181.8	175.6	174.2	192.4	195.7	178.6	157.9	134.8	118.7
10	10	7	110	105.9	104.4	104	106.3	113.2	127.7	143.4	160.2	171.3	174.2	179.1
10	10	7	179.8	184.6	177.5	183.2	182.4	181.1	195.7	196.9	180.2	161.3	136.1	118.8
10	11	7	110.5	106.5	104.9	104.5	106.6	112.8	129.1	144	163.2	173.7	178.2	181.1
10	11	7	182.7	182.9	179.2	180.8	179.4	181.7	191.3	190.2	179.2	165.2	138.8	125.6
10	12	7	115.4	110.5	106.9	105.4	107.5	113.1	129.8	153.1	170.2	180.2	184.1	180.2
10	12	7	182.6	182.3	185.8	186.8	185.1	180.4	191	187.4	171.7	156.7	135.8	118.9
10	13	7	110.5	107.1	104.7	104	104.7	109.3	113.9	138.2	150.9	163.2	164.8	165.3
10	13	7	166.2	167.4	169.1	169.9	173.8	176.2	188.3	185.8	168.7	150.8	133.7	119.6
10	14	7	109.6	106.2	103.7	102.8	104.7	106.6	111.6	132	143.5	161.3	158.6	159.4
10	14	7	160.5	161.7	162.8	164.6	169.4	173.9	179.8	180.2	174.8	167.3	132.4	116.5
10	15	7	109	106.2	104.8	103.8	105.9	110.8	129.8	150.8	164.9	174.8	178.9	183
10	15	7	181.8	183.2	185.5	184.9	182.6	184.8	195.6	193	181.8	162.1	134.3	117.7
10	16	7	111	106	104.7	105.6	106.4	111.3	132.6	156.8	169.8	178.3	179.4	179.9
10	16	7	184.9	188.2	188.8	188.5	185.9	185.2	201.5	196.4	181.4	161.2	135.8	117.7
10	17	7	109.4	106.2	105.6	103.9	105.2	113.1	130.6	145	160.4	171.4	177.6	180.2
10	17	7	180.5	179.4	180.5	180.4	180.4	180.1	197.4	194.8	177.2	159.5	133.3	117.1
10	18	7	107.4	105.8	103.9	103.6	105.7	111.2	120.8	142.1	159.7	171.9	177.9	179.8
10	18	7	178	179.8	179.8	180.8	179.2	179.1	196.1	192.7	176.6	158.8	134.4	116.9
10	19	7	109.4	105.8	104	103.9	104.8	111.9	127.7	142.2	158.8	173.5	177.6	177.7
10	19	7	178.3	180.5	182.7	184.4	182.4	175.9	188.5	183.2	168.5	153.6	134.9	118.4
10	20	7	109.7	105.4	102.9	102	102.8	105.8	111.2	124.3	141.3	155.1	158.8	161.2

10	20	7	163.1	164.8	166.1	167.8	171.3	171	184.5	178.9	165.6	150.2	132.8	118.3
10	21	7	109.4	105.8	103.7	102.9	104	106.9	112.2	124.4	141.3	150	159.5	165.6
10	21	7	160	166.1	173.7	175.8	177.6	182.4	199.5	194.6	178.2	158.6	136.6	119.3
10	22	7	111.3	107.3	105.4	104.5	106.9	115.2	133.3	150.1	168.6	182.3	185.4	189.4
10	22	7	191.8	193.8	195.1	195.4	191	185.7	205.4	204.9	184.8	162.2	136.8	119.1
10	23	7	109.9	106	104.2	103.8	105.2	113.1	128.5	143.9	161.7	174.3	179.9	180.8
10	23	7	182.9	182.3	181.4	180.4	181.7	184.5	200	196.2	178.5	157.8	133.7	116.2
10	24	7	109.4	106.1	104.6	104.4	106.6	115.1	132.3	147.3	165.7	175.9	182.7	187.4
10	24	7	187	183.2	182.3	181.4	182	182.4	205.6	201.2	183.5	162.8	137	118.7
10	25	7	109.8	106.8	104.8	104	105.1	112.8	130.7	145.2	165.8	179.9	184.5	188.8
10	25	7	190.4	193.6	196.7	197.6	193.6	183.8	201.3	207	191.9	164.8	138.3	121.4
10	26	7	113.1	108.9	105.2	104.4	106.5	114.6	132.1	147	164.9	178.5	180.7	184.8
10	26	7	186.3	189.1	191	190.7	187.7	184.9	197.1	188.5	174.3	159.1	138.3	121.5
10	27	7	112.6	107.8	106	104.9	106	110.5	118.5	132.7	149.4	162.7	167.5	170.2
10	27	7	169.8	170.6	171.4	171.4	173.7	177	190.5	176.6	167.4	152.3	134.6	117.4
10	28	7	109.5	106.3	104.2	103.3	104	107.6	114.7	125.9	140.2	151.1	155.2	155.6
10	28	7	153.1	150.6	150.6	153.8	159.1	169.3	187.4	180.7	165.2	148.2	127.6	112.8
10	29	7	106.2	102.5	101.5	101.4	103.5	110.9	129.4	145.1	160.9	172	175.6	178.6
10	29	7	179.7	181.5	181.1	180.2	176.7	179.4	202.1	196.7	178.5	157.4	132.1	114.8
10	30	7	107.6	104.8	103.2	103	104.8	112.1	129.4	143.7	161.6	171.3	175.6	174.6
10	30	7	177.7	180.1	182.4	185.7	185.2	183.3	202.5	193.2	178.9	159.2	132.4	114.3
10	31	7	107.5	104.9	103.5	102.4	104.6	112.7	129.6	144.6	160	172.3	178	178.6
10	31	7	178.3	183	188.2	188	186.3	182.7	201.9	195.1	177.7	157.8	132.4	115.5
11	1	7	106.1	102.8	100.9	100.5	102.4	110.1	124.6	140.5	157.8	168.3	170.8	173.5
11	1	7	174.5	172.7	179.3	180.8	180.3	179.6	197.7	191.3	175.4	157.8	135.5	116.8
11	2	7	107.8	104	102.4	102.1	103.9	110.9	128.9	145.1	160.1	170.1	173.1	174.8
11	2	7	177.3	179.5	177.3	179.5	173.7	185.9	180.8	175.4	162.6	151.7	134.7	123.4
11	3	7	113.9	108.2	104.9	103.1	103.6	106.2	112.9	128	143.6	156.3	159.5	158
11	3	7	158.6	158	164.7	159.3	161.8	178.1	184.7	167.2	154.1	145.7	130.3	119.8
11	4	7	110.7	106	102.2	101.1	100.9	104	107.7	122	134.2	145.9	154.9	156.6
11	4	7	158.5	159.5	159.8	161.3	167.9	182.7	194.4	178.7	160.6	152.9	133.2	122.4
11	5	7	111.8	105.4	103.6	102.2	104.1	110.6	123.4	145.1	156.1	173.3	179.3	181.9
11	5	7	185.1	190.2	188.1	190.4	187.3	183.6	179.3	171.2	161.3	152.9	137.1	124.9
11	6	7	117.1	111.3	107	105.5	108.1	115.3	132.1	148.6	163.5	173.3	178.1	180.5
11	6	7	181.3	181.3	181	180.6	179.4	182.4	200	192.5	177.4	158.9	135.5	123.5
11	7	7	113.8	107.4	103.5	102.2	104.8	114.5	132.1	144.7	160.1	169.8	174.9	177
11	7	7	177.4	179.1	178.6	180.5	180	180.5	197.3	190.2	176.9	159.5	136.2	117.9
11	8	7	107.7	102	99.9	99.3	102.2	111.4	130.5	143.7	158.8	168.9	172.6	173.7
11	8	7	175.1	177.2	177.1	174.9	175	177.6	195.5	187.7	174.8	158.2	136.9	117.6
11	9	7	107.4	102.1	98.9	98.9	101.5	112	132.1	144.4	160.6	171	173.2	173.3
11	9	7	174.6	176.2	177.5	178.3	176.4	176.4	190.1	181.9	170.4	156.6	138.8	121.3
11	10	7	110.4	104.1	100.6	98.7	100.8	107.1	115.5	128.9	147.6	159.9	163.4	163.7
11	10	7	163.6	162.4	162.2	163.4	165.5	171.5	184.1	175.5	163.2	151.4	135.7	119.7
11	11	7	109	102.5	99	97.7	98.9	104.1	111.2	126.4	143.2	153.3	157.4	160.6
11	11	7	160.6	160.8	160.2	160.8	161.9	168	184.7	178.6	167	152.1	133.3	115.1
11	12	7	104.5	100.5	97.7	96.9	100.5	110.8	128.2	145.5	158.8	168.5	172.6	173.8
11	12	7	173.8	174.4	174.6	174.9	174.4	176.5	195.5	189.1	175.5	158.4	136.2	118.8
11	13	7	107.1	102.2	100.2	99.4	102.4	113.8	131.9	147.1	161.1	172.2	175.5	177.7
11	13	7	177	177.2	175	176	177	182.4	198.6	190.6	176.6	159.7	137.1	117.4

