ComEd Ex. 2.0

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	
Petition to request waiver of liability pursuant to Section 16-125(e) to electric service interruptions caused by the June 24, 2013 and August 30, 2013 storm systems.	:	No. 13-0639

Direct Testimony of

THOMAS R. PIAZZA

Certified Consulting Meteorologist
and President and CEO

Murray and Trettel, Inc.

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I. INTRODUCTION

Q. **What is your name, title, and business address?**

A. My name is Thomas R. Piazza. I am a Certified Consulting Meteorologist and the President and CEO of Murray and Trettel, Inc. My business address is 600 N. 1st Bank Drive, Palatine, Illinois 60067.

Q. **What is Murray & Trettel, Inc.?**

A. Murray and Trettel, Inc. is a private meteorological consulting company. Founded in 1946, we are one of the oldest and most respected private meteorological consulting companies in the United States. Murray and Trettel is a long-standing corporate member of the American Meteorological Society, of which I personally am also a member. Over the past half century, we have received many awards including the American Meteorological Society's Award for Outstanding Services to Meteorology by a Corporation.

Murray and Trettel's mission is to provide sound advice, information, and service to our clients on past, current, and future weather conditions; on meteorological and air quality instruments and measurement; on meteorological data quality assurance and reporting; and on atmospheric modeling and deposition at and near nuclear power stations. We accomplish this through traditional weather analysis and forecasting, ambient and in-situ measurement, instrument services in the field, remote data acquisition, studies, and reports. Our Weather Command® Operational Forecast Division operates 24 hours a day, 365 days a year, and employs a total of sixteen professional meteorologists on staff at Weather Command®.

Q. **What is your personal professional experience?**

A. I have a BS in Meteorology and have more than 44 years of experience as a professional meteorologist. I joined Murray and Trettel in 1975 after four years of experience as a Weather Officer in the U.S. Air Force. In 1987, I was named President of the Operational Forecast Division, in 1991 Executive Vice President of the company, and in 2001 President and CEO. Through a rigorous certification process administered by the American Meteorological Society, I became a Certified Consulting Meteorologist (CCM) in March 2010. I hold Certification Certificate 661. A resume is attached hereto as ComEd Exhibit ("Ex.") 2.01.

Q. **What is the purpose of your direct testimony?**

A. The purpose of my testimony is to present and describe for the Illinois Commerce Commission ("ICC") the weather events that occurred during the storms on June 24-26 and August 30-31, 2013 (individually, the "June 24-26 Storm System" and the "August 30-31 Storm System;" together, the "Summer 2013 Storm Systems") and to demonstrate, using more granular data, how the electric service interruptions occurring during the Summer 2013 Storm Systems correlated directly with the severe weather that occurred during those events. I provide a narrative summary of those systems and their impacts and also sponsor and adopt reports prepared by Murray and Trettel, under my direction and control, which provide greater detail and contain data on which I relied and which illustrate my conclusions. Those reports are attached hereto as ComEd Exhibits ("Exs.") 2.02 and 2.03.

II. JUNE 24-26, 2013 STORM SYSTEM

Q. **Please describe the June 24-26 Storm System as it affected ComEd's electric service territory.**

A. The June 24-26 Storm System consisted, in ComEd's service territory, of several waves of severe weather. The first was a rapidly moving line of severe thunderstorms (classified as a derecho[1] by the National Weather Service) that originated in central Iowa, moved through eastern Iowa and into ComEd's service territory at approximately 3:30 pm, and moved at nearly 60 mph across the territory before exiting the service territory around approximately 7:30 pm on June 24, 2013. This line of thunderstorms produced three tornados in or near ComEd's service territory consisting of two EF-0 tornados with wind speeds between 65-85 mph, and one EF-1 tornado with wind speeds between 86-110 mph. These storms also produced damaging winds with wind gusts between 58 and 100 mph, and intense lightning with over 2,700 cloud to ground lightning strokes. During this period, 0.10 to 0.75 inches of rain fell.

The second severe weather event during this period consisted of a line of thunderstorms that moved out of northeast Iowa and southwest Wisconsin into ComEd's service territory at approximately 1:00 am on June 25, 2013, through Jo Daviess, Carroll, Stephenson, Winnebago, Boone, and McHenry counties, and departed the service

[1] The National Oceanic and Atmospheric Administration ("NOAA") has characterized derechoes as being "associated with bands of rapidly moving showers or thunderstorms variously known as bow echoes, squall lines, or quasi-linear convective systems. Although a derecho can produce destruction similar to that of a tornado, the damage typically occurs in one direction along a relatively straight path. As a result, the term "straight-line wind damage" sometimes is used to describe derecho damage. By definition, if the swath of wind damage extends for more than 240 miles (about 400 kilometers), includes wind gusts of at least 58 mph (93 km/h) along most of its length, and several, well-separated 75 mph (121 km/h) or greater gusts, then the event may be classified as a derecho." http://www.spc.noaa.gov/misc/AbtDerechos/derechofacts.htm#definition

territory by 11:00 am. An additional cluster of storms associated with this line developed along I-88 in Whiteside County, and moved eastward along I-88, departing the service territory into Lake Michigan by approximately 11:00 am. These thunderstorms produced damaging winds of 65-70 mph, hail that measured 0.5 to 1.0 inches, and intense lightning with over 7,160 cloud to ground lightning strokes. During this period, 1.0 to 2.0 inches of torrential rain fell.

