Northwest Municipal Conference
White Paper

Solutions to Inadequate ComEd Outage Response

Legislative Remedies to Protect
the Health and Safety of Our Residents
During ComEd Power Outages

October, 2011

NWMC White Paper: Solutions to Inadequate ComEd Outage Response

Overview: A Need for Action to Ensure Reliable Electric Power

The inadequacies of Commonwealth Edison's (ComEd's) response to repeated power outages in the Northwest Municipal Conference region and the need for legislative remedies to address these critical shortfalls was brought to a head this summer by a string of devastating storms that left hundreds of thousands of our residents without power for prolonged periods. Although each storm was an isolated incident, ComEd's response to these storm-related incidents combined with their lack of resolution to continuous power reliability problems that plague pockets of our communities highlights the need for strong legislative action to hold ComEd to higher reliability and outage response standards. This need was articulated through numerous meetings conducted by local legislators and during a hearing of the House Public Utilities Committee on August 16.

A group of municipal professionals, working through the Northwest Municipal Conference (NWMC), has engaged in a process to address this need. The result of that process is this White Paper and the ensuing series of legislative recommendations described within.

We offer the products of this work to state officials, legislators and ComEd officials to solve the long-standing problems and dangerous conditions that threaten the health, safety and welfare of our communities, hamper local storm-related responses and disrupt the lives of affected residents and businesses.

Situation: ComEd's Inadequate Response to Crisis and Non-crisis Related Power Outages

A nearly unprecedented string of severe weather events produced major disruptions throughout the Chicago region this summer. Six major storms occurring over a seven week stretch brought heavy and even record setting rainfalls, widespread wind damage and a tornado to our communities. These storms and their accompanying damage placed a major strain on our abilities to protect the health and safety of our residents during these crises and required massive municipal recovery operations to restore our communities.

Compounding the difficulty in responding to these severe weather events were widespread, prolonged power outages and an unacceptably slow response from the region's electric power supplier, ComEd, to restore power or even address critical safety threats resulting from the storms.

Public safety personnel in many communities were immediately hampered by downed power lines and equipment blocking access points within storm damaged areas. Instead of devoting their efforts to providing rescue and other recovery services, police and firefighters often were required to stand watch over these dangerous live wires to ensure that passersby would not be harmed or killed while awaiting a ComEd crew to address the immediate danger.

Other critical public health and safety infrastructure, such as emergency operation management centers, police, fire and 911 operations, sewage pumping and treatment facilities, hospitals and other critical care facilities, too often remained without power for unacceptably long periods of time. During a time of crisis, when our constituents are depending on our local governments to

provide the critical services they need to recover, we found our recovery operations hamstrung by ComEd's inadequate storm recovery response.

Process: Indentifying Problems and Solutions

On July 28, State Senator Susan Garrett and Representatives Karen May and Elaine Nekritz called a meeting of local government representatives to discuss their experiences during the recent storms and to begin working toward solutions. Senator Garrett tasked Glenview Village Manager Todd Hileman to work through the NWMC to further vet the problems and assemble possible remedies.

Mr. Hileman was joined in this effort by a number of municipal managers from affected communities, including: Diana Mikula (Arlington Heights), Ghida Neukirch (Buffalo Grove), Paul Harlow (Glencoe), Dave Limardi (Highland Park), Bob Kiely and Carina Walters (Lake Forest), Tim Wiberg and Doug Petroshius (Lincolnwood), Mike Janonis and Dave Strahl (Mount Prospect), Matt Morrison and Kelly Hamill (Northbrook), Stacy Sigman (Northfield), Al Rigoni and Julian Prendi (Skokie) and Tim Frenzer (Wilmette).

The group began meeting in early August. The first meeting brought in ComEd external affairs managers in hopes of facilitating a direct exchange of information to identify areas where improvements were needed. Unfortunately, ComEd external affairs managers had not implemented their internal "lessons learned" process and were unable to contribute specific, proactive input to the discussion. The NWMC group continued meeting and during this process not only identified a number of common critical areas that require immediate remediation but also prepared an outline of legislative remedies to these problem areas.

