Hawaii Electric Light Company, Inc. • PO Box 1027 • Hilo, HI 96721-1027

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Jay M. Ignacio, P.E.
President

May 7, 2009

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PUBLIC UTILITIES
COMMISSION

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: HELCO 2008 Annual Service Reliability Report

Hawaii Electric Light Company, Inc. respectfully submits a copy of its 2008 Annual Service Reliability Report.

Sincerely,

Attachment

c: Division of Consumer Advocacy (with Attachment)

Hawaii Electric Light Co., Inc.

ANNUAL SERVICE RELIABILITY REPORT

2008

Prepared By:

Kevin Waltjen
Manager
Distribution Department

April 16, 2009

CONTENTS

INTRODUCTION

The 2008 service reliability indices and the system reliability indices for the past five years are provided to depict HELCO's quality of service. A summary of 2008 system reliability data is provided in the subsequent sections. Definitions of terms and descriptions of the reliability indices are attached in Appendices A and B. Reliability data are presented in tables and graphs contained in Appendices C through E.

SUMMARY OF 2008 RELIABILITY DATA

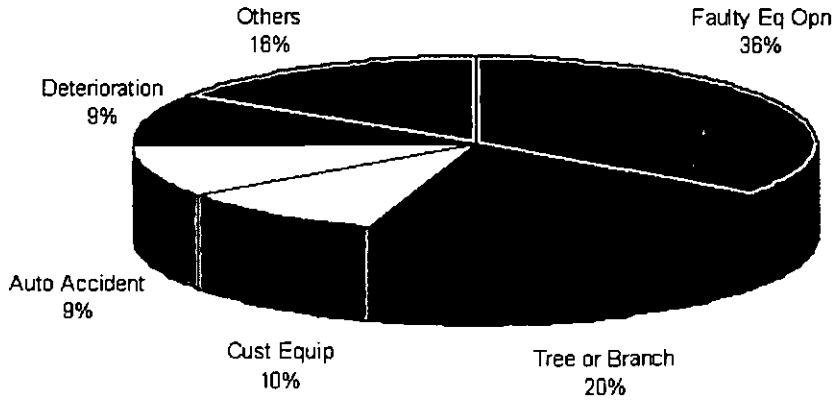
The average customer count increased 1.9% from 77,933 in 2007 to 79,386 in 2008.

On a Not-Normalized basis, in 2008 a total of 194,807 Customer Interruptions were recorded for a total of 190,314 Customer Hours of Interruption. The System Average Interruption Frequency (SAIF) index was 2.454 and the Customer Average Interruption Duration (CAID) was 58.62 minutes.

On the Normalized basis, a total of 179,862 Customer Interruptions were recorded for a total of 189,156 Customer Hours of Interruptions. The System Average Interruption Frequency (SAIF) index was 2.266 and the Customer Average Interruption Duration (CAID) was 63.10 minutes.

On a Not-Normalized basis, the following were the leading causes of customer interruptions in 2007:

1. **Faulty Equipment Operation.** There were 68,574 Customer Interruptions, 66,538 (97%) of those were related to HELCO Generation.
2. **Trees and Branches.** There were 38,497 Customer Interruptions.
3. **Failure of Customer Equipment.** There were 19,762 Customer Interruptions, 19,752 (nearly 100%) of those were related to Independent Power Producers (non-HELCO Generation).
4. **Auto Accident.** There were 18,475 Customer Interruptions.
5. **Deterioration.** There were 18,045 Customer Interruptions.



There were 86,290 generation related Customer Interruptions in 2008, of which 66,538 were related to HELCO Generation sources (77%) and 19,752 were related to Independent Power Producers (non-HELCO Generation) sources (23%). In 2008 Hamakua Energy Partners (HEP) was the only non-HELCO generation sources that caused customer interruptions.

In 2008 HELCO normalized data per guidelines specified in a special report on reliability prepared for the Public Utilities Commission. This report, "Methodology for Determining Reliability Indices for HECO Utilities", dated December 1990, indicates that normalization may be utilized for "abnormal" situations such as hurricanes, tsunamis, earthquakes, floods, catastrophic equipment failures, and a single equipment outage that cascades into a loss of load that is greater than 10% of the system peak load. HELCO normalized one event in 2008:

- Underfrequency Loadshedding event on July 2 due to Hamakua Energy Partners (HEP) tripping off-line while exporting 29.6 MW resulted in 14,945 Customer Interruptions and 1,311 Customer Hours of Interruption.

Significant interruptions, contributing more than 5,000 Customer Interruptions (CI) or Customer Interruption Duration (CID) greater than 5,000 Customer Hours of Interruption, that did not meet the normalization criteria were:

Date	Problem	CI	CID
January 7	Underfrequency loadshedding – Hill 6 Steam tripped off-line	6,969	410
January 30	Auto Accident long Hwy 11 in Kurtistown area affecting 34.5kV transmission line	5,190	4,336
April 24	Underfrequency loadshedding – Hill 6 Steam tripped off-line	9,606	668
April 29	Underfrequency loadshedding – Hill 6 Steam tripped off-line	6,465	261
May 8	Tree contacting 69kV transmission line in South Kona	4,046	5,672
May 18	Tree falling on distribution lines in Hawaiian Beaches area	2,251	5,224
July 31	Underfrequency loadshedding – Hill 6 Steam tripped off-line	12,994	1,259

Date	Problem	CI	CID
August 1	Underfrequency loadshedding – Hill 6 Steam tripped off-line	12,994	593.87
August 16	Auto Accident in Kailua-Kona affecting distribution lines	1,160	5,551
August 31	Forced maintenance affecting customers in Upper Puna to allow emergency replacement of substation transformer	4,245	42,875
October 15	Underfrequency loadshedding – Keahole CT-4 tripped off-line	9,670	330
November 24	Tree falling across 34.5kV transmission lines affecting North Kohala	1,920	6655
December 30	Tree falling across 69kV transmission lines affecting parts of Lower Puna and portion of Hilo area	8,960	5,471

APPENDIX A
DEFINITION OF TERMS

OUTAGE

The state of component when it is not available to perform its intended function due to some event directly associated with that component. An outage may or may not cause an interruption of service to customers depending on system configuration.

