



# 2009 Qualifying Storm Events

January 4, 2009

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## Event Description

### Date of event

January 4, 2009

### Event Type

Wind and snow storm.

### Service Areas Affected

This weather event affected primarily Kitsap and Jefferson Counties.

### Number of Customers Affected

Approximately 33,115 customers were without power over the course of this outage event.

### Summary of System Impacts

<b>Total Number of Outages</b>	<b>267</b>
Distribution Circuits Totally Out	10
Distribution Circuits Partially Out	257

Transmission Circuits Affected	13
Substations Totally Off-line	2

### Mobilization Summary

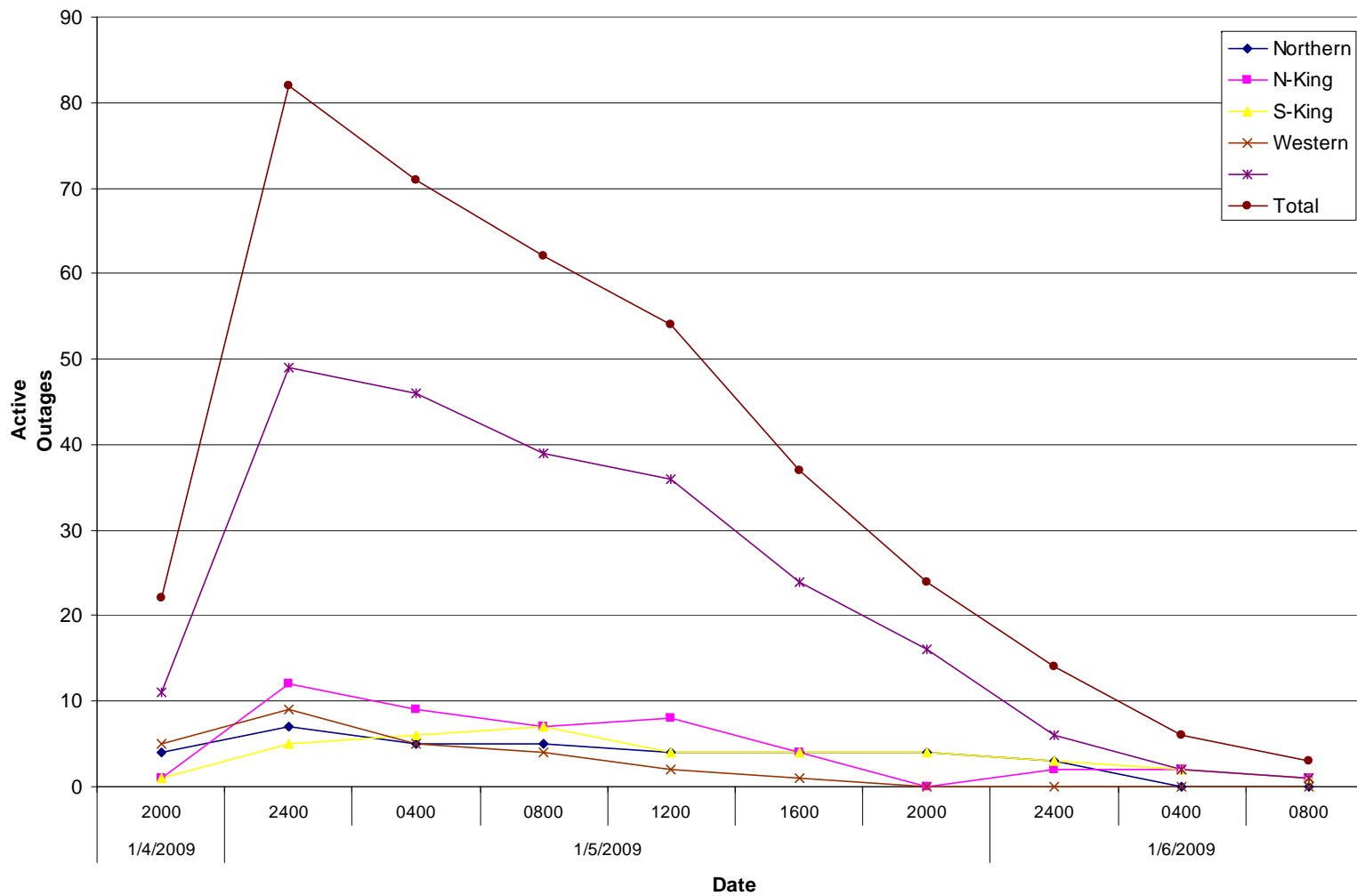
#### Operating bases

Base	Date Opened	Time Opened	Date Closed	Time Closed
Kitsap	01/04/2009	20:15	01/05/09	22:45

