

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2005

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
January							
1/4/2005	SPP	6:00 p.m.	Eastern one third of the state of Kansas	Winter Storm	200	211,000	1/14/05, 12:00 p.m.
1/5/2005	ECAR	4:00 p.m.	Akron and Mansfield areas	Ice Storm	250	246,990	1/13/05, 6:00 p.m.
1/5/2005	ECAR	9:10 p.m.	Indiana Michigan Region - Muncie District	Winter Ice Storm	545	114,791	1/16/05, 11:00 a.m.
1/7/2005	WECC	1:00 p.m.	Northern California	Winter Storm	120	442,000	1/10/05, 8:00 a.m.
1/19/05	PR	9:17 a.m.	Island of Puerto Rico	Voltage Reduction	209	N/A	1/19/05, 9:27 a.m.
1/23/2005	PR	10:42 a.m.	Island of Puerto Rico	Voltage Reduction	140	N/A	1/23/05, 11:24 a.m.
1/24/2005	PR	6:38 a.m.	Island of Puerto Rico	Voltage Reduction/Shed Load	225	70,717	1/24/05, 6:50 a.m.
1/24/2005	PR	12:27 p.m.	Island of Puerto Rico	Voltage Reduction/Shed Load	385	N/A	1/24/05, 12:34 p.m.
1/29/2005	SERC	10:00 a.m.	Parts of Alabama and Georgia	Ice Storm	100	150,000	1/31/05, 10:00 a.m.
1/29/2005	SERC	4:00 p.m.	Georgia	Ice Storm	65 to 100	82,000	1/30/05, 3:00 p.m.
February							
2/1/2005	PR	5:78 p.m.	Island of Puerto Rico	Voltage Reduction	460	N/A	2/01/05, 6:01 p.m.
2/15/2005	PR	1:12 p.m.	Island of Puerto Rico	Generator Loss	380	N/A	2/15/05 1:30 p.m.
2/16/2005	PR	1:26 p.m.	Island of Puerto Rico	Load Shedding	325	139,438	2/16/05, 1:43 p.m.
2/18/2005	PR	8:16 a.m.	Island of Puerto Rico	Generator Loss/Voltage Reduction	648	372,288	2/18/05, 8:41 a.m.
2/24/2005	PR	12:58 a.m.	Island of Puerto Rico	Voltage Reduction	200	N/A	2/24/05, 1:05 a.m.
March							
3/8/2005	SERC	11:00 a.m.	Eastern and Central North Carolina	Wind Storms	180	51,600	3/08/05, 3:00 p.m.
April							
4/1/2005	ECAR	Midnight	Cleveland, Ohio and northeast Ohio	Winter Storm	N/A	211,000	4/06/05, 12:00 p.m.
4/22/2005	WECC	3:51 p.m.	San Francisco Bay area, California	Lightning Strike	126	PG&E	4/22/05, 3:59 p.m.
4/23/2005	PR	4:22 a.m.	Island of Puerto Rico	Voltage Reduction	345	116,552	4/23/05, 4:48 a.m.
4/23/2005	ECAR	6:00 a.m.	Cleveland, Ohio and northeast Ohio	Winter Storm	N/A	150,000	4/27/05, 6:00 a.m.
4/30/2005	SERC	8:00 a.m.	Alabama and Georgia	Thunderstorms	100	51,808	4/30/05, 10:00 a.m.
May							
5/8/2005	ERCOT	3:00 p.m.	Houston, Texas and surrounding suburban areas	Strong Thunderstorms	672	243,000	5/08/05, 10:00 p.m.
5/11/2005	PR	7:00 p.m.	Island of Puerto Rico	Voltage Reduction	529	N/A	5/11/05, 8:31 p.m.
5/29/2005	ERCOT	8:00 p.m.	Houston, Texas and surrounding suburban areas	Strong Thunderstorms	328	123,000	5/30/05, 2:30 a.m.
June							
6/5/2005	ECAR	2:00 p.m.	Southeast Michigan	Strong Thunderstorm/High Winds	1,826	201,580	6/10/05, 7:30 a.m.