11	14	7	107.5	103.3	100.2	100.7	102.1	113	132.5	148.5	162.2	171.3	173.7	175
11	14	7	174.4	173.8	174.9	175.5	174.6	177.1	193.5	187.2	172	157.6	136.1	118.3
11	15	7	107.6	103.3	100.6	100.5	101.6	112.6	124.3	142.3	154.5	164.6	170.7	171.3
11	15	7	171.7	172	173	173.4	172.7	175.1	189.8	182	169.4	156.4	134.8	116.8
11	16	7	105.5	100.8	97.1	96.8	98.8	106.8	117.2	133.7	151.5	162.2	167	167.4
11	16	7	167.2	165.9	166.4	169.5	172	175	188.5	179.2	169.3	156.1	135.8	118.2
11	17	7	106.4	101.1	98.1	96.8	98.2	103.3	111.1	126.2	145.6	156	158.5	160.3
11	17	7	160.1	164.5	161.9	165.3	168.9	173.3	186.2	178.3	167.5	152.9	124	117.7
11	18	7	106.3	100.9	98.2	97.4	98.2	103.2	110.8	123.1	139.6	149.6	156.3	157.8
11	18	7	159.5	161	161.6	162.2	165.3	174.3	187.7	179	166	147.1	127.8	114.2
11	19	7	105	99.9	96.3	95.7	98.2	108.8	123.4	139.4	152.1	158.9	164.1	168.3
11	19	7	172.2	173	174.4	174.3	174	183.6	190.1	187.5	178.7	163.6	139.4	115.1
11	20	7	107.4	103.2	100.6	99.4	102.7	113	136	147.9	163.5	173.4	178.1	179.5
11	20	7	180.1	179	179.1	176.6	175.5	177	194.9	188.7	173.8	157.9	135.4	116.3
11	21	7	104.9	101.3	99	98.3	100.7	111.3	130	144	158.1	169.7	168.9	173.3
11	21	7	170.5	168.6	172.7	174.2	172.1	175.9	193.8	186.5	171.7	158.8	133.3	115.9
11	22	7	112.2	104.8	100	99.8	102.8	109.5	119.9	136	155.3	171.9	176.6	177.7
11	22	7	176.5	176.3	173.5	174	170.9	168.4	170.7	165.3	156.5	146.3	132.8	116.5
11	23	7	105.9	100.7	99	98.8	101.8	106.1	119.1	132.3	151.6	165.4	170.6	172.2
11	23	7	172.2	172.5	174.6	175.9	174.2	186.9	190.4	175.6	160.8	149.5	132.5	121.7
11	24	7	106.4	101.1	98.1	96.8	98.2	103.3	111.1	126.2	145.6	156	158.5	160.3
11	24	7	160.1	164.5	161.9	165.3	168.9	173.3	186.2	178.3	167.5	152.9	124	117.7
11	25	7	106.3	100.9	98.2	97.4	98.2	103.2	110.8	123.1	139.6	149.6	156.3	157.8
11	25	7	159.5	161	161.6	162.2	165.3	174.3	187.7	179	166	147.1	127.8	114.2
11	26	7	106.3	100.8	98.2	98	100.5	111.8	131.6	145.9	166.1	174.5	179.7	181.5
11	26	7	180.8	178	179.1	178	180.1	184.9	203.2	197.3	183.8	165.8	141.3	122.3
11	27	7	111.1	106.6	104	103.2	105.7	116.2	137.7	154.3	173.7	180.5	182	182.4
11	27	7	182.4	182.1	183.6	181.5	181.5	188.7	206	198.5	173.9	170.5	144.8	125.3
11	28	7	112.7	106.8	103.3	103.4	107	116.9	137.8	153.8	168.1	175.4	180.8	179.7
11	28	7	179.6	178.4	177	170.5	181.3	191.3	199.6	190.7	179	173.7	144.6	124.1
11	29	7	112.2	104.8	100	99.8	102.8	109.5	119.9	136	155.3	171.9	176.6	177.7
11	29	7	176.5	176.3	173.5	174	170.9	168.4	170.7	165.3	156.5	146.3	132.8	116.5
11	30	7	105.9	100.7	99	98.8	101.8	106.1	119.1	132.3	151.6	165.4	170.6	172.2
11	30	7	172.2	172.5	174.6	175.9	174.2	186.9	190.4	175.6	160.8	149.5	132.5	121.7
12	1	7	110.2	105.9	102.7	101.3	102.8	105.8	112.9	124.1	142	156	162.7	164
12	1	7	160.6	160	158.2	164.2	164.4	188.4	188.2	169.7	159.5	145.3	129.1	121.1
12	2	7	112.7	107.2	104.7	102.8	105.1	108.8	112.8	121.7	135	142.1	149.7	150.9
12	2	7	149.2	147.4	145.7	147.7	152	179.4	184.8	167.4	148	137	124.7	114.8
12	3	7	107.5	102.4	101.1	99.4	102.2	109.2	123.7	137.8	150.5	165	166.5	169.3
12	3	7	166.5	170.2	167.1	165	178	173.5	197.9	187.6	169.9	146.8	127.3	117.2
12	4	7	107.8	104.2	101.5	100.6	102.2	110.7	124.8	138.8	154.5	166.2	169.9	171.7
12	4	7	171.5	173	164.3	168	167.1	174.4	196.5	189.4	167.8	148.5	125.6	111.7
12	5	7	104.7	102.5	100.5	99.6	101.5	114.1	123.5	131.3	146.4	157.8	163.7	167.1
12	5	7	167.1	170.5	173.8	174.4	172.9	179.8	202.1	192.5	171.6	146.9	129.1	114.4
12	6	7	106.4	102.8	100.2	99.5	101.6	109.7	127.4	135.3	147.6	163.4	170.1	172.5
12	6	7	174.8	172.8	175.1	175.6	174.9	180.5	203.3	195.7	176.5	157	132.7	115.9
12	7	7	106.8	102.5	100.7	100.6	103	110.8	127.7	135	149.3	161.7	167.8	171.3
12	7	7	170.5	173	175.2	177	175.6	179.4	197.1	186.8	170.1	157	136.8	117.3
12	8	7	108.3	104.1	101.4	101	102.3	105.7	113.2	122	133.8	151.5	155.2	160.2

