

# Jan-June 2009 - Disturbance Index

Date	Region	Utilities	Type	MW	Customers	Cause
05-Jan-09	TRE	ERCO	INT		159019	Weather - Rain, Ice
07-Jan-09	SERC	DUK	INT		70000	Weather - Rain, High Winds
08-Jan-09	FRCC	FPL	INT		32000	Animal Contact - Bird Droppings
17-Jan-09	RFC	PJM	UO			Fuel Supply Problems - Coal Inventory
22-Jan-09	RFC	IPL	INT		9700	Human Error - Crane Overhead Fault
25-Jan-09	RFC	MISO	UO			OSL Violation - ??? Post Contingent Low Voltages
27-Jan-09	SERC	EKPC	UO			Weather - Rain, High Winds, Snow
27-Jan-09	SPP	EES	INT		490000	Weather - Rain, Ice, Snow
27-Jan-09	SERC	AECI	INT		62500	Weather - Rain, High Winds, Snow
27-Jan-09	SERC	BREC	UO			Weather - Rain, Ice, Snow
27-Jan-09	SERC	EES	INT		52000	Weather - Rain, Ice, Snow
27-Jan-09	TRE	ERCO	INT		59402	Weather - Rain, Ice, Snow
27-Jan-09	SERC	LGEE	INT		383000	Weather - Rain, Ice, Snow
27-Jan-09	SERC	EES	INT		13500	Weather - Rain, Ice, Snow
27-Jan-09	SERC	TVA	INT		1	Weather - Rain, Ice, Snow
28-Jan-09	SERC	AMMO	UO			Weather - Rain, Ice, Snow
28-Jan-09	RFC	MISO	INT		230000	Weather - Rain, Ice, Snow
28-Jan-09	SERC	EES	INT		7000	Weather - Rain, Ice, Snow
28-Jan-09	RFC	SIGE	INT		67285	Weather - Rain, Ice, Snow
28-Jan-09	RFC	CIN	INT		57300	Weather - Rain, Ice, Snow
28-Jan-09	SERC	TVA	INT		109527	Weather - Rain, Ice, Snow
29-Jan-09	RFC	PJM	INT		210000	Weather - Rain, Ice, Snow
11-Feb-09	TRE	ERCO	INT		64801	Weather - Rain, Ice, Snow
11-Feb-09	RFC	MISO	INT		4309	Weather - Rain, Ice, Snow
11-Feb-09	RFC	PJM	INT		279813	Weather - Rain, Ice, Snow, High Winds
11-Feb-09	RFC	PJM	INT		374644	Weather - Rain, Ice, Snow, High Winds
11-Feb-09	SERC	LGEE	INT		78000	Weather - Thunderstorm, High Winds
11-Feb-09	RFC	CIN	INT		63000	Weather - Rain, Ice, Snow

Date	Region	Utilities	Type	MW	Customers	Cause
12-Feb-09	RFC	PJM	INT		184000	Weather - Rain, Ice, Snow, High Winds
12-Feb-09	RFC	PJM	INT		132000	Weather - Rain, Ice, Snow, High Winds
23-Feb-09	NPCC	ISNE	INT		12223	Weather - Rain, Ice, Snow, High Winds
01-Mar-09	WECC	EPE	INT		116000	Equipment Failure - Substation Breaker
01-Mar-09	SERC	SOCO	INT		60000	Weather - Rain, Ice, Snow, High Winds
01-Mar-09	SERC	DUK	INT		180000	Weather - Rain, Ice, Snow, High Winds
01-Mar-09	SERC	PJM	INT		217000	Weather - Rain, Ice, Snow, High Winds
03-Mar-09	RFC	PJM	PA			Weather - Rain, Ice, Snow, High Winds
04-Mar-09	SERC	SOCO	UO			Equipment Failure - Generation
04-Mar-09	RFC	PJM	UO			SPS - Suspected - System Protection Misoperation
23-Mar-09	WECC	AESO	UO			xxx Weather-UNKNOWN
26-Mar-09	SERC	TVA	N/A			Equipment Failure - Transformer
06-Apr-09	RFC	PJM	INT		70793	Weather - Rain, Ice, Snow, High Winds
06-Apr-09	SERC	CPLC,CPLW	INT		4300	Equipment Failure - Transmission
10-Apr-09	SERC	SOCO	INT		56679	Weather - Thunderstorm
13-Apr-09	SERC	SOCO	INT		237000	Weather - Spring Thunderstorm with High Winds
19-Apr-09	TRE	ERCO	UO			Cyber - Software Virus
23-Apr-09	WECC	PSEI	UO			Equipment Failure - Substation
23-Apr-09	WECC	CISO	INT		280000	Human Error - Construction Mishap
24-Apr-09	SPP	CECD	INT		11000	Human Error - Construction Mishap
25-Apr-09	RFC	MISO	INT		125000	Weather - Rain Storm/High Winds
27-Apr-09	TRE	ERCO	INT		158000	Weather - Rain Storm/High Winds
08-May-09	WECC	EDE	INT		83000	Weather - Derecho Windstorm
08-May-09	SERC	AMMO	INT		68800	Weather - Derecho Windstorm
13-May-09	NPCC	HQT	UO			Fire - Vegetation/Trees
29-May-09	SERC	BREC	INT		1	Equipment Failure - Capacitor

Date	Region	Utilities	Type	MW	Customers	Cause
04-Jun-09	FRCC	NSB	INT		13639	Weather - Lightning
05-Jun-09	WECC	PACE,PACW	INT		70	Equipment Failure - Relay - Islanding
09-Jun-09	RFC	PJM	INT		86482	Weather - Thunderstorms
10-Jun-09	TRE	ERCO	INT		800000	Weather - Thunderstorms
12-Jun-09	SERC	TVA	INT		136000	Weather - Lightning, Thunderstorms
12-Jun-09	SERC	EES	INT		79784	Weather - Thunderstorms
12-Jun-09	SERC	SOCO	INT		102000	Weather - Lightning, Thunderstorms
13-Jun-09	WECC	AESO	UO			Equipment Failure - Unknown
14-Jun-09	NPCC	NYIS	UO			Equipment Failure - Unknown
16-Jun-09	MRO	OTP	UO			EMS Computer Failure
16-Jun-09	WECC	CISO	UO			Equipment Failure - Unknown
17-Jun-09	SPP	KCPL	INT		48858	Policy Violation - Vegetation Interference
19-Jun-09	RFC	PJM	INT		99000	Weather - Lightning, Thunderstorms
19-Jun-09	RFC	PJM	INT		245000	Weather - Lightning, Thunderstorms
24-Jun-09	SPP	LAGN	PA			Public Appeal - Press Release
25-Jun-09	RFC	PJM	UO			Equipment Failure - CCVT
25-Jun-09	TRE	ERCO	PA			Public Appeal - Hot Weather
25-Jun-09	RFC	MISO	INT		118000	Weather - Lightning, Thunderstorms
26-Jun-09	RFC	CIN	INT		85000	Weather - Lightning, Thunderstorms
26-Jun-09	NPCC	ISNE	INT		50752	Weather - Lightning, Thunderstorms

## Jan-June 2009 - Number of Disturbances by Region

Region	Disturbances
FRCC	2
MRO	1
NPCC	4
RFC	23
SERC	25
SPP	4
TRE	7
WECC	8
<b>Total Number of Disturbances:</b>	<b>74</b>

