Docket No. 11-0588
ComEd Ex. 8.0

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY	:	
	:	
Petition to determine the applicability of Section 16-125(e) liability to events caused by the Summer 2011 storm systems.	:	No. 11-0588

Rebuttal Testimony of

CRAIG CHESLEY

Manager,
Vegetation Management

Commonwealth Edison Company

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I. Introduction

A. Identification of Witnesses

Q. **What is your full name and business address?**

A. My name is Craig Chesley. My business address is 3 Lincoln Center, Oakbrook Terrace, Illinois.

Q. **By whom and in what position are you employed?**

A. I am Manager, Vegetation Management of Commonwealth Edison Company ("ComEd").

B. Purpose of Testimony

Q. **What are the purposes of your direct testimony?**

A. I respond to the testimony of Illinois Attorney General ("AG") witness George Owens, AG Exhibit ("Ex.") 1.0 regarding ComEd's vegetation management activities. Specifically, I discuss ComEd's existing vegetation management policy and the manner in which ComEd works to implement that policy. I also describe the status of ComEd's vegetation management activities immediately prior to the storms that are the subject of this proceeding. Finally, I explain why Mr. Owens' various conclusions concerning ComEd's vegetation management activities are without merit.

Q. **What are the conclusions of your testimony?**

A. ComEd's scheduled vegetation management activities for its distribution facilities were in accordance with the established timetable for trimming trees in the time immediately preceding the 2011 summer storms at issue in this proceeding. I conclude that ComEd's distribution-related vegetation management policies meet the appropriate industry

standards, and properly balance the interests of maintaining a reliable distribution system with communities' high value on trees, tree canopy (overhang), and urban forestry.

I also conclude that Mr. Owens' claims are without merit. First, he offers no facts about the status of ComEd's vegetation management activities prior to ComEd experiencing the 2011 summer storms. Second, he demonstrates a lack of understanding about ComEd's vegetation management policies and activities. Third, he fails to cite to a single instance where incorrect vegetation management activities caused or exacerbated an outage as a result of the 2011 summer storms. Finally, his claims fail to acknowledge that hurricane-force winds which uprooted trees and snapped tree limbs were the primary driver of the 2011 summer storm outages.

C. <u>Background and Qualifications</u>

Q. **What are your current duties and responsibilities for ComEd?**

A. I am the Manager, Vegetation Management Department, and have been in this position since 2009. In this role, I am responsible for providing direction and leadership for a comprehensive Vegetation Management program. I manage the personnel and activities of ComEd's Vegetation Management Department, and ensure the successful implementation and execution of vegetation-related projects for Distribution and Transmission.

Q. **Prior to your current position, what other positions did you hold at ComEd?**

A. I have worked at ComEd for more than 20 years. My prior positions at ComEd include: Dresden Instrumentation Department – calibration & maintenance of nuclear reactor controls; Field Agent – acquiring easements; Engineering Department – Engineering

Assistant, Engineering Associate; Engineering Supervisor and Senior Engineer; Program Manager Public Relocation; and Manager, Public Relocation Department.

Q. **What is your educational background?**

A. I hold a two-year Technical Certificate in Applied Science, Aviation Maintenance from Lewis University.

II. <u>ComEd's Current Vegetation Management Policy</u>

Q. **AG witness Owens claims that ComEd did not adhere to its vegetation management policy. AG Ex. 1.0, 7:16-20. Can you provide an overview of ComEd's Current Vegetation Management Policy ("Policy")?**

A. Yes. ComEd's Vegetation Management Department ("VMD") manages distribution and transmission utility line clearance programs that ensure safe and reliable electric service to our customers, while meeting regulatory and governmental requirements and commitments. ComEd's vegetation management program is designed to minimize power interruptions and hazards caused by tree branches and other types of vegetation that come in contact with power lines. We clear limbs, trees, vines, and other plants away from power lines to reduce the chance of damage to facilities or equipment. Distribution Vegetation Management is comprised of two programs, the Distribution Preventive Maintenance Program ("DPM Program") and the Corrective Maintenance Program ("CM Program").

Q. **Would you please describe the DPM program?**

A. Yes. The DPM Program is the foundation of ComEd's vegetation management activities. The goal of the DPM Program is to assist ComEd in providing safe and reliable electric

service in a cost effective manner. Pursuant to this program, ComEd clears vegetation from each distribution circuit (34kV and below) on a four-year cycle. ComEd utilizes standards and guidelines consistent with American National Standards Institute ("ANSI"), National Electric Safety Code ("NESC") and Occupational Safety and Health Administration ("OSHA") rules and regulations. Such rules and regulations are based upon arboricultural knowledge of trees and characteristics, including tree species, growth rate, wood strength, cycle length, proximity to overhead facilities, voltage, and type of power line construction. ComEd's distribution system consists of approximately 35,000 overhead circuit miles. Thus, our DPM Program clears vegetation from approximately 8,750 overhead circuit miles per year. Other components of the DPM program include the Mid-Cycle program and Quality Assurance ("QA")/Quality Control ("QC") process. The Mid-Cycle Program is designed to reduce vegetation-caused interruptions within the second half of the DPM trim cycle. Circuits included in this program are in the second year of their four-year trim cycle, then selected based upon whether they meet specific reliability performance criteria over the last four years, such as: System Average Interruption Frequency Index ("SAIFI") performance of each circuit each year, as compared to the mean SAIFI performance of storm and non-storm (all-in) performance. The mean SAIFI is calculated for each year. If the SAIFI of a circuit is greater than the mean, then it meets the annual threshold and moves on to the next level of review. Circuits are then selected if the circuit: (1) meets the all-in annual threshold for two or more years; (2) if the circuit meets the non-storm annual threshold for two or more years; or, (3) the circuit meets the non-storm annual threshold for the year following its DPM cyclic trimming. All 34kV circuits within the Mid-Cycle year are included without

meeting threshold criteria. The Mid-Cycle Program follows the same QA/QC process as described previously.