#### Emergency Operations Center

EOC	Date Opened	Time Opened	Date Closed	Time Closed
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### Outage Events - Jan. 4, 2009 to Jan. 6, 2009



## Major Event Day – Qualification

### IEEE 1366 Method

IEEE 1366 was established to present a set of terms and definitions which can be used to foster uniformity in the development of distribution service reliability indices, to identify factors which affect the indices, and to aid in consistent reporting practices among utilities. Also, it provides guidance for new personnel in the reliability area, and tools for internal as well as external comparisons. The Major Event Day definition was created as part of IEEE 1366 to allow for consistent calculation of reliability metrics between utilities, and enable more valid comparisons with other utility reliability metrics.

#### IEEE Major Event Day Calculation (2.5 BETA METHOD)

1. A threshold on daily SAIDI is computed once a year, following year end.
2. Assemble the 5 most recent years of historical values of SAIDI/day.
3. Discard any days in the data set that has a SAIDI/day of zero.
4. Find the natural logarithm of each value in the data set.
5. Compute the average Alpha and the standard deviation (Beta) of the natural logarithms computed in step 3.
6. Compute the threshold Tmed where  $Tmed = \exp(\text{Alpha} + 2.5 * \text{Beta})$
7. Any day in the next year with SAIDI > Tmed is a major event day.

**Puget Sound Energy's Major Event Threshold for 2009: 6.95 Minutes**

## Qualified Events - 2009

### Current Event – Calculation Detail

Event Date	Total Customer Minutes	Average Customer Count	Daily SAIDI – Customer Minutes /Customer Count
01/04/2009	11,077,174	1,075,377	10.30

### Cumulative list of events that have qualified

Date(s)	T-med Score	O&M – Deferrable Accumulation
01/04/2009	10.30	\$588,391

### Event Restoration – Cost Summary

#### Restoration Cost Detail by Qualifying Event

Date	Qualified Events Deferred Account	Capital	C&D Costs Recoverable from Direct Billings (Costs Not Yet Billed)	O&M – Not Deferrable	O&M – Deferrable Accumulation	Total O&M	Total
01/04/2009	\$588,391	\$27,264	\$0	\$36,325	\$588,391	\$624,716	\$651,981

#### YTD Storm Restoration Cost Detail – Through Jan 4, 2009

Qualified Events Deferred Account	Capital	C&D Costs Recoverable from Direct Billings (Costs Not Yet Billed)	O&M – Not Deferrable	O&M Deferrable Accumulation	Total O&M	Total
\$588,391	\$27,264	\$0	\$36,325	\$588,391	\$624,716	\$651,981

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## Detail Documents

**Restoration Cost Detail – Current Event**

**Detailed List of Distribution Circuits with Outages**

**Terms, Codes & Definitions Used on Detail Reports**

**Newsprint Media Coverage**

**Restoration Cost Detail – Current Event**

<b>Puget Sound Energy</b>							
<b>January 4, 2009 Storm Damage Repair Costs</b>							
	Qualifying Events Deferred Account	Capital	C&D Recoverable from Direct Billings (Costs Not Yet Billed)	O&M - Not Deferrable	O&M - Deferrable Accumulation	Total O&M	Total
Labor							
ST		\$ 102			\$ 3,321	\$3,321	\$3,423
OT					\$ 58,421	\$58,421	\$58,421
Total Labor	\$0	\$ 102	\$0	\$0	\$ 61,742	\$61,742	\$61,844
		\$					
Labor OH		61			\$ 25,211	\$25,211	\$25,273
Materials		\$ 3,124			\$ 17,257	\$17,257	\$20,381
		\$					
Contractors		20,722			\$ 464,536	\$464,536	\$485,258
Other Direct							
Charges					\$ 2,457	\$2,457	\$2,457
		\$					
Fleet		11			\$ 17,188.25	\$17,188	\$17,199
Other Assessments		\$ 3,244		\$ 36,325	\$ 0	\$ 36,325	\$ 39,569.56
Deferred Expenses					\$0	\$0	\$ -
	\$0	\$27,264	\$0	\$36,325	\$ 588,391	\$624,716	\$651,981