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/5/2009 5:00:00 AM CST      **Restoration - Final:** 1/6/2009 6:00:00 PM

**Affected Utility:** Oncor Electric Delivery Company LLC

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** INT

**Cause:** Weather - Rain, Ice      **Category:** Weather

**GenMW:**      **# of Customers:** 159019      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 5 at 05:00, weather conditions across the utilities system deteriorate due to rain and ice. By noon, significant outages occurred across the system, and all available field employees and contractors were held over and transitioned to restoration efforts (max was 1,500). The ice storm impacted the distribution system ONLY; there were NO transmission interruptions related to the ice storm, but there were three substation-related issues that impacted customers. Also, a total of 108 feeders were affected by the storm. At the ice storms height, Jan 5 at 15:00, about 55,636 customers were without service. All customers were restored by Jan 6 at 18:00.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/7/2009 5:00:00 PM EST      **Restoration - Final:** 1/7/2009 8:05:00 PM

**Affected Utility:** Duke Energy - Carolinas

**Region:** SERC      **Balancing Authority ID:** DUK      **Type:** INT

**Cause:** Weather - Rain, High Winds      **Category:** Weather

**GenMW:** 300      **# of Customers:** 70000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 7 at 17:00 a storm with sustained winds of 25-35 MPH and gusts of 45 MPH entered the utilities service area. The storm caused the loss of over 70,000 customers on Jan 7 from 17-20:00. NO generation and NO major transmission were affected. By 20:00, customer outages were below 50,000. Power restoration to all customers is expected to by COB Jan 8.

TYPE OF EMERGENCY: Other - Storm with high winds

ACTION(s) TAKEN: Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/8/2009 11:43:16 AM EST      **Restoration - Final:** 1/9/2009 12:11:25 AM

**Affected Utility:** Florida Keys Electric Coop.

**Region:** FRCC      **Balancing Authority ID:** FPL      **Type:** INT

**Cause:** Animal Contact - Bird Droppings      **Category:** Animal Contact

**GenMW:** 108      **# of Customers:** 32000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 8 at 23:43, the utility reported to the Regional Security Coordinator that a foreign object, possibly from a nesting bird, tripped a 138 kV line. One end of the line cleared, but a sticky breaker on the other end initiated a breaker fail scheme starting a timer to trip around the sticky breaker. Coincidentally, a neighboring 128 kV line also saw the fault and back feed it, initiating an over-current element to clear the fault resulting in both 138kV lines clearing the fault, disconnecting the affected area. All load was interrupted for about 27 minutes; 108 MW and 32,000 customers. The system was restored on Jan 9 at 00:11. The cause remains unknown. Sabotage or terrorism is not suspect.

TYPE OF EMERGENCY: Major Transmission System Interruption; Other.

ACTION(s) TAKEN: Other; Informed RC Security Coordinator

FILING CRITERIA(s): DOE OE-417 #: NOT Specified

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/17/2009 8:00:00 AM CST      **Restoration - Final:** 1/25/2009 8:00:00 AM

**Affected Utility:** State Line Energy – Hammond, IN

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** UO

**Cause:** Fuel Supply Problems - Coal Inventory      **Category:** Fuel Supply Problems

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 17 at 8 am, the utility reported to it Reliability Coordinator that its fuel (coal) inventory storage level was at 50 percent or less of normal for Unit 4. Severe weather is causing coal train and unloading delays. The coal inventory is projected to recover by Jan 25.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): DOE OE-417 # 12

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/22/2009 4:00:00 PM CST      **Restoration - Final:** 1/22/2009 5:05:00 PM

**Affected Utility:** Crawfordsville Electric Light and Power

**Region:** ECAR      **Balancing Authority ID:** IPL      **Type:** INT

**Cause:** Human Error - Crane Overhead Fault      **Category:** Human Error

**GenMW:** 51      **# of Customers:** 9700      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 22 at 16:02, the utilities system full system was interrupted. The utility is served by a neighboring utility through a single 138 kV substation which has 2 feeds. One feed was out of service due to maintenance leaving only the feed from the south. This feed tripped at 16:02 and the cause was crane, which was moving a gas pipeline at the time, making contact with a phase resulting in it fault (the line burned down). The line that was under maintenance was place back in service thus restoring the affected utilities system.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Other

FILING CRITERIA(s): DOE OE-417 # 3

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/25/2009 1:20:00 AM EST      **Restoration - Final:** 1/25/2009 1:24:00 AM

**Affected Utility:** MISO

**Region:** MAIN      **Balancing Authority ID:** MISO      **Type:** UO

**Cause:** OSL Violation - ??? Post Contingent Low Voltages      **Category:** OSL Violation

**GenMW:** 150      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 25 at 01:20, the contingency analysis software showed post contingent low voltages on the loss of a 345 kV line - actual voltages were within limits. The post contingent low voltages were due to planned transmission and generation outages. Post contingent voltages were seen approximately at 120 kV on the 161 kV systems. Normally open transformers were placed into service to provide support for the 161 kV systems. This relieves the post contingent low voltages in the contingency analysis. Transformers normally out of service will be placed in service prior to any planned outages re-occurring.

TYPE OF EMERGENCY: Other - NERC IROL Violation

ACTION(s) TAKEN: Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 5:03:00 AM EST      **Restoration - Final:** 1/31/2009 5:15:00 AM

**Affected Utility:** East Kentucky Power Coop

**Region:** ECAR      **Balancing Authority ID:** EKPC      **Type:** UO

**Cause:** Weather - Rain, High Winds, Snow      **Category:** Weather

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27 at 05:03, a significant ice storm hit the utilities service area and resulted in the loss of 69 kV transmission lines and distribution substations. Additionally, two 161 kV transmission lines and two 345 kV facilities were affected. About 31 transmission lines were affected, as well as 78 distribution substations. About 190,000 retail consumers lost service. Transmission service to all but three distribution substations was restored by Jan 30 and service to the remaining substations was restored on Jan 31.

TYPE OF EMERGENCY: Major Transmission System Interruption; Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 8:00:00 AM CST      **Restoration - Final:** 1/29/2009 8:00:00 AM

**Affected Utility:** Arkansas Electric Cooperative Corporation

**Region:** SERC      **Balancing Authority ID:** EES      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 490000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 27 and 28, twelve distribution utilities lost power to about 198,800 customers due to an ice and snow storm. Distribution systems damage is extensive; about 25,000 poles down. The total number of customers is about 490,000.  
TYPE OF EMERGENCY: Major Distribution System Interruption; Other  
ACTION(s) TAKEN: Repaired/Restored; Other  
FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 11:00:00 AM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** Associated Electric Cooperative Inc

**Region:** SERC      **Balancing Authority ID:** AECI      **Type:** INT

**Cause:** Weather - Rain, High Winds, Snow      **Category:** Weather

**GenMW:** 200      **# of Customers:** 62500      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27 at 11:00, a major winter storm with heavy freezing rain moved into south central and southeastern Missouri. The storm caused heavy damage to the transmission system (500, 345 and 161 kV lines) and to the distribution systems of five utilities. An estimated maximum total of 62,500 distribution customers were without power; overall about 198,800 customers were affected. As of Jan 30, this number was reduced to less than 50,000.

TYPE OF EMERGENCY: Major Transmission System Interruption; Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE-OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 12:00:00 PM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** Big Rivers Electric Corp.