6/5/2005	ECAR	2:00 p.m.	Portions of the southern 2/3 of Michigan's Lower Peninsula	Strong Thunderstorm	50-60	105,000	6/07/05, 6:00 p.m.
6/6/2005	NPCC	12:00 p.m.	Central/Eastern New York state	Strong Thunderstorms	N/A	65,000	6/08/05, 6:00 p.m.

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2005 (Continued)

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
6/6/2005	MAAC	4:43 p.m.	Bucks, Montgomery, Delaware, Chester, Philadelphia counties, Pennsylvania	Strong Thunderstorm	N/A	143,000	6/07/05, 10:00 p.m.
6/8/2005	MRO	4:00 a.m.	Minnesota	Strong Thunderstorm	50-100	300,000	6/10/05, 10:00 p.m.
6/20/2005	PR	11:16 a.m.	Island of Puerto Rico	Voltage Reduction	35	600,000	6/20/05, 5:15 pm.
6/24/2005	MAIN	8:37 p.m.	Chicago, Illinois	Transmission Equipment Failure	350	51,500	6/24/05, 11:06 p.m.
6/28/2005	WECC	11:30 a.m.	Denver Metropolitan area of Colorado	Fuel Supply Deficiency/Coal Rail Transportation Interruption	0	0	Ongoing
6/29/2005	ECAR	4:30 p.m.	Southeast Michigan	Strong Thunderstorm/High Winds	1,000	114,711	7/04/05, 11:30 p.m.
July							
7/01/05	ERCOT	N/A	Texas, New Mexico, Oklahoma, Kansas	Fuel Supply - Deficiency Coal Rail Transportation Interruption	0	0	Ongoing
7/2/2005	PR	1:27 a.m.	Island of Puerto Rico	Load Shedding	226	132,290	7/02/05, 1:46 a.m.
7/5/2005	SPP	9:00 p.m.	Southeast and Northeast, Louisiana including the New Orleans area	Tropical Storm Cindy	unknown	287,000	7/06/05, 9:00 a.m.
7/10/2005	SERC	8:00 a.m.	Alabama, Mississippi, Florida, Georgia	Hurricane Dennis	45	228,102	7/12/05, 8:00 a.m.
7/10/2005	SERC	12:53 p.m.	Southwest Alabama and Western Panhandle of Florida	Hurricane Dennis	51.2	50,000	7/11/05, 5:33 pm.
7/21/2005	WECC	2:39 p.m.	Southern California	CA ISO Stage 2 - Initiated interruption of Air Conditioner Cycling Interruptible Load Program	197	128,050	7/21/05, 5:30 p.m.
7/22/2005	WECC	1:55 p.m.	Southern California	CA ISO Stage 2 - Initiated interruption of Air Conditioner Cycling Interruptible Load Program	206	133,900	7/22/05, 6:00 p.m.

7/23/2005	MAAC	1:02 a.m.	Washington, DC, Montgomery and Prince Georges Counties. Marvland Bucks, Chester, Delaware, Montgomery and Philadelphia counties, Pennsylvania	Severe Thunderstorms	N/A		55,118	7/26/05, 10:50 a.m.
7/27/2005	MAAC	4:50 p.m.	Washington, DC, Montgomery and Prince Georges Counties. Marvland Bucks, Chester, Delaware, Montgomery and Philadelphia counties, Pennsylvania	Severe Thunderstorms	N/A		93,837	7/28/05, 9:24 p.m.
7/27/2005	MAAC	5:50 p.m.	Washington, DC, Montgomery and Prince Georges Counties. Marvland Baltimore County, Anne Arundel County and Prince Georges County, Maryland	Severe Thunderstorm	N/A		64,943	7/30/05, 9:07 p.m.
7/27/2005	MAAC	6:00 p.m.	Washington, DC, Montgomery and Prince Georges Counties. Marvland Baltimore County, Anne Arundel County and Prince Georges County, Maryland	Severe Thunderstorms	N/A		87,600	7/29/05, 4:00 p.m.
7/28/2005	SERC	8:30 p.m.	Piedmont North and South Carolina	Severe Thunderstorm		300	52,200	8/01/05, 5:00 p.m.
August								
8/1/2005	PR	10:28 a.m.	Island of Puerto Rico	Voltage Reduction/Load Shed		175	47,116	8/01/05, 10:47 a.m.
8/8/2005	WECC	12:38 p.m.	San Francisco Bay area, California	Plant Tripped		240 PG&E		8/08/05, 4:00 p.m.