Discovery: ComEd Problems Extend Beyond Storm Related Issues

We recognize that recovering from the widespread and severe nature of these weather events would place a great strain on any electric utility. However, what we discovered during our process were systematic weaknesses in the performance of ComEd that limited their ability to coordinate with municipal disaster relief efforts or even respond to immediate life safety concerns in an acceptable manner. Below are some of our findings:

- ComEd appeared unable to process, track, prioritize and verify down wires that obstructed streets. This limited our first responders' access to significantly impacted areas and diverted fire and police resources to protect wires for unreasonably long times. In numerous cases, it took several attempts on the part of local officials to notify ComEd as to the location of these down wires before ComEd even entered them into their system for repairs. When minutes and hours are critical in response to down wires, a response that in some cases went beyond twenty-four hours is unacceptable.

- ComEd was unable to provide municipal leadership with basic, reliable and timely information during the crises. Communication of critical information including the scope

of outages, exact locations of stricken areas, availability of repair crews and their estimated time of arrival and restoration data would have greatly enhanced municipal restoration efforts. In many cases, basic information such as estimated restore times and even whether an outage had been restored were incorrectly reported to municipal officials.

- ComEd appeared to have inadequate resources to quickly restore critical public infrastructure and facilities and therefore were unable to provide reliable restoration times and other critical information such as their plan to restore the system. A great deal of the restoration work occurred following the arrival of work crews from out of state utilities several days after the storm event. Without a shared plan describing the steps and timeframes to be expected in the restoration process, municipalities lacked the critical information upon which to implement possible alternative measures (such as bringing in additional generators) or even advise residents as to how they should respond.

- While ComEd did deploy external affairs staffing to municipalities during the extended restoration processes, the level of technical proficiency of the assigned staff and their empowerment to immediately address problems was inconsistent and often fell short in matching the magnitude of the crises.

- Compounding the difficulties encountered by municipal restoration efforts was a failure of ComEd customer service information systems. ComEd lacked the ability through telephone and other electronic communications to handle customer outage reports and restoration time inquiries. This failure resulted in municipalities being forced to respond to inquiries from frustrated ComEd customers, leading to the diversion of municipal resources from other critical functions.

These systematic weaknesses extend beyond storm related outages.

- ComEd frequently is unable or slow to address repeated non-weather related outages that plague certain areas within our communities. These “pockets” of recurring outages are caused by equipment failures or other problems within those particular circuits. Frustrated customers within these pockets turn to their municipal officials for help when repeated efforts to get ComEd to permanently resolve the problems fail.

- Routine maintenance also appears to be one of ComEd’s systematic weaknesses. According to ComEd’s August 18 petition to the Illinois Commerce Commission (ICC) for relief from customer liability due to the six storms, 51% of their total interruptions were “tree related” (6,489 out of 12,713 total interruptions). Impact of severe weather could have been greatly mitigated if vegetation management better protected lines.

- Strategic transparent investment of ComEd infrastructure funds to the local distribution system, in particular toward chronically troubled circuits and additional switches and related equipment to permit more re-routing of power, also appears lacking.

- While ComEd provides each individual municipality an annual report on their service during the previous year, the provided report lacks adequate information on system reliability, maintenance and infrastructure improvement to be useful. Data demonstrating tangible progress in addressing maintenance, strategic investment and ongoing problems (including the "pocket" problems) is absent.

Remedies: Legislative and Regulatory Actions Needed

Considering the extent of the systematic weaknesses demonstrated by ComEd, and the fact that these issues did not suddenly emerge during the first storm of 2011 but rather have been chronic problems that have remained unresolved for more than a decade, it is the opinion of this group that legislative and regulatory action must be undertaken to achieve a resolution that ensures the levels of electric reliability that our constituents pay for and demand.

We strongly recommend that:

- ComEd should be held accountable under the Public Utilities Act required to take meaningful corrective action.
- Following Governor Quinn's veto of Senate Bill 1652, the ComEd smart grid bill, the Illinois General Assembly should prepare legislation requiring and enforcing meaningful corrective action that is measureable, auditable and transparent.
- The Illinois Commerce Commission, working with the General Assembly, is the appropriate agency to fully enforce this meaningful corrective action. As part of this process, the ICC should prepare and submit to the General Assembly information benchmarking ComEd performance and restoration resources against those of comparable utilities, identify best practices and submit such data to the General Assembly for the development of additional future legislation.

