

HECO ~~5~~ ADEQUACY OF SUPPLY
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(SPECIAL REPORTS - PERMANENT)

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January 31, 1995

Edward Y. Hirata
Vice President
Planning

PUBLIC UTILITIES
COMMISSION

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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: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a. of General Order No. 7, the following information is respectfully submitted.

HECO's 1994 system peak occurred on Monday, September 19, 1994 and was 1,193,000 KW. Oahu had a reserve margin of approximately 40% over the 1994 system peak.

HECO's 1994 total generating capability of 1,669,000 KW includes 406,000 KW of firm power purchased from (1) Kalaeloa Partners, L.P.; (2) AES-Barbers Point, Inc.; and (3) HPOWER.

HECO also has power purchase contracts with several sugar, wind, and other cogenerators. These contracts are not for firm capacity, and capacities are not reflected in HECO's total generating capability.

The attached table shows the expected reserve margin over the next three years, based on the Forecast Planning Committee peak forecast dated August 24, 1994.

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
January 31, 1995
Page 2

The following method is used to determine the timing of an additional generation unit:

The total capability of our system must at all times be equal to or greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;*
- b. the capacity of the unit scheduled for maintenance; and*
- c. the capacity that would be lost by the forced outage of the largest unit in service.*

Sincerely,

Attachment

cc: C. W. Totto



ADEQUACY OF SUPPLY
Hawaiian Electric Company, Inc.

January 31, 1995

Year	Year-End System Capability KW ⁽¹⁾	With Pilot DSM		With All DSM	
		Without Full-Scale DSM			
		System Peak KW ⁽²⁾	Reserve Margin %	System Peak KW ⁽³⁾	Reserve Margin %
Recorded					
1994	1,669,000	1,193,000	40	1,193,000	40
Forecasted					
1995	1,669,000	1,204,000	39	1,204,000	39
1996	1,669,000	1,221,000	37	1,215,000	37
1997	1,669,000	1,250,000	34	1,240,000	35

Notes:

- 1) System Capability includes:
 - HECO units at a total normal capability (gross) of 1,263,000 KW.
 - Firm power purchase contracts have a combined total of 406,000 KW from Kalaeloa (180,000 KW), AES-Barbers Point (180,000 KW), and HPOWER (46,000 KW).

- 2) System Peaks (Without Full-Scale DSM):
 - Recorded and forecasted peaks include impacts attributed to the pilot DSM programs. (Docket No. 7054, Pilot Commercial Lighting DSM Program, and Docket No. 7398, Pilot Residential DSM Program.)
 - The forecasted system peaks (1995-1997) are evening peaks based on the peak forecast dated August 24, 1994, include the impact of the pilot DSM programs and do not include future full-scale DSM program impacts.

- 3) System Peak (With All DSM):
 - The 1994 and 1995 peaks include impacts attributed to the pilot DSM programs.
 - The forecasted peaks of 1996 and 1997 include impacts of both pilot and full-scale DSM programs.
 - The projected DSM impacts reflect the implementation of the full-scale DSM programs in 1996.

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PUBLIC UTILITIES
COMMISSION

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Edward Y. Hirata
Vice President
Planning

January 31, 1994

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: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a. of G.O. No. 7, the following information is respectfully submitted.

HECO's 1993 system peak occurred on Monday, October 4, 1993 and was 1,174,000 KW. Oahu had a reserve margin of approximately 42% over the 1993 system peak.

HECO's 1993 total generating capability of 1,669,000 KW includes 406,000 KW of firm power purchased from (1) Kalaeloa Partners, L.P.; (2) AES-Barbers Point, Inc.; and (3) HPOWER.

HECO also has power purchase contracts with several sugar, wind, and other cogenerators. These contracts are not for firm capacity, and capacities are not reflected in HECO's total generating capability.

The attached table shows the expected reserve margin over the next three years, based on the Forecast Planning Committee ("FPC") peak forecast dated August 27, 1993.

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
January 31, 1994
Page 2

The following method is used to determine the timing of an additional generation unit:

The total capability of our system must at all times be equal to or greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;*
- b. the capacity of the unit scheduled for maintenance; and*
- c. the capacity that would be lost by the forced outage of the largest unit in service.*

Sincerely,



Attachment

cc: C. W. Tutto



ADEQUACY OF SUPPLY
Hawaiian Electric Company, Inc.