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2005 (Continued)

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
8/19/2005	PR	7:37 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	259	71,864	8/19/05, 8:15 p.m.
8/20/2005	ECAR	2:15 p.m.	Northwest Arkansas	Severe Thunderstorms	650	50,797	8/20/05, 4:21 p.m.
8/25/2005	WECC	3:50 p.m.	Southern California	CAISO determined - there was inadequate electric resources to serve load. Public appeals and a shedding of interruptible and firm load occurred.	-	-	8/25/05, 8:00 p.m.
8/25/2005	WECC	3:51 p.m.	Southern California	CAISO initiated interruption of interruptible and firm load due to declaration of Transmission Emergency in Southern California	864	409,000	8/25/05, 8:00 p.m.
8/29/2005	SPP	1:10 a.m.	East and Southeast Louisiana	Hurricane Katrina	300	143,000	8/29/05, 12:42 p.m.
8/29/2005	SPP	6:00 a.m.	Buras, Louisiana	Hurricane Katrina	N/A	1.1 million and 100,000 gas customers	8/30/05, 6:00 a.m.

8/29/2005 FRCC	7:10 a.m.	Counties of Alachua, Bay, Citrus, Columbia, Dixie, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla	Hurricane Katrina disrupted fuel supply in the Gulf of Mexico. Public appeals for conservation were issued.	0	0	9/07/05, 3:00 p.m.
8/29/2005 SERC	7:10 a.m.	Alabama, Florida, Mississippi	Hurricane Katrina	5,120	512,049	8/29/05, 10:00 p.m.
8/29/2005 SERC	3:50 p.m.	Alabama, Mississippi, Tennessee	Hurricane Katrina	118.5	323,529	9/10/05, 12:00 p.m.
8/29/2005 FRCC	5:00 p.m.	City of Lakeland, Florida	Hurricane Katrina disrupted normal gas allotment through natural gas pipelines (FGT & Gulf stream). Public appeals for conservation were issued.	0	0	9/08/05, 12:01 a.m.
8/31/2005 FRCC	4:00 p.m.	Member Service Territory is located in the West coast of Florida from Tallahassee to Fort Myers	Hurricane Katrina disrupted normal gas supplies distribution. Public appeals for conservation were issued.	0	0	9/12/05, 8:00 a.m.

September

9/12/2005 WECC	12:32 p.m.	Los Angeles, California	Breaker protection cable accidentally cut	2,578	900,000	9/12/05, 1:56 p.m.
9/13/2005 PR	2:14 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	249	66,480	9/13/05, 2:29 p.m.
9/13/2005 MAIN	6:30 p.m.	Southeast Wisconsin and Fox Valley	Severe Storm	600	110,000	9/16/05, 8:00 p.m.
9/14/2005 SERC	3:00 p.m.	Eastern North Carolina	Hurricane Ophelia	215	60,000	9/15/05, 3:00 p.m.
9/21/2005 MRO	7:00 p.m.	Minnesota	High Winds/Tornados	N/A	200,000	9/27/05, 11:00 p.m.
9/22/2005 ECAR	11:00 a.m.	Southeast Michigan	Severe Thunderstorm	366	53,000	9/26/05, 11:30 p.m.