Below is a brief description of the legislative and regulatory actions needed to address many systematic weaknesses. Our recommendations encompass four primary components: Emergency Preparedness/Management; Accountability; Annual Reporting; and Reliability and System Maintenance. All of these components are more fully articulated in Appendix 1: Legislative Outline.

Emergency Preparedness and Emergency Management

In cases of an "area outage emergency" (AOE) where a widespread loss of power occurs (whether caused by severe weather, natural disaster, disruption, damage or destruction of transmission or distribution facilities, or other event or related events in temporal proximity) that either impacts 30,000 or more customers system-wide or 10% or more of customers in an individual municipality or county, ComEd is responsible for the preparation, distribution and execution of an emergency management plan. The emergency management plan shall include prioritization, communication, coordination and restoration protocols to guide the emergency response.

The ComEd AOE response must include establishment of an emergency operations center (EOC) staffed 24-hours, capable of receiving communications (by fax, phone, text or e-mail) from municipalities and counties regarding down power lines or other damage. In the case of a report by a public agency of down lines or equipment blocking streets, the EOC must provide information to the submitting agency as to when utility crews will be dispatched and estimated time to reopen street or streets reported within 2 hours of receipt.

ComEd is responsible for adhering to prioritization and communication protocols during an AOE. These protocols, specified by time periods after the onset of an AOE, include:

First 24 hours

- Initialization of communications center
- Direct contact with impacted local government officials to receive, and provide confirmation of receipt, priority of public safety critical facilities for restoration

Second 24 hours

- Provide local officials with an on-site staff member (which may be shared among neighboring municipalities) to facilitate restoration efforts, crews assigned and work being performed and verify status of restoration of identified critical facilities
- Provide municipality a current summary, at least once every 4 hours, of number of customers out, number of repair tickets out, size in number of customers of repair tickets currently being worked and number of crews operating in that municipality

Subsequent 48 hours

- Provide continuous 4 hour updates and staff support until completion of restoration process

These protocols are articulated in flowchart format in Appendix 2.

In advance and following future AOEs, ComEd must make internal improvements in continuing information and coordination with affected local governments. The advance improvements must include upgrades to or replacement of ComEd's e-Outage system to show outages by municipal boundaries, update more frequently, and provide more accurate information as to location and existence of outages.

Following an AOE, ComEd is to provide a report within 5 business days of full restoration as to its plan and timetable for making full repairs and rebalancing of distribution system after initial restoration. The report should include a checklist of items that municipal officials can utilize to verify the completion of follow up work.

ComEd also must significantly upgrade their customer communication capacity through combination of telephone, internet and other resources so that customers may access information and report outages without burdening local government resources.

Accountability

Section 16-125 of the Public Utilities Act contains provisions to allow a utility to be exempt from liability in many widespread outage circumstances. Amendments to Section 16-125 would provide for a more stringent level of accountability of utilities to address emergency and non-emergency reliability concerns. These include:

- Failure to implement an emergency management plan or otherwise comply with new regulations will result in denial of exemption from paying damages to customers.
- Failure to comply with plan provisions in a municipality or a county will result in denial of exemption from paying damages to customers.
- Notification of a liability exemption application and timeline/procedures for public comment must be provided to all affected local governments and customers.

