

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2004

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹
January						
1/1/2004	WECC	7:30 a.m.	Northern California	Winter Storm	170	263,000
1/7/2004	WECC	Midnight	King County	Snow Storm	150	145,000
1/8/2004	NPCC	3:00 p.m.	Lake Placid/Saranac, New York	Public Appeal to Reduce Load	100	18,600
1/14/2004	NPCC	6:00 a.m.	Lake Placid/Saranac, New York	Public Appeal to Reduce Load	100	18,600
1/26/2004	SERC	10:00 a.m.	Central South Carolina	Ice Storm	500-700	150,000
1/26/2004	SERC	2:00 p.m.	North and Central area of Georgia	Ice Storm	Less than 150	30,689
1/26/2004	SERC	4:00 p.m.	Central and Eastern North Carolina and Northern and Eastern South Carolina	Ice Storm	475	9,905
1/28/2004	MAAC	1:09 p.m.	Harford County, Maryland	Ice Storm	Approx. 300	Approx. 70,000
February						
2/5/2004	MAAC	8:00 p.m.	Maryland, Southeastern West Virginia, Northern Virginia, Northern Pennsylvania and South Central Pennsylvania	Ice Storm	60	87,456
2/14/2004	NPCC	8:00 p.m.	Lake Colby, Lake Placid, Tupper Lake	Public Appeal to Reduce Load	Approx. 30	18,600
2/17/2004	WECC	2:25 p.m.	San Francisco Bay area, California	Lightning struck Intertie Breaker	220	PG&E
2/25/2004	WECC	12:01 a.m.	Northern California	Winter Storm	240	505,000
2/26/2004	SERC	12:00 a.m.	Georgia	Severe Storm	10	47,165
March						
3/4/2004	ERCOT	5:00 a.m.	North Texas	High Winds - Severe Storm	Less than 300	63,000
3/7/2004	SERC	6:30 p.m.	North and South Carolina	Severe Storm	1,000	206,000
3/8/2004	WECC	6:22 p.m.	Southern California not including LA	Inadequate Resources	300	Approx. 70,000
3/17/2004	WECC	1:27 p.m.	El Paso, Texas	Faulty Switch	Approx. 300	Approx. 100,000
April						
4/10/2004	ERCOT	8:00 p.m.	Houston, Texas and surrounding suburban areas	Thunderstorms	Approx. 100	85,000 at peak
4/12/2004	FRCC	5:30 a.m.	FPL's service territory mostly in Naples and Ft. Myers Florida	Storm with High Winds	250	179,000
4/27/2004	WECC	12:35 p.m.	Snohomish County Washington	Strong Winds	Approx. 300	187,000
May						
5/3/2004	WECC	2:30 p.m.	Central and Southern California	Heat Storm	662	Approx. 940
5/11/2004	ERCOT	3:30 p.m.	Houston, Texas and surrounding suburban areas	Strong Thunderstorms	Approx. 85	62,500 at peak

5/21/2004 ECAR	2:00 a.m.	Akron and Youngstown areas	Severe Thunderstorms	133 on 5/21/04 between 3:00 a.m. and 4:00 a.m., 392 on 5/21/04 between 4:00 p.m. and 5:00 p.m.	281,000
5/21/2004 ECAR	2:00 a.m.	Cleveland area	Severe Thunderstorms	177 on 5/21/04 between 3:00 p.m. and 5:00 p.m.	127,000
5/21/2004 MAAC	5:30 a.m.	Western Pennsylvania, Northern West Virginia, Western Maryland, Northern Virginia	High Winds and Heavy Rains	60 at peak,	94,366 at peak,
				total 162	total 225,353

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2004
(Continued)