**Region:** ECAR      **Balancing Authority ID:** BREC      **Type:** UO

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27 at noon, the utility experienced multiple transmission and generation outages due to a wide-spread ice storm. Numerous customers were without service and impacted telephone communications. On Jan 28, the 138 kV interconnection was opened at the RC's direction due to potential first contingency loading issues resulting in a system load reduction. This was accomplished by cycling the service to several industrial customers. The utility continues (Feb 3) to restore power and the customer outage count has been reduced to fewer than 50,000. Restoration crews are being supported by crews from other electric utilities and contractors.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Shed Firm Load; Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 6 and 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 1:46:00 PM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** Entergy - Arkansas

**Region:** SERC      **Balancing Authority ID:** EES      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 52000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27 at 13:46 a major ice storm affected the utilities service area resulting in about 50,000 customers out of service for over an hour. The forecast for icing conditions continues until Jan 28. The utility pre-positioned restoration crews and management prior to the on set of the event and immediately enacted restoration efforts in those areas where it is safe to work under these extreme weather conditions.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 3:43:00 PM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** AEP-West CSWS

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 59402      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27 at 15:43, the utility experienced an ice storm; reports of ice of  $\frac{3}{4}$  inch to 1 inch causing damage to equipment and lines. As of Jan 27 at 15:43, 56,824 customers were out of power. This peaked on 20:00 Jan 27 at 59,402. Crews conducted repairs and restored circuits as safely as conditions permit. Restoration efforts are expected to continue to Jan 31.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 5:00:00 PM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** E.ON-US LLC - (LG&E and KU)

**Region:** ECAR      **Balancing Authority ID:** LGEE      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 383000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 27 at 17:00, a snow and ice storm entered the utilities service territory affecting about 383,000 customers. Significant transmission (17 lines above 100 kV) and distribution facilities were lost. The utility also lost generators due to transmission facility failure. Restoration is estimated to take up to 2 weeks.

TYPE OF EMERGENCY: Transmission Equipment; Weather or Natural Disaster

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 9:00:00 PM CST      **Restoration - Final:** 1/30/2009 9:01:00 PM

**Affected Utility:** Owensboro, KY Municipal Utilities

**Region:** SERC      **Balancing Authority ID:** EES      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:** 60      **# of Customers:** 13500      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 27 at 21:00, the utility experienced an ice storm with icing of 1.5 or more inches causing extensive damage to distribution and internal transmission systems. Numerous circuit lockouts and customers (13,500) were without power. The utility is currently assessing damage and making repairs. Preliminary estimates are the entire system will be restored to normal in 72 hours.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/27/2009 9:45:00 PM CST      **Restoration - Final:** 27/2009 10:17:00 PM

**Affected Utility:** TVA

**Region:** SERC      **Balancing Authority ID:** TVA      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:** 850      **# of Customers:** 1      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 27 at 21:45, one of the utilities generating plant tripped and an industrial (primary) 161 kV switchyard lost service. Total loss of firm load was about 850 MW. The area had been experiencing arctic storm (snow, ice, and freezing rain) conditions. Ice exceeded 2 inches in some places with average reports showing 0.75" to 1.0" of radial accumulation. As of Jan 29, all affected transmission facilities were returned to service and the industrial facility was returning to service.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Other

FILING CRITERIA(s): DOE OE-417 # 5

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/28/2009 12:10:00 AM CST      **Restoration - Final:** 28/2009 12:40:00 AM

**Affected Utility:** AMEREN

**Region:** SERC      **Balancing Authority ID:** AMMO      **Type:** UO

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 28 at 00:10, winter storms moved through the utilities service territory. Heavy snow and ice accumulation caused breaker operations that resulted in approximately 300 MWs of load lost. This incident is isolated to one customer. Load has begun to be restored as of 00:40 EST on Jan 28.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Implemented a Warning, Alert, or Contingency Plan; Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 5

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/28/2009 3:00:00 AM EST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** MISO – IL, IN, OH, KT

**Region:** MAIN      **Balancing Authority ID:** MISO      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 230000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 28 at 03:00, snow and ice storms moved through the utilities service territory causing outages to over 130,000 customers as a result of distribution and sub-transmission lines being forced out. Over 230,000 customers total were without electric service as a result of sub-transmission and distribution lines being forced out-of-service due to the severe weather conditions.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Implemented a Warning, Alert, or Contingency Plan; Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/28/2009 4:00:00 AM CST      **Restoration - Final:** 1/31/2009 3:00:00 AM

**Affected Utility:** Henderson Municipal Power & Light

**Region:** SERC      **Balancing Authority ID:** EES      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:** 50      **# of Customers:** 7000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27, the utility experienced an ice storm with icing of 1.5 inches or greater causing extensive damage to distribution and internal transmission systems. Numerous circuit lockouts and customers are without power. The utility experienced a total communication blackout, as of Jan 29 communications remain spotty after the ice storm passed through the affected area. About 7,000 of 12,600 customers are without power. The utility is assessing damage and making repairs; estimates are that the system may be fully restored in 96 hours.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # NOT Specified

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/28/2009 6:00:00 AM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** Southern Indiana G&E a,k,a, Vectren Energy

**Region:** ECAR      **Balancing Authority ID:** SIGE      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 67285      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 28 at 06:00, the utilities service area was hit by a severe ice storm causing loss of service to over 67,000 customers. The heavy loading on lines and trees impacted the distribution system and tripped five (5) 69 kV lines. Repair and restore efforts were activated by the utility.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other.

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/28/2009 7:50:00 AM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** Duke Energy - Midwest

**Region:** ECAR      **Balancing Authority ID:** CIN      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 57300      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Jan 28 at 07:50 a winter storm consisting of ice, freezing rain, and snow hit the utilities service territory causing a loss of service to about 53,700 customers. Ice accumulations ranged from 0.5 to 1.0 inches. The ice and freezing rain mix changed to snow later in the morning with accumulations of an additional 2 to 4 inches. Assessment of the damage is continuing and there is no estimated restoration time.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/28/2009 9:00:00 AM CST      **Restoration - Final:** 1/30/2009 6:00:00 PM

**Affected Utility:** TVA

**Region:** SERC      **Balancing Authority ID:** TVA      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 109527      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 26 arctic cold temperatures settled into the northwest corner of the utilities service territory and combined with a storm system moving in from the west, causing freezing rain over the next two days. On Jan 28, ice accumulations caused the loss of service to about 110,000 customers. Ice exceeded 2 inches with average reports showing 0.75" to 1.0" of radial accumulation. Many trees came down and roads are virtually impassable off the major highways. There are currently three 500 kV transmission lines, twenty-two 161 kV transmission lines and six 69 kV lines out of service due to the storm. The utilities Emergency Operations Center was activated.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 1/29/2009 4:00:00 PM EST      **Restoration - Final:** 1/31/2009 3:00:00 AM

**Affected Utility:** AEP-East – KY, WV, OH

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 210000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Jan 27 at 16:00, a winter storm deposited high levels of snow and ice (up to an inch) causing interruptions on the utilities transmission and distribution system. Initially, 57,700 customers were out of power, escalating at the storms peak to 210,000 customers at 14:00 on Jan 28. Restoration of equipment and lines continued and the number of affected customers was reduced to 47,000 at 03:00 on Jan 31.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/11/2009 2:30:00 AM CST      **Restoration - Final:** 11/2009 12:00:00 PM