INTERRUPTION

The loss of service to one or more customers and is a result of one or more component outages.

INTERRUPTION DURATION

The period from the initiation of an interruption to a customer until service has been restored to that customer.

MOMENTARY INTERRUPTION

An interruption that has a duration limited to the period required to restore service by automatic or supervisory-controlled switching operations or by manual switching at locations where an operator is immediately available. Such switching operations must be completed in a specific time not to exceed one minute. Previous issues of this report indicated that a momentary interruption has a duration not to exceed five minutes. A December 1990 report "Methodology for Determining Reliability Indices of HELCO" indicated that momentary interruptions will have a duration less than one minute.

SUSTAINED INTERRUPTION

Any interruption not classified as a momentary interruption. Only this type of interruption is included in the reliability indices which follow. In conformance with the guidelines established in the report, "Methodology for Determining Reliability Indices for HELCO", dated December 1990, a sustained interruption has a duration of one minute or longer.

CUSTOMER INTERRUPTION

One interruption of one customer. NOTE: Interruption to customers at their request (e.g., customer maintenance) is not considered.

APPENDIX B
RELIABILITY INDICES

Reliability indices used in this report conform to standards proposed by both the Edison Electric Institute (EEI) and the Institute of Electrical and Electronics Engineers (IEEE) unless otherwise indicated in the above definitions. Three reliability indices that convey a meaningful representation of the level of reliability were selected and are presented in this report. These reliability indices are as follows:

AVERAGE SERVICE AVAILABILITY INDEX (ASA)

Total customer hours actually served as a percentage of total customer hours possible during the year. This indicates the extent to which electrical service was available to all customers. This index has been commonly referred to as the "Index of Reliability." A customer-hour is calculated by multiplying the number of customers who are affected by the length of time they are affected.

SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX (SAIF)

The number of customer interruptions per customer served during the year. This index indicates the average number of interruptions experienced by all customers serviced on the system.

CUSTOMER AVERAGE INTERRUPTION DURATION INDEX (CAID)

The interruption duration per customer interrupted during the year. This index indicates the average duration of an interruption for those customers affected by a sustained interruption.

These three reliability indices give a good indication of how reliable the electrical service is to the customer:

1. Is electrical service available most of the time (ASA).
2. How often an outage occurs (SAIF).
3. How long the outage might last (CAID).

The average number of customers on the system for the year is used for the value of number of customers served during the year and only sustained interruptions are considered.

APPENDIX C
ALL CAUSES
2003-2008 Annual Service Reliability Indices

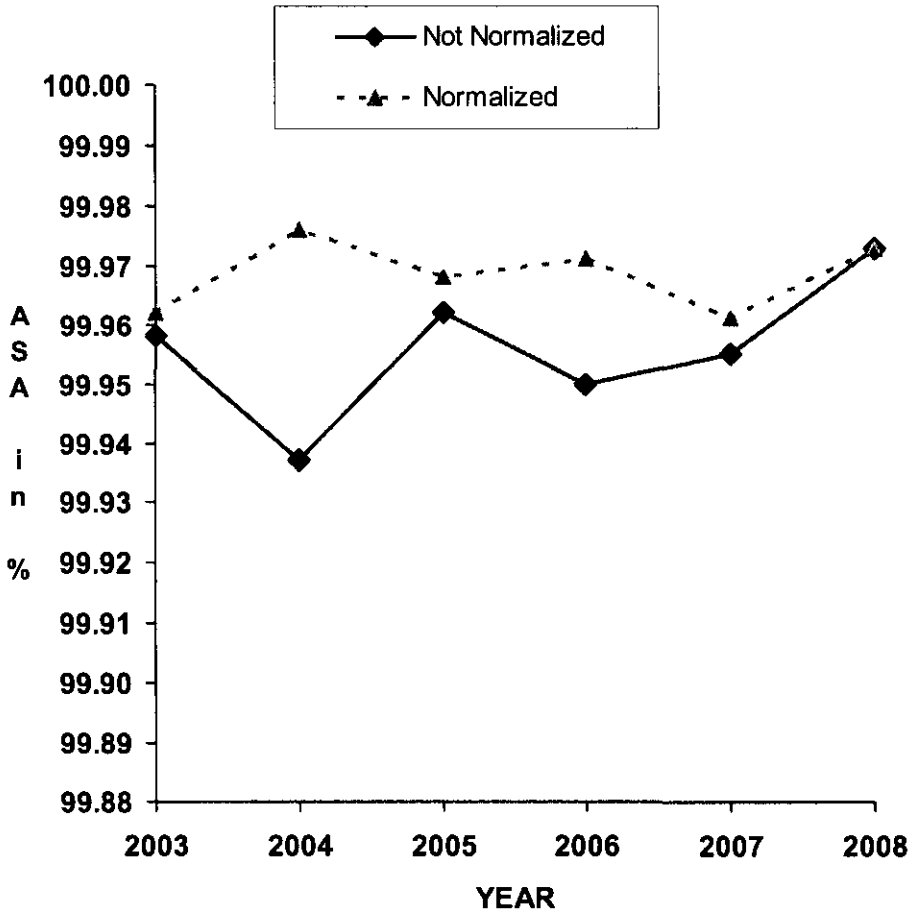
Normalized

Year	ASA	Number of Customers	Customer Interruptions	CID	SAIF	CAID
2003	99.962	67,879	213,873	225,439	3.151	63.24
2004	99.976	70,124	163,745	150,905	2.335	55.30
2005	99.968	72,513	153,982	200,374	2.124	78.08
2006	99.971	75,353	188,602	190,061	2.503	60.46
2007	99.961	77,933	208,000	269,475	2.669	77.73
2008	99.973	79,386	179,862	189,156	2.266	63.10