January 31, 1994

<u>Year</u>	<u>Year-End System Capability (KW)⁽¹⁾</u>	<u>With "Current" DSM Without "Future" DSM</u>		<u>With DSM</u>	
		<u>System Peak (KW)⁽²⁾</u>	<u>Reserve Margin (%)</u>	<u>System Peak (KW)⁽³⁾</u>	<u>Reserve Margin (%)</u>
Recorded 1993	1,669,000	1,174,000	42	1,174,000	42
Forecasted 1994	1,669,000	1,175,000	42	1,175,000	42
1995	1,669,000	1,182,000	41	1,176,000	42
1996	1,669,000	1,202,000	39	1,192,000	40

Notes:

1. System Capability includes:
 - HECO units at a total normal capability of 1,263,000 KW.
 - Firm power purchase contracts have a combined total of 406,000 KW from Kalaeloa (180,000 KW), AES-Barbers Point (180,000 KW), and HPOWER (46,000 KW).
2. System Peaks (Without "Future" DSM):
 - Recorded and forecasted peaks include impacts of current DSM programs.
 - The forecasted system peaks (1994-1996) are evening peaks based on the peak forecast dated August 27, 1993, includes impact of current DSM programs, does not include future incremental DSM program impacts.
3. System Peak (With DSM):
 - The 1993 and 1994 peaks include impacts of current DSM programs.
 - The forecasted peaks of 1995 and 1996 include impacts of current and future DSM programs.

JOHN WAIHEE
GOVERNOR



STATE OF HAWAII
PUBLIC UTILITIES COMMISSION
DEPARTMENT OF BUDGET AND FINANCE
465 S KING STREET #103
HONOLULU, HAWAII 96813

YUKIO NAITO
CHAIRMAN

DAN T. KOCHI
COMMISSIONER

PATSY K. YOUNG
COMMISSIONER

February 16, 1993

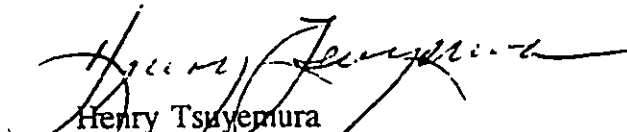
Mr. Edward Y. Hirata
Vice President, Planning
Hawaiian Electric Company, Inc.
P. O. Box 2750
Honolulu, Hawaii 96840-0001

Re: 1993 Adequacy of Supply Report
Additional Time to File HECO's 1993 Report

Dear Mr. Hirata:

The commission grants your request to extend the time to file HECO's 1993 adequacy of supply report from February 8, 1993 to February 17, 1993.

Very truly yours,


Henry Tsuyemura
Administrative Director

HT:ST:CG:eh

cc: Consumer Advocate

file *YAC* *ST* *for 1993*
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DK *PS*



February 8, 1993

Edward Y. Hirata
Vice President
Planning

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PUBLIC UTILITIES
COMMISSION

FILED

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

Dear Commissioners:

Subject: 1993 Adequacy of Supply Report
Additional Time to File HECO's 1993 Report

In accordance with paragraph 5.3a of G.O. No. 7, HECO's Adequacy of Supply Report is due within 30 days after the end of the year. HECO is unable to complete its Report by the previously requested extension of February 8, 1993 and requests additional time, no later than February 17, 1993.

Sincerely,

cc: C. W. Tutto



Edward Y. Hirata
Vice President
Planning

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

Dear Commissioners:

Subject: 1993 Adequacy of Supply Report
Additional Time to File HECO's 1993 Report

In accordance with paragraph 5.3a of G.O. No. 7, HECO's Adequacy of Supply Report is due within 30 days after the end of the year. We would appreciate additional time in which to prepare HECO's annual statement indicating its adequacy of capacity; until February 8, 1993.

Sincerely,

cc: C. W. Tutto

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January 29, 1993

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Edward Y. Hirata
Vice President
Planning

February 17, 1993

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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: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a. of G.O. No. 7, the following information is respectfully submitted.

