

Appendix B

Major Disturbances and Unusual Occurrences

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through September 2008

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
January							
01/04/08	Pacific Gas and Electric Company (WECC)	4:00 a.m.	Northern California	Winter Storm	500	2,606,931	5:00 p.m. January 14
01/04/08	Sacramento Municipal Utility District (WECC)	7:47 a.m.	Sacramento County	Severe Storm	300	150,000	4:30 p.m. January 04
01/29/08	Crockett Cogeneration (WECC)	5:00 a.m.	San Francisco Bay Area, California	Exciter Faulted	N/A	-	12:17 p.m. January 29
01/29/08	Entergy Corporation (SERC)	4:00 p.m.	Arkansas, Mississippi, North Louisiana	Severe Thunderstorms	N/A	110,000	8:00 a.m. February 03
01/29/08	DTE Energy - Detroit Edison (RFC)	10:00 p.m.	Southeastern Michigan	Wind/Ice Storm	N/A	86,915	6:30 p.m. February 01
01/29/08	Dayton Power and Light (RFC)	11:23 p.m.	South Metropolitan Areas of Dayton, Ohio	High Winds	380	45,000	12:48 a.m. January 30
01/30/08	Niagara Mohawk Power Corporation (NPCC)	3:06 a.m.	Western, New York	High Winds	50	54,316	2:50 p.m. February 01
February							
02/01/08	Crockett Cogeneration (WECC)	6:00 a.m.	San Francisco Bay Area, California	Equipment Faulted	N/A	-	7:49 a.m. February 01
02/02/08	Crockett Cogeneration (WECC)	3:58 a.m.	San Francisco Bay Area, California	Equipment Faulted	N/A	-	4:27 p.m. February 02
02/05/08	LG&E Energy/Kentucky Utilities (SERC)	10:00 p.m.	State of Kentucky	Severe Weather	N/A	76,000	3:00 a.m. February 06
02/06/08	Tennessee Valley Authority (SERC)	9:00 a.m.	Mid to West Tennessee	Severe Weather	N/A	57,000	11:00 a.m. February 06
02/09/08	Pacific Gas and Electric Company (WECC)	11:59 a.m.	Near Arnold, California	Electrical System Separation	0	0	3:33 p.m. February 09
02/10/08	Allegheny Power (RFC)	4:00 a.m.	Southwestern Pennsylvania, West Virginia, Virginia, Maryland	Severe Weather	412	100,969	8:43 p.m. February 12
02/10/08	PJM Interconnection LLC (RFC)	11:00 a.m.	Virginia, West Virginia, Ohio, Pennsylvania	High Winds	N/A	212,560	11:36 p.m. February 10
02/10/08	American Electric Power (RFC)	11:00 a.m.	Virginia and West Virginia Area of AEP	High Winds	N/A	97,342	5:05 p.m. February 14
02/10/08	Dominion-Virginia Power (SERC)	2:06 p.m.	Dominion Service Territory	High Winds	170	114,618	11:36 p.m. February 10
02/10/08	Duke Energy Carolinas (SERC)	6:02 p.m.	Greenboro, North Carolina and I-40 Corridor	High Winds	300	50,718	4:00 a.m. February 11
02/12/08	Entergy Corporation (SERC)	3:00 p.m.	Arkansas, Mississippi, Louisiana	Severe Weather	N/A	54,000	5:00 p.m. February 15
02/13/08	ISO New England (NPCC)	6:43 p.m.	State of Maine	Ice Storm	50	50,462	12:00 p.m. February 14
02/14/08	PacifiCorp (WECC)	8:15 a.m.	Utah	Load Shedding	2,818	74,031	10:46 a.m. February 14
02/15/08	Pacific Gas and Electric Company (WECC)	3:06 p.m.	Antioch, California	Electrical System Separation	10	10,008	7:36 p.m. February 15
02/25/08	Owensboro Municipal Utilities (RFC)	8:00 a.m.	Restricted Coal Capability	Fuel Supply Deficiency	N/A	0	8:00 a.m. March 12
02/26/08	Southern Company (SERC)	5:00 a.m.	Southern Service Area/Alabama and Georgia	Thunderstorms	484	145,380	3:00 p.m. February 26
02/26/08	Florida Municipal Power Agency (FRCC)	1:09 p.m.	Various Cities in Florida	Under Frequency/Load Shedding	140	47,661	2:10 p.m. February 26
02/26/08	Tampa Electric Company (FRCC)	1:09 p.m.	Tampa Electric Service Territory	Under Frequency/Load Shedding	318	53,965	2:40 p.m. February 26
02/26/08	Florida Power and Light (FRCC)	1:09 p.m.	Primary Dade County Florida	Transmission Equipment Failure	3,200	584,384	4:11 p.m. February 26
02/26/08	Seminole Electric Cooperative (FRCC)	1:09 p.m.	FRCC Region-West Coast Florida	Shed Firm Load	120	56,000	1:47 p.m. February 26
02/26/08	Progress Energy Florida (FRCC)	1:10 p.m.	The entire PEF system was affected, including the following counties: Alachua, Bay, Citrus, Columbia, Dixie, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Levy, Madison, Marion, Orange, Osecola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia, Wakulla.	Under Frequency/Load Shedding	500	150,000	3:45 p.m. February 26

¹ Estimated values.