12	8	7	158.7	161	161.3	162	163.2	170.3	186.6	178.2	165.1	151.9	132.6	117.8
12	9	7	108.9	104.6	102.7	100.4	101.5	104.8	110.7	121.2	135.4	148.5	152.4	153.7
12	9	7	152.5	150.2	150.8	153.3	157.6	172.2	193.5	186.8	160.6	142.9	127.5	110.3
12	10	7	104.2	100.7	100.1	101.1	104.2	117.4	133.1	147.1	160.7	167	169.5	169.4
12	10	7	168.4	169.9	169	167.1	165.7	173.2	198.2	188.5	172.1	153.5	132	112.6
12	11	7	106.9	102.1	100.9	99.9	102.5	111.2	127	137.9	150.4	159.4	164.4	165.7
12	11	7	165	164.8	164.6	164.2	163.5	167.9	189.3	182.9	166.8	150.3	129	114.2
12	12	7	104.5	101.1	98.3	98.4	101	108	118.2	132.6	143	148.9	153.2	155
12	12	7	157.2	160.5	160.5	158.3	159.7	170.9	184.6	183.8	167.8	149.8	130.9	114.6
12	13	7	105.8	101.8	99.1	98.6	101.2	110	122.3	132.2	150.7	158.9	161.6	162.3
12	13	7	163.7	167.3	167	167.4	167.1	173	189.9	189.3	172.9	155.1	132.2	116.8
12	14	7	105.7	102.3	100	100.5	103	110.3	128.8	140.5	142.6	152	163.5	164.8
12	14	7	165.9	164.8	166.2	167.4	167.9	172.9	190.4	178.9	164.2	150.6	134.2	117.4
12	15	7	107.1	102.9	101.2	100	101.6	106.7	113.2	124	139.9	151.4	153.7	154.5
12	15	7	153.5	151.4	152.1	153.3	156.9	163.9	180.8	171.1	162.2	147.6	131.1	115.6
12	16	7	106.1	102	100	98.6	99.7	103.4	109.1	118.8	134.2	145.9	149.6	148.8
12	16	7	148	147.3	148.3	150.9	154.6	165.1	188.8	183.8	167.7	147.4	127.7	112.4
12	17	7	104.7	101	99.1	99	101.1	109.4	126	137.4	150.9	162.3	163.3	160.7
12	17	7	161	161.5	162.5	162.6	163.4	168.5	194.2	188.4	169.9	150	128.7	115.1
12	18	7	105.6	101.9	99.6	99.4	102	109.6	124.8	135.6	146.7	155	156.9	158.7
12	18	7	159.8	158.1	151.4	157.6	158.6	162.5	187.9	177.5	167.3	145.7	127.4	112.2
12	19	7	104	100.3	98.3	97.9	100.1	113.2	124.1	134.6	145.9	152.3	153.7	157
12	19	7	157.1	158.7	161.5	161	160.7	166.9	188.3	182.1	167.6	150.4	129.5	112.8
12	20	7	103.5	99	98.8	98	100.1	106.8	121.7	132.8	142.2	153.6	154.3	157.6
12	20	7	157.2	157.1	158.5	160	160.6	166.7	189.3	182.2	168.7	153.6	130.7	114
12	21	7	104.8	101.4	99	98.4	100.3	107.9	124.3	130.6	143.7	153	156.7	157.6
12	21	7	158.7	159.4	159.4	159.4	160.4	165.5	172.5	171.3	163.5	146.2	124	114.5
12	22	7	105.1	101.2	99	98.3	100.7	104.7	113.2	122.5	137.6	146.2	150	149.3
12	22	7	150.7	147	148	149.5	152.8	159.7	178.9	172.9	159.1	147.2	128.7	115.2
12	23	7	106.7	101.6	99.4	98.8	100.5	105	109.6	119.6	133.6	144.3	144.4	144.6
12	23	7	143.1	142.6	145.1	146.3	152	165	189.8	187.4	175.6	159.2	136.1	118.5
12	24	7	107.7	102.8	100.6	99.7	101.6	110	123.6	135.9	150	162	166	165.1
12	24	7	164.5	165.3	167.3	166.9	166.1	179.5	189.4	187.1	178	163.6	134.6	114
12	25	7	108.9	102.7	99.7	98.2	99.2	102.5	108.1	116.4	130.3	137.8	139.6	139.8
12	25	7	138.3	137.9	140.1	143.1	146.8	154.8	168.6	164.8	154.1	143.8	128.5	114.6
12	26	7	105.9	101.5	99.5	99.4	101.5	109	124.4	136.3	150.2	165.1	167.3	167.8
12	26	7	170.2	170.2	173	174.2	175.1	182.2	206.7	199.4	182.2	165.2	137.8	119.5
12	27	7	115	104.3	101.9	100.7	102	108.9	119.8	134.9	153.4	169.1	174.1	172.9
12	27	7	170.9	173.2	171.8	170.1	172	181.4	205.5	198.6	181.6	164.6	143.1	117.3
12	28	7	107.2	104.5	102.4	101.4	107.3	115	123.5	137.5	150.8	160.4	163.9	164.2
12	28	7	164.3	164.1	163.9	163.3	162.7	171	190.9	185.4	170.9	157.6	136.5	119.4
12	29	7	107.9	102.8	100.1	99.6	100.6	104.2	110.7	121	137.8	151.9	154.8	153.3
12	29	7	153.2	153.6	152.9	156.9	163.5	169.3	184.3	169.9	156.1	147.9	133.2	119.3
12	30	7	108.9	102.7	99.7	98.2	99.2	102.5	108.1	116.4	130.3	137.8	139.6	139.8
12	30	7	138.3	137.9	140.1	143.1	146.8	154.8	168.6	164.8	154.1	143.8	128.5	114.6
12	31	7	105.6	101.2	99.6	98.6	100.9	104.7	110.7	120.2	136.4	152.3	156.7	157.6
12	31	7	155.7	154.1	155.1	157.6	162	172.9	201.4	200.7	182.1	161.6	137	119.1

c. Energy Generated by Unit for the Maui Division

	2005 Net Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	2 299,780	813,760	459 030	2,291,000	3,157,700	2,354,040	2,172,410	2,254,070	2,002,760	2,804,170	2,563,690	2,455,780	25,628,190
K2	2 432,780	1,969,760	1,786 690	1,938,840	2 451,740	1,933,150	1,923,240	1,593,250	477,220	1,996,710	1,848,170	2,099,650	22,451,000
K3	7,715,530	7,255,050	8,069 010	7,561,760	8 077,660	7,790,790	8,050 020	8 061,600	7,696,610	2,304,310	4,126,100	6,154,730	82,863,190
K4	8 738,670	7,829,450	8,657 260	6,369,250	3 208,580	8,377,290	8,769 500	8 491,660	8 469,670	8,753,870	7,355,820	8,140,830	93,161,850
BKS	-	-	-	-	720	-	-	-	720	-	-	-	1,440
X1	218,160	134,160	531,360	969,600	1 045,920	427,680	703 440	787,440	260,400	582,960	589,200	764,640	7,014,960
X2	229,440	115 680	583 920	1,024,800	888,000	534,000	551,280	684,000	453 600	540 000	626 640	718,080	6 949,440
M1-M3	1,691 280	1,239,840	2,068 560	2,245,680	2,373,840	1,571,760	2,106,720	2 246,400	1,254,240	1,609 920	1 697,760	1 866,800	21,772,800
M4	2,054,646	1,774 446	2,013,207	1 602,807	-	-	-	-	2,205,945	2,137 859	2,124,459	-	13 913,369
M5	1,909 953	849 622	4 007	-	147,342	64,899	101 640	20,854	70 207	26 295	108,227	201,495	3,504,541
M6	1,851,927	1,638 042	1,994,243	1,789,843	2 492,749	1,999 124	2,498 005	2 600,021	2,229 688	2,289,731	2,163,278	2,194,261	25,740,812
M7	2,138 651	328,572	42,930	-	156,051	55,104	87 621	3,241	49 906	44 390	87,405	113,231	3,107,102
M8	300 641	474 412	1,532,346	1 668,293	2,001,658	1,842,181	2,023,420	1,828,966	1,432,867	1,700,406	1 607,374	1,710,345	18,122,909
M9	213 621	341 426	1,471,787	1 816,557	2,114,000	1,924,572	2,080,994	1,877,298	1,082,646	1,264,719	1,149,216	1,183,267	16,520,103
M10	4,347,792	5,583,359	5 430,159	5 742,229	6,590,483	6,146,940	6,620,743	6 662,984	6,110,177	5 931,858	5 541,640	5,958,729	70 667,093
M11	6,730 848	5,962,561	5,990,481	5 259,731	6,549,517	6,245 700	6,528,977	6 459,016	5,682,703	6,343,062	4,787,120	5,798,511	72,338,227
M12	6,521,760	2,795 150	-	2 684,821	6,198,964	3,018 034	6 399,000	6,261,299	6,147,334	4,957,090	5 881,995	5,876,749	56,742,196
M13	-	2,616,370	5 675,400	6 023,219	6,671,036	4,353 326	-	1,654,381	6,478 226	6,774 230	5,838,885	1,183,571	47,268,644
M14	12,810 240	11,877,120	12 867,120	12,078,000	11,406,400	13,194 000	15 070,320	14,919,840	13,684 320	14,206,320	14,287,680	14,484,240	160,887,600
M15	9,478 800	8 422 560	9 511,200	8 928,000	7,638,480	9,131,760	9 875,520	9 642,240	8,960 400	8 985,600	9,055,440	9,576,000	109,206,000
M16	13,844 880	12 285,360	14,727,600	14 083,920	12,476,160	14,405,040	14 688,000	13,701 600	12,966 480	12,470,400	12,572,640	13,940 640	162,162,720
M17	4,482 000	3 348,000	3 972,240	2 829,600	6,484,320	6 123 600	6 739,200	7,401 600	5,240 160	6,139,440	5,190,480	5,384,160	63,334,800
M18	-	-	-	-	-	-	-	-	-	-	-	-	-
M19	6,429,600	6 845,760	5,487,840	4 219,200	7,333,200	7,792,560	7 244,640	8,370,000	7,827,840	7,570,800	5 813,280	6,829,200	81,763,920
Total	96 440 999	84 500 460	92,876,390	91 126 970	99,466,520	99 285,550	104 234,690	105,521,760	100 784 119	99 434,140	95,016 499	96,434 909	1,165,123,006