Annual Report to Municipalities

Annual reports to municipalities must be enhanced to provide more detailed, easier to understand description of currently reliability, capital investment and troubleshooting data. The annual report must be provided in an electronic format and data sets in the report shall be sortable and searchable. The annual report must include, but is not limited to, the following information:

- Capital investment (by circuit) – lines, infrastructure (transformers, etc.)
- Outage analysis (by circuit) – wildlife, trees, storm, equipment failures; overhead vs. underground
- Comparison of current year statistics versus reporting year
- Annual inspection report (by circuit) – summary of infrastructure issues discovered, inspection cycle, circuits completed, action plan, corrective analysis, identification of problem areas
- Tree trimming by circuit (report year, current year and next year's schedule) including hazardous tree list
- Repeat and pocket outage analysis with action plan to correct problems
- Smart grid implementation plan for municipality
- Resident complaints - # complaints, type of complaint, work order response, restoration time, tracking of 1-800-ComEd customer waiting times

Reliability and System Maintenance

ComEd is responsible for implementing the emergency management protocols and reporting requirements described in the legislative outline; however, implementation should not come at the diminishment of investment into the upgrade and maintenance of the existing system. As part of the ICC's review of future rate increase cases, ComEd's performance in implementing these emergency management protocols and reporting requirements should be taken into account. Failure to accomplish these requirements or failure to restore power to critical public safety facilities within a specific timeframe should constitute grounds for the ICC to diminish the return on equity sought within the future proposed rate increase case.

Conclusion: Addressing Municipal Concerns with Power Reliability

As the first responders residents look to when a crisis situation emerges, we as municipal officials need to know that every resource available to ensure the health, safety and welfare of our communities is being utilized to its fullest capacity. Too often during recent and past weather related events, the weak link in our restoration process has been the inadequate ComEd response.

The critical issues in this White Paper can be resolved. Reliable, accurate information is the linchpin to our proposed solutions. Communication of detailed restoration plans early in the process would facilitate local decision making during critical initial stages. Empowering ComEd external affairs staff to provide a critical link between the utility and the municipality would enhance the ability of local officials to manage our restoration response. Transparency of ComEd's infrastructure plans for our communities would allow us to better partner with our electric utility to ensure that limited critical resources are targeted to areas that resolve problems identified within our boundaries. None of these common sense actions require massive capital investment to implement.

Without addressing these critical issues, we are destined to repeat the problems experienced this summer.

ComEd officials have pushed for enactment of Senate Bill 1652 as a means to address many of their reliability issues. We fully agree that modernization of the electric grid to make the system more efficient and self-sustaining is a laudable goal and must be pursued. However, the result of our collective experiences during the all too frequent and prolonged outages of the summer of 2011 lead us to conclude that ComEd must be held to an even higher standard than what is proposed in SB 1652.

The recommendations contained in this White Paper are intended to address concerns we discovered during the inadequate responses to the multiple storms and the ongoing frustration in dealing with systematic weaknesses. We welcome working with our legislators, other regulatory agencies, consumer advocates and ComEd itself to further refine a complete package of reforms to fully address the current conditions.

Appendices:

Appendix 1: Legislative Outline

Appendix 2: Storm Response Flowchart

NWMC White Paper: Solutions to Inadequate ComEd Outage Response
Appendix 1: Legislative Outline

I. Legislative Findings

A. Severe storms of 2011 have exposed systemic weaknesses in the performance of regulated electric utilities, specifically ComEd, in terms of ability to respond to major emergencies and to coordinate with municipalities who are charged with disaster mitigation and protecting public health safety and welfare. Shortcomings include:

1. Inability to process, track, prioritize and watch over down wires that obstruct first responders' access to streets, and divert fire and police resources to protect wires for unreasonably long times.
2. Inability to provide municipal leadership reliable and timely information regarding scope of outage, location of stricken areas, availability of repair crews and restoration data.
3. Unprepared to identify and restore critical public infrastructure and facilities (as defined in section II. C. 1. c) below) within a timely manner.
4. Failure of ComEd customer service information systems, resulting in inundation of municipalities with diverted ComEd customers and diversion of municipal resources from other critical functions.
5. Widespread outages in the summer of 2011 also identified shortcomings regarding infrastructure maintenance and vegetation management, and information annually reported to municipalities.
    a) Impact of severe weather would have been greatly mitigated if vegetation management better protected lines, chronically troubled circuits had been addressed and additional switches to permit re-routing of power had been installed.
    b) Annual reports provided by the utility to local authorities lack adequate information on local system reliability, repeat non-weather related outages, routine maintenance, system monitoring and planned infrastructure improvement to be useful.

B. ComEd should be held accountable under the Public Utilities Act for such substantial shortcomings and required to take meaningful corrective action.