Table B.1. Major Disturbances and Unusual Occurrences, Year-to-Date through September 2008

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
March							
03/04/08	Duke Energy Carolinas (SERC)	9:30 p.m.	North and South Carolina	Thunderstorms	300	55,267	10:45 p.m. March 04
03/08/08	Dominion-Virginia Power (SERC)	2:14 p.m.	Virginia and Eastern Part of North Carolina	Windstorm	210	141,130	9:59 p.m. March 08
03/08/08	PECO Energy (RFC)	4:00 p.m.	Chester, Montgomery, Delaware, Philadelphia and Bucks County, Pennsylvania	Severe Weather	N/A	168,449	1:44 p.m. March 10
03/15/08	Southern Company (SERC)	8:55 p.m.	Parts of Alabama and Georgia	Major Storm	200	157,744	8:30 p.m. March 16
April							
04/04/08	Entergy Corporation (SERC)	12:31 p.m.	Arkansas, North Louisiana, Mississippi	Severe Thunderstorms	N/A	122,600	5:00 p.m. April 04
04/09/08	Oncor Electric Delivery Company LLC (TRE)	4:00 p.m.	North, Central and East Texas	Severe Weather	N/A	488,689	1:15 a.m. April 13
May							
05/08/08	California ISO (WECC)	10:21 a.m.	California	Load Shedding	483	0	12:56 a.m. May 08
05/11/08	Southern Company (SERC)	6:00 a.m.	Georgia	Severe Thunderstorms	100	80,539	2:30 p.m. May 12
05/11/08	Crawfordsville Electric Light and Power (RFC)	4:50 p.m.	City of Crawfordsville, Indiana	Electric System Separation	47	9,700	8:43 p.m. May 11
05/12/08	Atlantic City Electric (RFC)	12:01 a.m.	Cape May, Cumberland, Gloucester, Salem, Camden, Atlantic, Burlington Counties, New Jersey	Severe Storm	55	135,000	12:00 a.m. May 14
05/27/08	ISO New England (NPCC)	2:02 p.m.	South West Connecticut	Lightning Storm	130	56,400	3:52 p.m. May 27
05/30/08	Exelon Corporation-ComEd (RFC)	9:30 a.m.	Northern and Western Counties of Illinois	Severe Storms	N/A	109,000	11:00 p.m. May 30
05/30/08	Entergy Services, Inc. (SERC)	2:05 p.m.	South Louisiana	Load Shedding, Inadequate Electric Resources to Serve Load	200-250	N/A	8:00 p.m. May 30
05/30/08	Indianapolis Power and Light (RFC)	10:00 p.m.	Northeastern Marion County, Indiana	Severe Thunderstorms	N/A	70,000	11:59 p.m. June 04
June							
06/03/08	Allegheny Power (RFC)	5:00 p.m.	Maryland, West Virginia, Virginia	Severe Weather	634	157,168	11:00 p.m. June 07
06/04/08	Potomac Electric Power Company (RFC)	3:00 p.m.	Montgomery, Prince Georges, Maryland, Washington, D.C.	Lightning Storm	N/A	249,408	1:00 a.m. June 05
06/04/08	Baltimore Gas and Electric Company (RFC)	3:00 p.m.	Entire BGE Service Territory	Severe Storms	N/A	108,000	5:30 a.m. June 07
06/04/08	Dominion-Virginia Power (SERC)	3:04 p.m.	Northern Virginia	Thunderstorms	850	253,800	9:30 p.m. June 05
06/04/08	Puerto Rico Electric Power Authority (PR)	3:14 p.m.	Island of Puerto Rico	Load Shedding/Voltage Reduction	90	100,948	3:46 p.m. June 04
06/06/08	Consumers Energy (RFC)	3:18 p.m.	Lower 2/3 of Michigan's Lower Peninsula	Lightning Storm	100	358,000	8:00 a.m. June 12
06/08/08	Exelon Corporation-ComEd (RFC)	9:30 a.m.	The Entire ComEd Territory	Severe Weather	N/A	125,000	7:00 a.m. June 09
06/08/08	Detroit Edison Company-DTE (RFC)	6:00 p.m.	Southwestern Michigan (DECO Service Territory)	Severe Storm	500	150,000	11:30 p.m. June 16
06/09/08	Entergy Services, Inc. (SERC)	2:00 p.m.	Entergy System	Inadequate Electric Resources to Serve Load	300	19	7:00 p.m. June 09
06/09/08	Public Service Electric and Gas (RFC)	2:52 p.m.	Area Around West Orange Switching Station, New Jersey	Fire/Breaker Failure	215	75,654	8:25 p.m. June 09
06/10/08	National Grid (NPCC)	11:00 a.m.	Upstate New York	Severe Storm	400	68,000	5:30 p.m. June 13
06/10/08	Entergy Services, Inc. (SERC)	2:00 p.m.	Entergy System	Inadequate Electric Resources to Serve Load	300	19	6:00 p.m. June 10
06/10/08	Public Service Electric and Gas (RFC)	6:00 p.m.	Bergen, Essex and Hudson Counties, New Jersey	Severe Storms	N/A	248,800	11:30 a.m. June 14
06/10/08	PECO Energy (RFC)	7:00 p.m.	Chester, Montgomery, Delaware, Philadelphia and Bucks County, Pennsylvania	Severe Thunderstorms	N/A	198,000	3:59 p.m. June 14
06/10/08	ISO New England (NPCC)	11:00 p.m.	All Six New England States	Storm	50	60,000	9:00 a.m. June 11
06/11/08	New York Independent System Operator (NPCC)	1:15 p.m.	New York State	Uncontrolled Loss	200	61,000	2:05 p.m. June 11