**Affected Utility:** CenterPoint Energy

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:**      **# of Customers:** 64801      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Feb 11 at 02:30 the utilities service area was impacted by a winter cold front that rapidly moved across the service area. Shortly after 01:30, the number of customer outages peaked at 64,801. By 03:30 the utility restored service to 36,000 of the affected customers

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/11/2009 2:40:00 AM CST      **Restoration - Final:** 2/11/2009 3:40:00 AM

**Affected Utility:** Illinois Municipal Electric Agency

**Region:** MAIN      **Balancing Authority ID:** MISO      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:** 10      **# of Customers:** 4309      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Feb 11 at 02:40 the utility lost service to more than 50% of its customers for more than 15 min. The disturbance was caused by a broken string insulator on a 138 kV line which resulted in the tripping of a circuit breaker causing a to overload and burn up. The utility repaired the insulator. Service to the affected customers was restored via a backup generator after one hour.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/11/2009 6:00:00 PM EST      **Restoration - Final:** 2/13/2009 5:00:00 PM

**Affected Utility:** AEP-East – KY, WV, OH

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:**      **# of Customers:** 279813      **Customer Demand:**

## Event Description:

DESCRIPTION: On Feb 10 at 18:00 a winter storm with high winds passed through the utilities service area. Wind gusts up to 72 mph caused damage to structures, poles, conductors and static wires to numerous transmission and sub-transmission circuits. As of Feb 13 at 14:30 the majority of the circuits have been restored within the OE-417 reporting criteria. □

TYPE OF EMERGENCY: Major Transmission System Interruption; Major Distribution System Interruption; Other.

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/11/2009 6:18:00 PM EST      **Restoration - Final:** 2/16/2009 8:10:00 PM

**Affected Utility:** Allegheny Power System

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:**      **# of Customers:** 374644      **Customer Demand:**

## Event Description:

DESCRIPTION: On Feb 11 at 18:18 the utility was impacted by a cold front that rapidly moved across their service area. This cold front created a line of severe thunderstorms that moved at a rate of 60-70 mph and had reported wind gusts of >90 mph. By Feb 12, while the thunderstorms had moved out of the utilities service area, there were still sustained winds of 25-40 mph and gusts of 40-65 mph, causing additional damage.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/11/2009 7:00:00 PM CST      **Restoration - Final:** 12/2009 11:00:00 AM

**Affected Utility:** E.ON US LLC - (LG&E and KU)

**Region:** ECAR      **Balancing Authority ID:** LGEE      **Type:** INT

**Cause:** Weather - Thunderstorm, High Winds      **Category:** Weather

**GenMW:**      **# of Customers:** 78000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Feb 11 at 19:00 severe thunderstorms with winds ranging from 55 to 60 miles per hour passed through the utilities service area. At the peak of the storm there were 78,000 customers without power. There was moderate damage to T&D facilities. Four transmission lines (100kV and above) were lost during the storm. Full restoration to all customers is expected Feb 14.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/11/2009 9:00:00 PM EST      **Restoration - Final:** 12/2009 12:00:00 PM

**Affected Utility:** Duke Energy - Midwest - Ohio

**Region:** ECAR      **Balancing Authority ID:** CIN      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow      **Category:** Weather

**GenMW:** 350      **# of Customers:** 63000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Feb 11 at 21:00 thunderstorms and strong winds entered the utilities service area. At times wind gusts exceeded 50 mph. Strong winds are expected to remain in the service area until early morning Mar 12.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

---

**Start Date - Time:** 2/12/2009 2:30:00 AM EST      **Restoration - Final:** 2/12/2009 4:00:00 PM

**Affected Utility:** First Energy Corp

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:** 168      **# of Customers:** 184000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Feb at 02:30 the utility lost disturbance service to 90,000 customers due to high winds and outages to several 69 kV and one 138kV transmission line. The customer outages peaked at 184,000. The est. peak load loss was 168 MW at 03:00 on Feb 12. The utility dropped below 50,000 affected customers at 06:00 on Feb 12. Storm restoration continues with an expectation that nearly all customers will be restored by 23:59 hrs on Feb 14.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE-OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/12/2009 8:00:00 AM EST      **Restoration - Final:** 15/2009 10:00:00 PM

**Affected Utility:** Penelec, a FirstEnergy Company

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:** 130      **# of Customers:** 132000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Feb 12 at 08:00, the utility experienced distribution outages caused by high-sustained winds resulting in loss of service to 132,000 customers over the course of the event. The est. peak load loss was 130 MW at 13:00 on Feb 12. Most customers were restored by 15:00 on Feb 15.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 2/23/2009 3:28:00 AM EST      **Restoration - Final:** 2/27/2009 2:38:00 AM

**Affected Utility:** Central Maine Power Company

**Region:** NPCC      **Balancing Authority ID:** ISNE      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:**      **# of Customers:** 12223      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Feb 23 at 03:28 the utilities service area experienced a heavy snow storm causing damage to the sub-transmission and distribution systems. At peak, there were 121,223 customers out of service. As of Feb 27 at 02:38 all customers load has been restored.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/1/2009 12:15:00 AM MST      **Restoration - Final:** 3/1/2009 12:22:00 AM

**Affected Utility:** El Paso Electric Company

**Region:** WECC-AZNSNV      **Balancing Authority ID:** EPE      **Type:** INT

**Cause:** Equipment Failure - Substation Breaker      **Category:** Equipment Failure

**GenMW:** 250      **# of Customers:** 116000      **Customer Demand:**

## Event Description:

DESCRIPTION: On Mar 3 at 00:15, utility experienced a system event due to a car striking a 69 kV pole. Breakers at A Substation operated correctly however a breaker at B Substation failed to open. The line fault continuation until the B Substation breaker cleared about 11 seconds after the initial fault. During the fault period, the utilities system experienced a severe voltage depression in the east, central and west areas service areas. The undervoltage relays operated correctly to mitigate the voltage decay. Restoration was started within 15 minutes of the initial fault and all customers were restored in about 3 hours. The affected line was repaired and the breaker fault will be investigated further.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/1/2009 4:00:00 PM CST      **Restoration - Final:** 3/1/2009 11:15:00 PM

**Affected Utility:** Southern Company

**Region:** SERC      **Balancing Authority ID:** SOCO      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:** 75      **# of Customers:** 60000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Mar 1 at 16:00 inclement weather rolled through the Southern Company Control Area. By 22:00, a total of 60,000 customers were out: mostly in GA with about 4000 in AL. With ongoing restoration efforts, the number of affected customers dropped below 50,000 at 23:15 on Mar 1 and less than 7000 at 04:00 on Mar 2.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/1/2009 8:54:00 PM EST      **Restoration - Final:** 3/3/2009 4:06:00 PM

**Affected Utility:** Duke Energy - Carolinas

**Region:** SERC      **Balancing Authority ID:** DUK      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:** 1000      **# of Customers:** 180000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Mar 1 at 20:54, the utilities service area experienced a winter storm, ice and wet snow (up to 6 inches). Outages were on the distribution side and the transmission grid was not at risk from this event. By Mar 3 at 16:06, customer outages had decreased below 50,000.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/1/2009 10:00:00 PM EST      **Restoration - Final:** 3/3/2009 6:00:00 PM