C. The Illinois Commerce Commission (ICC) is the appropriate agency to prepare and submit to the General Assembly information benchmarking ComEd performance and restoration resources against those of comparable utilities. Identify best practices and submit such data to the General Assembly for the development of additional future legislation.

II. Emergency Preparedness & Emergency Management

A. Definition of "area outage emergency" ("AOE") covered by this Article.

1. Outage caused by severe weather, natural disaster, disruption, damage or destruction of transmission or distribution facilities, or other event or related events in temporal proximity resulting in widespread loss of power locally or regionally.

2. Includes loss of power to 30,000 or more customers system-wide; or,
3. Includes loss of power to 10% or more of customers in an individual municipality or county.

B. Emergency Operations Center

1. Utility must establish an Emergency Operations Center (EOC), staffed 24-hours, 7-days, capable of receiving communications from municipalities and counties regarding down power lines or other damage during an AOE.
2. Utility EOC must be able to receive messages by fax, phone, text, e-mail or other agreed upon communications means.
3. Utility EOC must be able to transmit confirmation of receipt and acknowledgement of information therein.
4. In the case of a report by a public agency of down lines or equipment blocking streets, Utility EOC must be capable of providing information to submitting agency as to when utility crews and line watchers will be dispatched and estimated time to reopen street or street reported within 2 hours of receipt.

C. Initial prioritization and communication

1. First 24 hours after onset of AOE.
   a) Initialization of communications center by utility
   b) Utility external affairs representative must be in direct contact with municipality or county.
   c) Utility must receive, and provide confirmation of receipt, to municipality or county of priority of critical public safety facilities for restoration, including but not limited to:
      i. Reopening of streets to permit access for emergency response and disaster remediation
      ii. Potable water facilities, sanitary sewer and storm sewer facilities, treatment plants, pump stations and lift stations
      iii. Hospitals and nursing homes
      iv. Municipal and county emergency operations centers, relief shelters, police and fire facilities, and government telecommunications facilities.
2. Second 24 hours after onset of AOE.
   a) Utility must provide municipal officials with an on-site staff member qualified, authorized and equipped to facilitate restoration efforts, crews assigned, work being performed, status of restoration of identified critical facilities and capable of accessing utility information systems to direct prioritization of restoration work.

b) On-site staff utility staff member may be shared between multiple municipalities at a single municipal site, but no such shared site shall encompass more than 10 square miles.

c) Utility must provide municipality with a current summary of number of customers out, number of repair tickets out, number of customers by repair tickets currently being worked, number of crews operating in that municipality, at least once every 4 hours.

3. Subsequent actions after 48 hours

a) Utility must continue to provide staff member and 4-hour updates until final 1 % of customer restoration.

b) Utility must continue to provide 4-hour updates until full restoration.

D. Continuing information and coordination

1. Utility to provide municipality with a report within 5 business days of completion of initial restoration detailing its plans for making full repairs and rebalancing of distribution system. The report must include a checklist of remaining repairs and a timetable for completion.
2. Utility to improve web-based electronic reporting system to provide real-time updates showing outages by municipal boundaries, provide more accurate information as to location and existence of outages, information on repair crews dispatched.
3. Utility to provide a report, within 14 business days of completion of initial restoration, verifying compliance with the procedures required in this section.

E. Customer communication

1. Utility shall utilize industry best practices to provide sufficient customer communications capacity through combination of telephone, internet and/or other resources, so that customers may promptly report outages, access information and confirm restoration of service.
2. Utility must identify performance measures on customer service in AOE situations as part of annual report.

F. Preparation and filing of Emergency Management Plan

1. Plan must implement all of the requirements of this article.
2. Plan must be delivered to the ICC, municipality and county and updated annually.
3. Plan must identify and map which municipalities will share on-site utility staff member during an AOE and identify site where staff member will be located.

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Appendix 1: Legislative Outline

III. Accountability

A. Failure of electric utility to implement emergency management plan or otherwise comply with new regulations will result in denial of exemption from paying damages to customers under Section 16-125 of the Public Utilities Act.