### IEEE-1366 - Detailed List of Distribution Circuits with Outages

Notification	Date	Time	Circuit	Area	Cause	Equipment	Cust Outs	Cust Mins
E993715582	1/4/2009	1:38:00	VIS-26	EAA	CP	GAR	250	238
E378298161	1/4/2009	4:49:00	ETN-13	EBH	TF	OCO	20	30,220
10865047	1/4/2009	4:49:00	ETN-13	EBH	TF	OCO	15	56,130
E159368668	1/4/2009	7:04:00	NBE-16	EBF	EF	OTF	1	122
E793086855	1/4/2009	9:26:00	ORT-23	ECA	TF	OCO	1	1,747
10865098	1/4/2009	13:18:06	CPV-15	EAD	EF	USV	1	417
E867432168	1/4/2009	14:30:00	KNO-13	ECA	EF	USV	1	215
E931307930	1/4/2009	14:43:00	HAP-16	EAA	TO	OCO	5	1,726
E566159494	1/4/2009	15:02:00	MAN-13	ECD	CP	OPO	135	44,150
E373701967	1/4/2009	15:25:00	ALG-12	EAC	TO	OCO	6	1,301
E640255685	1/4/2009	15:32:00	DIS-12	ECF	TO	OFU	33	2,108
10870462	1/4/2009	15:38:00	LOL-21	ECD	CP	OPO	116	4,292
E870005544	1/4/2009	15:59:00	SUM-21	EAC	TO	OFU	1	79
E646262789	1/4/2009	16:35:00	ANA-13	EAC	TO	CDH	11	3,267
E335636635	1/4/2009	16:49:00	QUI-25	ECF	TO	OCO	7	10,773
10864908	1/4/2009	17:01:00	ENU-17	EBI	TO	OFU	1	46
E833416082	1/4/2009	17:04:00	SLA-16	EAA	TO	OCO	10	1,650
E748162411	1/4/2009	17:05:00	CPV-13	EAD	TF	OCO	1,000	52,133
E317567401	1/4/2009	17:06:00	SWA-12	EAD	EF	OCO	19	1,482
E568911148	1/4/2009	17:13:00	CHM-15	ECF	TO	OCO	12	13,752
E541137472	1/4/2009	17:20:00	SWA-15	EAD	TO	OFU	25	2,676
E283952877	1/4/2009	17:27:00	IRO-17	ECF	TO	OCO	313	104,229
E359026720	1/4/2009	17:42:00	FAB-15	EAD	EF	OCN	5	480
E488366237	1/4/2009	17:44:00	ING-15	EBD	EF	UOT	3	438
E718838910	1/4/2009	18:04:00	CPV-13	EAD	TO	OCO	6	2,090
E394050360	1/4/2009	18:09:00	SKE-26	ECE	TO	OFU	8	777
E537879219	1/4/2009	18:14:00	SUM-21	EAC	TO	OFU	26	3,486
E463291518	1/4/2009	18:36:00	DIS-13	ECF	TO	OCO	116	25,404
E646765839	1/4/2009	18:38:00	PGA-13	ECE	TO	OCO	165	98,670
E754040454	1/4/2009	18:38:00	MIL-23	ECE	TO	OCO	38	46,778
E922224470	1/4/2009	18:42:00	NLM-16	EAC	TO	OCO	129	88,842
10870292	1/4/2009	18:46:00	QUI-26	ECF	TO	OCO	29	28,246
E306989580	1/4/2009	18:46:00	QUI-26	ECF	TO	OCO	5	4,870
E476214688	1/4/2009	18:47:00	WOL-23	ECC	EF	OCO	5	921
E468205804	1/4/2009	19:07:00	GRI-15	ECC	TO	OCO	18	6,858
E882501271	1/4/2009	19:08:00	CAP-13	ECC	CP	OCO	1,019	77,445
E332036630	1/4/2009	19:13:00	HOB-16	EBI	EO	OSV	1	218
E237088153	1/4/2009	19:17:00	POU-16	ECE	TF	OCO	104	69,992
E717217636	1/4/2009	19:18:00	KIN-24	ECE	TO	OCO	25	27,675
10870774	1/4/2009	19:18:00	KIN-24	ECE	TO	OCO	26	28,782
E998120440	1/4/2009	19:21:00	LAB-26	EAA	TO	OCO	30	4,870
E365041017	1/4/2009	19:26:00	AIR-23	ECC	TF	OFU	16	2,517
E219227394	1/4/2009	19:31:00	WIN-12	ECE	TF	OCO	1,167	415,452
E709418766	1/4/2009	19:33:00	ELD-23	ECC	TF	OCO	321	76,505