	2006 Net Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	1,956,110	1,718,240	2,026,790	2,474 280	1,930 330	2,505,450	1,895,950	2,212,930	2,111,110	2 461,710	3,200 080	2,362,700	26,855 680
K2	2 231,940	1,934,710	2,038,580	638 620	2,049 860	2,762,830	2,201,350	2,280 460	3 297,840	563,020	2,556,020	1,745,500	24,300,730
K3	7,502,740	7,129,800	7,482,980	7,802 830	7,511 030	7 826,800	8,066,530	8,070 280	7,747,800	6 762,780	2,494 410	7,559 310	85,957,290
K4	8 501,030	7,682,410	8,760,310	7,856 340	8 762,740	816,120	8,121,360	8,717,340	7,953,830	8,719,470	8,373 320	6,914,710	91,178 980
	-	-	-	-	-	-	-	-	-	-	-	-	
BKS	-	-	-	720	1,440	-	-	720	-	-	-	-	2,880
X1	551,280	455,040	554 640	500 640	642,240	750,240	1,018 320	683,760	918,960	669,840	722,640	267,600	7,735 200
X2	496,080	399,360	553 440	467,520	539,760	652,800	1,037,520	710,160	869,760	1,227,600	713 040	266 640	7,933,680
M1	696,672	660,766	822,528	737,273	808,762	783,317	1,145 146	844,877	991,339	1,180 814	826,394	385 229	9,883,117
M2	645,696	580 673	701,568	647,906	383,098	371,045	827 050	489,139	599,414	1,125,893	784 015	375 091	7,530,588
M3	356,832	760 882	895 104	848,981	936 461	906,998	1,208 765	889,344	714,686	439,373	508,550	253,440	8,719,416
M4	-	1,276,212	2,564,591	2,205,140	2,183,188	2,468,392	2,767,346	2,509,374	1,979,970	2,475 239	1,947,950	774,547	23,151,949
M5	98,162	75 684	176 687	258 804	71,078	387,824	1,214 055	703,497	1,160,869	1,882,546	1,033,722	280,795	7,343,723
M6	2,018,226	1,949,696	2,256 304	2,016,630	2 224,186	2,214,615	2,161 011	2 055,824	1,893,209	2,071,976	1,878 054	882,756	23,622 487
M7	81,362	88,738	99 884	176,753	50,646	272,776	1,159,564	623,258	904,831	2,018,124	912,286	328,048	6,716,270
M8	1,627,198	1,210 664	1,792,902	1,552,376	1,559,194	1,732,844	2,207,999	1,764,409	1,729,762	2,128 874	1 638 188	138,718	19 083,228
M9	1,049 572	904 646	1,102,371	975,517	1 055,206	215,169	1,287 805	705,138	-	-	-	24,276	7 319,702
M10	6,118,560	4,921 380	6,512,738	5 634,000	5,176,598	4,438,980	4,928,123	3 975,610	4,177,066	4,467 690	2,759,335	1,549,037	54 659,117
M11	5,306,040	4,651,380	2,972,902	-	299,722	5,302,980	4,908,157	5 659,070	4,123,454	5,140,710	4 444,625	3 524,443	46 333,483
M12	6,003,360	5,536 800	3,134,160	6,156,720	6 201,720	6,007 680	4,854 240	5 891,760	5,853,240	6,341 400	5,121,000	4,123,800	65,225,880
M13	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	14,325 120	11,725 920	13 528,080	12 625,200	14,533,200	13,979 520	13,173,120	13 440,240	12,726 720	13,750 560	13 154,400	12 604,320	159 566,400
M15	9,910 080	8,484 480	9 682,560	8 973,360	9,889,920	9,496 080	729 360	8 269,920	8,774,640	9,194 400	8 893,440	8 642,160	100,940,400
M16	15,310 800	14,053 680	15 143,040	14,901,840	15,544,080	14,546 880	12,274,560	15,149,520	14,223 600	14,668,560	13 166,640	12,893,040	171,876,240
M17	4,880 160	3,805,200	6 317,280	5,520,660	6,534,720	7,539 840	8,348 400	5,691,600	3,387 600	6,298,560	8 472,240	11,456,640	78,253,200
M18	-	-	-	-	-	-	-	-	-	11,520	2 972,880	4,788 000	7,772,400
M19	7 457 760	4 528 080	7 942 320	7 817 760	4 939 200	6 586,560	7 291 440	6 071 040	5 482 080	6 597 360	7 438,320	6 922 800	79 074,720
Total	97,124 780	84,534 441	97 061 759	90,790 170	93,828 381	92,565,740	92,827,171	97 409 270	91,621,780	100 198 119	94 011,549	89 063 600	1 121 036,760

	2007 YTD Gross Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD TOTAL
K1	2,376 300	1,591 600	2,142,200	2,027,300									8,137,400
K2	2,253 200	1,152,900	3,142,100	2,510,400									9,058 600
K3	8 007,000	7,149,700	8 166,500	7,264,100									30,587,300
K4	8 438,900	7,531,200	742,100	6,113,200									22,825,400
BKS	720	720	-	-									1,440
X1	305,520	167,040	337,440	92,880									902 880
X2	86,640	-	-	-									86 640
M1	456,725	183,427	406,771	196,992									1,243,915
M2	446,796	204,271	338,976	168 264									1,158 307
M3	89,359	29,182	101 693	45,144									265 378
M4	1,393,560	519,960	150,360	745 080									2,808 960
M5	347,760	99,960	520 800	99 960									1,068,480
M6	1,248,240	545,160	765 240	668,640									3,227,280
M7	465,360	164,640	367,920	102,480									1,100 400
M8	815,640	312,480	835 800	23,520									1,987 440
M9	39,480	5,880	528 360	298,200									871,920
M10	-	-	4,975 200	4,464,000									9 439 200
M11	4,210,200	4,352,400	4,849 200	3,704,400									17,116,200
M12	5,158,800	3,882,600	4,350 600	3,333,600									16 725,600
M13	-	-	-	-									-
M14	12,859 200	11,718 000	11,584 800	11,865,600									48 027,600
M15	8,084,160	7,335,360	7,989,120	8 245,440									31 654,080
M16	10,962,000	10,548 000	12,772 800	11,714,400									45 997,200
M17	12,830,400	10,821 600	13,132 800	11,667,600									48 452,400
M18	6,469 200	6,210 000	7 689 600	5 580,000									25 948,800
M19	9 738 000	8,276 400	9 673 200	6 199 200									33 886,800
Total	97,083 160	82 802 480	95,563 580	87 130 400	-	-	-	-	-	-	-	-	362 579,620

d. Heat Rates, Gross and Net Generation for Maui Division

	2004 Gross Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	1,979,900	-	2,037,600	2,351,000	2,957,300	2,130,800	2,886,100	2,353,200	1,932,000	2,347,900	2,646,500	3,292,400	26,914,700
K2	2,746,700	2,180,100	2,263,600	2,004,500	2,994,000	3,219,400	2,542,800	1,583,600	243,900	2,623,800	2,740,300	3,276,800	28,419,300
K3	8,130,000	7,829,300	8,311,900	7,985,600	8,132,400	7,196,700	8,413,200	8,503,300	7,941,100	8,645,000	5,596,800	2,232,200	88,917,500
K4	8,767,200	8,478,200	8,722,500	8,349,200	9,093,900	2,550,400	4,615,300	8,890,600	8,785,700	8,968,100	8,844,400	8,973,500	95,039,000
BKS	-	-	-	-	-	-	720	-	-	-	-	400	1,120
X1	124,560	252,480	57,840	87,360	198,720	109,440	146,160	331,920	182,640	214,080	332,400	328,800	2,366,400
X2	189,840	190,560	66,000	126,000	201,120	116,400	164,160	410,160	208,320	217,440	329,760	331,680	2,551,440
M1-3	1,099,440	1,263,600	1,000,800	704,160	1,279,440	535,680	411,120	1,359,360	1,851,120	1,752,480	1,513,440	1,650,960	14,421,600
M4	1,476,720	1,473,360	2,000,040	2,078,160	2,433,480	2,082,360	2,013,480	1,979,040	2,031,960	2,320,080	1,263,360	2,182,320	23,334,360
M5	1,826,160	1,896,720	1,743,000	1,653,960	2,289,840	1,931,160	1,840,440	2,019,360	2,017,680	1,639,680	1,320,480	1,985,760	22,164,240
M6	1,527,120	1,893,360	1,307,040	1,210,440	2,142,840	1,513,680	1,297,800	2,038,680	1,984,920	2,035,320	2,042,880	1,968,960	20,963,040
M7	1,806,840	1,921,920	1,755,600	2,023,560	2,248,680	1,996,680	2,019,360	2,243,640	2,119,320	2,240,280	2,152,080	2,210,880	24,738,840
M8	192,360	71,400	139,440	63,840	365,400	75,600	246,960	540,120	507,360	577,920	549,360	364,560	3,694,320
M9	480,480	136,080	243,600	78,960	419,160	74,760	246,960	485,520	443,520	628,320	698,880	640,920	4,577,160
M10	5,508,000	4,723,200	5,254,200	5,722,200	6,719,400	5,941,800	6,481,800	7,272,000	6,424,200	-	-	-	54,046,800
M11	6,229,800	5,808,600	1,571,400	-	5,736,600	6,285,600	7,306,200	7,349,400	2,296,800	6,260,400	2,903,400	6,750,000	58,498,200
M12	5,369,400	6,433,200	6,550,200	5,450,400	7,072,200	6,733,600	7,016,400	7,169,400	6,777,000	7,133,400	6,872,400	7,129,800	79,707,600
M13	6,971,400	6,309,000	6,849,000	5,713,200	3,769,200	7,036,200	7,365,400	739,800	6,033,600	7,344,000	7,120,800	4,665,600	69,937,200
M14	14,374,800	13,831,200	14,360,400	14,223,600	10,389,600	14,414,400	13,989,600	14,565,600	13,658,400	12,024,000	13,446,000	13,298,400	162,576,000
M15	9,743,040	8,971,200	9,881,280	9,936,000	7,058,880	10,051,200	10,189,440	10,463,040	9,904,320	9,328,320	9,982,080	9,944,640	115,453,440
M16	13,392,000	11,530,800	14,684,400	14,868,000	10,857,600	14,986,800	15,685,200	15,530,400	14,781,600	15,400,800	14,853,600	14,900,400	171,471,600
M17	1,620,000	1,969,200	4,435,200	3,092,400	5,536,800	4,287,600	5,439,600	6,940,800	6,253,200	5,925,600	6,872,400	6,976,800	59,349,600
M18	-	-	-	-	-	-	-	-	-	-	-	-	
M19	4,186,800	5,958,000	2,685,600	6,555,600	8,341,200	7,711,200	8,128,800	8,758,800	7,286,400	8,481,600	6,678,000	4,626,000	79,398,000
Total	97,742,560	93,121,480	95,920,640	94,278,140	100,237,760	100,981,660	108,467,000	111,527,740	103,665,060	106,108,520	98,759,320	97,731,580	1,208,541,460