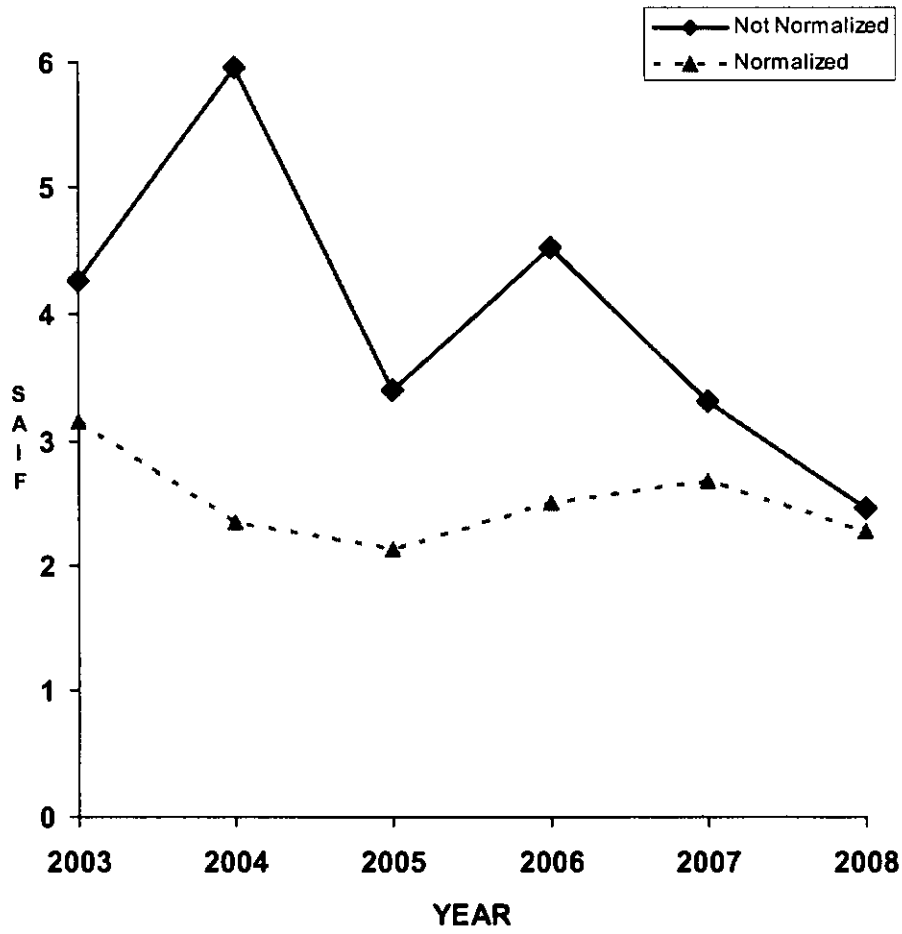
Not-Normalized

Year	ASA	Number of Customers	Customer Interruptions	CID	SAIF	CAID
2003	99.958	67,879	289,027	251,280	4.258	52.16
2004	99.937	70,124	417,462	388,891	5.953	55.89
2005	99.962	72,513	246,557	239,935	3.400	58.39
2006	99.95	75,353	341,289	328,758	4.529	57.80
2007	99.955	77,933	257,924	305,681	3.310	71.11
2008	99.973	79,386	194,807	190,314	2.454	58.62

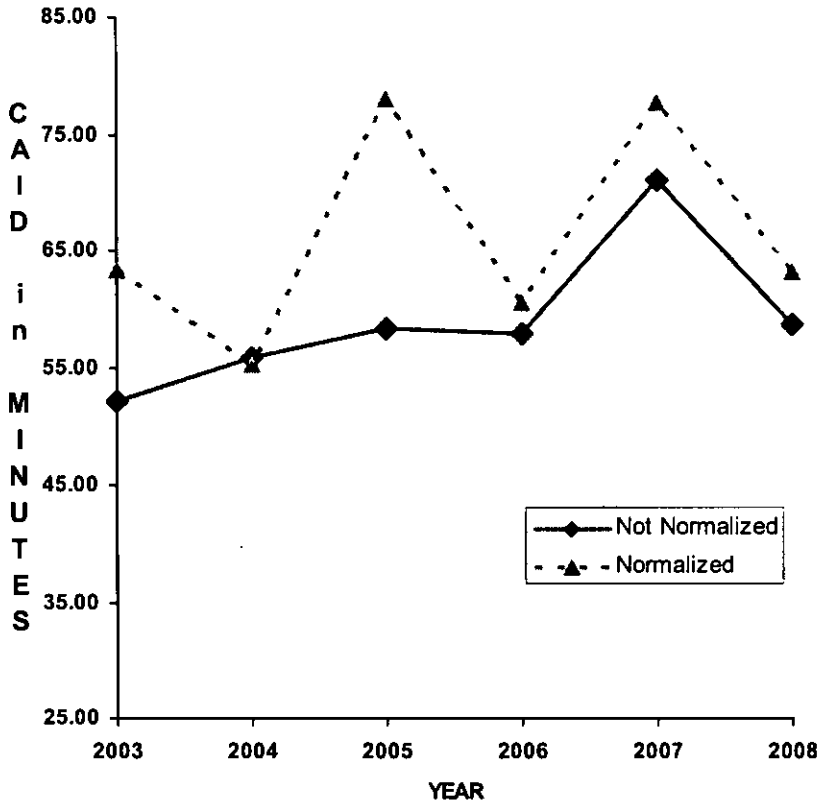
AVERAGE SERVICE AVAILABILITY INDEX
(ASA IN %)



SYSTEM AVERAGE INTERRUPTION FREQUENCY
(SAIF)



CUSTOMER AVERAGE INTERRUPTION DURATION
(CAID)