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Notification	Date	Time	Circuit	Area	Cause	Equipment	Cust Outs	Cust Mins
E213052858	1/4/2009	19:38:00	SIL-13	ECF	TO	OCO	426	229,188
E241189477	1/4/2009	19:44:00	FNW-16	ECD	TF	OCO	1,394	115,144
E329034985	1/4/2009	19:46:00	MCW-15	ECE	TO	OCO	173	100,513
E630443876	1/4/2009	19:52:00	PRE-14	EBE	TO	OHR	1,308	190,968
E600324083	1/4/2009	19:54:00	KIN-23	ECE	TO	OCO	164	111,520
E645571451	1/4/2009	20:06:00	MUR-16	ECE	TF	OCO	1,627	276,590
E360631721	1/4/2009	20:10:00	MOT-14	ECC	EF	OFU	10	3,049
E264562695	1/4/2009	20:12:00	PMA-12	ECE	TF	OCO	71	51,049
E161112234	1/4/2009	20:14:00	BLU-17	ECC	TF	OCO	15	15,195
E783432516	1/4/2009	20:17:00	WIN-13	ECE	TF	OCO	271	269,103
E568249317	1/4/2009	20:18:00	MUR-15	ECE	TO	OCO	1,590	348,210
E165962201	1/4/2009	20:19:00	GWR-13	EBI	TO	OCO	473	394,009
E506832874	1/4/2009	20:27:00	FRA-12	ECD	TF	OCO	34	35,462
E004555327	1/4/2009	20:28:00	MAN-15	ECD	TF	OCO	3	1,266
E668755254	1/4/2009	20:29:00	SHE-26	ECE	TO	OCO	594	271,458
E468169674	1/4/2009	20:29:00	LGY-12	EAD	TO	OCO	16	5,358
E459051300	1/4/2009	20:29:00	GBK-13	EAD	TO	OFU	5	546
E371240345	1/4/2009	20:31:00	TLN-0098	EBL	TO	OCO	6,512	3,826,396
E275303277	1/4/2009	20:31:00	FRA-16	ECD	TF	OJU	29	8,474
E940415212	1/4/2009	20:33:00	RIV-13	EAC	EF	OTR	3	842
E554930664	1/4/2009	20:34:00	WOB-23	EAA	TO	OCO	10	5,337
E120749973	1/4/2009	20:35:00	RAI-13	ECC	TO	OCO	1,827	461,876
E441626672	1/4/2009	20:35:00	SIL-13	ECE	TO	OCO	12	10,056
E577852830	1/4/2009	20:38:00	CHI-15	ECD	TF	OSV	3	1,698
E606181161	1/4/2009	20:43:00	BRS-24	EAC	TO	OCO	840	683,340
E817530182	1/4/2009	20:45:00	TRA-22	ECE	TF	OCO	9	7,695
E492014621	1/4/2009	20:48:00	WIN-15	ECE	TF	OCO	722	251,978
E728429853	1/4/2009	20:48:00	IRO-16	ECF	TF	OCO	3	870
E953767479	1/4/2009	20:53:00	ELD-27	ECC	EF	OCO	10	4,970
E097399065	1/4/2009	20:55:00	RPT-15	ECD	TF	OSV	5	2,420
E624584424	1/4/2009	20:57:00	CHR-22	ECE	TO	OCO	29	28,159
E349615712	1/4/2009	20:58:00	AIR-22	ECC	EF	OCO	578	303,498
E622378860	1/4/2009	21:00:00	WAY-15	EBD	TO	OCO	609	112,665
E319671879	1/4/2009	21:08:00	SHE-25	ECE	TF	OCO	1	627
E272549242	1/4/2009	21:11:00	LGY-13	EAD	TO	OCO	93	708
E880991116	1/4/2009	21:11:00	PGA-12	ECE	TF	OCO	1,328	557,760
E332546263	1/4/2009	21:17:00	HAZ-15	EBE	TF	OFU	6	3,015
E969354782	1/4/2009	21:20:00	PMA-16	ECE	TO	OCO	14	10,094
E160083756	1/4/2009	21:22:00	LON-22	ECC	TO	OCO	96	63,072
E701105147	1/4/2009	21:26:00	FNW-16	ECD	TF	OCO	10	4,230
E417025028	1/4/2009	21:29:00	FRA-15	ECD	TF	OCO	19	5,928
E336868039	1/4/2009	21:29:00	PIN-27	EBF	TO	OCO	32	10,816
E610779358	1/4/2009	21:31:00	PMA-15	ECE	TF	OCO	33	11,847
E682432871	1/4/2009	21:36:00	MIR-16	EBF	TO	OFU	6	1,602
E225798972	1/4/2009	21:41:00	FRA-13	ECD	TF	OCO	63	21,798
E405634348	1/4/2009	21:43:00	FNW-17	ECD	TF	OCO	1	416
E020423529	1/4/2009	21:43:00	LGY-16	EAD	TO	OFU	8	715
E775910400	1/4/2009	21:55:00	SHE-17	ECE	TF	OCO	60	36,420