The 1992 instantaneous system peak occurred on Thursday, September 10, 1992 and was 1,173,000 KW. Oahu had a margin of approximately 42% over the 1992 instantaneous system peak.

HECO's 1992 total generating capability of 1,668,000 KW includes 406,000 KW of firm power purchased from (1) Kalaeloa Partners, L.P.; (2) AES-Barbers Point, Inc.; and (3) HPOWER.

HECO also has power purchase contracts with several sugar, wind, and other cogenerators. These contracts are not for firm capacity, and the capacities are not reflected in HECO's total generating capability.

In consideration of changing economics and difficulties in securing permits for construction of new replacement facilities, the retirement of Honolulu Power Plant is being deferred until after 1995. The attached table shows the expected reserve margin over the next three years, based on the Forecast Planning Committee peak forecast dated October 15, 1992.

The Honorable Chairman and Members of
the Hawaii Public Utilities Commission
February 17, 1993
Page 2

The following method is used to determine the timing of an additional generation unit:

The total capability of our system must at all times be equal to or greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;*
- b. the capacity of the unit scheduled for maintenance; and*
- c. the capacity that would be lost by the forced outage of the largest unit in service.*

Sincerely,



Attachment

cc: C. W. Tutto



ADEQUACY OF SUPPLY
Hawaiian Electric Company, Inc.

February 17, 1993

<u>Year</u>	<u>Unit Additions (KW)</u>	<u>Year-End System Capability (1) (KW)</u>	<u>Instantaneous System Peak (2) (KW)</u>	<u>Reserve Margin at Time of System Peak (%)</u>
Recorded				
1992	+46,000 (3) +180,000 (4)	1,668,000	1,173,000	42
Forecasted				
1993	0	1,669,000	1,245,000	34
1994	0	1,669,000	1,271,000	31
1995	0	1,669,000	1,281,000	30

Notes:

(1) Units at normal capability with the following adjustments to the previously reported 1,260,000 KW of HECO-owned units:

- | | |
|---------|---|
| 1992 | Temporary capability restriction of 1,000 KW due to a derating for Waiau 4. Continuing temporary capability restriction of 1,000 KW for Kahe 2 and temporary capability gain of 2,000 KW for Waiau 8 and 1,000 KW for Waiau 9 (included in 1,260,000 KW of HECO-owned units). |
| 1992-on | Additional 3,000 KW due to recovery of previous temporary capability restrictions as follows: <ul style="list-style-type: none"> • 2,000 KW for Kahe 1 • 1,000 of 3,000 KW for Waiau 6 |
| 1993-on | Additional 4,000 KW due to recovery of previous temporary capability restrictions as follows: <ul style="list-style-type: none"> • 1,000 KW for Kahe 2 • 1,000 KW for Waiau 4 • 2,000 KW for Waiau 6 |

ADEQUACY OF SUPPLY
February 17, 1993

Less 3,000 KW due to loss of previous temporary capability gain as follows:

- 2,000 KW for Waiiau 8
- 1,000 KW for Waiiau 9

- (2) The forecasted System Peaks (1993-1995) are evening peaks based on the Forecast Planning Committee October 15, 1992 forecast.
- (3) HPOWER began providing 46,000 KW net firm capacity to HECO in July 1992 in accordance with contract provisions, as amended and approved in Docket No. 6983.
- (4) AES-BP became commercially available in September 1992 providing 180,000 KW net firm capacity to HECO, in accordance with contract provisions.



January 31, 1992

Edward Y. Hirata
Vice President
Planning

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: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a. of G.O. No. 7, the following information is respectfully submitted.

The 1991 instantaneous system peak occurred on Thursday, November 14, 1991 and was 1,141,000 KW. The total generation capability of the system had a margin of approximately 26% over the 1991 instantaneous system peak.

HECO's 1991 total generating capability of 1,440,000 KW includes 180,000 KW of power purchased from Kalaeloa Partners, L.P.

HECO has purchase power contracts with several sugar, wind, and other cogenerators. These contracts are not for firm capacity, and the capacities are not reflected in HECO's total generating capability.

The attached table shows the expected reserve margin over the next three years, based on the Forecast Planning Committee peak forecast dated November 8, 1991.