2008
SERVICE RELIABILITY SUMMARY
Normalized

Cause of Outage	CUST-HR	CUST-INT	SAIF	SAID	CAID	SAID RANK
Faulty Equip Opn	3810.7	68574	0.864	2.88	3.33	8
Tree or Branches	55770.4	38497	0.485	42.15	86.92	1
Auto Accident	28903.5	18475	0.233	21.85	93.87	3
Deterioration	23625.0	18045	0.227	17.86	78.55	4
Tsf Failure	4639.0	10172	0.128	3.51	27.36	6
Cable Fault	13827.4	6931	0.087	10.45	119.70	5
Forced Maint	44115.2	5708	0.072	33.34	463.72	2
Customer Equip	442.1	4817	0.061	0.33	5.51	14
Scheduled Maint	4045.7	1690	0.021	3.06	143.63	7
Equip Failure	3183.4	1625	0.020	2.41	117.54	9
Unknown	1779.7	1526	0.019	1.35	69.97	11
Foreign Objects	935.0	1008	0.013	0.71	55.65	12
Excavate Constr	619.6	936	0.012	0.47	39.72	13
Lightning	2554.6	834	0.011	1.93	183.79	10
Other Persnl Err	272.0	542	0.007	0.21	30.11	15
Man or Animal	266.3	214	0.003	0.20	74.67	16
Balance Load	42.6	146	0.002	0.03	17.52	19
Loose Connection	104.3	31	0.000	0.08	201.94	17
Sys Add/Removal	18.9	30	0.000	0.01	37.83	22
Fire	32.8	17	0.000	0.02	115.76	20
Balloon/Kite	10.2	14	0.000	0.01	43.57	26
High Wind	14.9	8	0.000	0.01	112.00	24
Equip Overload	17.8	7	0.000	0.01	152.71	23
Equip Contact	28.5	5	0.000	0.02	341.40	21
Flood / Tsunami	71.7	4	0.000	0.05	1075.50	18
Vandalism	4.3	2	0.000	0.00	128.00	28
Flashover	11.2	2	0.000	0.01	336.00	25
Tsf Overload	6.5	1	0.000	0.00	390.00	27
Transfer Load	2.3	1	0.000	0.00	137.00	29
Customer Maint	0.0	0	0.000	0.00	0.00	31
Opn or Sw Error	0.0	0	0.000	0.00	0.00	30
TOTALS:	189155.5	179862	2.266	142.96	63.10	

NUMBER OF CUSTOMERS FOR THE PERIOD = 79386 ASA = 99.973%

SAIF = SYSTEM AVERAGE INTERRUPTION FREQUENCY

SAID = SYSTEM AVERAGE INTERRUPTION DURATION (MINUTES)

CAID = CUSTOMER AVERAGE INTERRUPTION DURATION

THE OUTAGE CAUSES ARE LISTED IN ORDER OF ITS SAIF

2008
SERVICE RELIABILITY SUMMARY
Not-Normalized

Cause of Outage	CUST-HR	CUST-INT	SAIF	SAID	CAID	SAID RANK
Faulty Equip Opn	3810.7	68574	0.864	2.88	3.33	8
Tree or Branches	55770.4	38497	0.485	42.15	86.92	1
Customer Equip	1600.3	19762	0.249	1.21	4.86	12
Auto Accident	28903.5	18475	0.233	21.85	93.87	3
Deterioration	23625.0	18045	0.227	17.86	78.55	4
Tsf Failure	4639.0	10172	0.128	3.51	27.36	6
Cable Fault	13827.4	6931	0.087	10.45	119.70	5
Forced Maint	44115.2	5708	0.072	33.34	463.72	2
Scheduled Maint	4045.7	1690	0.021	3.06	143.63	7
Equip Failure	3183.4	1625	0.020	2.41	117.54	9
Unknown	1779.7	1526	0.019	1.35	69.97	11
Foreign Objects	935.0	1008	0.013	0.71	55.65	13
Excavate Constr	619.6	936	0.012	0.47	39.72	14
Lightning	2554.6	834	0.011	1.93	183.79	10
Other Persnl Err	272.0	542	0.007	0.21	30.11	15
Man or Animal	266.3	214	0.003	0.20	74.67	16
Balance Load	42.6	146	0.002	0.03	17.52	19
Loose Connection	104.3	31	0.000	0.08	201.94	17
Sys Add/Removal	18.9	30	0.000	0.01	37.83	22
Fire	32.8	17	0.000	0.02	115.76	20
Balloon/Kite	10.2	14	0.000	0.01	43.57	26
High Wind	14.9	8	0.000	0.01	112.00	24
Equip Overload	17.8	7	0.000	0.01	152.71	23
Equip Contact	28.5	5	0.000	0.02	341.40	21
Flood / Tsunami	71.7	4	0.000	0.05	1075.50	18
Vandalism	4.3	2	0.000	0.00	128.00	28
Flashover	11.2	2	0.000	0.01	336.00	25
Tsf Overload	6.5	1	0.000	0.00	390.00	27
Transfer Load	2.3	1	0.000	0.00	137.00	29
Customer Maint	0.0	0	0.000	0.00	0.00	31
Opn or Sw Error	0.0	0	0.000	0.00	0.00	30
TOTALS:	190313.7	194807	2.454	143.84	58.62	

NUMBER OF CUSTOMERS FOR THE PERIOD = 79386 ASA = 99.973%

SAIF = SYSTEM AVERAGE INTERRUPTION FREQUENCY

SAID = SYSTEM AVERAGE INTERRUPTION DURATION (MINUTES)