**Affected Utility:** Dominion – Virginia Power

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:** 210      **# of Customers:** 217000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Mar 1 at 22:00 a winter storm (sleet, freezing rain, snow, ice and rain mix) entered the utilities service territory causing multiple distribution outages. Restoration efforts were initiated and the utility brought in mutual assistance crews from neighboring utilities. The multi-day effort initially saw 83,000 customers at 13:00 on Mar 1 and peaked at 217,000 customers at 12:00 on Mar 2. By 18:00 on Mar 3 the number of affected customers was below the 50,000. All customers were expected to be restored in the evening on Mar 4.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/3/2009 10:00:00 PM EST      **Restoration - Final:** 3/4/2009 8:17:00 PM

**Affected Utility:** AEP – Appalachian Power / Roanoke, VA Area

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** PA

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Mar 3 at 22:00 winter storms damaged two major EHV transmission lines in the utilities service area. One line is out of service due to a downed tower and the estimated return is Mar 11. The other line is out of service from storm damage and is estimated to return Mar 4 at 16:00 (actual was 20:17). On Mar 3, the utility issued a press release calling for voluntary customer conservation during the period 0600 to 0900 on Mar 4. On Mar 4 temperatures moderated and the load demand decreased which alleviated any further need for public appeals.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Made Public Appeals

FILING CRITERIA(s): DOE OE-417 # 8

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/4/2009 6:02:00 PM CST      **Restoration - Final:** 3/4/2009 8:02:00 AM

**Affected Utility:** Southern Company

**Region:** SERC      **Balancing Authority ID:** SOCO      **Type:** UO

**Cause:** Equipment Failure - Generation      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Mar 4 at 06:02 the utility experienced a significant loss of generation at a multi-generating unit power plant due to a suspected fault with the main supply valve on the plant's general service water supply header causing a temporary loss of service water. The units were restored to service on or before Mar 4 at 08:02.

TYPE OF EMERGENCY: Loss of Generation

ACTION(s) TAKEN: Other

FILING CRITERIA(s): NERC EOP-004: Loss of More than 2,000 MW of Generation

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/4/2009 8:28:00 PM EST      **Restoration - Final:** 3/5/2009 9:00:00 PM

**Affected Utility:** Allegheny Power System

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** UO

**Cause:** SPS - Suspected - System Protection Misoperation      **Category:** SPS Misoperation

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Mar 3 at 20:28 a fault occurred on two of transmission lines due to possible flash-over at the crossing of the two lines. During the clearing of the fault, a power station associated with the two line tripped off line due to a the protection schemes not operating as intended. The cause of the event is under investigation. The affected lines were lines were estimated to return to service on or before Mar 5 at 21:00.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/23/2009 3:01:00 PM MST      **Restoration - Final:** 3/23/2009 3:24:00 PM

**Affected Utility:** Alberta Electric System Operator (AESO)

**Region:** WECC      **Balancing Authority ID:** AESO      **Type:** UO

**Cause:** xxx Weather-UNKNOWN      **Category:** Weather

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Mar 23 at 15:01 the EHV transmission line tripped along with two 138 kV transmission lines. These trips resulted in islanding the utility and the loss of 25 MW of generation.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 3/26/2009 3:51:00 AM CST      **Restoration - Final:** 2/27/2009 3:51:00 AM

**Affected Utility:** TVA

**Region:** SERC      **Balancing Authority ID:** TVA      **Type:** N/A

**Cause:** Equipment Failure - Transformer      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On April 26 at 03:51, the utility experienced the loss of two generating units due to the loss of a differential relay on CSST "D." (Common Station Service Transformer – Delta). TYPE OF EMERGENCY: Major Generation Inadequacy  
ACTION(s) TAKEN: Repaired/Restored; Other  
FILING CRITERIA(s): NERC IROL Report Filed

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/6/2009 1:00:00 AM CDT      **Restoration - Final:** 4/8/2009 12:00:00 PM

**Affected Utility:** Consumers Energy Company

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Rain, Ice, Snow, High Winds      **Category:** Weather

**GenMW:** 75      **# of Customers:** 70793      **Customer Demand:**

## Event Description:

DESCRIPTION: On Apr 6 at 01:00 a winter storm with heavy wet snow accumulating on trees and distributions wires impacted the utilities service area. By 10:00, in excess of 50,000 were affected; the cumulative number was 70,793 and the load lost was about 75 MW. Restoration efforts are underway. As of Mar 7 at 06:30, only 13,793 customers remain interrupted and most will be restored by the noon of Apr 8

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE-EIA 417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/6/2009 6:28:00 PM EDT      **Restoration - Final:** 4/6/2009 11:25:00 PM

**Affected Utility:** North Carolina Eastern Municipal Power Agency (NCEMA)

**Region:** SERC      **Balancing Authority ID:** CPLE,CPL      **Type:** INT

**Cause:** Equipment Failure - Transmission      **Category:** Equipment Failure

**GenMW:** 25      **# of Customers:** 4300      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Apr 6 at 18:28 the 115 kV transmission line feeding (radial) the utilities system failed for unknown reasons. A total of 4,300 customers were affected and 27 MW of load lost. Transmission service was restored Apr 6 at 23:25.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): NERC EOP-004: Transmission Equipment Failure

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/10/2009 10:00:00 PM CDT      **Restoration - Final:** 4/11/2009 2:30:00 AM

**Affected Utility:** Southern Company

**Region:** SERC      **Balancing Authority ID:** SOCO      **Type:** INT

**Cause:** Weather - Thunderstorm      **Category:** Weather

**GenMW:** 162      **# of Customers:** 56679      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Apr 10 at 22:00 a severe thunderstorm moved through the utilities service area causing distribution customer outages of 56,679 and 162 MW of load. By 02:30 on Apr 11 that reference reduced to less than 18, 000 and by 17:00 less than 1,500 customers.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/13/2009 1:20:00 AM CDT      **Restoration - Final:** 4/15/2009 9:00:00 AM

**Affected Utility:** Southern Company

**Region:** SERC      **Balancing Authority ID:** SOCO      **Type:** INT

**Cause:** Weather - Spring Thunderstorm with High Winds      **Category:** Weather

**GenMW:** 526      **# of Customers:** 237000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Apr 13 at 01:20, strong thunderstorms moved across the Southern Company service area in Southern Alabama and Georgia. An estimated 237,000 customers were out-of-service at the peak of the storm. Storms are still active in area. Restoration expected to continue through Apr 15.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/19/2009 11:00:00 PM CDT      **Restoration - Final:** 4/20/2009 8:30:00 AM

**Affected Utility:** NRG Texas Power LLC

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** UO

**Cause:** Cyber - Software Virus      **Category:** Cyber Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Apr 19 at 23:00 the utilities corporate IT monitoring system identified a high number of failed attempts to log into corporate computers, which emanated from a plant computer at one of the utilities generating stations. This same event was again detected at 00:30 on Apr 20, emanating from a different plant computer at the same generating facility. The computers in question were isolated from the corporate network and virus scans on the computers were performed, which indicated that they had been infected with a virus. The affected computers do not have control authority for power control systems, and as such, could not be utilized to control the units or to trip them off-line, so it is felt that these incidents did not affect the electric power system. The cyber attack that did NOT affect the adequacy or vulnerability of the electric power system. The investigation is on-going.