The following method is used to determine the timing of an additional generation unit:

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COMMISSION

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING



January 31, 1992

Edward Y. Hirata
Vice President
Planning

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: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a. of G.O. No. 7, the following information is respectfully submitted.

The 1991 instantaneous system peak occurred on Thursday, November 14, 1991 and was 1,141,000 KW. The total generation capability of the system had a margin of approximately 26% over the 1991 instantaneous system peak.

HECO's 1991 total generating capability of 1,440,000 KW includes 180,000 KW of power purchased from Kalaeloa Partners, L.P.

HECO has purchase power contracts with several sugar, wind, and other cogenerators. These contracts are not for firm capacity, and the capacities are not reflected in HECO's total generating capability.

The attached table shows the expected reserve margin over the next three years, based on the Forecast Planning Committee peak forecast dated November 8, 1991.

The following method is used to determine the timing of an additional generation unit:

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PUBLIC UTILITIES
COMMISSION

The Honorable Chairman and Members
of the Hawaii Public Utilities Commission
January 31, 1992
Page Two

The total capability of our system must at all times be equal to or greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Very truly yours,



Attachment

cc: C. W. Tutto



ADEQUACY OF SUPPLY
Hawaiian Electric Company, Inc.

January 31, 1992

<u>Year</u>	<u>Unit Additions KW</u>	<u>Year-End System Capability (1) KW</u>	<u>Instantaneous System Peak (2) KW</u>	<u>Reserve Margin %</u>
Recorded 1991	+180,000 (3)	1,440,000	1,141,000	26
Forecasted 1992	+ 46,000 (4) +180,000 (5)	1,672,000	1,217,000	37
1993	0	1,672,000	1,254,000	33
1994	- 56,000 (6) - 57,000 (6)	1,559,000	1,285,000	21

Notes:

- (1) Units at normal capability with adjustments as follows for the 1,262,000 KW of HECO-owned units:
 - 1991-on Less 2,000 KW due to permanent capability losses on Honolulu 8.
 - 1992-on Additional 6,000 KW due to regaining of previous temporary capability restrictions -- 2,000 KW for Kahe 1, 1,000 KW for Kahe 2, and 3,000 KW for Waiiau 6.
- (2) The forecasted System Peaks (1992-1994) are evening peaks.
- (3) Kalaeloa Partners, L.P. became commercially available in May 1991 providing 180,000 KW net to HECO, in accordance with contract provisions.
- (4) H-POWER will provide 46,000 KW net to HECO in accordance with a firm capacity amendment dated April 8, 1991, pending Commission approval. (See Docket No. 6983.)
- (5) AES purchase power is scheduled to be available around the fourth quarter of 1992 providing 180,000 KW net to HECO, in accordance with contract provisions. (See Docket No. 6177)
- (6) Honolulu Unit 8 (56,000 KW) and Honolulu Unit 9 (57,000 KW) are planned to be retired at the end of 1994, pending Commission approval (Docket No. 6600) and availability of replacement capacity. (See Docket Nos. 6600 and 7185.)



George T. Iwahiro
Vice President
Consumer, Regulatory
& Public Affairs

January 31, 1991

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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: Adequacy of Supply
Hawaiian Electric Company, Inc.

JAN 31 4 29 PM '91
PUBLIC UTILITIES
COMMISSION

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In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1990 instantaneous system peak occurred on Wednesday, November 7, 1990 and was 1,119,000 KW. The total generation capability of the system had a margin of approximately 13% over the 1990 instantaneous system peak.

HECO's 1990 total generating capability of 1,262,000 KW includes only HECO-owned units and no purchased power. (HECO leased an 80,000 KW combustion turbine from Kalaeloa which was in service from March to November 1990).

HECO has purchase power contracts with several sugar, wind, and other co-generators. These contracts are not for firm capacity, and the capacities are not reflected in HECO's total generating capability.

The attached table shows the expected reserve margin over the next three years, based on the Forecast Planning Committee peak forecast dated December 27, 1990.