B. Failure of electric utility to comply with plan provisions in an municipality or unincorporated area of a county will result in denial of exemption from paying damages to customers within municipality or unincorporated areas under Section 16-125 of the Public Utilities Act.

C. Electric Utility must give notice of application under exemption from paying damages to customers under Section 16-125 of the Public Utilities Act to all covered municipalities and counties to permit them to object to petition. The Illinois Attorney General is authorized to appear for and represent all covered municipalities and counties in any proceedings.

D. Electric Utility must give public notice of application under exemption from paying damages to customers under Section 16-125 of the Public Utilities Act to permit members of the public to object to petition. The Illinois Attorney General is authorized to appear for and represent all covered customers in any proceedings.

IV. Annual Reporting to Municipalities

A. Annual report provided to municipality shall be additionally provided in an electronic format and data sets in the report shall be sortable and searchable.

B. Annual report must include the following:

1. Tree trimming by circuit (report year, current year and next year's schedule)
2. Capital investment (by circuit) – lines, infrastructure (transformers, etc.)
3. Outage analysis (by circuit) – wildlife, trees, storm, equipment failures; overhead vs. underground; including comparable System Average Interruption Frequency Index and Customer Average Interruption Duration Index data.
4. Resident complaints - # complaints, type of complaint, work order response, restoration time
5. Comparison of current year statistics versus reporting year
6. Hazardous tree list
7. Annual inspection report (by circuit) – summary of what infrastructure issues discovered, results of thermographic or other systematic evaluation of line conditions, inspection cycle, which circuits done, action plan, corrective analysis
8. Identification of problem areas based upon national standards
9. Repeat and pocket outage analysis with action plan

10. Smart grid implementation plan for municipality
11. Tracking of 1-800-ComEd customer waiting times and abandoned calls

V. Reliability and System Maintenance

A. Electric utility is responsible for implementing the emergency management protocols and reporting requirements described in this legislation without diminishment of investment into the upgrade and maintenance of the existing system.
B. The ICC shall take into account performance of electric utility in implementing emergency management protocols and reporting requirements in future rate increase cases.
C. Failure by the electric utility to implement emergency management protocols and reporting requirements, failure to restore 75% of critical public safety facilities (as described under section II. C. 1. c) above) within a 24 hour period upon declaration of an AOE or 90% of critical public safety facilities within a 36 hour period upon declaration of an AOE, or any diminishment of investment into the upgrade and maintenance of the existing system in order to meet the implementation of emergency management protocols and reporting requirements or critical public safety facilities restoration timeframes shall result in a decrease of 100 basis points in the return on equity sought within the future proposed rate increase case.

VI. Direction to ICC – Report to State Leadership

A. The ICC shall promulgate regulations within one year after the effective date of the legislation implementing its provisions.

B. The ICC shall deliver to the Governor, Speaker of the House, Senate President, the House and Senate Minority Leaders and Attorney General within 18 month of the effective date of the legislation a report providing data on industry best practices among regulated electricity delivering utilities in the United States relating to major weather related outages, coordination with local authorities, public information, customer communication, restoration resources, including crews available per capita, per customer, and per square mile of service territory, and comparing Illinois regulated electric utilities to said benchmarks, and making recommendations based on such data.

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Appendix 2: Storm Response Flowchart

First 12-24 hours after onset of Area Outage Emergency	Communication center initialized by utility Direct contact between external affairs representative and municipality established Utility must receive, and provide confirmation of receipt, that priorities including downed live lines and critical public safety facilities are routed into the restoration system
Second 24 hours after onset of Area Outage Emergency	ComEd staff person with full access to ComEd system and empowered to handle unresolved issues provided onsite to facilitate resportation efforts (may be shared between several municipalities) Communication of ComEd's restoration action plan/priorities Accurate communication of critical information in standardized format: status of critical locations, number and location of repair crews locations within municipality, number of customers out, number of repair tickets pending Regular updates (at least once every 4 hours) on status of ComEd's restoration effort
Subsequent actions after 48 hours	Continuous 4 hour updates updates until all restoration is completed Follow up report, including checklist, as to what follow-up repairs/issues remain on restored circuits