CAID = CUSTOMER AVERAGE INTERRUPTION DURATION

THE OUTAGE CAUSES ARE LISTED IN ORDER OF ITS SAIF

2008
SYSTEM INTERRUPTION CAUSE REPORT
Not-Normalized

CAUSE		# of Interruptions		Customer Hours	
NON-CONNECTED SYSTEM EMERGENCY	(Totals)	**345**	**31.14%**	**88287.5**	**46.39%**
Tree or Branches		241	21.75%	55770.4	29.30%
Auto Accident		45	4.06%	28903.5	15.19%
Man or Animal		18	1.62%	266.3	0.14%
Excavate Constr		12	1.08%	619.6	0.33%
Customer Equip		6	0.54%	1600.3	0.84%
Foreign Objects		6	0.54%	935.0	0.49%
Balance Load		5	0.45%	42.6	0.02%
Fire		3	0.27%	32.8	0.02%
Equip Contact		2	0.18%	28.5	0.01%
Balloon/Kite		2	0.18%	10.2	0.01%
Vandalism		2	0.18%	4.3	0.00%
Flood/Tsunami		2	0.18%	71.7	0.04%
Transfer Load		1	0.09%	2.3	0.00%
ERROR	(Totals)	**17**	**1.53%**	**272.0**	**0.14%**
Other Personl Err		17	1.53%	272.0	0.14%
Opn or Sw Error		0	0.00%	0.0	0.00%
WEATHER	(Totals)	**75**	**6.77%**	**2569.5**	**1.35%**
Lightning		74	6.68%	2554.6	1.34%
High Wind		1	0.09%	14.9	0.01%
EQUIPMENT FAILURE	(Totals)	**167**	**15.07%**	**44579.8**	**23.42%**
Deterioration		98	8.84%	23625.0	12.41%
Cable Fault		49	4.42%	13827.4	7.27%
Faulty Equip Opn		10	0.90%	3810.7	2.00%
Equip Failure		4	0.36%	3183.4	1.67%
Flashover		2	0.18%	11.2	0.01%
Equip Overload		2	0.18%	17.8	0.01%
Loose Connection		2	0.18%	104.3	0.05%
TRANSFORMER FAILURE	(Totals)	**60**	**5.42%**	**4645.5**	**2.44%**
Tsf Failure		59	5.32%	4639.0	2.44%
Tsf Overload		1	0.09%	6.5	0.00%
UNKNOWN AFTER TESTS AND INSPECTIONS	(Totals)	**73**	**6.59%**	**1779.7**	**0.94%**
Unknown		73	6.59%	1779.7	0.94%
MAINTENANCE	(Totals)	**363**	**32.76%**	**48160.9**	**25.31%**
Scheduled Maint		185	16.70%	4045.7	2.13%
Forced Maint		178	16.06%	44115.2	23.18%
SYSTEM ADDITIONS OR REMOVALS	(Totals)	**8**	**0.72%**	**18.9**	**0.01%**
Sys Add/Removal		8	0.72%	18.9	0.01%
	Totals	**1108**		**190313.8**	

APPENDIX D
T&D vs GENERATION
2003-2008 Service Reliability Indices
Not-Normalized

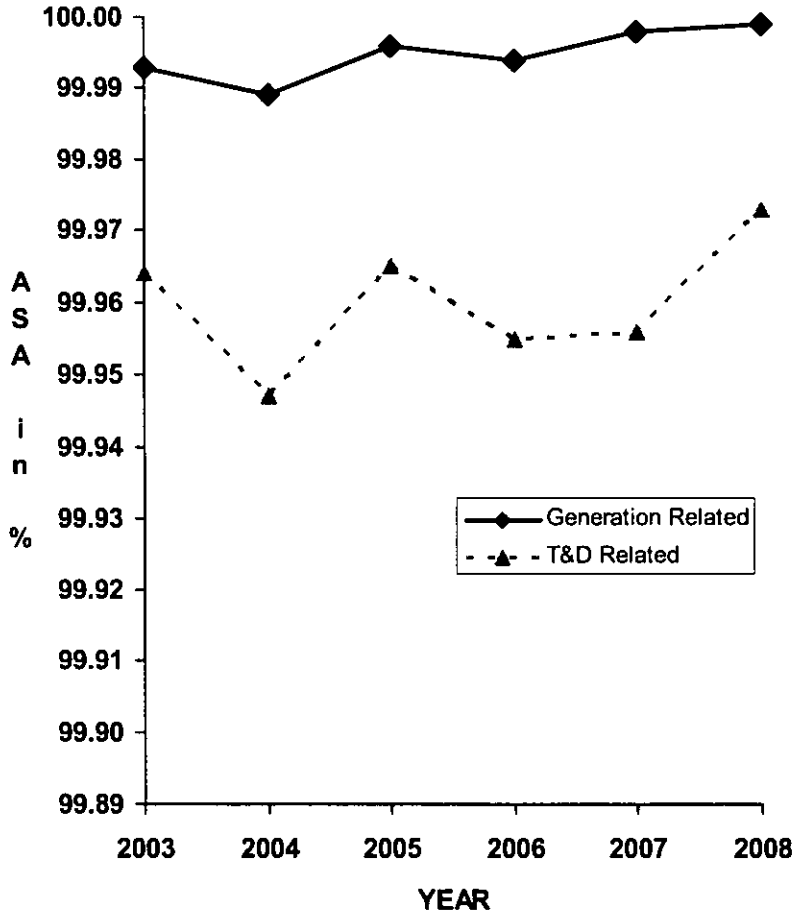
T&D Related Outages Only

Year	ASA	Number of Customers	Customer Interruptions	CID	SAIF	CAID
2003	99.964	67,879	178,347	213,252	2.627	71.74
2004	99.947	70,124	186,792	322,510	2.664	103.59
2005	99.965	72,513	140,092	219,045	1.932	93.81
2006	99.955	75,353	175,438	292,048	2.328	99.88
2007	99.956	77,933	165,461	294,463	2.123	106.78
2008	99.973	79,386	108,517	185,015	1.367	102.30