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Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
06/12/08	Midwest ISO, ITC, ALTW (RFC)	3:30 p.m.	East Central Iowa	Flooding and Uncontrolled Loss	200	21,000	4:00 p.m. June 18
06/15/08	Exelon Corporation-ComEd (RFC)	8:00 a.m.	The Entire ComEd Territory	Severe Weather	N/A	165,000	8:00 p.m. June 15
06/15/08	Crawfordsville Electric Light and Power (RFC)	7:06 p.m.	City of Crawfordsville, Indiana	Electrical System Separation	57	9,700	8:42 p.m. June 15
06/16/08	Dominion-Virginia Power (SERC)	4:15 p.m.	Northern Virginia	Thunderstorms	800-1,000	115,000	11:19 p.m. June 16
06/17/08	Oncor Electric Delivery Company LLC (TRE)	9:01 a.m.	North, Central and East Texas	Severe Thunderstorms	N/A	234,393	8:30 p.m. June 19
06/17/08	Southwestern Public Service Company (SPP)	8:35 p.m.	Southwestern Public Service Company Operating in the Panhandle of Texas and New Mexico	Electrical System Separation/Severe Thunderstorms	560	18,000	1:55 a.m. June 18
06/17/08	Golden Spread Electric Cooperative, Inc (TRE)	8:40 p.m.	Texas Panhandle and Texas South Plains Regions, and Oklahoma Panhandle	Thunderstorms/Unc controlled Loss of Load	276	37,330	11:00 p.m. June 17
06/21/08	Pacific Gas and Electric Company (WECC)	3:09 p.m.	Near Rogers Flat, California	Electrical System Separation/Severe Lightning Storms	3	477	6:53 p.m. June 21
06/22/08	Northern Indiana Public Service Company (RFC)	4:55 p.m.	Northwest Indiana	Lightning Stirke/Uncontrolled Loss of Load	650	N/A	5:05 p.m. June 22
06/23/08	Northern Indiana Public Service Company (RFC)	1:44 p.m.	Northcentral Indiana	Fire/Breaker Failure	425	N/A	1:45 p.m. June 23
06/23/08	Progress Energy Florida (FRCC)	4:52 p.m.	Pinellas County, Florida	Transmission Equipment Failure/Load Shedding	113	32,593	11:28 p.m. June 23
06/26/08	Detroit Edison Company-DTE (RFC)	5:00 p.m.	Southeastern Michigan (DTE Service Territory)	Thunderstorms	N/A	53,000	9:30 p.m. June 26
06/27/08	Omaha Public Power District (MRO)	4:30 p.m.	Omaha, Nebraska (Metro Area)	Severe Wind Storm	650	126,000	5:30 p.m. June 27
July							
07/01/08	Crockett Cogeneration (WECC)	7:31 a.m.	San Francisco Bay Area, California	Unit Tripped	160	-	12:00 p.m. July 01
07/02/08	Consumers Energy (RFC)	3:00 p.m.	Lower 2/3 of Michigan's Lower Peninsula	Severe Weather	125	239,663	12:00 p.m. July 06
07/02/08	State of California, Department of Water Resources (WECC)	4:00 p.m.	Restricted Hydroelectric Capability	Fuel Supply Deficiency	-	-	Ongoing
07/02/08	California ISO (WECC)	7:16 p.m.	Santa Barbara County, California, near Goleta	Wild Land Fire	208	200,000	11:28 p.m. July 02
07/02/08	Southern California Edison (WECC)	7:36 p.m.	Goleta and Santa Barbara Areas of Southern California	Brush Fire/Lines Loss/Transmission Emergency Declared	119	37,784	1:10 a.m. July 03
07/02/08	Detroit Edison Company-DTE (RFC)	8:00 p.m.	Southeastern Michigan (DTE Service Territory)	Thunderstorms	N/A	56,000	3:00 a.m. July 03
07/07/08	California ISO (WECC)	12:15 p.m.	ISO Balancing Area	Heat Wave/Potential Fire Threat/Made Public Appeals	0	0	5:00 p.m. July 10
07/10/08	Crockett Cogeneration (WECC)	2:22 p.m.	San Francisco Bay Area, California	Unit Tripped	240	-	5:21 p.m. July 10
07/21/08	MidAmerician Energy Company (MRO)	12:49 a.m.	Sioux City, Carroll, Des Moines, Iowa City, and Davenport Iowa, Rock Island, Moline, and Surrounding Area of Illinois	Storm	170	185,000	6:00 p.m. July 22
07/22/08	Duke Energy Indiana (RFC)	3:00 a.m.	Indiana	Severe Thunderstorms	N/A	58,000	7:32 p.m. July 24
07/22/08	Duke Energy Ohio (RFC)	3:00 a.m.	Southwest Ohio	Severe Thunderstorms	N/A	56,000	3:30 a.m. July 23
07/22/08	Southwestern Public Service Company (SPP)	2:00 p.m.	Texas Panhandle and Southeastern New Mexico	Inadequate Electric Resources to Serve Load/Public Appeal	N/A	-	5:09 a.m. July 24
07/23/08	American Electric Power (TRE)	5:56 a.m.	Port Isabel, Harlingen, Weslaco, Pharr, San Benito, Mission, McAllen, Edinburg, Texas	Hurricane Dolly	703	211,266	4:00 a.m. July 31