The following method is used to determine the timing of an additional generation unit:

The Honorable Chairman and Members
of the Hawaii Public Utilities Commission
January 31, 1991
Page Two

The total capability of our system must at all times be equal to or greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Very truly yours,

George J. Awahno

Attachment

cc: C. W. Tutto



ADEQUACY OF SUPPLY
Hawaiian Electric Company, Inc.
January 31, 1991

<u>Year</u>	<u>Unit Additions KW</u>	<u>Year-End System Capability (1) KW</u>	<u>Instantaneous System Peak (2) KW</u>	<u>Reserve Margin %</u>
Recorded 1990	80,000 (3)	1,262,000	1,119,000	13
Forecasted				
1991	+180,000 (4)	1,446,000	1,186,000	22
1992	+180,000 (5)	1,628,000	1,223,000	33
1993	0	1,628,000	1,264,000	29

Notes:

- (1) Units at normal capability with adjustments as follows:

1990-on Less 12,000 KW long-term and permanent capability losses -- 1,000 KW for each of Honolulu 9, Waiiau 3, Waiiau 4 and Waiiau 5 and 4,000 KW for each of Kahe 5 and Kahe 6.

1990-on Additional 3,000 KW temporary gains -- 2,000 KW for Waiiau 8 and 1,000 KW for Waiiau 9.

1990 only Less 4,000 KW temporary capability restrictions -- 3,000 KW for Waiiau 6 and 1,000 KW for Kahe 2.

1990-1991 Less 2,000 KW temporary capability restriction for Kahe 1.

Adjustments to unit ratings as reported by Production Department dated January 25, 1991.

- (2) The forecasted System Peaks (1991-1993) are evening peaks.
- (3) Kalaeloa Phase I combustion turbine was declared commercial on March 27, 1990 at 80,000 KW. The combustion turbine lease between HECO and Kalaeloa expired on November 30, 1990 and the unit was released for Phase II construction on December 1, 1990.
- (4) Kalaeloa Phase II is scheduled to be available in the second quarter of 1991 providing 180,000 KW net to HECO, in accordance with contract provisions.
- (5) AES purchase power is scheduled to be available in the fourth quarter of 1992 providing 180,000 KW net to HECO, in accordance with contract provisions.



George T. Iwahiro
Vice President
Consumer, Regulatory
& Public Affairs

January 31, 1990

cc: YN H7
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PUBLIC UTILITIES
COMMISSION

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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: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1989 instantaneous system peak occurred in November and was 1,090,000 KW. The total generation capability of the system had a year-end margin of approximately 17% over the 1989 instantaneous system peak.

The attached table shows the expected reserve margin over the next three years, based on the peak forecast of the Forecast Planning Committee of November 30, 1989.

The following method is used to determine the timing of an additional generation unit:

The total capability of our system must at all times be greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Sincerely,

Attachment

cc: C. W. Tutto, Esq.

An HEI Company

ADEQUACY OF SUPPLY

Hawaiian Electric Company, Inc.

January 31, 1990

<u>Year</u>	<u>Unit Additions KW</u>	<u>Year-End System Capability (1) KW</u>	<u>Instantaneous System Peak (2) KW</u>	<u>Year-End Reserve Margin %</u>
Recorded 1989	0	1,271,000 (3)	1,090,000	17
Forecasted 1990	+ 80,000 (4)	1,351,000	1,145,000	18
1991	+100,000 (5)	1,453,000 (6)	1,177,000	23
1992	+180,000 (7)	1,633,000 (8)	1,208,000	35

Notes:

- (1) Units at normal capability.
- (2) The forecasted System Peaks (1990-1992) are evening peaks.
- (3) 6,000 KW less than normal capability rating due to temporary capability restrictions on Waiiau 6 (1,000 KW), Kahe 1 (4,000 KW), and Kahe 2 (1,000 KW).
- (4) Kalaeloa Phase I combustion turbine, which was tested early in January 1990 at 80,000 KW with the use of a gaseous fuel.
- (5) Kalaeloa Phase II is scheduled to be available in early 1991. At that time, in accordance with contract provisions, the Kalaeloa facility will provide a minimum of 180,000 KW net to HECO.
- (6) Add 1,000 KW due to Waiiau 6 being restored. Add 1,000 KW to Kahe 2 being restored.
- (7) AES purchase power is scheduled to be available by December 31, 1992. The capability is 180,000 KW net to HECO.
- (8) Add 4,000 KW due to Kahe 1 being restored.