	2004 Net Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	1,858,830	-	1,892,820	2,190,070	2,766,760	1,974,330	2,706,740	2,191,690	1,796,630	2,195,770	2,480,500	3,102,670	25,156,810
K2	2,587,840	2,048,360	2,122,340	1,875,080	2,828,600	3,048,180	2,390,080	1,479,020	223,370	2,469,670	2,586,350	3,103,250	26,762,120
K3	7,778,750	7,494,030	7,952,320	7,639,030	7,777,470	6,879,620	8,046,700	8,136,560	7,593,060	8,275,650	5,343,260	2,104,170	85,020,620
K4	8,340,420	8,061,940	8,291,730	7,941,990	8,642,570	2,421,330	4,374,400	8,452,680	8,356,890	8,537,660	8,419,440	8,541,820	90,382,670
BKS	-	-	-	-	-	-	720	-	-	-	-	400	1,120
X1	124,560	252,480	57,840	87,360	198,720	109,440	146,160	331,920	182,640	214,080	332,400	328,800	2,366,400
X2	189,840	190,560	66,000	126,000	201,120	116,400	164,160	410,160	208,320	217,440	329,760	331,680	2,551,440
M1-M3	1,099,440	1,263,600	1,000,800	704,160	1,279,440	535,680	411,120	1,359,360	1,851,120	1,752,480	1,513,440	1,650,960	14,421,600
M4	1,395,171	1,391,346	1,913,510	1,991,431	2,332,075	1,986,135	1,917,587	1,879,029	1,934,141	2,220,003	1,177,760	2,089,548	22,227,736
M5	1,748,700	1,818,819	1,660,809	1,571,580	2,193,520	1,839,760	1,749,355	1,924,364	1,924,766	1,544,621	1,239,172	1,897,640	21,113,106
M6	1,476,221	1,838,025	1,252,463	1,156,330	2,077,231	1,459,337	1,235,518	1,967,701	1,916,801	1,966,092	1,978,205	1,906,795	20,230,719
M7	1,746,773	1,856,618	1,691,193	1,959,704	2,171,254	1,932,549	1,945,860	2,159,877	2,038,932	2,158,583	2,075,756	2,137,518	23,874,617
M8	179,449	58,415	125,741	50,109	349,345	60,365	231,778	524,286	491,873	562,076	535,808	349,872	3,519,117
M9	469,366	123,998	231,683	67,145	404,835	62,894	233,361	470,022	428,647	613,205	684,759	627,347	4,417,262
M10	5,305,620	4,661,912	5,044,974	5,493,960	6,482,473	5,709,306	6,232,005	7,007,189	6,200,646	-	-	-	52,038,085
M11	6,000,900	5,610,248	1,508,826	-	5,534,327	6,039,654	7,024,635	7,081,771	2,216,874	6,023,160	2,712,600	6,402,600	56,155,595
M12	5,103,823	6,157,652	6,267,557	5,194,027	6,811,609	6,427,572	6,699,050	6,940,831	6,469,947	6,816,242	6,579,211	6,861,922	76,349,443
M13	6,738,377	6,067,228	6,601,003	5,488,253	3,540,551	6,767,508	7,106,950	539,249	5,781,733	7,065,716	6,863,549	4,430,558	66,990,677
M14	14,033,520	13,502,160	14,082,480	13,952,160	10,111,680	14,089,680	13,676,400	14,276,160	13,382,640	11,723,760	13,142,160	13,032,720	159,005,520
M15	9,517,680	8,746,000	9,514,800	9,609,840	6,804,720	9,815,040	9,894,960	10,120,320	9,577,440	9,069,840	9,722,160	9,635,040	112,029,840
M16	13,051,440	11,230,560	14,394,240	14,541,840	10,609,920	14,641,920	15,333,840	15,179,760	14,442,480	15,058,080	14,517,360	14,564,160	167,565,600
M17	1,463,760	1,817,280	4,263,840	2,937,600	5,344,560	4,091,760	5,239,440	6,720,480	6,045,120	5,707,440	6,650,640	6,759,360	57,041,280
M18	-	-	-	-	-	-	-	-	-	-	-	-	-
M19	4,114,800	5,877,360	2,628,720	6,459,840	8,231,040	7,610,400	8,018,640	8,642,160	7,184,880	8,367,120	6,580,800	4,549,680	78,265,440
Total	94,325,280	89,970,591	92,565,689	91,037,509	96,693,820	97,618,860	104,779,439	107,794,589	100,268,950	102,558,690	95,465,090	94,408,310	1,167,486,817

	2004 Net Heatrate (btu/kwh)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
K1	17,832	-	16,043	16,954	16,908	17,502	16,688	17,483	18,086	17,702	17,259	18,384
K2	17,375	17,779	17,851	17,146	16,579	16,019	17,171	17,655	16,546	14,856	15,387	16,755
K3	12,866	13,020	12,830	13,013	13,265	13,394	13,306	13,626	13,658	13,539	13,770	6,822
K4	14,195	14,261	14,136	14,642	14,676	14,745	14,443	14,043	14,252	14,335	14,460	15,382
X1	10,781	10,845	9,557	10,894	10,742	10,639	10,800	10,773	11,072	10,949	10,869	10,773
X2	10,344	10,739	9,781	10,767	10,579	10,533	10,641	10,583	10,837	10,795	10,701	10,597
M1-M3	10,421	10,615	10,664	10,611	10,501	10,485	10,660	10,543	10,654	10,574	10,573	10,490
M4	10,660	10,514	10,519	10,454	10,442	10,447	10,594	10,647	10,608	10,565	10,914	10,514
M5	10,373	10,403	10,563	10,605	10,423	10,448	10,552	10,533	10,564	10,734	10,863	10,533
M6	10,008	10,036	10,259	10,296	10,007	10,145	10,290	10,154	10,230	10,257	10,236	10,131
M7	10,155	10,373	10,573	10,443	10,413	10,294	10,478	10,508	10,572	10,515	10,578	10,460
M8	10,411	11,961	10,075	12,224	10,048	11,621	10,581	9,927	10,033	9,859	9,836	10,108
M9	9,971	10,373	9,763	11,437	9,956	10,901	10,269	9,804	9,914	9,717	9,756	9,675
M10	9,199	9,255	9,439	9,345	9,286	9,294	9,432	9,339	9,312	-	-	-
M11	8,977	9,048	9,227	-	8,920	8,942	9,017	8,980	9,013	9,002	9,576	9,322
M12	9,576	9,583	9,676	9,674	9,545	9,622	9,785	9,608	9,740	9,777	9,774	9,865
M13	9,343	9,500	9,574	9,609	9,829	9,524	9,663	12,876	9,789	9,676	9,673	9,759
M14	11,613	11,490	11,511	11,632	11,757	11,651	11,709	11,528	11,678	11,777	11,810	11,800
M16	-	-	-	-	-	-	-	-	-	-	-	-
M17	11,873	12,028	11,268	11,228	11,294	11,189	11,238	11,123	11,258	11,293	11,310	11,314
M19	12,612	12,388	11,965	12,129	11,775	11,727	11,669	11,530	11,596	11,627	11,666	11,565