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Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
07/24/08	ISO New England (NPCC)	7:23 a.m.	Bangor Hydro System, northern Maine	Electric System Separation/Severe Lightning Storms	180	110,000	5:41 p.m. July 24
August							
08/02/08	Southern Company (SERC)	8:00 p.m.	Georgia and Alabama	Severe Thunderstorms	400	131,115	5:30 a.m. August 03
08/03/08	Entergy Corporation (SERC)	1:30 a.m.	Mississippi, Louisiana, Texas	Severe Thunderstorms	N/A	59,500	4:15 a.m. August 03
08/04/08	Exelon Corporation West ComEd (RFC)	6:00 p.m.	The ComEd Territory	Severe Weather	N/A	653,000	8:00 a.m. August 06
08/05/08	Northern Indiana Public Service Company (RFC)	3:00 a.m.	Northwest Indiana	Severe Storms	0	63,000	9:50 a.m. August 05
08/09/08	XCEL (Southwest Public Service Company) (SPP)	12:00 p.m.	Texas Panhandle and Eastern New Mexico	Declared Energy Emergency Alert 1/Made Public Appeals	0	0	8:46 p.m. August 09
08/15/08	Seattle City Light (WECC)	12:52 p.m.	Part of Seattle's Downtown	Made Public Appeals	100	8,000	5:00 p.m. August 15
08/16/08	Lubbock Power and Light (TRE)	5:23 a.m.	City of Lubbock	Lightning/Transmission Equipment Damage	153	71,823	7:30 a.m. August 16
08/16/08	Puerto Rico Electric Power Authority (PR)	8:14 a.m.	Island of Puerto Rico	Shed Firm Load/Voltage Reduction	300	200,000	3:00 p.m. August 16
08/18/08	Puerto Rico Electric Power Authority (PR)	7:22 p.m.	North Part of Island	Shed Firm Load	225	100,000	6:44 p.m. August 19
08/19/08	Florida Power and Light (FRCC)	9:29 a.m.	Florida	Tropical Storm Fay	N/A	101,950	10:00 p.m. August 22
08/21/08	Progress Energy Florida (FRCC)	7:00 p.m.	Alachua, Bay, Brevard, Citrus, Columbia, Dixie, Flagler, Franklin, Gilchrist, Gulf, Hamilton, Hardee, Hernando, Highlands, Jefferson, Lafayette, Lake, Leon, Levy, Madison, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumter, Suwannee, Taylor, Volusia and Wakulla Counties in Florida	Tropical Storm Fay	N/A	430,000	8:00 a.m. August 25
08/22/08	Mirant Chalk Point LLC (RFC)	12:00 p.m.	-	Fuel Supply Emergency-Low Coal Inventory Levels	0	0	12:00 p.m. August 23
08/24/08	Southern Company (SERC)	4:30 a.m.	Georgia and Alabama	Tropical Storm Fay	110	87,390	2:00 p.m. August 24
08/31/08	Dow Chemical Company (SERC)	7:30 a.m.	Plaquemine, Louisiana	Fuel Supply Curtailed	200	0	9:00 a.m. September 19
08/31/08	Entergy Corporation (SERC)	7:00 p.m.	Louisiana, Mississippi, Arkansas	Hurricane Gustav	N/A	964,000	9:00 a.m. September 03
September							
09/01/08	Louisiana Generating LLC (SERC)	10:30 a.m.	Primarily South and Central Louisiana	Hurricane Gustav	400	150,000	7:22 p.m. September 13
09/01/08	Cleco Power LLC (SERC)	11:45 a.m.	Bayou Division and North Lake Division, Louisiana	Hurricane Gustav	N/A	246,092	4:00 p.m. September 10
09/06/08	Progress Energy Carolinas (SERC)	7:45 a.m.	Eastern North Carolina	Tropical Storm Hanna	N/A	57,000	10:30 a.m. September 06
09/06/08	Dominion-Virginia Power (SERC)	2:15 p.m.	North East North Carolina and Virginia	Tropical Storm Hanna	220	64,463	4:06 p.m. September 06
09/08/08	State of California, Department of Water Resources (WECC)	10:03 p.m.	A.D. Edmonston Pumping Plant	Fuel Supply Deficiency	300	0	12:28 a.m. September 09
09/12/08	Entergy Corporation (SERC)	5:45 a.m.	Primarily Southeast Texas, Louisiana, and Arkansas	Hurricane Ike	N/A	705,000	1:00 p.m. September 14
09/12/08	Electric Reliability Council of Texas (TRE)	6:21 p.m.	Greater Houston Area-Eastern Region of ERCOT	Hurricane Ike	N/A	2,504,366	11:59 p.m. October 01
09/12/08	CenterPoint Energy (TRE)	6:21 p.m.	Greater Houston-Galveston Metro Area	Hurricane Ike	8,087	2,142,678	11:59 p.m. October 01
09/12/08	Texas New Mexico Power Company (TRE)	8:00 p.m.	Galveston and Brazoria Counties	Hurricane Ike	650	113,247	7:00 p.m. September 27
09/13/08	Louisiana Generating LLC (SERC)	10:24 a.m.	Southwest Louisiana	Hurricane Ike	40	50,000	2:40 p.m. September 27