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹
5/21/2004 ECAR		11:00 a.m.	Northern and Southern Michigan, AEP Fort Wayne/Michigan Region, Buchanan, Elkhart, New Buffalo, South Bend, St. Joseph, Three Rivers areas	Severe Thunderstorms	303	122,600
5/21/2004 ECAR		1:00 p.m.	Lower peninsula of Michigan following cities: Grand Rapids, Kalamazoo, Battle Creek, Jackson, Bronson, Jonesville, Flint	Severe Thunderstorms	200	248,209
5/21/2004 ECAR		4:00 p.m.	Southeast Michigan	Severe Thunderstorms	630	Greater than 250,000
5/28/2004 FRCC		12:00 p.m.	Florida counties of Gadsden, Wakulla, Leon, and Liberty	Public Appeals	0	0
5/28/2004 FRCC		12:00 p.m.	Florida counties of Gadsden, Wakulla, Leon, and Liberty	Public Appeals	0	0
5/28/2004 FRCC		12:00 p.m.	Florida counties of Gadsden, Wakulla, Leon, and Liberty	Public Appeals	0	0
June						
6/1/2004 ERCOT		5:00 p.m.	Collin, Dallas, Denton, Ellis, Parker, and Tarrant Counties, Texas	Severe Storms with Strong Winds	1,900	500,000
6/2/2004 ECAR		1:46 a.m.	Shreveport, Louisiana	Severe Thunderstorms with Strong Winds	350	59,057
6/2/2004 ECAR		2:35 a.m.	Tulsa, Oklahoma	Severe Thunderstorms with Strong Winds	280	56,874
6/12/2004 MAPP		5:37 p.m.	Lincoln, Nebraska	Tornado	428	120,212
6/14/2004 WECC		7:41 a.m.	Phoenix, Arizona	Fault on Line	200	30,000

6/23/2004	WECC	5:35 p.m.	Southern Idaho	Load Shedding	157	35,000
6/23/2004	SERC	7:00 p.m.	Georgia and Alabama	Thunderstorms	50	50,595
July						
7/6/2004	WECC	6:00 a.m.	Metro Phoenix, Arizona	Fire/Substation Multiple Public Appeals	-	-
7/6/2004	WECC	6:00 a.m.	Metro Phoenix, Arizona	Fire/Substation Multiple Public Appeals	-	-
7/7/2004	SERC	1:30 p.m.	Central Virginia	Severe Thunderstorms	120	88,110
7/13/2004	FRCC	1:34 p.m.	Leon County, Florida	Units Tripped	283	42,124
7/13/2004	ECAR	4:30 p.m.	West, West Central and Southern Indiana	Severe Thunderstorms	600	135,000
7/20/2004	WECC	2:26 p.m.	Soledad Canyon near Acton, California	Wildfire/Shed Interruptible Load	214	-
7/20/2004	PR	3:44 p.m.	Regions of San Juan, Caguas, Ponce, Bayamon, Carolina, Arecibo and Mayaguez	Wildfire	200	61,624
7/21/2004	MAIN	5:30 p.m.	Chicago, Illinois	Severe Thunderstorms	Approx. 200	200,000
7/24/2004	SPP	3:45 p.m.	Southwest Louisiana in the Acadia Parish vicinity	Public Appeal	-	-
7/25/2004	SERC	10:00 p.m.	Georgia, Alabama, Florida panhandle, Southern Mississippi	Severe Storms	61	61,004
August						
8/2/2004	SPP	10:00 a.m.	Southeast Texas	Unplanned Generator Outage/High Loads Made Public Appeal	-	-
8/3/2004	MAIN	9:00 p.m.	Northern Illinois	Severe Storm	127	127,000
8/4/2004	WECC	12:46 p.m.	Northwest Orange County, California	Fault at Barre Substation	480	182,000
8/9/2004	PR	8:23 a.m.	Whole Island of Puerto Rico	Two Large Units Tripped	451.7	259,478

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2004
(Continued)

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹
8/13/2004	FRCC	8:00 a.m.	Florida counties of Hardee, Highlands, Lake, Orange, Osceola, Polk, Seminole, Volusia	Hurricane Charley	1,300	502,000
8/13/2004	FRCC	3:00 p.m.	West Coast of Florida from Naples to Charlotte and in an area centered around Daytona Beach	Hurricane Charley	1,400	1,200,000

8/13/2004 FRCC	1:30 p.m.	Florida counties of Collier, Hendry, Glades, Highlands, Charlotte, Desoto, Lee, Hardee, and Polk	Hurricane Charley	700	200,000
8/13/2004 FRCC	4:43 p.m.	Eastern Hillsborough, Polk County, Florida	Hurricane Charley	250	78,000
8/13/2004 FRCC	10:04 p.m.	New Smyrna Beach, Florida	Hurricane Charley	65	23,000
8/14/2004 SERC	1:00 p.m.	Central and Eastern North Carolina and Northern and Eastern South Carolina	Hurricane Charley	500	94,000
8/20/2004 NPCC	3:31 p.m.	Boston, Massachusetts	Major Transmission Line Tripped due to Lightning Strike	22,700	380,000
8/29/2004 SERC	9: 52 a.m.	Southeastern South Carolina	Tropical Storm Gaston	450	125,000
8/30/2004 SERC	6:58 p.m.	Central Virginia, South to North Carolina and East to the Virginia Coast	Tropical Storm Gaston	150	99,816