	2005 Gross Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	2,480,200	886,700	501,300	2,444,100	3,340,800	2,508,000	2,327,000	2,415,500	2,147,300	2,989,700	2,739,600	2,830,000	27,390,200
K2	2,584,200	2,101,000	1,918,200	2,075,300	2,610,400	2,067,200	2,059,400	1,704,700	513,200	2,132,500	1,977,700	2,245,000	23,988,800
K3	8,071,400	7,583,200	8,438,900	7,911,500	8,444,900	8,147,100	8,419,000	8,432,100	8,050,700	2,416,500	4,325,700	8,456,400	86,697,400
K4	9,184,900	8,233,200	9,096,500	6,693,300	3,367,500	8,790,400	9,199,800	8,908,700	8,890,400	9,191,200	7,719,300	8,541,900	97,817,100
BKS	-	-	-	-	720	-	-	-	720	-	-	-	1,440
X1	218,160	134,160	531,360	969,600	1,045,920	427,680	703,440	787,440	260,400	582,960	589,200	764,640	7,014,960
X2	229,440	115,680	583,920	1,024,800	888,000	534,000	551,280	684,000	453,600	540,000	626,640	718,080	6,949,440
M1-3	1,691,280	1,239,840	2,068,560	2,245,680	2,373,840	1,571,760	2,106,720	2,246,400	1,254,240	1,609,920	1,697,760	1,666,800	21,772,800
M4	2,147,040	1,863,120	2,110,080	1,685,880	-	-	-	-	2,322,600	2,253,720	2,225,000	-	14,608,440
M5	1,995,840	892,080	4,200	-	157,920	69,720	109,200	22,680	73,920	27,720	113,400	215,040	3,681,720
M6	1,915,200	1,712,760	2,068,080	1,857,240	2,576,280	2,072,280	2,586,360	2,695,560	2,326,800	2,383,080	2,245,320	2,278,920	26,717,880
M7	2,211,720	343,560	44,520	-	161,280	57,120	90,720	3,360	52,080	46,200	90,720	117,600	3,218,880
M8	314,160	498,120	1,606,080	1,754,760	2,145,360	1,979,040	2,173,920	1,989,120	1,508,640	1,792,560	1,684,200	1,825,320	19,271,280
M9	220,920	357,000	1,526,280	1,884,960	2,164,840	1,995,000	2,154,600	1,946,280	1,129,800	1,316,280	1,192,800	1,228,920	17,137,680
M10	4,564,800	5,857,200	5,704,200	6,062,400	6,949,800	6,498,000	7,012,800	7,056,000	6,483,600	6,283,800	5,869,800	6,292,800	74,635,200
M11	7,066,800	6,255,000	6,292,800	5,553,000	6,906,600	6,602,400	6,915,600	6,840,000	6,030,000	6,719,400	5,070,600	6,123,600	76,375,800
M12	6,885,000	2,926,800	-	2,809,800	6,476,400	3,189,600	6,742,800	6,580,800	6,420,600	5,180,400	6,139,800	6,175,800	59,527,800
M13	-	2,739,600	5,927,400	6,303,600	6,969,600	4,600,800	-	1,738,800	6,766,200	7,079,400	6,094,800	1,243,800	49,464,000
M14	13,053,600	12,117,600	13,132,800	12,351,600	11,653,200	13,449,600	15,332,400	15,184,800	13,924,800	14,454,000	14,540,400	14,803,200	163,998,000
M15	9,786,240	8,712,000	9,878,400	9,296,640	7,997,760	9,420,480	10,192,320	9,961,920	9,259,200	9,290,880	9,331,200	9,815,040	112,942,080
M16	14,184,000	12,571,200	15,001,200	14,331,600	12,722,400	14,734,800	15,037,200	14,054,400	13,302,000	12,812,400	12,920,400	14,295,600	165,967,200
M17	4,683,600	3,517,200	4,168,800	3,009,600	6,692,400	6,332,400	6,951,600	7,621,200	5,436,000	6,336,000	5,374,800	5,572,800	65,696,400
M18	-	-	-	-	-	-	-	-	-	-	-	-	-
M19	6,526,800	6,944,400	5,576,400	4,298,400	7,441,200	7,902,000	7,347,600	8,485,200	7,941,600	7,682,400	5,904,000	6,926,400	82,976,400
Total	99,995,300	87,601,420	96,179,980	94,563,760	103,107,120	102,949,380	108,013,760	109,358,960	104,548,400	103,121,020	98,474,140	99,937,660	1,207,850,900

	2005 Net Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	2,299,780	813,760	459,030	2,291,000	3,157,700	2,354,040	2,172,410	2,254,070	2,002,760	2,804,170	2,563,690	2,455,780	25,628,190
K2	2,432,780	1,969,760	1,786,690	1,938,640	2,451,740	1,933,150	1,923,240	1,593,250	477,220	1,996,710	1,848,170	2,099,650	22,451,000
K3	7,715,530	7,255,050	8,069,010	7,561,780	8,077,660	7,790,790	8,050,020	8,061,600	7,696,610	2,304,310	4,126,100	6,154,730	82,863,190
K4	8,738,670	7,829,450	8,657,260	6,369,250	3,208,580	8,377,290	8,769,500	8,491,660	8,469,670	8,753,870	7,355,820	8,140,830	93,161,850
BKS	-	-	-	-	720	-	-	-	720	-	-	-	1,440
X1	218,160	134,160	531,360	969,600	1,045,920	427,680	703,440	787,440	260,400	582,960	589,200	764,640	7,014,960
X2	229,440	115,680	583,920	1,024,800	888,000	534,000	551,280	684,000	453,600	540,000	626,640	718,080	6,949,440
M1-M3	1,691,280	1,239,840	2,068,560	2,245,680	2,373,840	1,571,760	2,106,720	2,246,400	1,254,240	1,609,920	1,697,760	1,666,800	21,772,800
M4	2,054,646	1,774,446	2,013,207	1,602,807	-	-	-	-	2,205,945	2,137,859	2,124,459	-	13,913,369
M5	1,909,953	849,622	4,007	-	147,342	64,899	101,640	20,854	70,207	26,295	108,227	201,495	3,504,541
M6	1,851,927	1,638,042	1,994,243	1,789,843	2,492,749	1,999,124	2,498,005	2,600,021	2,229,688	2,289,731	2,163,278	2,194,261	25,740,912
M7	2,138,651	328,572	42,930	-	156,051	55,104	87,621	3,241	49,906	44,390	87,405	113,231	3,107,102
M8	300,641	474,412	1,532,346	1,668,293	2,001,658	1,842,181	2,023,420	1,828,966	1,432,867	1,700,406	1,607,374	1,710,345	18,122,909
M9	213,621	341,426	1,471,787	1,816,557	2,114,000	1,924,572	2,080,994	1,877,298	1,082,646	1,264,719	1,149,216	1,183,267	16,520,103
M10	4,347,792	5,583,359	5,430,159	5,742,229	6,590,483	6,146,940	6,620,743	6,662,984	6,110,177	5,931,858	5,541,640	5,958,729	70,667,093
M11	6,730,848	5,962,561	5,990,481	5,259,731	6,549,517	6,245,700	6,528,977	6,459,016	5,682,703	6,343,062	4,787,120	5,798,511	72,338,227
M12	6,521,760	2,795,150	-	2,684,821	6,198,964	3,018,034	6,399,000	6,261,299	6,147,334	4,957,090	5,881,995	5,876,749	56,742,196
M13	-	2,616,370	5,675,400	6,023,219	6,671,036	4,353,326	-	1,654,381	6,478,226	6,774,230	5,838,885	1,183,571	47,268,644
M14	12,810,240	11,877,120	12,867,120	12,078,000	11,408,400	13,194,000	15,070,320	14,919,840	13,684,320	14,206,320	14,287,680	14,484,240	160,887,600
M15	9,478,800	8,422,560	9,511,200	8,928,000	7,638,480	9,131,760	9,875,520	9,642,240	8,960,400	8,985,600	9,055,440	9,576,000	109,206,000
M16	13,844,880	12,285,360	14,727,600	14,083,920	12,476,160	14,405,040	14,688,000	13,701,600	12,966,480	12,470,400	12,572,640	13,940,640	162,162,720
M17	4,482,000	3,348,000	3,972,240	2,829,600	6,484,320	6,123,600	6,739,200	7,401,600	5,240,160	6,139,440	5,190,480	5,384,160	63,334,800
M18	-	-	-	-	-	-	-	-	-	-	-	-	-
M19	6,429,600	6,845,760	5,487,840	4,219,200	7,333,200	7,792,560	7,244,640	8,370,000	7,827,840	7,570,800	5,813,280	6,829,200	81,763,920
Total	96,440,999	84,500,460	92,876,390	91,126,970	99,466,520	99,285,550	104,234,690	105,521,760	100,784,119	99,434,140	95,016,499	96,434,909	1,165,123,006

	2005 Net Heatrate (btu/kwh)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
K1	18,029	18,499	17,799	16,942	16,505	17,221	17,813	17,705	17,679	16,836	17,429	16,735
K2	15,890	16,480	16,753	16,533	15,583	16,831	17,195	17,322	18,545	16,614	16,678	16,175
K3	13,552	13,540	13,668	13,722	13,786	13,756	13,727	13,888	13,870	13,944	13,925	13,136
K4	14,383	14,654	14,839	14,857	13,847	13,889	14,049	14,236	13,918	14,128	14,034	13,927
	-	-	-	-	-	-	-	-	-	-	-	-
X1	10,736	10,989	10,842	10,784	10,799	10,979	10,912	10,812	10,627	10,897	10,614	10,699
X2	10,653	10,722	10,634	10,608	10,663	10,794	10,821	10,679	10,722	10,772	10,589	10,699
M1-M3	10,485	10,704	10,577	10,562	10,579	10,693	10,698	10,643	10,574	10,646	10,456	10,507
M4	10,436	10,768	10,660	10,653	-	-	-	-	10,502	10,647	10,356	-
M5	10,473	10,685	11,002	-	11,168	10,887	10,733	11,969	10,249	11,084	11,084	10,783
M6	10,096	10,429	10,255	10,195	10,118	10,210	10,259	10,221	10,248	10,290	10,098	10,192
M7	10,396	10,742	10,602	-	10,815	10,510	10,525	16,144	10,313	11,312	10,529	10,788
M8	9,841	10,340	10,146	10,055	10,254	10,355	10,390	10,504	10,073	10,082	9,804	10,076
M9	9,876	10,216	9,944	9,830	9,837	9,935	9,971	9,939	9,918	10,110	9,887	9,944
M10	9,370	9,544	9,553	9,507	9,508	9,626	9,686	9,636	9,596	9,625	9,449	9,502
M11	9,196	9,421	9,403	9,408	9,364	9,476	9,549	9,452	9,393	9,404	9,213	9,252
M12	9,714	9,836	-	9,538	9,566	9,778	9,749	9,704	9,550	9,624	9,432	9,531
M13	-	9,956	9,733	9,688	9,698	9,818	-	9,494	9,443	9,498	9,354	9,466
M14	11,940	11,823	11,926	12,253	12,410	11,669	11,627	11,631	11,717	11,160	11,211	11,264
M16	-	-	-	-	-	-	-	-	-	-	-	-
M17	11,363	11,516	11,129	11,145	11,285	11,159	11,231	11,578	11,730	11,826	11,882	11,681
M19	11,703	12,011	12,260	12,704	11,780	11,643	11,587	11,464	11,657	11,532	11,678	11,620