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09/13/08	Oncor Electric Delivery Company LLC (TRE)	12:00 p.m.	North, Central and East Texas	Hurricane Ike	N/A	238,392	8:00 a.m. September 15
09/13/08	American Electric Power CSWS (SPP)	4:00 p.m.	Texas and Louisiana	Hurricane Ike	N/A	184,501	7:44 p.m. September 16
09/14/08	Midwest ISO (RFC)	6:30 a.m.	Ohio, Kentucky, Indiana	Tropical Depression Ike	N/A	875,000	2:38 p.m. September 14
09/14/08	Ameren Corporation (MRO)	7:30 a.m.	Missouri and Illinois	Hurricane Ike	N/A	107,000	3:00 p.m. September 18
09/14/08	Owensboro Municipal Utilities (RFC)	10:01 a.m.	City of Owensboro, Kentucky	High Winds	70	18,000	5:00 p.m. September 21
09/14/08	Louisville Gas/Kentucky Utilities (RFC)	11:30 a.m.	State of Kentucky	Tropical Depression Ike	N/A	375,000	4:30 p.m. September 14
09/14/08	Dayton Power and Light (RFC)	2:00 p.m.	Dayton Ohio Area	Hurricane Ike	1,000	95,000	12:00 p.m. September 17
09/14/08	American Electric Company (RFC)	4:00 p.m.	Northern Indiana, Central and Central Southern Ohio	Wind Storm	N/A	650,000	11:00 p.m. September 20
09/14/08	Pennsylvania Electric Company (RFC)	5:00 p.m.	Western Pennsylvania	Wind Storm	72	124,596	12:38 p.m. September 19
09/14/08	Ohio Edison Company (RFC)	5:00 p.m.	Southern, Eastern, and Central Ohio	Wind Storm	469	564,728	5:11 p.m. September 22
09/14/08	Cleveland Electric Illuminating Company (RFC)	5:00 p.m.	Northeast Ohio	Wind Storm	430	245,164	3:20 a.m. September 22
09/14/08	Duquesne Light Company (RFC)	7:00 p.m.	Allegheny and Beaver Counties in Pennsylvania	Tropical Depression Ike	600	105,000	11:59 p.m. September 14
09/15/08	Allegheny Power (RFC)	12:37 a.m.	Western Pennsylvania	Tropical Depression Ike	546	160,875	4:30 p.m. September 19
09/22/08	Puerto Rico Electric Power Authority (PR)	5:49 p.m.	Island of Puerto Rico	Shed Firm Load	125	43,600	6:39 a.m. September 22
09/30/08	Pacific Gas and Electric Company (WECC)	2:02 p.m.	Plumas County, California	Electrical System Separation	30	10,000	2:05 p.m. September 30

Note: Estimates for 2008 are preliminary.