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January 30, 1989

cc: YN
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George T. Iwahiro
Vice President
Consumer, Regulatory
& Public Affairs

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

JAN 30 3 39 PM '89
PUBLIC UTILITIES
COMMISSION

FILED

Dear Commissioners:

Subject: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1988 instantaneous system peak occurred in December and was 1,068,000 KW. The total generation capability of the system had a margin of approximately 18% over the 1988 instantaneous system peak.

The attached table shows the expected system reserve margin for the next three years, based on the peak forecast of the Forecast Planning Committee dated November 21, 1988.

The following method is used to determine the timing for an additional generating unit:

The total capability of our system must at all times be greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Sincerely,

Attachment

cc: C. W. Tutto, Esq.

ADEQUACY OF SUPPLY

Hawaiian Electric Company, Inc.

January 30, 1989

<u>Year</u>	<u>Scheduled Unit Additions KW</u>	<u>System Capability (3) KW</u>	<u>Instantaneous System Peak (8) KW</u>	<u>Reserve Margin %</u>
Recorded 1988	0	1,258,000 (4)	1,068,000	18
Forecasted 1989	+ 82,000 (1)	1,348,000 (5)	1,113,000	21
1990	+111,000 (2)	1,463,000 (6)	1,131,000	29
1991	0	1,464,000 (7)	1,154,000	27

Notes:

- (1) Kalaeloa Phase I, which consists of an 82,000 KW combustion turbine, is scheduled to be available by August 1, 1989.
- (2) Kalaeloa Phase II purchase power will provide an additional 111,000 KW; a total of 193,000 KW gross for Kalaeloa, or 185,000 KW net to HECO. Phase II is scheduled to be available by November 1, 1990.
- (3) Units at normal capability.
- (4) 19,000 KW less than normal capability rating due to temporary capability restrictions on Waiiau 6 (5,000 KW), Kahe 1 (4,000 KW) and Kahe 2 (10,000 KW).
- (5) Add 8,000 KW due to 4,000 KW restored on Waiiau 6 and 4,000 KW restored on Kahe 2.
- (6) Add 4,000 KW due to Kahe 1 being restored.
- (7) Add 1,000 KW due to Waiiau 6 being restored.
- (8) The forecasted System Peaks (1989-1991) are Evening Peaks.



January 29, 1988

George T. Iwahiro
Vice President
Consumer, Regulatory
& Public Affairs

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

JAN 29 4 17 PM '88
PUBLIC UTILITIES
COMMISSION

FILED

Gentlemen:

Subject: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1987 instantaneous system peak occurred in November and was 1,030,000 KW. The total generation capability of the system had a margin of approximately 22% over the 1987 instantaneous system peak.

The attached table shows the expected reserve margin over the next three years, based on the peak forecast of the Forecast Planning Committee of September 29, 1987.

The following method is used to determine the timing of an additional generating unit:

The total capability of our system must at all times be greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Sincerely,

cc: W. W. Milks, Esq.

An HEI Company

ADEQUACY OF SUPPLY

Hawaiian Electric Company, Inc.

January 29, 1988

<u>Year</u>	<u>Scheduled Unit Additions KW</u>	<u>System Capability (1) KW</u>	<u>Instantaneous System Peak (7) KW</u>	<u>Reserve Margin %</u>
Recorded 1987	0	1,255,000 (2)	1,030,000	22
Forecasted 1988	0	1,267,000 (3)	1,043,000	21
1989	+ 70,000 (5)	1,347,000 (4)	1,063,000	27
1990	+120,000 (6)	1,467,000	1,086,000	35

Notes:

- (1) Units at normal capability.
- (2) 22,000 KW less than January 30, 1987 Adequacy of Supply Report due to problems on Kahe 1 (8,000 KW), Kahe 2 (10,000 KW), and Kahe 6 (4,000 KW).
- (3) Add 12,000 KW based on scheduled major overhaul of Kahe 1 and Kahe 6 returning these units to their stated capability.
- (4) Add 10,000 KW based on scheduled major overhaul of Kahe 2 returning unit to its stated capability.
- (5) HECO is in the process of finalizing a firm purchase power contract with Hawaiian Cogeneration Associates, Inc. (HACOA) for deliveries from a facility at Campbell Industrial Park. The first of two phases calls for the availability of a firm 70,000 KW combustion turbine scheduled to be available by July 1989.
- (6) The second phase of the HACOA contract calls for an additional firm 115,000 KW ($\pm 5\%$, subject to final design) by October 1990. This capacity will not be available when the system peak is forecasted to occur in August, thus reducing the reserve margin to 24% at the time of the system peak.
- (7) The forecasted 1988 and 1989 System Peaks are Evening Peaks. The forecasted 1990 System Peak is a Day Peak.

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January 30, 1987

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

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JAN 30 4 02 PM '87
PUBLIC UTILITIES
COMMISSION

Gentlemen:

Subject: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1986 instantaneous system peak occurred in November and was 986,000 KW. The total generation capability of the system had a margin of approximately 29.5% over the 1986 instantaneous system peak.

The following table shows the expected system margin for the next three years, based on the peak forecast of the Forecast Planning Committee of September 24, 1986.

<u>Year</u>	<u>Scheduled Unit Additions KW</u>	<u>System Capability* KW</u>	<u>Instantaneous Peak KW</u>	<u>Reserve Margin %</u>
Recorded 1986	0	1,277,000**	986,000	29.5
Forecasted 1987	0	1,277,000	993,000	28.6
1988	0	1,277,000	1,005,000	27.1
1989	0	1,277,000	1,028,000	24.2

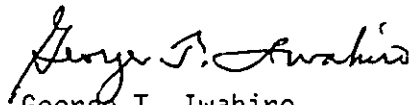
Hawaii Public Utilities Commission
January 30, 1987
Page 2

The following method is used to determine the timing for an additional generating unit:

The total capability of our system must at all times be greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Sincerely,



George T. Iwahiro
Vice President
Consumer, Regulatory & Public Affairs

cc: W. W. Milks, Esq.

* units at normal capability

** -6 MW from January 30, 1986 Adequacy of Supply Report due to change in unit rating based on Production Department testing program

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January 30, 1987

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 PUBLIC UTILITIES
 COMMISSION

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

Gentlemen:

Subject: Adequacy of Supply
Hawaiian Electric Company, Inc.

In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1986 instantaneous system peak occurred in November and was 986,000 KW. The total generation capability of the system had a margin of approximately 29.5% over the 1986 instantaneous system peak.

The following table shows the expected system margin for the next three years, based on the peak forecast of the Forecast Planning Committee of September 24, 1986.

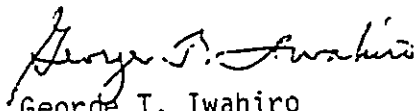
<u>Year</u>	<u>Scheduled Unit Additions KW</u>	<u>System Capability* KW</u>	<u>Instantaneous Peak KW</u>	<u>Reserve Margin %</u>
Recorded 1986	0	1,277,000**	986,000	29.5
Forecasted 1987	0	1,277,000	993,000	28.6
1988	0	1,277,000	1,005,000	27.1
1989	0	1,277,000	1,028,000	24.2

The following method is used to determine the timing for an additional generating unit:

The total capability of our system must at all times be greater than the summation of the following:

- a. the capacity needed to serve the estimated system peak load;
- b. the capacity of the unit scheduled for maintenance; and
- c. the capacity that would be lost by the forced outage of the largest unit in service.

Sincerely,



George T. Iwahiro
Vice President
Consumer, Regulatory & Public Affairs

cc: W. W. Milks, Esq.

* units at normal capability

** -6 MW from January 30, 1986 Adequacy of Supply Report due to change in unit rating based on Production Department testing program

HEI

Handwritten: *File*



January 30, 1987

Arden G. Henderson
President

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

PUBLIC UTILITIES
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Gentlemen:

Subject: Adequacy of Supply
Maui Electric Company, Limited (Maui Division)

In accordance with paragraph 5.3a of the G.O. Order No. 7, the following information is respectfully submitted.