The third severe weather event during this same period consisted of storm development that began at approximately 1:00 am on June 26, 2013, extended through central and northern Cook County into Lake, McHenry, and Boone counties by 4:00 am, and moved over Lake Michigan at approximately 8:00 am. An additional cluster of heavy storms developed around 8:30 am in Ogle County, moved into southern Winnebago, northern DeKalb, and Boone counties, and diminished around 11:00 am. These storms produced intense lightning and flooding rains, including up to 6 inches of rain and numerous Flash Flood Warnings issued by the National Weather Service, and produced over 10,350 cloud to ground lightning strokes.

Q. **What conclusions have you reached concerning the June 24-26 Storm System and its potential to damage ComEd's electric delivery system?**

A. The weather events and conditions observed during the June 24-26 Storm System are consistent with and capable of causing significant damage to infrastructure, particularly but not exclusively at the times and locations where the data showed severe weather conditions were focused.

Q. **Have you, together with professionals at Murray & Trettel working under your direction and control, prepared a more detailed report concerning the June 24-26 Storm System and the severe and destructive weather than it spawned?**

A. Yes. That report is ComEd Ex. 2.02. It is true and correct and I adopt it as part of my direct testimony.

III. AUGUST 30-31, 2013 STORM SYSTEM

Q. **Please describe the August 30-31 Storm System and how it affected ComEd's electric service territory.**

A. The August 30-31 Storm System consisted of two severe weather events. The event, which moved into ComEd's service territory at approximately 3:30 pm on August 30, 2013, consisted of a line of severe thunderstorms that moved through Boone, McHenry, and Lake Counties before developing a gust front in advance of the main thunderstorm line. These storms moved southward through ComEd's service territory and by approximately 7:00 pm, stretched from Stephenson County to southern Will County. The most intense part of this line of storms and the associated gust front moved from central Lake County southward through Cook County with damaging wind gusts of 60 to 75 mph in many locations. After approximately 7:00 pm, the severe thunderstorms in Cook County moved into Indiana; however, intense lightning continued through 10:00 pm. These storms were characterized by intense lightning and torrential downpours, with rainfall amounts of 2.0 to 4.0 inches in Boone, McHenry, and Lake Counties and 1.0 to 3.0 inches in Stephenson, Winnebago, DeKalb, Kane, Ogle, Grundy, Lee, and LaSalle Counties. At the same time, a line of thunderstorms pushed southward from Kankakee

and Stephenson Counties before diminishing at approximately 11:00 pm. These storms were characterized by damaging 1.0 to 1.5 inch hail, with wind gusts near 60 mph in LaSalle and Livingston Counties. In total, these storms produced damaging winds of 60 to 75 mph, and produced over 20,000 cloud to ground lightning strokes.

The second severe weather event began on August 31, 2013 at approximately 2:00 am along the Wisconsin border and Jo Daviess County, and moved east-southeast through Stephenson and Winnebago Counties and into Boone County by approximately 5:00 am. At this time, additional small clusters of heavy thunderstorms developed in McHenry, Lake, and northern Cook Counties before moving out over Lake Michigan by approximately 7:00 am. After this time, additional clusters of storms developed in DeKalb, Kane, DuPage, and Cook Counties. These storms produced occasional to frequent cloud to ground lightning strokes and brief heavy rains with gusty winds. At approximately 10:00 am, a new cluster of storms developed in southern DeKalb County, moving eastward into Kendall County and stretching to extend from Cook County into LaSalle County before diminishing at approximately 1:00 pm. A new cluster of storms formed around 1:00 pm in southern Kane County, moving across southern DuPage County and into Cook County before diminishing at approximately 2:00 pm. Last, a small cluster of storms formed around 2:00 pm in northern Kane County, moving eastward into northern Cook County before weakening at approximately 3:00 pm. These storms were characterized by brief torrential rains of 1.0 to 2.0 inches, damaging 1.0 to 1.5 inch hail, and intense lightning with over 1,900 cloud to ground lightning strokes.

Q. **What conclusions have you reached concerning the August 30-31 Storm System and its potential to damage ComEd's electric delivery system?**

A. The weather events and conditions observed during the August 30-31 Storm System are consistent with and capable of causing significant damage to infrastructure, particularly but not exclusively at the times and locations where the data show serve weather conditions were focused.

Q. **Have you, together with professionals at Murray & Trettel working under your direction and control, prepared a more detailed report concerning the August 30-31 Storm System and the severe and destructive weather than it spawned?**

A. Yes. That report is ComEd Ex. 2.03. It is true and correct and I adopt it as part of my direct testimony.

IV. CONCLUSION

Q. **Does this complete your direct testimony?**

A. Yes, it does.