September

9/3/2004 FRCC	9:00 p.m.	City of Fort Pierce, Florida	Hurricane Frances	125	26,000
9/4/2004 FRCC	8:00 a.m.	West Palm Beach to Daytona Beach, Florida	Hurricane Frances	6,000	2,775,093
9/4/2004 FRCC	10:00 a.m.	Hillsborough, Pasco, and Polk County, Florida	Hurricane Frances	1,100	268,000
9/5/2004 FRCC	1:00 a.m.	Orlando, Florida	Hurricane Frances	200	65,000
9/5/2004 FRCC	7:00 a.m.	Florida counties of Alachua, 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 Frances	2,100	832,898
9/6/2004 SERC	1:00 p.m.	Florida, Mississippi, Alabama, Georgia	Hurricane Frances	3,000	99,000
9/7/2004 SERC	10:00 a.m.	Georgia	Hurricane Frances	2,200	150,000
9/15/2004 PR	12:04 p.m.	Whole Island of Puerto Rico	Hurricane Jeanne	1,243	1,423,590
9/15/2004 SERC	7:00 p.m.	Florida, Mississippi, Alabama, Georgia	Hurricane Ivan	916	916,316
9/16/2004 SERC	2:00 a.m.	Baldwin County, Alabama, Escambia County, Florida, Washington County, Alabama	Hurricane Ivan	263	75,000

9/16/2004	SERC	9:00 p.m.	Western North and South Carolina	Hurricane Ivan	500	175,000
9/17/2004	SERC	4:30 a.m.	Western North Carolina	Hurricane Ivan	400	112,000
9/25/2004	FRCC	5:00 p.m.	City of Fort Pierce, Florida	Hurricane Jeanne	125	26,000
9/26/2004	FRCC	2:00 a.m.	Hillsborough, Pasco, and Polk County, Florida	Hurricane Jeanne	1,250	285,300
9/26/2004	FRCC	3:00 a.m.	Orlando and St. Cloud, Florida	Hurricane Jeanne	350	110,000

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(Continued)

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹
9/26/2004	FRCC	6:00 a.m.	Florida counties of Alachua, Bay, Brevard, Citrus, Columbia, Dixie, Flagler, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Hillsborough, Jefferson, Lafayette, Lake, Leon, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla	Hurricane Jeanne	1,800	722,000
9/27/2004	SERC	8:00 a.m.	Georgia	Hurricane Jeanne	854	85,455
9/27/2004	NPCC	4:06 p.m.	Nova Scotia	Switch Error Concerning Breakers	-	-
October						
10/10/2004	PR	5:09 p.m.	Island Wide	Breaker Failure	All	All
10/18/2004	WECC	10:30 p.m.	Northern California	Severe Storm with High Wind Gusts	140	407,440
10/25/2004	SPP	11:00 a.m.	Southeastern Louisiana in the New Orleans area	Public Appeal/Breaker Failure and Fire	-	-
10/28/2004	WECC	3:27 p.m.	San Jose, California	Major Transmission Distribution System Interruption	103	59,458
10/30/2004	ECAR	10:00 a.m.	Lower peninsula of Michigan. following area: Grand Rapids, Kalamazoo, Battle Creek, Greenville, Jackson, Flint, Lansing, Allegan, Temperance	Severe Storm with High Wind Gusts	60	122,000
10/30/2004	ECAR	12:30 p.m.	Southeastern Michigan	High Wind Gusts	700	159,870
November						

11/9/2004	NPCC	2:15 p.m.	Sayreville, New Jersey Long Island, New York	Fuel Supply Deficiency - Williams Company: Event for Trans Continental Gas Distribution Heavy Snow, High Winds and Rain/Major Distribution System Interruption	0	0
11/14/2004	NPCC	4:55 a.m.	Nova Scotia	Heavy Snow, High Winds and Rain/Major Distribution System Interruption	165	165,000
11/23/2004	ERCOT	10:00 p.m.	Houston, Texas and surrounding suburban areas	Strong Thunderstorms	150	119,000
11/24/2004	SERC	10:00 a.m.	Georgia	Strong Thunderstorms	100	83,450
December						
12/1/2004	MAAC	10:00 a.m.	Central Maryland (Baltimore City, Baltimore County, Anne Arundel County, Hartford County, Montgomery County, Calvert County, Prince George's County, Carroll County and Howard County)	High Winds	270	122,000
12/1/2004	MAAC	7:30 a.m.	Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties, Pennsylvania	Heavy Rain and Wind Storm	-	105,312
12/23/2004	ECAR	3:37 a.m.	Columbus District	Major Freezing Rain and Ice Storm	800	359,171

Table B.2. Major Disturbances and Unusual Occurrences, January through December 2004

(Continued)

Date	NERC Region	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹
12/27/2004	WECC	7:50 a.m.	Salinas, California and surrounding communities	Severe Weather/Line Relayed	100	95,000

¹ = Estimated Values.