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Notification	Date	Time	Circuit	Area	Cause	Equipment	Cust Outs	Cust Mins
E293398338	1/4/2009	21:55:00	RPT-26	ECD	TF	OCO	38	24,396
E582282295	1/4/2009	21:55:00	FWY-12	EBJ	TO	OCO	9	3,021
E773755181	1/4/2009	21:58:00	HKX-13	EAC	EF	OTF	1	92
E163263832	1/4/2009	21:59:00	PMA-13	ECE	TF	OCR	7	7,140
E496421968	1/4/2009	22:10:00	BRS-15	EAC	TO	OFU	2	1,358
E970620104	1/4/2009	22:11:00	BEL-26	EBK	EF	OCO	28	15,400
10870670	1/4/2009	22:12:00	MIL-17	ECE	TO	OCO	21	15,456
10870669	1/4/2009	22:12:00	MIL-17	ECE	TO	OCO	36	26,496
E191850395	1/4/2009	22:12:00	MIL-17	ECE	TO	OCO	4	2,944
10865312	1/4/2009	22:12:02	BRS-15	EAC	UN	OFU	3	2,031
E023747568	1/4/2009	22:13:00	SME-15	EBE	EF	OIN	211	103,390
E356092344	1/4/2009	22:17:00	AIR-23	ECC	TO	OCO	50	15,085
E084305943	1/4/2009	22:19:00	LOL-23	ECD	TO	OCO	110	124,630
E744421481	1/4/2009	22:28:00	CEK-14	ECE	TO	OCO	20	19,220
E971256226	1/4/2009	22:29:00	KIN-21	ECE	TF	OCO	129	90,687
E696898294	1/4/2009	22:36:00	MIL-17	ECF	TF	OCO	7	7,427
E289575557	1/4/2009	22:40:00	EPO-15	ECD	TF	OCO	95	37,050
E942338767	1/4/2009	22:49:00	SIN-22	ECD	TO	OFU	52	58,292
E536071141	1/4/2009	22:51:00	KNM-27	EBD	TO	OCO	1,163	209,340
E542527742	1/4/2009	23:02:00	SOM-17	EBE	EF	OCO	5	3,240
E869212388	1/4/2009	23:15:00	COL-26	EBE	EF	OFU	57	15,112
E092137202	1/4/2009	23:18:00	LHL-22	EBE	TF	OSV	1	313
E816002214	1/4/2009	23:22:00	SIN-25	ECD	TO	OCO	38	44,612
E856353021	1/4/2009	23:24:00	FNW-15	ECD	TF	OCO	23	8,211
E747203881	1/4/2009	23:26:00	CLY-25	EBE	TF	OSV	1	154
E095804832	1/4/2009	23:30:00	BHL-12	ECE	TF	OCO	75	35,625
E762913147	1/4/2009	23:30:00	MIR-17	EBF	TO	OTF	5	1,215
E449476743	1/4/2009	23:48:00	PAN-13	EBJ	TF	OCO	4	2,744
E713320350	1/4/2009	23:51:00	PAN-15	EBJ	TF	OSV	1	474