	2006 Gross Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	2,104,800	1 850,300	2,179,400	2,838,100	2 079,000	2,681,900	2,047 200	2,371 000	2 258,300	2,622,500	3,387,400	2,542,800	28,762,700
K2	2,382,800	2,065,700	2,181,400	685 500	2,190,100	2,931,400	2,347,300	2,420 600	3 468,500	600,200	2 696,700	1,867,700	25,837,900
K3	7,846,700	7,452,900	7,834,000	8,156 300	7,859,200	8,178,500	8,432,100	8 434,500	8,098,300	7,075 200	2 634,500	7,914,400	89,916,600
K4	8,922,900	8 061,400	9,193,900	8,240,300	9,192,600	855,600	8,520 800	9,142,900	8,342,800	9,145,400	8,788,500	7,273,600	95 680,700
	-	-	-	-	-	-	-	-	-	-	-	-	-
BKS	-	-	-	720	1,440	-	-	720	-	-	-	-	2,880
X1	551,280	455,040	554,640	500,640	642,240	750,240	1,018,320	683,760	918,960	669,840	722,640	267,600	7,735,200
X2	496,080	399,360	553,440	467,520	539,760	652,800	1,037,520	710,160	869,760	1,227,600	713,040	266 640	7,933,680
M1	696,672	660,766	822,528	737,273	808,762	783 317	1,145 146	844,877	991,339	1,180,814	826,394	385,229	9,883,117
M2	645 696	580,673	701,568	647,906	383,098	371,045	827,050	489,139	599,414	1,125,893	784,015	375,091	7,530,588
M3	356,832	760,882	895,104	848,981	936,461	906 998	1,208,765	889,344	714,686	439,373	508,550	253 440	8,719,416
M4	-	1,285,200	2,664 480	2,302,440	2 278,920	2,570 400	2,874,480	2,544,360	2,077,320	2,566,200	2,041,200	863,520	24 068,520
M5	106,680	138,600	186 480	270 480	74,760	406,560	1,262,520	813,120	1,215,480	1,953,840	1,083,600	314,160	7,826,280
M6	2,090,760	2,016,840	2,331,840	2,085,720	2,301,600	2,313 360	2,236,080	2,135,280	1,933 680	2,145,360	1,953,000	939,120	24,482,640
M7	84,000	92,400	104,160	182,280	52,080	285,600	1,194,480	646,800	987,000	2,083,200	949,200	351,960	7,013,160
M8	1,760,640	1,288,560	1,879 080	1 638,000	1 643,880	1,820 280	2,307,480	1 853,040	1,815,240	2,212,560	1,711,920	155 400	20,086,080
M9	1,106,280	955,920	1,165,080	1 039,080	1,119,720	231 840	1,352,400	749,280	-	-	-	29,400	7,749,000
M10	6 460,200	5,191,200	6,748,200	5 860 800	5 414,400	4,705,200	5 245,200	4,282,200	4,474 800	4,784,400	2,975 400	1,677,600	57,819,600
M11	5 621,400	4,921,200	3,094 200	-	320,400	5,569,200	5 212,800	6,004,800	4,446 000	5 445,000	4,743,000	3 810,600	49,188,600
M12	6,323,400	5,814,000	3,353 400	6 465 600	6,521,400	6,332,400	5 166,000	6,224,400	6,181,200	6 674,400	5,419,800	4,415,400	68,891,400
M13	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	14 644,800	11,995,200	13,856 400	12 898,800	14,792,400	14,234,400	13,348,800	13,734,000	12,967 200	14 004,000	13,395,600	12,859,200	162,730,800
M15	10,143,360	8,680,320	9,921,600	9,302,400	10,281,600	9,826,560	869,760	8,608,320	9,129 600	9 509,760	9,198,720	8 942,400	104,414,400
M16	15 670,800	14,378 400	15,487,200	15 163,200	15,822,000	14,868 000	12,448,800	15,426 000	14,522 400	15 001,200	13,492,800	13,230,000	175,510,800
M17	5 072,400	3,956 400	6,530,400	5 716,800	6,753,600	7,776,000	8,596,800	5,936,400	3,610 800	8 552,000	8,769,600	11,779,200	81,050 400
M18	-	-	-	-	-	-	-	-	-	187,200	3,193,200	5 029,200	8,409 600
M19	7 567,200	4,615 200	8 053 200	7 927,200	5 018 400	6,685 200	7 416,000	6,206 400	5,583 600	6 735,600	7,599 600	7 066,800	80,474 400
Total	100 655,680	87,616 461	100 291,700	93,776,040	97,027,821	95,736,800	96,115,801	101,151 400	95,206 379	103 941,540	97,588 379	92 610,460	1,161,718 461

	2006 Net Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
K1	1 956,110	1,718 240	2,026,790	2,474,280	1,930,330	2,505,450	1,895,950	2,212,930	2,111,110	2 461,710	3,200 080	2,362,700	26,855 680
K2	2 231,940	1,934,710	2,038,580	638,620	2,049 860	2,762,830	2 201,350	2,280 460	3 297,840	563,020	2,556 020	1,745,500	24,300,730
K3	7 502,740	7,129 800	7,482,980	7 802,830	7,511 030	7,826,800	8 066,530	8,070 280	7,747,800	6,762,780	2,494 410	7,559,310	85,957 290
K4	8 501,030	7,682 410	8 760,310	7,856,340	8,762,740	816,120	8,121,360	8,717,340	7,953,830	8,719,470	8,373 320	6 914,710	91,178,980
	-	-	-	-	-	-	-	-	-	-	-	-	-
BKS	-	-	-	720	1,440	-	-	720	-	-	-	-	2 880
X1	551,280	455 040	554,640	500 640	642 240	750,240	1,018,320	683,760	918,960	669,840	722,640	267,600	7,735 200
X2	496,080	399,360	553,440	467,520	539,760	652,800	1,037,520	710,160	869,760	1,227 600	713,040	266,640	7,933 680
M1	696,672	660 766	822,528	737,273	808,762	783,317	1,145,146	844 877	991,339	1,180,814	826,394	385,229	9,883 117
M2	645 696	580 673	701,568	647,906	383,098	371,045	827 050	489,139	599,414	1,125 893	784,015	375,091	7,530,588
M3	356 832	760 882	895,104	848,981	936 461	906,998	1,208 765	889 344	714,686	439,373	508,550	253,440	8,719 416
M4	-	1,276 212	2 564,591	2,205,140	2,183,188	2,468,392	2,767,346	2,509 374	1 979,970	2,475 239	1,947,950	774,547	23,151,949
M5	98 162	75 684	176,687	258,804	71,078	387,824	1,214 055	703 497	1,160,869	1,882,546	1,033,722	280,795	7,343,723
M6	2,018 226	1,949 696	2 256,304	2,016 630	2,224,186	2,214,615	2,161 011	2,055 824	1,893,209	2,071,976	1,878,054	882,756	23 622,487
M7	81,362	88,738	99,884	176,753	50 646	272,776	1,159 564	623,258	904,831	2,018,124	912,286	328 048	6 716,270
M8	1,627,198	1,210,664	1,792,902	1,552,376	1,559,194	1,732,844	2,207,999	1,764 409	1,729,782	2,128 974	1,638,188	138,718	19 083,228
M9	1,049 572	904 646	1,102,371	975 517	1,055 208	215,169	1,287 805	705,138	-	-	-	24 276	7,319,702
M10	6,118 560	4,921,380	6,512,738	5,634,000	5,176,598	4,438,980	4,928 123	3,975,610	4,177,066	4,467 690	2,759,335	1,549 037	54 659,117
M11	5,306 040	4 651,380	2,972,902	-	299,722	5,302,960	4,908 157	5 659,070	4,123,454	5,140,710	4 444,625	3,524 443	46 333,483
M12	6,003 360	5 536,800	3,134,160	6,156 720	6 201,720	6 007,680	4,854 240	5 891,760	5 853,240	6,341 400	5,121,000	4,123 800	65,225,880
M13	-	-	-	-	-	-	-	-	-	-	-	-	-
M14	14,325 120	11,725,920	13,528,080	12,625 200	14 533 200	13 979 520	13,173 120	13 440,240	12,726,720	13,750,560	13,154,400	12,604,320	159,566,400
M15	9,910 080	8 484,480	9,682,560	8,973 360	9 889,920	9,496,080	729 360	8 269,920	8,774,640	9,194,400	8 893,440	8,642,160	100 940,400
M16	15,310 800	14 053,680	15,143,040	14,901 840	15 544,080	14,546 880	12,274 560	15 149,520	14,223 600	14 668,560	13,166,640	12,893,040	171,876,240
M17	4,880,160	3 805,200	6,317,280	5,520 960	6 534,720	7,539,840	8,348 400	5 691,600	3,387,600	6,298,560	8 472,240	11,456 640	78 253,200
M18	-	-	-	-	-	-	-	-	-	11,520	2,972,880	4,788 000	7,772,400
M19	7 457,760	4 528,080	7 942,320	7,817 760	4 939,200	6 586,560	7 291,440	6,071,040	5,482,080	6,597 360	7 438,320	6,922,800	79 074,720
Total	97,124,780	84 534,441	97,061 759	90,790 170	93 828 381	92 565 740	92 827,171	97 409,270	91,621 780	100,198,119	94 011,549	89,063 600	1,121,036,760