TYPE OF EMERGENCY: Other - Malicious Software Virus

ACTION(s) TAKEN: Other

FILING CRITERIA(s): DOE OE-417 # NOT Specified

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/23/2009 4:25:00 PM PDT      **Restoration - Final:** 24/2009 12:29:00 AM

**Affected Utility:** Puget Sound Energy

**Region:** WECC-NWPP      **Balancing Authority ID:** PSEI      **Type:** UO

**Cause:** Equipment Failure - Substation      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On Apr 23 at 16:25, the one of the utilities 230/115 kV bank tripped off line. The cause of the trip is being investigated. At 17:35, a 115 kV line tripped out of service on a three phase fault. At 17:44 another 115 kV line tripped. The combination of these three unplanned outages and the three planned outages being conducted at the utility resulted in the loss of power to approximately 93,300 customers. Within one hour and 19 minutes, three unplanned outages occurred within close proximity of one another, resulting in the islanding of one section of the utilities service area. At 22:42, it was learned than an islanding situation had occurred within another small section, lasting from 17:35 and 17:44. Crews were immediately dispatched and at 18:17 the 230/115 kV transformer was restored to service restoring service to 59,000 customers. At 18:40, transmission lines into the remaining area were returned to service thereby restoring power to 34,300 customers. All customers were restored by Apr 24 at 00:29.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/23/2009 5:54:00 PM PDT **Restoration - Final:** 4/23/2009 7:58:00 PM

**Affected Utility:** Southern California Edison Company

**Region:** WECC-CAMX **Balancing Authority ID:** CISO **Type:** INT

**Cause:** Human Error - Construction Mishap **Category:** Human Error

**GenMW:** 512 **# of Customers:** 280000 **Customer Demand:**

## Event Description:

DESCRIPTION: On Apr 23 at 17:54 construction work at the utility interrupted the load at a 500/115 kV substation. One CB was opened inadvertently dropping all high voltage equipment and the radial load feed (512 MW to 280,000 customers) and tripped one generator (loaded at 250 MW at that time). By Apr 24 at 02:30, all interrupted transmission and generation was restored.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 5

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/24/2009 11:09:00 AM CDT      **Restoration - Final:** 21/2009 11:21:00 AM

**Affected Utility:** Constellation Energy Control and Dispatch, BA Services Provider for the City of Ruston, LA

**Region:** SPP      **Balancing Authority ID:** CECD      **Type:** INT

**Cause:** Human Error - Construction Mishap      **Category:** Human Error

**GenMW:** 39      **# of Customers:** 11000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Apr 24 at 11:09, the BA received indication of a complete loss of load to a utility. Investigations identified a Contractor inadvertently opened a line breaker which is a radial line to the utility. At 11:21 all load was restore.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 3

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/25/2009 2:30:00 PM CDT      **Restoration - Final:** 4/29/2009 1:00:00 PM

**Affected Utility:** Detroit Edison - Western Region of Service Territory

**Region:** MAIN      **Balancing Authority ID:** MISO      **Type:** INT

**Cause:** Weather - Rain Storm/High Winds      **Category:** Weather

**GenMW:**      **# of Customers:** 125000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Apr 25 at 14:00, high wind and rain impacted the utilities service territory and distribution customer outages exceeded 50,000 by 1430. Outages continued to escalate until about 125,000 customers were affected. Restoration efforts dropped that number to below 50,000 at 1930 on Apr 26. All customers affected by the storm were restored by 0100 on Apr 29.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 4/27/2009 3:30:00 PM CDT      **Restoration - Final:** 28/2009 11:30:00 PM

**Affected Utility:** CenterPoint Energy - Greater Houston / Galveston area

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** INT

**Cause:** Weather - Rain Storm/High Winds      **Category:** Weather

**GenMW:** 176      **# of Customers:** 158000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On Apr 27 at 1530, weather moved through the utilities service area causing flooding and distribution system customer outages. The system was returned to normal by 2330 on Apr 28. The aggregate number meets the DOE reporting threshold; but at no time was it more than 50,000 customers out at one time during this event.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 5/8/2009 7:30:00 AM CDT      **Restoration - Final:** 5/9/2009 9:00:00 AM

**Affected Utility:** Empire District Electric Company

**Region:** SPP      **Balancing Authority ID:** EDE      **Type:** INT

**Cause:** Weather - Derecho Windstorm      **Category:** Weather

**GenMW:** 266      **# of Customers:** 83000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On May 8 at 07:30, a major weather event moved through the utilities service area – a Derecho storm. This violent, quick moving and long-life thunderstorm had winds of 50 to 100 MPH. Besides affecting and/or damaging the distribution system, the storm resulted in the tripping of the utilities coal-fired plant. A total of 83,000 customers were out of service at the height of the storm and all customers were expected to return to service by May 12.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 5/8/2009 11:30:00 PM CDT      **Restoration - Final:** 14/2009 11:20:00 PM

**Affected Utility:** AMEREN

**Region:** SERC      **Balancing Authority ID:** AMMO      **Type:** INT

**Cause:** Weather - Derecho Windstorm      **Category:** Weather

**GenMW:** 300      **# of Customers:** 68800      **Customer Demand:**

**Event Description:**

DESCRIPTION: On May 8 at 23:30, a Derecho (a widespread and long lived windstorm that is associated with a band of rapidly moving showers or thunderstorms) consisting of sustained winds of 80 MPH, with gusts to 100 MPH, caused extensive damage to the distribution system in utilities service area. Damages included the outage of 2 transmission circuits (138 kV to distribution low side) and 8 distribution substations.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 5/13/2009 1:02:00 PM EDT      **Restoration - Final:** 5/13/2009 9:08:00 PM

**Affected Utility:** Hydro-Quebec TransEnergie

**Region:** NPCC-HQ      **Balancing Authority ID:** HQT      **Type:** UO

**Cause:** Fire - Vegetation/Trees      **Category:** Fires

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On May 13 at 13:02 a 735 kV line tripped. The automatic reclosing operated normally but the line tripped again. After a few minutes, the Operator reenergized the line and it tripped again. A patrol of the line was request. The patrol found a fire on several trees close to the right of way. The fire was extinguished and the trees were cut. The line was back at 21:08. This event had no effect on the generation dispatch, transmission, or customers. The stability limit on the corridor was reduced. It is suspected that an electric arc was the cause of the line trip. The investigation is still ongoing.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): DOE OE-417 filed but no criteria noted.

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 5/29/2009 9:05:00 AM CDT      **Restoration - Final:** 29/2009 10:20:00 AM

**Affected Utility:** Big Rivers Electric Coop.

**Region:** ECAR      **Balancing Authority ID:** BREC      **Type:** INT

**Cause:** Equipment Failure - Capacitor      **Category:** Equipment Failure

**GenMW:** 350      **# of Customers:** 1      **Customer Demand:**

## Event Description:

DESCRIPTION: On May 29 at 09:05, a 50 MVAR 161 kV capacitor failed and resulted in a partial loss of the 161 kV switchyard. This resulted in the loss of four generators (totaling 692 MW) connected to the 161 kV switchyard and one of two 161 kV switchyard buses and associated facilities. The bus was restored by 10:20 on May 29. No other transmission problems related to this disturbance were experienced. One 350 MW direct-serve industrial customer was outaged from 09:05 to 10:07.