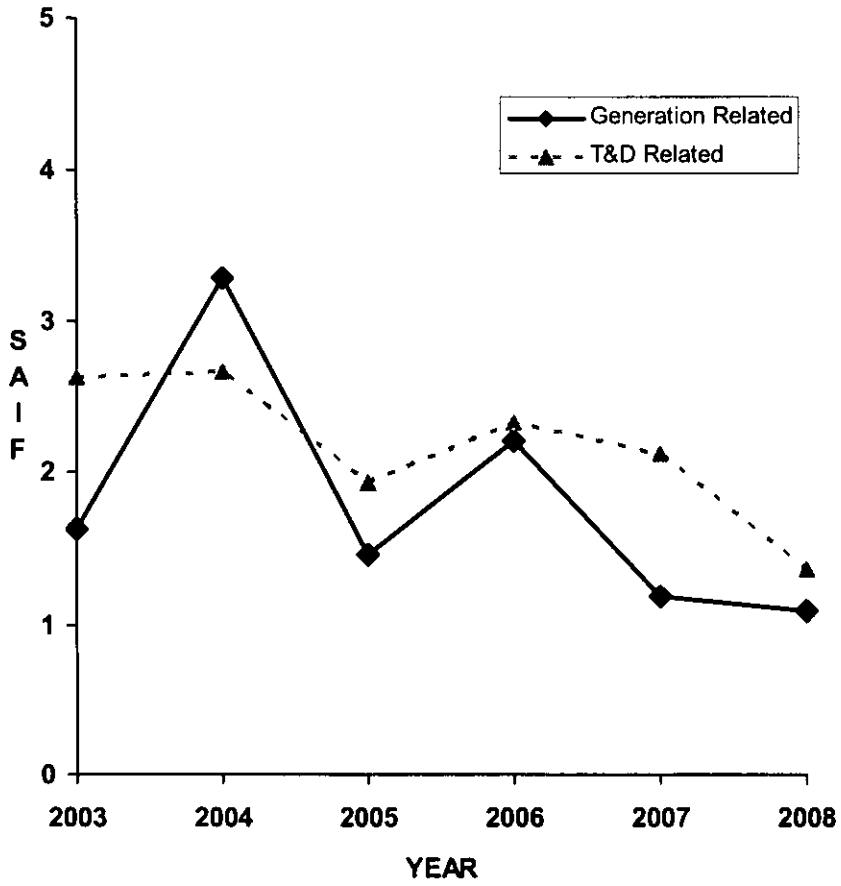
Generation Related Outages Only

Year	ASA	Number of Customers	Customer Interruptions	CID	SAIF	CAID
2003	99.993	67,879	110,669	37,751	1.63	33.37
2004	99.989	70,124	230,670	66,381	3.289	17.27
2005	99.996	72,513	106,465	20,890	1.468	11.77
2006	99.994	75,353	165,851	36,710	2.201	13.28
2007	99.998	77,933	92,463	11,218	1.186	7.28
2008	99.999	79,386	86,290	5,299	1.087	3.68

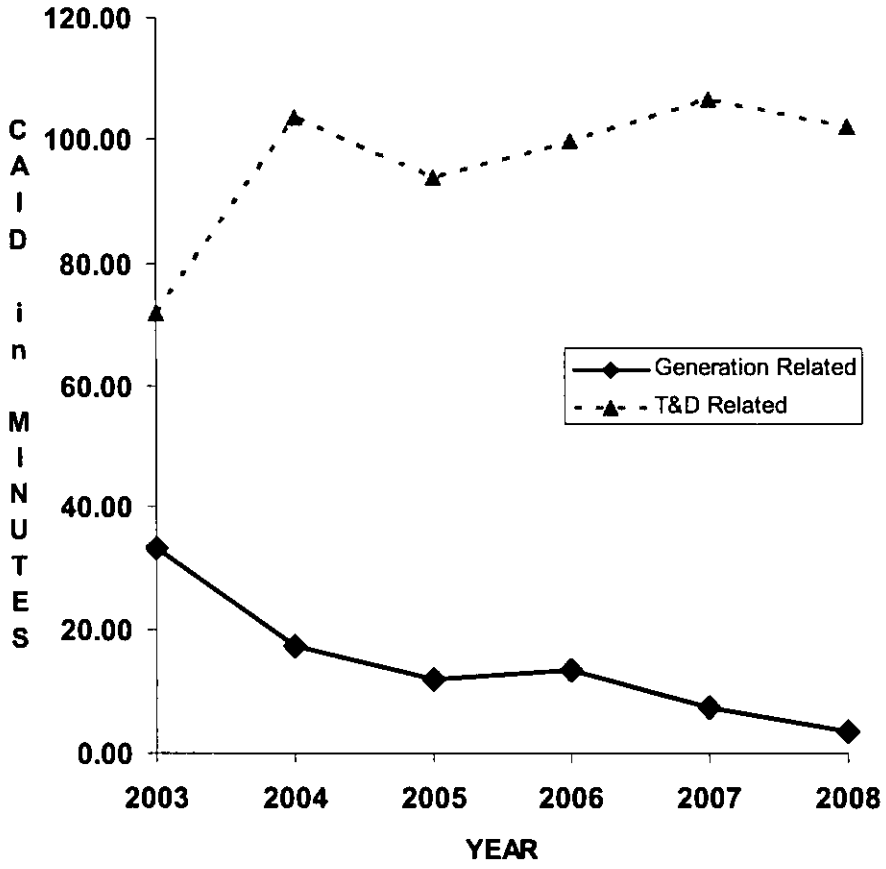
T&D vs. GENERATION
AVERAGE SERVICE AVAILABILITY INDEX
(ASA IN %)
Not-Normalized



SYSTEM AVERAGE INTERRUPTION FREQUENCY (SAIF)
Not-Normalized



CUSTOMER AVERAGE INTERRUPTION DURATION (CAID)
Not-Normalized



2008
T&D SERVICE RELIABILITY SUMMARY
Not-Normalized

Cause of Outage	CUST-HR	CUST-INT	SAIF	SAID	CAID	SAID RANK
Tree or Branches	55770.4	38497	0.485	42.15	86.92	1
Auto Accident	28903.5	18475	0.233	21.85	93.87	3
Deterioration	23625.0	18045	0.227	17.86	78.55	4
Tsf Failure	4639.0	10172	0.128	3.51	27.36	6
Cable Fault	13827.4	6931	0.087	10.45	119.70	5
Forced Maint	44115.2	5708	0.072	33.34	463.72	2
Faulty Equip Opn	102.1	2036	0.026	0.08	3.01	16
Scheduled Maint	4045.7	1690	0.021	3.06	143.63	7
Equip Failure	3183.4	1625	0.020	2.41	117.54	8
Unknown	1779.7	1526	0.019	1.35	69.97	10
Foreign Objects	935.0	1008	0.013	0.71	55.65	11
Excavate Constr	619.6	936	0.012	0.47	39.72	12
Lightning	2554.6	834	0.011	1.93	183.79	9
Other Persnl Err	272.0	542	0.007	0.21	30.11	13
Man or Animal	266.3	214	0.003	0.20	74.67	14
Balance Load	42.6	146	0.002	0.03	17.52	18
Loose Connection	104.3	31	0.000	0.08	201.94	15
Sys Add/Removal	18.9	30	0.000	0.01	37.83	21
Fire	32.8	17	0.000	0.02	115.76	19
Balloon/Kite	10.2	14	0.000	0.01	43.57	25
Customer Equip	9.9	10	0.000	0.01	59.50	26
High Wind	14.9	8	0.000	0.01	112.00	23
Equip Overload	17.8	7	0.000	0.01	152.71	22
Equip Contact	28.5	5	0.000	0.02	341.40	20
Flood / Tsunami	71.7	4	0.000	0.05	1075.50	17
Flashover	11.2	2	0.000	0.01	336.00	24
Vandalism	4.3	2	0.000	0.00	128.00	28
Tsf Overload	6.5	1	0.000	0.00	390.00	27
Transfer Load	2.3	1	0.000	0.00	137.00	29
Customer Maint	0.0	0	0.000	0.00	0.00	31
Opn or Sw Error	0.0	0	0.000	0.00	0.00	30
TOTALS:	185014.7	108517	1.367	139.83	102.30	