	2006 Net Heatrate (btu/kwh)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
K1	17,172	17,276	17,081	16,511	17,116	16,733	17,300	17,147	17,209	16,933	16,464	17 097
K2	15,263	15,802	16 456	16,283	16,129	15 319	16,522	16,360	15,533	16 024	15,616	16 471
K3	13,097	13,354	13 422	13,353	13,478	13 375	13,326	13,438	13 465	13,544	13,763	13 450
K4	13,860	14 206	14 215	14 216	14,118	14 441	14,072	14,117	14,177	14,127	14,066	14 206
	-	-	-	-	-	-	-	-	-	-	-	-
X1	10,611	10 643	10 541	10 662	10,311	10 438	10,340	10,078	10 085	10,400	10,375	9 848
X2	10,545	10,585	10 548	10 686	10,366	10 482	10,366	10,176	10,159	10,236	10,342	9 837
M1	10,487	10 464	10,296	10,346	10,127	10 273	10,083	10,024	9 896	9,939	10,050	9,149
M2	10,358	10,398	10,291	10,503	10,198	12,865	10,316	9,836	10 089	9,898	9,968	9,374
M3	10,418	10 230	10,300	10,422	10,170	9 389	10,362	9,849	9,794	10,775	10 046	9,311
M4	-	9,766	10,091	10,199	10 048	9,939	9,931	9,330	9 811	9,819	9,920	10,078
M5	11,228	18 038	10 523	10,394	10,764	10 218	10,050	10,900	9 902	9,856	10,004	10,372
M6	10,022	9 995	9,915	10,031	9,904	9,865	9,873	9,539	9 494	9,982	9,869	9,633
M7	10,457	10 696	10 415	10,270	10 687	10,204	10,035	9,868	10 426	9,890	10,093	10,158
M8	10,109	10 003	9 679	9,836	9 620	9,586	9,460	9,225	9 269	9,283	9 373	9,933
M9	10,027	10 122	10 074	10,407	10,117	10,068	9,927	9,769	-	-	-	14,816
M10	9,384	9 384	9,153	9,220	9 265	9,385	9,319	9 257	9,212	9,390	9 678	9,420
M11	9,162	9 179	8,952	-	9 640	8,802	8,861	8 463	8 915	8,762	8 707	9,068
M12	9 414	9 803	9 988	9,835	9 885	9,974	10,166	9 860	9 891	9,848	10 021	10,161
M13	-	-	-	-	-	-	-	-	-	-	-	-
M14	11,476	11,326	11,803	11,583	11,380	11,739	11,789	11 936	12,067	11,916	12,142	12,256
M16	-	-	-	-	-	-	-	-	-	-	-	-
M17	11,504	11,504	11,593	11,385	11,385	11,674	11,930	11,786	11,866	11,997	12,230	12,057
M19	11 667	11,704	11,578	11,622	11,736	11,832	11,910	12,175	13,485	12,249	11,793	11,578

	2007 YTD Gross Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD TOTAL
K1	2,376,300	1,591,600	2,142,200	2,027,300									8,137,400
K2	2,253,200	1,152,900	3,142,100	2,510,400									9,058,600
K3	8,007,000	7,149,700	8,168,500	7,264,100									30,587,300
K4	8,438,900	7,531,200	742,100	6,113,200									22,825,400
BKS	720	720	-	-									1,440
X1	305,520	167,040	337,440	92,880									902,880
X2	86,640	-	-	-									86,640
M1	456,725	183,427	406,771	196,992									1,243,915
M2	446,796	204,271	338,976	168,264									1,158,307
M3	89,359	29,182	101,693	45,144									265,378
M4	1,393,560	519,960	150,360	745,080									2,808,960
M5	347,760	99,960	520,800	99,960									1,068,480
M6	1,248,240	545,160	765,240	668,640									3,227,280
M7	465,360	164,640	367,920	102,480									1,100,400
M8	813,640	312,480	835,800	23,520									1,987,440
M9	39,480	5,880	528,360	298,200									871,920
M10	-	-	4,975,200	4,464,000									9,439,200
M11	4,210,200	4,352,400	4,849,200	3,704,400									17,116,200
M12	5,158,800	3,882,600	4,350,600	3,333,600									16,725,600
M13	-	-	-	-									-
M14	12,859,200	11,718,000	11,584,800	11,865,600									48,027,600
M15	8,084,160	7,335,360	7,989,120	8,245,440									31,654,080
M16	10,962,000	10,548,000	12,772,800	11,714,400									45,997,200
M17	12,830,400	10,821,600	13,132,800	11,667,600									48,452,400
M18	6,469,200	6,210,000	7,689,600	5,580,000									25,948,800
M19	9,738,000	8,275,400	9,673,200	6,199,200									33,886,800
Total	97,083,160	82,802,480	95,563,580	87,130,400	-	-	-	-	-	-	-	-	362,579,620

	2007 YTD Net Generation (KWH)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD TOTAL
K1	2,212,400	1,469,120	1,995,140	1,886,650									7,563,310
K2	2,113,930	1,074,640	2,970,170	2,365,600									8,524,340
K3	7,648,690	6,827,480	7,805,200	6,932,360									29,213,730
K4	8,018,900	7,151,880	703,160	5,805,720									21,679,660
BKS	720	720	-	-									1,440
X1	305,520	167,040	337,440	92,880									902,880
X2	86,640	-	-	-									86,640
M1	456,725	183,427	406,771	196,992									1,243,915
M2	446,796	204,271	338,976	168,264									1,158,307
M3	89,359	29,182	101,693	45,144									265,378
M4	1,303,239	458,648	134,974	652,379									2,549,240
M5	326,411	86,335	470,026	86,873									969,645
M6	1,189,894	498,288	725,323	618,852									3,032,357
M7	443,374	147,714	346,147	94,318									1,031,553
M8	763,090	273,876	748,100	20,248									1,805,314
M9	35,252	4,578	499,330	274,530									813,690
M10	-	-	4,685,479	4,161,654									8,847,133
M11	3,879,360	4,056,840	4,570,841	3,457,026									15,964,067
M12	4,852,440	3,630,960	4,055,400	3,064,680									15,603,480
M13	-	-	-	-									-
M14	12,576,960	11,488,320	11,345,760	11,621,520									47,032,560
M15	7,827,840	7,023,600	7,633,440	7,899,840									30,384,720
M16	10,643,760	10,320,480	12,508,560	11,459,520									44,932,320
M17	12,504,960	10,530,000	12,785,760	11,346,480									47,167,200
M18	6,192,000	5,949,360	7,393,680	5,335,200									24,870,240
M19	9,551,520	8,110,080	9,478,800	6,062,400									33,202,800
Total	93,469,780	79,686,839	92,040,170	83,649,130	-	-	-	-	-	-	-	-	348,845,919

	2007 Net Heatrate (btu/kwh)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
K1	17,013	17,443	17,118	17,104								
K2	17,805	23,846	11,499	13,641								
K3	13,556	13,651	13,541	-								
K4	14,274	13,877	14,369	14,296								
X1	11,118	11,090	11,157	11,303								
X2	11,263	-	-	-								
M1	10,898	10,703	10,787	10,807								
M2	10,801	10,910	11,019	10,891								
M3	10,596	11,941	10,876	11,171								
M4	11,182	11,933	11,896	12,137								
M5	11,079	12,234	11,596	12,055								
M6	10,763	11,215	10,934	11,184								
M7	11,097	11,928	11,376	11,611								
M8	10,442	11,213	10,935	12,265								
M9	12,032	11,276	10,992	10,759								
M10	-	-	9,860	10,080								
M11	9,887	9,804	9,607	9,834								
M12	10,182	10,310	10,298	10,535								
M13	-	-	-	-								
M14												
M16												
M17												
M19												