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2005 (Continued)

NERC			Type of	Loss	Number of Customers	Restoration
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Date	Region	Time	Area Affected	Disturbance	(megawatts)	Affected ¹	Date/Time
9/22/2005	FRCC	12:00 p.m.	Counties of Alachua, Bay, Citrus, Columbia, Dixie, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla	Hurricane Rita disrupted fuel supply in the Gulf of Mexico. Public Appeals for conservation were issued.	0	0	9/29/05, 12:00 p.m.
9/23/2005	FRCC	7:00 a.m.	Lakeland, Florida	Hurricane Rita disrupted normal gas allotment through natural gas pipelines (FGT & Gulf stream). Public Appeals for conservation were issued.	0	0	9/28/05, 11:29 a.m.
9/23/2005	SPP	1:06 p.m.	West and Southwest Louisiana	Hurricane Rita	350	125,000	10/06/05, 2:30 p.m.
9/23/2005	ERCOT	5:00 p.m.	Houston, Texas and the surrounding suburban areas	Hurricane Rita	1,950	715,000	9/24/05, 8:00 p.m.
9/23/2005	SPP	9:00 p.m.	Texas, Louisiana, Arkansas, and Mississippi	Hurricane Rita	N/A	766,000	9/25/05, 7:30 a.m.
9/24/2005	ERCOT	6:00 a.m.	Nacogdoches, Lufkin, Tyler, Jacksonville, Rusk, Paris, Commerce, Huntington	Hurricane Rita	260	200,000	10/02/05, 5:00 p.m.
9/24/2005	ECAR	10:00 a.m.	Shreveport, Louisiana	Hurricane Rita	700	190,000	9/28/05, 6:00 p.m.
October							
10/2/2005	PR	5:40 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	312	71,240	10/02/05, 5:54 p.m.
10/18/2005	PR	3:19 p.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	460	142,591	10/18/05, 3:37 p.m.
10/22/2005	PR	9:44 a.m.	Island of Puerto Rico	Voltage Reduction/Load Shed	360	85,682	10/22/05, 11:40 a.m.
10/23/2005	FRCC	8:00 p.m.	South Florida, Naples, Ft. Myers, Miami, Ft. Lauderdale, West Palm Beach and Martin county	Hurricane Wilma	10,000	3,241,437	10/24/05, 2:00 p.m.
10/24/2005	FRCC	4:00 a.m.	Florida counties of Collier, Charlotte and Lee	Hurricane Wilma	280	105,000	10/24/05, 4:00 p.m.
10/24/2005	FRCC	7:00 a.m.	South Florida - Cities of Key West, Clewiston, Lake Worth, and Ft. Pierce	Hurricane Wilma	148	84,900	11/10/05, 12:00 a.m.

10/24/2005	MAAC	8:00 p.m.	Maryland, North Central West Virginia, Southwestern Pennsylvania, and Northern Pennsylvania	Hurricane Wilma	400	303,795	11/02/05, 4:30 p.m.
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November

11/3/2005	WECC	6:47 p.m.	San Francisco Bay area, California	Plant Tripped	136 --		11/03/05, 7:00 p.m.
11/6/2005	ECAR	7:30 a.m.	Southeast Michigan	Severe Thunderstorm	212	118,000	11/11/05, 11:30 p.m.
11/12/2005	WeEnergiesM AIN	4:00 p.m.	Southeast Wisconsin	Severe Thunderstorms	10	48,000	11/14/05, 6:00 p.m.
11/12/2005	ECAR	11:00 p.m.	Western and Central portions of Michigan's Lower Peninsula	Severe Thunderstorm	408	272,355	11/14/05, 11:59 p.m.

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(Continued)**

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
December							
12/15/2005	SERC	4:00 a.m.	Piedmont North Carolina and South Carolina	Ice Storm	3,500	683,000	12/21/05, 5:00 p.m.
12/15/2005	SERC	5:05 a.m.	Northeast Georgia	Ice Storm	75	52,659	12/16/05, 12:10 p.m.
12/31/2005	WECC	6:00 a.m.	Northern and Central California	Severe Storms	800	1,667,316	01/05/06, 9:00 a.m.

¹ = Estimated Values.

Note: North American Electric Reliability Council region acronyms are defined in the glossary.

Source: Form OE-417, "Electric Emergency Incident and Disturbance Report."