## Terms, Codes and Definitions Used on Detail Reports

<b>Notification</b>	<b>[Notification Number]</b> A number assigned by SAP, identifying the outage record
<b>Date</b>	The date of the outage
<b>Time</b>	The time of the outage
<b>Circuit</b>	<b>[Reference Circuit]</b> The circuit identifier for the affected circuit
<b>F/LOC</b>	<b>[Functional Location]</b> The grid number where the outage occurred. If the grid number is not available, the Reference Circuit identifier occupies this field
<b>EQT NBR</b>	<b>[Equipment Number]</b> A number used to tie the equipment involved in the outage to the related information in SAP. This number does not represent the physical number of the equipment

<b>Area</b>	<b>[Maintenance Planner Group]</b> A code representing the energy, region and service center	
	EAA – Bellingham	EBJ – South King
	EAB – Lynden	EBK – Southwest King
	EAC – Skagit	EBL – Vashon
	EAD – Whidbey	ECA – Puyallup
	EBD – Redmond	ECC – Olympia
	EBE – Factoria	ECD – Port Orchard
	EBF – Snoqualmie	ECE – Poulsbo
	EBI – Enumclaw	ECF – Port Townsend

<b>Cause</b>	Cause of Outage	
	AO – Accident Other	EF – Equipment Failure
	BA – Bird or Animal	EO – Electrical Overload
	CP – Car Pole	FI – Faulty Installation
	CR – Customer Request	TF – Tree Off Right-of-Way
	DU – Dig-up Underground	TO – Tree On Right-of-Way
	SO – Scheduled Outage	UN – Unknown

<b>Equipment</b>	Affected by, or involved in the outage	
	OCN – Connector	OSW – Overhead Switch
	OCO – Overhead Conductor	OTF – Overhead Transformer Fuse
	OCR – Crossarm	OTR – Overhead Transformer
	OFC – Overhead Cut-out	OUP – OH to UG Primary
	OFS – Overhead Fire Signal	OUS – OH to UG Secondary Service
	OFU – Fuse Link/OH Line Fuse	SBF – High-side Bank Fuse
	OGS – Span Guy	SCB – Power Circuit Breaker
	OHR – Overhead Recloser	UOT – Underground Outdoor Term
	OIN – Insulator	UPC – Underground Primary Cable
	OJU- Jump Wire	UPT – Padmount Transformer
	OPI – Overhead Pin Insulator	USV – Underground Service
	OPO – Pole	UTC – Underground Terminal Fuse
	OSV – Overhead Service	UTR – Submersible Transformer
	ORE – Regulator	

### Codes, Definitions – Continued

<b>CUST OUT</b>	<b>[Customer Out]</b> The number of customers without power for any given outage record
<b>CUST MIN</b>	<b>[Customer Minutes]</b> The total number of minutes customers were without power for any given record
<b>CODE</b>	<b>[Storm Code]</b> An event descriptor
	NON – Non Storm / Normal Conditions
	WTH – Weather Related (eg: wind storm, showers, etc)
	MAJ – Major event

### Media Coverage

No media coverage for this event.