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

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

**Restoration
Date/Time**

1/02/04, 4:00 p.m.

1/10/04, 5:00 p.m.

1/10/04, 7:00 p.m.

1/17/04, 12:00 noon

1/28/04, 8:00 a.m.

1/27/04, 8:00 p.m.

1/29/04, 6:30 a.m.

1/29/04, 5:00 a.m.

2/09/04, 8:00 p.m.

2/16/04, 12 noon

2/17/04, 11:57 p.m.

2/26/04, 10:00 a.m.

2/26/04, 1:30 a.m.

3/16/04, 2:45 p.m.

3/09/04, 8:00 a.m.

3/08/04, 6:55 p.m.

3/17/04, 2:06 p.m.

4/11/04, 4:00 p.m.

4/12/04, 10:15 a.m.

4/30/04, 12:00 p.m.

5/03/04, 7:00 p.m.

5/11/04, 6:00 p.m.

5/24/04, 12:00 a.m.

5/24/04, 12:00 a.m.

5/25/04, 12:00 a.m.

**Restoration
Date/Time**

5/26/04, 9:00 p.m.

5/25/04, 12:00 p.m.

5/24/04, 8:00 p.m.

5/31/04, 12:00 a.m.

5/31/04, 12:00 a.m.

5/31/04, 12:00 a.m.

6/02/04, 1:00 a.m.

6/07/04, 4:00 p.m.

6/06/04, 6:00 p.m.

6/12/04, 5:41 p.m.

6/14/04, 2:39 p.m.

6/23/04, 7:10 p.m.

6/23/04, 8:00 p.m.

8/09/04, 12:00 p.m.

8/09/04, 12:00 p.m.

7/07/04, 11:54 p.m.

7/13/04, 5:15 p.m.

7/17/04, 8:00 a. m.

7/21/04, 2:00 a.m.

7/20/04, 5:51 p.m.

7/22/04, 7:00 p.m.

7/25/2004, 9:00 p.m.

7/25/04, 11:00 p.m.

8/02/04, 8:00 p.m.

8/04/04, 7:00 a.m.

8/04/04, 1:50 p.m.

8/09/04, 11:10 a.m.

**Restoration
Date/Time**

8/23/04, 12:00 a.m

8/13/04, 11:00 p.m.

8/13/04, 12 a.m.

8/13/04, 8:24 p.m.

8/14/04, 4:23 p.m.

8/14/04, 11:00 p.m.

8/20/04, 9:45 p.m.

8/29/04, 6:00 p.m.

8/31/04, 3:35 p.m.


9/05/04, 2:00 p.m.

9/06/04, 8:00 a.m.

09/12/04, 7:00 p.m.

09/09/04, 5:00 p.m.

09/12/04 , 12:00 a.m.

09/09/04, 12:00 p.m.

09/08/04, 12:00 p.m.

09/23/04 12:00 p.m.

09/17/04, 7:00 p.m.

9/16/04, 10:02 a.m.

9/20/04, 4:00 p.m.

09/18/04, 12:00 p.m.

09/26/04, 9:00 a.m.

9/27/04, 12:00 a.m.

09/30/04, 9:00 a.m.

**Restoration
Date/Time**

10/01/04, 12:00 a.m.

09/27/04, 2:00 p.m.

09/27/04, 4:12 p.m.

10/11/04, 7:57 p.m.

10/20/04, 9:00 a.m.

10/26/04, 10:00 a.m.

10/28/04, 6:08 p.m.

11/01/04, 6:00 p.m.

11/03/04, 1:50 p.m.

11/12/04, 1:07p.m.

11/15/04, 1:31 a.m.

11/24/04, 1:00 a.m.

11/24/04, 4:00 p.m.


12/02/04, 11:59 p.m.

12/02/04, 10:09 p.m.

12/31/04, 11:00 p.m.

**Restoration
Date/Time**

12/27/04, 10:50 a.m.
