Northeastern U.S. 30 Million Affected Protection System Misoperation

1977

New York City
9 Million Affected
Lightning

1981 **Utah**

1.5 Million Affected Fire on Right-of-Way

1989 Quebec

9 Million Affected GIC Current from Solar Storm

1991 USA and Canada 1 Million Affected

1 Million Affected Drecho Winds

Eastern/Southeastern U.S. 2 Million Affected Hurricane

1996

Western U.S./Western Canada/ Baja, New Mexico 2 Million & 7.5 Million Affected

Transmission Line Outage

Central U.S. 2 Million Affected Wind Storm

1998

San Franscisco
1 Million Affected

Improper Procedure in Substation

1998 Quebec, Canada 1.4 Million Affected Ice Storm

1998

North Central U.S./Central Canada 152,000 Affected Lightning

Quebec, Canada 600,000 Affected High Winds

2003 North

Northeastern U.S./Eastern Canada 50 Million Affected Massive Power Fluctuation Causing a

Massive Power Fluctuation Causing a Cascading Effect Across the Grid

North Carolina/Virginia
2.2 Million Affected
Hurrican Isabel

2004 Florida, Alabama

5 Million Affected Hurricanes Charley, Frances, Ivan, and Jeanne over a 6-week Period

2005

Alabama, Florida, Louisiana, Mississippi

2.2 Million Affected Hurricane Katrina

Texas/Louisiana
1.3 Million Affected
Hurricane Rita

2005
Los Angeles, California
2 Million Affected - 2 1/2 Hours
Power Lines Sliced Accidently

2007 **Nebraska** 1 Million Affected Ice Storms

2008 Florida

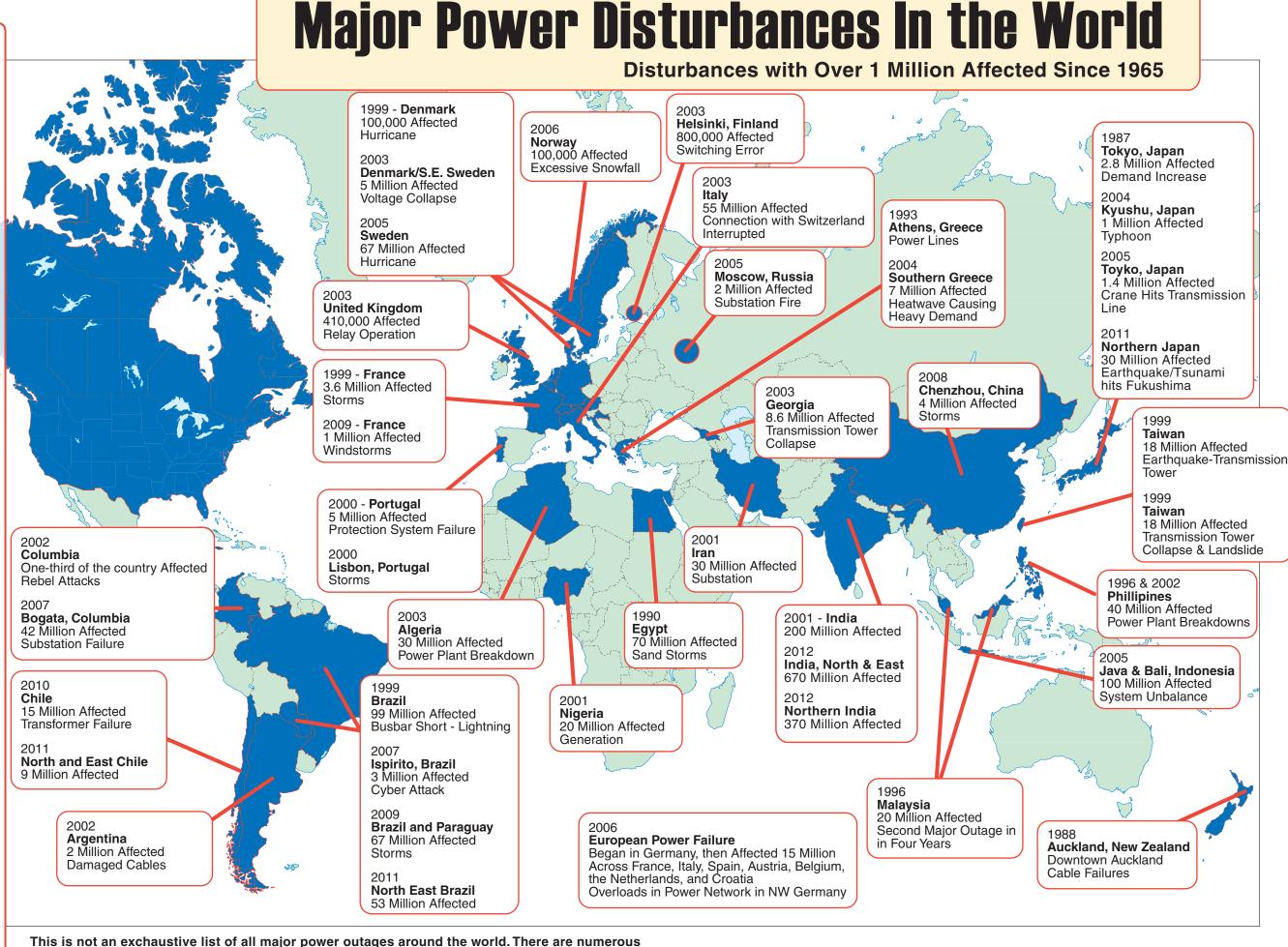
4 Million Affected – Mid-day Outage Substation Fire

2010 Southeast 5 Million Affected Hurricane Irene

2011 **Texas** 1 Million Affected Forced Outages

Southern California/Arizona
5 Million Affected
Substation Equipment Failure

2012
MId-Atlantic
4 Million Affected
Severe Thunderstorms



This is not an exchaustive list of all major power outages around the world. There are numerous power outages such as France '78, '87; Belgium '82; Sweden '83: Italy '89, '93, '94; Netherlands '97; and Chicago '99 that are not shown on the map.