NUMBER OF CUSTOMERS FOR THE PERIOD = 79386 % ASA = 99.973

SAIF = SYSTEM AVERAGE INTERRUPTION FREQUENCY

SAID = SYSTEM AVERAGE INTERRUPTION DURATION (MINUTES)

CAID = CUSTOMER AVERAGE INTERRUPTION DURATION

THE OUTAGE CAUSES ARE LISTED IN ORDER OF ITS SAIF

2008
GENERATION SERVICE RELIABILITY SUMMARY
Not-Normalized

Cause of Outage	CUST-HR	CUST-INT	SAIF	SAID	CAID	SAID RANK
Faulty Equip Opn	3708.6	66538	0.838	2.80	3.34	1
Customer Equip	1590.4	19752	0.249	1.20	4.83	2
Man or Animal	0.0	0	0.000	0.00	0.00	17
Tsf Overload	0.0	0	0.000	0.00	0.00	3
Equip Failure	0.0	0	0.000	0.00	0.00	4
Balloon/Kite	0.0	0	0.000	0.00	0.00	5
Other Persnl Err	0.0	0	0.000	0.00	0.00	6
Unknown	0.0	0	0.000	0.00	0.00	7
Customer Maint	0.0	0	0.000	0.00	0.00	8
Sys Add/Removal	0.0	0	0.000	0.00	0.00	9
Forced Maint	0.0	0	0.000	0.00	0.00	10
Scheduled Maint	0.0	0	0.000	0.00	0.00	11
Balance Load	0.0	0	0.000	0.00	0.00	12
Transfer Load	0.0	0	0.000	0.00	0.00	13
Flood / Tsunami	0.0	0	0.000	0.00	0.00	14
Deterioration	0.0	0	0.000	0.00	0.00	23
Auto Accident	0.0	0	0.000	0.00	0.00	30
Tsf Failure	0.0	0	0.000	0.00	0.00	29
Cable Fault	0.0	0	0.000	0.00	0.00	28
Flashover	0.0	0	0.000	0.00	0.00	27
Loose Connection	0.0	0	0.000	0.00	0.00	26
Opn or Sw Error	0.0	0	0.000	0.00	0.00	15
Equip Overload	0.0	0	0.000	0.00	0.00	24
Lightning	0.0	0	0.000	0.00	0.00	16
Vandalism	0.0	0	0.000	0.00	0.00	22
Excavate Constr	0.0	0	0.000	0.00	0.00	21
Equip Contact	0.0	0	0.000	0.00	0.00	20
Fire	0.0	0	0.000	0.00	0.00	19
Foreign Objects	0.0	0	0.000	0.00	0.00	18
Tree or Branches	0.0	0	0.000	0.00	0.00	31
High Wind	0.0	0	0.000	0.00	0.00	25
TOTALS:	5299.0	86290	1.087	4.00	3.68	

NUMBER OF CUSTOMERS FOR THE PERIOD = 79386 % ASA = 99.999

SAIF = SYSTEM AVERAGE INTERRUPTION FREQUENCY

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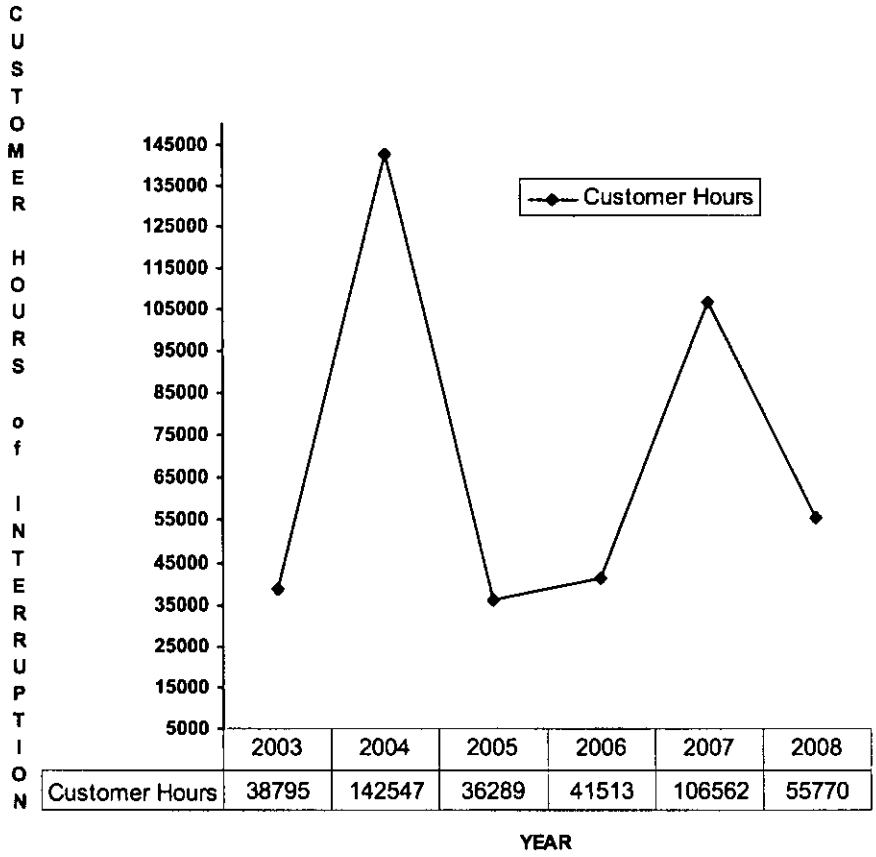
CAID = CUSTOMER AVERAGE INTERRUPTION DURATION