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

Table B.2. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2007

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
January							
01/05/07	Puerto Rico Electric Power Authority (PR)	10:44 a.m.	Island of Puerto Rico	Voltage Reduction	0	0	11:13 a.m. January 05
01/13/07	Ameren Corporation (MRO)	5:00 a.m.	Missouri and Illinois	Ice Storm	N/A	225,000	12:00 p.m. January 19
01/13/07	DTE Energy (Detroit Edison) (RFC)	7:30 a.m.	Eastern and Lower Michigan	Ice Storm	500	129,607	4:00 p.m. January 19
01/16/07	Snohomish County PUD No. 1 (WECC)	2:00 a.m.	Snohomish County, Washington	Major Windstorm	260	110,433	12:00 a.m. January 17
February							
02/13/07	Duke Energy Midwest (RFC)	2:00 p.m.	Indiana and Southwest Ohio	Ice/Wind Storm	250	367,500	12:00 a.m. February 16
02/13/07	Baltimore Gas and Electric Company (RFC)	5:00 p.m.	Central Maryland	Winter Storm	400	155,183	5:30 a.m. February 17
02/24/07	MidAmerican Energy Company (MRO)	4:00 p.m.	NE quarter of State of Iowa and Rock Island, Illinois	Ice Storm	210	75,000	12:57 a.m. March 04
02/24/07	Alliant Energy (MRO)	6:00 p.m.	Central Iowa and Cedar Rapids areas	Ice Storm	400	140,000	11:47 p.m. February 24
02/24/07	Midwest ISO (RFC)	7:23 p.m.	Cedar Rapids, Iowa	Ice Storm	750	215,000	12:47 a.m. February 25
02/28/07	Pacific Gas and Electric Company (WECC)	12:45 a.m.	Northern California	Winter Storm	110	671,189	8:45 p.m. March 02
March							
03/01/07	Southern Company (SERC)	9:40 p.m.	Parts of Alabama, Mississippi, Georgia, Florida	Major Storm	95	25,445	11:30 p.m. March 02
03/31/07	CenterPoint Energy (ERCOT)	7:30 a.m.	Houston, Texas	Severe Thunderstorms	179	67,000	7:00 p.m. March 31
April							
04/05/07	Central Maine Power Company (NPCC)	9:20 p.m.	Southern and Coastal Maine	Heavy Snow Storm	-	117,142	1:10 p.m. April 06
04/12/07	Los Angeles Department of Water and Power (WECC)	12:32 a.m.	City of Los Angeles, California	High Winds	200	158,977	9:02 p.m. April 12
04/12/07	Crockett Cogeneration (WECC)	9:09 a.m.	San Francisco Bay Area, California	Trip of a Unit	130	-	11:23 a.m. April 12
04/14/07	National Grid - New England (NPCC)	9:00 a.m.	Massachusetts, New Hampshire, Rhode Island	High Winds	65-80	70,000	11:00 a.m. April 14
04/16/07	Public Service New Hampshire Electric System Control Center (NPCC)	8:00 a.m.	New Hampshire	Severe Thunderstorms	-	102,568	7:00 p.m. April 16
04/16/07	Central Maine Power Company (NPCC)	10:14 a.m.	Southern and Coastal Maine	Heavy Snow Storm	-	127,545	10:18 p.m. April 18
04/16/07	Progress Energy - Carolinas, Inc. (SERC)	11:00 a.m.	North and South Carolina	High Winds	-	33,000	7:00 p.m. April 16
04/16/07	Baltimore Gas and Electric Company (RFC)	2:00 p.m.	Central Maryland - Baltimore City and surrounding Counties	Severe Thunderstorms	160	138,000	5:00 p.m. April 18
04/16/07	Dominion - Virginia Power/North Carolina (SERC)	2:04 p.m.	North, East and Central Virginia/Parts of Northeast North Carolina	High Winds	90	242,000	7:03 p.m. April 16
May							
05/02/07	Oncor Electric Delivery Company (ERCOT)	1:30 p.m.	North Texas, Dallas Fort Worth Metroplex and Surrounding Counties, South to Waco and North to Red River	Severe Storms	-	300,000	8:00 p.m. May 03
05/10/07	Crockett Cogeneration (WECC)	9:57 a.m.	San Francisco Bay Area, California	Unit Tripped	150	-	1:47 p.m. May 10
05/14/07	Crockett Cogeneration (WECC)	11:15 a.m.	San Francisco Bay Area, California	Unit Tripped	150	-	1:50 p.m. May 14
05/15/07	DTE Energy (Detroit Edison) (RFC)	3:00 p.m.	Southeastern Michigan	Severe Thunderstorms	500	66,000	7:00 a.m. May 17
05/16/07	Northeast Utilities (NPCC)	6:00 p.m.	All of Connecticut	Severe Storm	-	67,000	5:00 a.m. May 19
05/21/07	Crockett Cogeneration (WECC)	1:48 p.m.	San Francisco Bay Area, California	Unit Tripped	140	-	4:50 p.m. May 21
June							
06/01/07	State of California, Department of Water Resources (WECC)	1:00 p.m.	Restricted Hydroelectric Capability	Fuel Supply Deficiency	-	-	Ongoing
06/05/07	Idaho Power Company (WECC)	10:56 a.m.	Southwest Idaho and Eastern Oregon	Load Shedding	424	80,000	11:51 a.m. June 05
06/27/07	Consolidated Edison of NY Inc (NPCC)	3:41 p.m.	Northern Manhattan NY (Yorkville) and SW Bronx (Motthaven, Melrose, High Bridge Sections)	Lightning	460	137,000	4:30 p.m. June 27