TYPE OF EMERGENCY: Major Transmission System Interruption; Major Generation Inadequacy

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 5

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/4/2009 1:35:00 PM EDT      **Restoration - Final:** 6/4/2009 2:35:00 PM

**Affected Utility:** Utilities Commission, City of New Smyrna Beach

**Region:** FRCC      **Balancing Authority ID:** NSB      **Type:** INT

**Cause:** Weather - Lightning      **Category:** Weather

**GenMW:** 32      **# of Customers:** 13639      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 4, the utilities 115 kV radial line tripped from a suspected lightning strike resulting in a complete outage of the utilities service area. No damage was sustained at any point. After the line was inspected, re-energized, and all load was restored.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): NERC EOP-004 No Criteria Stated

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/5/2009 1:18:00 PM PDT **Restoration - Final:** 6/5/2009 8:18:00 PM

**Affected Utility:** Pacific Gas and Electric Company

**Region:** WECC **Balancing Authority ID:** PACE,PAC **Type:** INT

**Cause:** Equipment Failure - Relay - Islanding **Category:** Equipment Failure

**GenMW:** 1 **# of Customers:** 70 **Customer Demand:**

## Event Description:

DESCRIPTION: On June 5 at 11:18 the utilities 230 kV line relayed due to the failure of of a switch interrupting the 70 kV line and substation. At 13:38 the substation was restored creating an island involving the 70 kV line and substation. At 2018 the island was synchronized to the grid. NOTE: The island was initiated manually to restore customers following the loss of a 230 kV line on June 5. Over the weekend the island was twice synchronized to the grid and twice manually islanded to allow repairs to be performed on the section of the 230 kV line  
TYPE OF EMERGENCY: Major Transmission System Interruption  
ACTION(s) TAKEN: Repaired/Restored; Other  
FILING CRITERIA(s): DOE-OE-417 # 4

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/9/2009 5:25:00 PM EDT      **Restoration - Final:** 3/11/2009 5:00:00 AM

**Affected Utility:** Baltimore Gas & Electric Company

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Thunderstorms      **Category:** Weather

**GenMW:** 60      **# of Customers:** 86482      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 9 at 17:00 a line of thunderstorms passed through the utilities service area affecting the distribution system. At 14:30 On June 10 a total of 81,868 customers have been restored with a total of 4614 customers still out of service.

TYPE OF EMERGENCY: Other - Storm

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/10/2009 6:00:00 PM CDT      **Restoration - Final:** 6/14/2009 6:00:00 PM

**Affected Utility:** Oncor Electric Delivery Company LLC - North and Central Texas

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** INT

**Cause:** Weather - Thunderstorms      **Category:** Weather

**GenMW:**      **# of Customers:** 800000      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 10 at 18:00, intense storms, with over 60 mph winds, hail, intense lightning, and reports of rotation, began in the western portion of the utilities service area and moved eastward. Preliminary estimate of distribution customer interruptions at the height of the initial storm is approximately 260,000. Periodically, storms continued to build up west and northwest and moved through the utilities service area east and southeast through June 11. These storms included hail, strong winds, intense lightning. With these storms continuing to roll through the same areas, damage assessment and restoration efforts were severely hampered. It is now estimated that over 500,000 customers have been affected by some type of outage from this storm event. On the afternoon of June 11, the storms subsided and restoration efforts made significant headway. At least three tornadoes occurred in the service area on June 11. As of mid-day June 12, less than 90,000 customers were out of service. Overall, over 800,000 customers were affected during this event.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/12/2009 4:37:00 PM CDT      **Restoration - Final:** 6/12/2009 6:53:00 PM

**Affected Utility:** TVA for Memphis Light Gas & Water, TN

**Region:** SERC      **Balancing Authority ID:** TVA      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:** 1117      **# of Customers:** 136000      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 12 at 16:37, sixty-seven 23-kV and 12-kV distribution lines tripped following a storm, severe weather with 80 mph winds, that moved through the utilities service area. The result was the loss of 1,117 MW of demand and approximately 136,000 customers. By June 12 at 18:53 39,000 customers remain without electrical service and work continues to restore those customers.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 3

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/12/2009 5:45:00 PM CDT      **Restoration - Final:** 15/2009 11:59:00 PM

**Affected Utility:** Entergy Corporation – Arkansas/North Mississippi

**Region:** SERC      **Balancing Authority ID:** EES      **Type:** INT

**Cause:** Weather - Thunderstorms      **Category:** Weather

**GenMW:**      **# of Customers:** 79784      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 12 at 17:45 severe thunderstorms affected the majority of the utilities service area and at that time 50,000 customers had been without service for over an hour. The National Weather Service forecasted the derecho moving through the area producing widespread wind damage with 70-plus mph winds. At the storms peak, there were 81,645 customers affected. The utility pre-positioned restoration crews and management prior to the on set of the event and will continue restoration efforts in those areas where it is safe to work. As 14:30 on June 15, only 6,000 customers remain out of service.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/12/2009 10:00:00 PM CDT      **Restoration - Final:** 6/13/2009 6:00:00 PM

**Affected Utility:** Southern Company (SOCO)

**Region:** SERC      **Balancing Authority ID:** SOCO      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:** 290      **# of Customers:** 102000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 12 at 22:00 inclement weather rolled through the utilities service area affecting the distribution system resulting in the loss of service to 102,000 customers. By June 13 at 18:00 less than 11,000 customers were out of service.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/13/2009 7:04:00 PM MDT      **Restoration - Final:** 6/13/2009 7:19:00 PM

**Affected Utility:** Alberta Electric System Operator (AESO)

**Region:** WECC      **Balancing Authority ID:** AESO      **Type:** UO

**Cause:** Equipment Failure - Unknown      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 1 at 19:04 the utilities generating unit tripped due to an unknown cause, no equipment damage reported, dropping 450 MW. At that time the utility was importing 155 MW and the interconnection to neighboring utilities stayed intact. The frequency dropped to 59.943 Hz but no transmission lines tripped. ACE went to 530 but the disturbance was recovered in 15 minutes using internal reserves and 71 MW of external reserves. All reserves were recovered within 45 minutes.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/14/2009 2:02:00 AM EDT      **Restoration - Final:** 6/14/2009 5:03:00 AM

**Affected Utility:** NYISO

**Region:** NPCC      **Balancing Authority ID:** NYIS      **Type:** UO

**Cause:** Equipment Failure - Unknown      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 14 at 02:02, the Reliability Coordinator reported a disturbance that is beyond recognized DOE or NERC reporting criteria. There was no loss of load, system separation, SOL or IROL exceeded due to this event. On June 14 at 02:02 at a substation a 345 kV bus tripped causing other buses to trip resulting in the loss of 6 345 kV lines. The transmission system was not impacted and was returned to full operations at 05:03.