THE OUTAGE CAUSES ARE LISTED IN ORDER OF ITS SAIF

2003-2008
INTERRUPTIONS CAUSED BY TREES & BRANCHES
Not-Normalized



	2003	2004	2005	2006	2007	2008
Customer Hours	38795	142547	36289	41513	106562	55770

APPENDIX E
HELCO vs NON-HELCO GENERATION
2003-2008 Service Reliability Indices
Not-Normalized

HELCO Generation

Year	ASA	Number of Customers	Customer Interruptions	CID	SAIF	CAID
2003	99.997	67,879	37,662	15,637	0.555	13.82
2004	99.996	70,124	89,233	20,662	1.273	13.89
2005	99.997	72,513	69,509	14,314	0.959	12.36
2006	99.995	75,353	105,589	26,467	1.401	15.04
2007	99.999	77,933	28,246	3,349	0.362	7.11
2008	99.999	79,386	66,538	3,709	0.838	3.34

Non-HELCO Generation

Year	ASA	Number of Customers	Customer Interruptions	CID	SAIF	CAID
2003	99.996	67,879	73,007	22,115	1.076	18.17
2004	99.992	70,124	141,437	45,719	2.017	19.39
2005	99.998	72,513	36,956	6,577	0.51	10.68
2006	99.998	75,353	60,262	10,243	0.8	10.20
2007	99.998	77,933	64,217	7,869	0.824	7.35
2008	99.999	79,386	19,752	1,590	0.249	4.83

2008
HELCO GENERATION SERVICE RELIABILITY SUMMARY
Not-Normalized

Cause of Outage	CUST-HR	CUST-INT	SAIF	SAID	CAID	SAID RANK
Faulty Equip Opn	3708.6	66538	0.838	2.80	3.34	1
Man or Animal	0.0	0	0.000	0.00	0.00	17
Tsf Overload	0.0	0	0.000	0.00	0.00	2
Equip Failure	0.0	0	0.000	0.00	0.00	3
Balloon/Kite	0.0	0	0.000	0.00	0.00	4
Other Persnl Err	0.0	0	0.000	0.00	0.00	5
Unknown	0.0	0	0.000	0.00	0.00	6
Customer Maint	0.0	0	0.000	0.00	0.00	7
Sys Add/Removal	0.0	0	0.000	0.00	0.00	8
Forced Maint	0.0	0	0.000	0.00	0.00	9
Scheduled Maint	0.0	0	0.000	0.00	0.00	10
Balance Load	0.0	0	0.000	0.00	0.00	11
Transfer Load	0.0	0	0.000	0.00	0.00	12
Flood / Tsunami	0.0	0	0.000	0.00	0.00	13
Customer Equip	0.0	0	0.000	0.00	0.00	14
Deterioration	0.0	0	0.000	0.00	0.00	23
Auto Accident	0.0	0	0.000	0.00	0.00	30
Tsf Failure	0.0	0	0.000	0.00	0.00	29
Cable Fault	0.0	0	0.000	0.00	0.00	28
Flashover	0.0	0	0.000	0.00	0.00	27
Loose Connection	0.0	0	0.000	0.00	0.00	26
Opn or Sw Error	0.0	0	0.000	0.00	0.00	15
Equip Overload	0.0	0	0.000	0.00	0.00	24
Lightning	0.0	0	0.000	0.00	0.00	16
Vandalism	0.0	0	0.000	0.00	0.00	22
Excavate Constr	0.0	0	0.000	0.00	0.00	21
Equip Contact	0.0	0	0.000	0.00	0.00	20
Fire	0.0	0	0.000	0.00	0.00	19
Foreign Objects	0.0	0	0.000	0.00	0.00	18
Tree or Branches	0.0	0	0.000	0.00	0.00	31
High Wind	0.0	0	0.000	0.00	0.00	25
TOTALS:	3708.6	66538	0.838	2.80	3.34	

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2008
Non-HELCO GENERATION SERVICE RELIABILITY SUMMARY
Not-Normalized

Cause of Outage	CUST-HR	CUST-INT	SAIF	SAID	CAID	SAID RANK
Customer Equip	1590.4	19752	0.249	1.20	4.83	1
Man or Animal	0.0	0	0.000	0.00	0.00	17
Tsf Overload	0.0	0	0.000	0.00	0.00	2
Balloon/Kite	0.0	0	0.000	0.00	0.00	3
Other Persnl Err	0.0	0	0.000	0.00	0.00	4
Unknown	0.0	0	0.000	0.00	0.00	5
Customer Maint	0.0	0	0.000	0.00	0.00	6
Sys Add/Removal	0.0	0	0.000	0.00	0.00	7
Forced Maint	0.0	0	0.000	0.00	0.00	8
Scheduled Maint	0.0	0	0.000	0.00	0.00	9
Balance Load	0.0	0	0.000	0.00	0.00	10
Transfer Load	0.0	0	0.000	0.00	0.00	11
Flood / Tsunami	0.0	0	0.000	0.00	0.00	12
Opn or Sw Error	0.0	0	0.000	0.00	0.00	13
Faulty Equip Opn	0.0	0	0.000	0.00	0.00	14
Deterioration	0.0	0	0.000	0.00	0.00	23
Auto Accident	0.0	0	0.000	0.00	0.00	30
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Vandalism	0.0	0	0.000	0.00	0.00	15
Equip Overload	0.0	0	0.000	0.00	0.00	24
Lightning	0.0	0	0.000	0.00	0.00	16
Equip Failure	0.0	0	0.000	0.00	0.00	22
Excavate Constr	0.0	0	0.000	0.00	0.00	21
Equip Contact	0.0	0	0.000	0.00	0.00	20
Fire	0.0	0	0.000	0.00	0.00	19
Foreign Objects	0.0	0	0.000	0.00	0.00	18
Tree or Branches	0.0	0	0.000	0.00	0.00	31
High Wind	0.0	0	0.000	0.00	0.00	25
TOTALS:	1590.4	19752	0.249	1.20	4.83	

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