Table B.2. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2007

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
06/27/07	New York Independent System Operator (NPCC)	3:42 p.m.	New York State	Loss of Load	460	-	4:30 p.m. June 27
06/29/07	Salt River Project (WECC)	9:23 a.m.	Metropolitan Phoenix Area	Loss of Load	399	98,700	10:09 a.m. June 29
July							
07/03/07	California Independent System Operator (WECC)	10:59 a.m.	CAISO Controlled Grid	Public Appeal	N/A	N/A	6:00 p.m. July 05
07/05/07	DTE Energy (Detroit Edison) (RFC)	7:00 p.m.	Southeastern Michigan	Severe Storm	-	69,000	7:00 a.m. July 08
07/06/07	Idaho Power Company (WECC)	5:18 p.m.	Southeast Idaho and Eastern Oregon	Electrical Separation/Load Shedding/Made Public Appeal	60	0	6:20 p.m. July 06
07/10/07	National Grid - NY (NPCC)	11:00 a.m.	Eastern New York	Major Storms	650	300,000	6:00 a.m. July 12
07/16/07	PacifiCorp (WECC)	4:17 p.m.	St. George, Utah	Fire/Load Shedding	306	-	9:00 p.m. July 16
07/18/07	Exelon Corporation West ComEd (RFC)	6:00 p.m.	Northern Counties of Illinois	Severe Weather	300	135,000	2:00 a.m. July 19
07/19/07	DTE Energy (Detroit Edison) (RFC)	3:00 p.m.	Southwestern Region of Service Territory	Major Storm	-	60,000	11:30 p.m. July 22
07/19/07	Dominion - Virginia Power/North Carolina Power (SERC)	3:50 p.m.	North, East and Central Virginia	Major Storms	72	107,000	10:15 p.m. July 19
August							
08/08/07	Progress Energy - Carolinas, Inc. (SERC)	1:00 p.m.	Portions of North Carolina and South Carolina	Made Public Appeal	N/A	N/A	9:00 p.m. August 08
08/08/07	PJM Interconnection (RFC)	3:56 p.m.	Mid-Atlantic Region of PJM	Voltage Reduction/Made Public Appeal	N/A	N/A	5:59 p.m. August 08
08/09/07	Progress Energy - Carolinas, Inc. (SERC)	12:45 p.m.	Portions of North Carolina and South Carolina	Made Public Appeal	N/A	N/A	9:00 p.m. August 09
08/09/07	Duquesne Light Company (RFC)	2:53 p.m.	Highland Area of Pittsburgh, Pennsylvania	Severe Thunderstorms	90	55,000	4:11 p.m. August 09
08/10/07	Progress Energy - Carolinas, Inc. (SERC)	12:20 p.m.	Portions of North Carolina and South Carolina	Made Public Appeal	N/A	N/A	9:00 p.m. August 10
08/13/07	Ameren Corporation (SERC)	1:30 a.m.	State of Missouri	Severe Thunderstorm	N/A	63,000	12:00 a.m. August 14
08/14/07	American Electric Power (CSWS) (SPP)	2:00 p.m.	CSWS Control Area of Southwest Power Pool Parts of Oklahoma, Texas, Louisiana, Arkansas	Declared Energy Emergency Alert2/Heat Wave	20	-	6:00 p.m. August 14
08/16/07	Dominion Virginia Power (SERC)	9:30 p.m.	Virginia and Eastern North Carolina - Primarily in Central Virginia	Severe Weather	200	93,300	10:49 p.m. August 17
08/19/07	Dominion Virginia Power (SERC)	11:34 p.m.	Central and Eastern Virginia	Severe Thunderstorms	100	58,500	1:10 a.m. August 20
08/23/07	Exelon Corporation West ComEd (RFC)	4:00 p.m.	Northern Illinois	Severe Storms	N/A	629,590	10:49 p.m. August 28
08/24/07	DTE Energy (Detroit Edison) (RFC)	6:00 p.m.	Southeastern Michigan	Severe Storm	N/A	75,000	6:30 a.m. August 28
08/29/07	Modesto Irrigation District (WECC)	1:53 p.m.	Modesto California and the Surrounding Areas	Shed Load	180	26,000	2:57 p.m. August 29
08/29/07	California Independent System Operator (WECC)	4:00 p.m.	CAISO Controlled Grid	Made Public Appeal	N/A	N/A	6:00 p.m. August 30
08/31/07	California Independent System Operator (WECC)	12:45 p.m.	CAISO Controlled Grid	Declared Energy Emergency Alert 1/Heat wave	N/A	N/A	8:00 p.m. August 31
September							
09/03/07	San Diego Gas and Electric Company (WECC)	12:30 p.m.	San Diego County, Southern Orange County, California	High Temperatures/Made Public Appeals	N/A	N/A	5:30 p.m. September 03
09/04/07	San Diego Gas and Electric Company (WECC)	8:30 a.m.	San Diego County, Southern Orange County, California	High Temperatures/Made Public Appeals	N/A	N/A	3:30 p.m. September 04
09/05/07	Luminant Energy Company, LLC (ERCOT)	7:53 a.m.	Central Texas, ERCOT Grid	Severe Weather/Transmission Fault-Units Tripped	1,084	N/A	1:11 p.m. September 05
09/06/07	State of California, Department of Water Resources (WECC)	8:00 p.m.	Hydro Electric System	Fuel Supply Deficiency	N/A	N/A	Ongoing
09/13/07	Entergy Corporation (SPP)	4:00 a.m.	Between Galveston and Beaumont, Texas	Hurricane Humberto	N/A	118,000	7:00 a.m. September 14