The 1986 instantaneous system peak occurred on December 30 and was 110,100 KW. The 1986 total generating capability of the system had a reserve margin of approximately 11% over the 1986 instantaneous system peak.

MECO's 1986 total generating capability of 122,310 KW included 12,000 KW of firm power purchased from HC&S.

The following table shows the expected system reserve margin for the next three years, based on peak load predictions of the Forecast Planning Committee dated October 7, 1986.

Year	Scheduled Unit Additions* KW	System Capability** KW	Instantaneous Peak KW	Reserve Margin %
Recorded 1986	0	122,310	110,100	11
Forecasted 1987	+ 5,500	127,810	110,000	16
1988	+ 13,750	141,560	114,100	24
1989	0	141,560	118,200	20

The following method is used to determine the timing for an additional generating unit. The total capability of our system must at all times be equal to or greater than the load to be supplied by the summation of the following:

FOR MORNING AND EVENING PEAKS:

1. Normal rating of all available units.
2. With no unit on maintenance, the reserve rating of all available units less the reserve rating of the largest available unit.

FOR MORNING PEAK ONLY:

With a unit on maintenance, the reserve rating of all available units less the reserve rating of the largest available unit.

FOR EVENING PEAK ONLY:

With a unit on maintenance, the reserve ratings of all available units.

Sincerely,

Arden A Henderson

cc: W. W. Milks, Esq.

* MECO plans to add two 2,750 KW high speed diesels in 1987 and a 13,750 KW medium speed diesel in 1988.

** Units at reserve rating and include 12 MW firm power from HC&S. Does not include 8 MW standby power from Pioneer Mill Company.

Note: unit rating change under consideration.

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January 30, 1987

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

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 PUBLIC UTILITIES
 COMMISSION

Gentlemen:

Subject: Adequacy of Supply
Hawaii Electric Light Company, Inc.

In accordance with paragraph 5.3a of G.O. No. 7, the following information is respectfully submitted.

The 1986 instantaneous system peak occurred on Tuesday, December 30, and was 108,600 KW. The total generating capability of the system had a reserve margin of approximately 18% over the 1986 instantaneous system peak.

HELCO's 1986 total generating capacity of 127,650 KW included firm purchased power of 6,000 KW from Puna Biomass Power Company (formerly called Puna Sugar Company), 18,000 KW from Hilo Coast Processing Company, and 2,400 KW from the HGP-A geothermal unit.

HELCO also has purchase power contracts with Hamakua Sugar Company and several wind and small hydro cogenerators. These contracts are not for firm capacity, and the capacities are not reflected in HELCO's total generating capability.

The following table shows the expected system reserve margin for the next three years, based on peak predictions of the Forecast Planning Committee dated June 4, 1986.

Year	Scheduled Unit Additions* KW	System Capability** KW	Instantaneous Peak KW	Reserve Margin %
Recorded 1986	0	127,650	108,600	18
Forecasted 1987	+ 12,750	140,400	108,000	30
1988	0	140,400	112,000	25
1989	+ 12,500	152,900	115,000	33

The following method is used to determine the timing for an additional generating unit. The total capability of our system must at all times be equal to or greater than the load to be supplied by the summation of the following:

FOR MORNING AND EVENING PEAKS:

1. Normal rating of all available units.
2. With no unit on maintenance, the reserve rating of all available units less the reserve rating of the largest available unit.

FOR MORNING PEAK ONLY:

With a unit on maintenance, the reserve rating of all available units less the reserve rating of the largest available unit.

FOR EVENING PEAK ONLY:

With a unit on maintenance, the reserve ratings of all available units.

Sincerely,

Norman A. Orr

cc: W. W. Milks, Esq.

* HELCO is in the final stages of negotiating a contract modification for 10,000 KW of firm capacity from Hamakua Sugar (effective 1987), plans the addition of a 2,750 KW high speed diesel at Keahole (in 1987), and anticipates 12,500 KW of firm capacity from Puna Geothermal Venture in 1989.

** HELCO units at reserve ratings.

Note: 300 KW rating increase to Shipman Unit No. 1 (reported in January 30, 1986, Adequacy of Supply Report) not yet completed.

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