TYPE OF EMERGENCY: Major Transmission System Interruption

ACTION(s) TAKEN: Repaired/Restored

FILING CRITERIA(s): DOE OE-417 # NONE SPECIFIED

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/16/2009 11:32:00 AM CDT      **Restoration - Final:** 16/2009 12:02:00 PM

**Affected Utility:** Otter Tail Power Company

**Region:** MAPP      **Balancing Authority ID:** OTP      **Type:** UO

**Cause:** EMS Computer Failure      **Category:** EMS Computer Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 16 at 08:32 a disturbance resulted in the loss of the utilities Energy Management System functions, including SCADA, AGC, Network Applications and ICCP. The utilities Power System Operators notified the RC and affected entities upon loss of the EMS and when EMS functionality was restored. The disturbance was caused by the implementation of a device locking security tool. The tool caused select hard drives to become unavailable resulting in the loss of the above functionality. The tool was being implemented in response to the Critical Infrastructure Protection (CIP) standards. The disturbance remediation consisted of uninstalling the device locking tool and restarting the impacted systems. To prevent the recurrence of this incident in the future, comprehensive testing will be performed to insure that tool operating characteristics are in accordance with expectations.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/16/2009 11:00:00 PM PDT      **Restoration - Final:** 6/17/2009 2:00:00 AM

**Affected Utility:** California Department of Water Resources

**Region:** WECC-CAMX      **Balancing Authority ID:** CISO      **Type:** UO

**Cause:** Equipment Failure - Unknown      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 16 at 23:00 the utility had to modify its pumping schedules (300 MW for 3 hours) due to forced outage of downstream plants, intake screen cleaning, resulting in the modification scheduled (June 16 and 17) to water conveyance and storage issues.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): DOE OE-417 # 5

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/17/2009 9:50:00 AM CDT      **Restoration - Final:** 17/2009 11:22:00 AM

**Affected Utility:** Kansas City Power & Light – KCP&L

**Region:** SPP      **Balancing Authority ID:** KCPL      **Type:** INT

**Cause:** Policy Violation - Vegetation Interference      **Category:** Policy Violation

**GenMW:** 258      **# of Customers:** 48858      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 17 at 09:50, the utility experienced a disturbance resulting in the dropping of 48,858 Customers / 258 MW in an area due to a tree fault on a 161 kV line. There was no island situation during this event, no SPS was involved, and there was no equipment damage. As a result of the disturbance, two additional 161 kV line were out and another was submitted to the regional reliability coordinator for approval and approved for removal from service.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/19/2009 12:01:00 AM CDT      **Restoration - Final:** 19/2009 11:59:00 PM

**Affected Utility:** Consumers Energy Company

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:** 75      **# of Customers:** 99000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 19 at 00:01 a thunder and lightning storm impacting the utilities distribution service area. Damage included broken poles and burned out transformers due to lightning and wind. The affected number of customers exceeded 50,000 customers at 07:00 on June 19. Repairs were below 50,000 customers at 11:00 and below 12,000 at 21:00. On June 20, additional storms entered the service area and at 07:00 about 33,000 customers were out of service. Restoration will be completed on June 21.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/19/2009 1:00:00 AM CDT      **Restoration - Final:** 19/2009 11:59:00 PM

**Affected Utility:** Exelon Corp-Commonwealth Edison

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:**      **# of Customers:** 245000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 19 at 01:00, storm of severe weather activity entered the utilities service territory; 245,000 customers experienced power outages. The thunderstorm activity had gusts of 62 mph resulting in numerous cases of trees and wire being down and distribution poles broken causing vegetation related distribution outages. The storm activity was declared officially over at 23:59 on June 19.

TYPE OF EMERGENCY: Major Distribution System Interruption; Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/24/2009 1:30:00 PM CDT      **Restoration - Final:** 6/26/2009 8:00:00 PM

**Affected Utility:** Louisiana Generating LLC, Southwest Louisiana Electric Membership Corp

**Region:** SERC      **Balancing Authority ID:** LAGN      **Type:** PA

**Cause:** Public Appeal - Press Release      **Category:** Public Appeal

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 14 at 10:30 the RC informed the Transmission Operator of transmission problems in the area that could possibly require load shedding. The TO informed the local utility of the RC's notification and advised them to prepare for possible load shedding. The local utility issued a public appeal press release requesting customers to reduce their power usage. In its appeal, the local utility requested that its customers continue to minimize their electric usage until 21:00. Continuing transmission problems caused the appeal to again be issued on June 25 and 26.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Made Public Appeals

FILING CRITERIA(s): DOE OE-417 # 8

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/25/2009 12:49:00 AM CDT      **Restoration - Final:** 26/2009 10:06:00 PM

**Affected Utility:** First Energy Corp

**Region:** RFC      **Balancing Authority ID:** PJM      **Type:** UO

**Cause:** Equipment Failure - CCVT      **Category:** Equipment Failure

**GenMW:**      **# of Customers:**      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 25 at 00:49 at the utilities generating station, a voltage monitoring transformer on the "B" phase of the "J" bus of the switchyard failed. Corresponding bus protection automatically isolated the "J" bus. In turn, this action de-energized the "Number One Startup Transformer," rendering one of two startup transformers unavailable. Repairs began immediately and the voltage monitoring transformer returned to service on June 26 at 22:05. The generating unit remained on-line and synchronized to the grid throughout these events via the "K" bus.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): NERC EOP-004

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/25/2009 3:16:00 PM CDT      **Restoration - Final:** 6/25/2009 7:00:00 PM

**Affected Utility:** ERCOT ISO

**Region:** TRE      **Balancing Authority ID:** ERCO      **Type:** PA

**Cause:** Public Appeal - Hot Weather      **Category:** Public Appeal

**GenMW:**      **# of Customers:**      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 25 at 15:16, the RC was expecting a high electricity demand that was expected to break the all-time peak due to a heat advisory in effect for the area. The RC issued a "Power Watch – Conservation Needed" notice as a courteous only. The power system maintained by the RC was never in an emergency condition.

TYPE OF EMERGENCY: Other

ACTION(s) TAKEN: Made Public Appeals

FILING CRITERIA(s): DOE OE-417 # 8

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/25/2009 3:30:00 PM CDT      **Restoration - Final:** 6/28/2009 8:00:00 PM

**Affected Utility:** Detroit Edison

**Region:** MAIN      **Balancing Authority ID:** MISO      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:**      **# of Customers:** 118000      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 25 at 15:30 a storm with high winds and rain resulting in over 50,000 customers out of service at 15:30. Only the distribution service was affected and overall about 118,000 customers were without service as some point. As of June 26 at 19:00, customer outage count fell below 50,000; however the storm reenergized and continued through June 28 20:00.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/26/2009 1:00:00 AM CDT      **Restoration - Final:** 3/27/2009 9:00:00 AM

**Affected Utility:** Duke Energy - Midwest

**Region:** ECAR      **Balancing Authority ID:** CIN      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:**      **# of Customers:** 85000      **Customer Demand:**

## Event Description:

DESCRIPTION: On June 26 at 01:00, the utilities service area was affected by strong thunderstorms with heavy rains, high winds and lightning. These storms caused electric service outages to approximately 85,000 customers.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports

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**Start Date - Time:** 6/26/2009 5:00:00 PM EDT      **Restoration - Final:** 6/27/2009 8:00:00 PM

**Affected Utility:** Northeast Utilities

**Region:** NPCC      **Balancing Authority ID:** ISNE      **Type:** INT

**Cause:** Weather - Lightning, Thunderstorms      **Category:** Weather

**GenMW:**      **# of Customers:** 50752      **Customer Demand:**

**Event Description:**

DESCRIPTION: On June 26 at 17:00 severe weather entered the utilities service area causing service interruptions to 50,752 customers. The utility activated its EOC to facilitate the repairs.

TYPE OF EMERGENCY: Major Distribution System Interruption

ACTION(s) TAKEN: Repaired/Restored; Other

FILING CRITERIA(s): DOE OE-417 # 11

# Jan-June 2009 - Disturbance Reports