Table B.2. Major Disturbances and Unusual Occurrences, Year-to-Date through December 2007

Date	Utility/Power Pool (NERC Region)	Time	Area Affected	Type of Disturbance	Loss (megawatts)	Number of Customers Affected ¹	Restoration Date/Time
09/17/07	Crawfordsville Electric Light and Power (RFC)	7:01 p.m.	City of Crawfordsville, Indiana	Electrical System Separation	50	9,600	7:48 p.m. September 17
09/18/07	Northern States Power Company (MRO)	5:14 a.m.	Minnesota, Wisconsin, North Dakota, South Dakota and Michigan	Electrical System Separation/Load Shedding/ Implemented Emergency Alert/Severe Storms	16	6,000	6:10 a.m. September 18
09/18/07	Great River Energy (MRO)	5:15 a.m.	Minnesota, North Dakota, Manitoba	Electrical System Separation/Load Shedding/ Implemented Emergency Alert/Severe Storms	8,000-10,000	GRE (1,900) Total 11,175	6:30 a.m. September 18
09/18/07	Midwest ISO (RFC)	5:15 a.m.	Manitoba, Minnesota, North Dakota, Portions of South Dakota and Wisconsin. Midwest ISO's Market subregions: OTP, NSP, GRE, ALTW, MP	Electrical System Separation/Load Shedding/ Implemented Emergency Alert/Severe Storms	8,000-10,000	11,175	12:00 a.m. September 18
09/24/07	New Covert Generating Company, LLC (RFC)	1:38 p.m.	Southwest Michigan	Unit Tripped	320	N/A	4:26 p.m. September 24
October							
10/18/07	Puget Sound Energy (WECC)	3:00 p.m.	Western Washington	High Winds	N/A	160,000	11:36 a.m. October 22
10/22/07	Southern California Edison Company (WECC)	2:01 p.m.	Southern California	Brush Fire/Load Shedding/Implemented Emergency Alert	451	90,323	2:22 p.m. October 22
10/22/07	California Independent System Operator (WECC)	2:05 p.m.	Southern California	Brush Fire/Load Shedding	700	300,000	2:22 p.m. October 22
10/22/07	San Diego Gas and Electric Company (WECC)	2:06 p.m.	San Diego County, California	Brush Fire/Load Shedding	199	68,780	2:43 p.m. October 22
10/26/07	Southern California Edison Company (WECC)	6:44 a.m.	Southern California	Brush Fire/Load Shedding	280	20,345	10:46 a.m. October 26
10/26/07	City of Riverside (WECC)	6:44 a.m.	Riverside, California	Load Shedding	240	104,000	10:43 a.m. October 26
November							
11/03/07	ISO New England (NPCC)	6:00 p.m.	Eastern Massachusetts, Rhode Island, Cape Cod	Tropical Storm	100	62,843	6:00 a.m. November 04
December							
12/01/07	ISO New England (NPCC)	6:04 p.m.	State of Maine	Voltage Reduction/Made Public Appeal/Fuel Deficiency	0	0	10:00 p.m. December 02
12/04/07	Puerto Rico Electric Power Authority (PR)	2:16 p.m.	Island of Puerto Rico	Voltage Reduction	0	0	5:53 p.m. December 04
12/10/07	American Electric Power (SPP)	3:08 a.m.	Tulsa, Oklahoma	Ice Storm	N/A	256,663	8:00 a.m. December 19
12/11/07	Westar Energy (MRO)	4:00 a.m.	Eastern half of the State of Kansas	Ice Storm	500	95,000	3:30 p.m. December 20
12/11/07	Puerto Rico Electric Power Authority (PR)	8:57 p.m.	Island of Puerto Rico	Voltage Reduction	0	0	9:22 p.m. December 11
12/23/07	Exelon Corporation West ComEd (RFC)	1:00 a.m.	The Entire ComEd Service Territory	Severe Storm	N/A	237,000	9:00 p.m. December 23
12/23/07	Consumers Energy (RFC)	5:30 a.m.	Lower 2/3 of Michigan Lower Peninsula	Winter Storm	50	134,288	6:07 p.m. December 25

¹ Estimated values.

Note: Estimates for 2007 are final.

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