Q. **Would you please describe the CM Program?**

A. The CM Program addresses emergent and corrective tree trimming and tree removal. This includes internal and external requests, system reliability enhancement programs, emergency response (unless managed through the Emergency Response Organization), capital installation, and new business requests.

Q. **When was the Policy developed?**

A. In 1993, ComEd contracted with Environmental Consultants, Inc. ("ECI") to perform a system analysis and recommendation. This study included studies on the tree population in ComEd's service territory, interruption causes, tree growth rates, and tree removal rates. ComEd used this information to develop the basics of the program that are still in place today. ComEd began trimming using the Natural Method, which is still in use today and was the precursor to the ANSI A300 (Part 1) standards. The average re-growth rates of major tree species on the ComEd system was used to develop the recommended clearance guidelines utilized prior to 1999. The program prior to 1999 was managed on a regional basis, with great differences between the regions with respect to the cycle maintenance interval, clearances obtained, contractor(s) performing the tree work, and municipal and customer responses.

Subsequent to 1999, ComEd moved to a system-wide four-year trimming cycle. In 2007, special attention to the performance of 34kV circuits was implemented. As a

result, ComEd's VMD began to remove all branches over the 34kV conductors during their Preventive Maintenance cycle year.

Q. **What ComEd personnel have participated in the development of this Policy?**

A. Policy statements are developed through the VMD and are approved by the manager, Vice President, and President of ComEd. Procedures and Processes are developed by ComEd's utility arborist staff utilizing industry best management practices; ANSI, NESC, and OSHA rules and regulations; as well as nationally-accepted directional pruning standards recommended by the Tree Care Industry Association, the International Society of Arborculture, and the National Arbor Day Foundation. Procedures and Processes are then approved through the VMD Manager, then routed to affected departments for review, challenge and approval utilizing a Utility Functional Area Manager ("UFAM") process and placed in Management Model space.

Q. **Does ComEd provide the Illinois Commerce Commission ("Commission") with information concerning its vegetation management activities?**

A. Yes. ComEd regularly provides the Commission with information about its vegetation management activities, usually in response to annual data requests received from the Staff of the Commission. It is my understanding that the Commission uses this information, at least in part, to create annual reliability reports.

Q. **How does ComEd manage the ongoing oversight of the Policy?**

A. ComEd's VMD maintains standard policies and procedures for vegetation management work. ComEd utilizes a distribution maintenance database to track work at a circuit level.

We also utilize line clearance professionals and qualified arborists to oversee programs and inspect 100% of the completed cyclic Preventive Maintenance work through a formal QC process. Business Plans are developed and monitored through Key Performance Indicators related to the following categories: Safety, SAIFI, CAIDI, Schedule, Cost, and Production. To ensure that our contractors fully complete the work to meet ComEd standards, our current contract structures allow us to withhold final contractor pay-out until completed circuit miles have been QC-approved. Once we verify that the work has been completed consistent with our QC standards, our vegetation management database is updated to reflect that information.

Q. **How does ComEd interact with local governmental entities when vegetation management activities are scheduled to be conducted in a specific area?**

A. ComEd provides notification in compliance with 220 ILCS 5/8-501.1. Municipalities are provided with a letter describing our planned vegetation management activities, as well as a map or list of common addresses that will be affected by these activities. ComEd frequently meets with municipal representatives to review planned work, or to engage in outreach to educate stakeholders on the purpose of ComEd's Vegetation Management programs. In addition, municipalities are provided an Annual Report, which lists the completed circuits trimmed within their community, along with identification of the circuits planned for the current year. Also, ComEd participates each year in Arbor Day and volunteer events throughout our territory.

III. Status of Vegetation Management Activities During 2011

Q. **AG witness Owens claims that ComEd was deficient in its vegetation management activities in 2011. AG Ex. 1.0, 14:9-12. Can you summarize the status of ComEd's vegetation management activities immediately prior to experiencing the Summer 2011 Storms, which are the subject of this docket?**

A. Yes. Prior to experiencing the 2011 summer storms, ComEd's vegetation management activities for 2011 were on track for meeting our annual plans. As I noted previously, ComEd operates a tree trimming distribution maintenance database, which tracks work at the circuit level. ComEd uses this database to verify what work has been completed. As of May 1, 2011, ComEd was ahead of plan, having completed trimming on 491 circuits against a plan of 459 circuits. Meanwhile, as of May 31, 2011, ComEd had completed the four-year cyclic tree trimming work on 588 of the planned 590 circuits; a net overall variance of approximately 0.3%, with three circuits being completed in advance of their planned dates and five circuits not being completed by their planned dates due to road postings in rural areas or impact from the May storms. Messrs. Gannon-Mehrtens further address this point in their direct testimony, ComEd Ex. 2.0.

Q. **Did the Summer 2011 Storms impact ComEd's vegetation management activities in 2011?**

A. Yes. ComEd Vegetation Management programs were impacted. Of the 1,306 circuits completed in 2011, 70 circuits were impacted by these storm events. However, vegetation management activities for these 70 circuits were completed by November 2011. The vegetation management activities on these circuits was delayed due to post-

storm clean-up and trimming activity, directly related to the storms. Sixty one of these were deliberately pushed back until after their planned completion dates in order to support the post-storm clean-up efforts. Of the remaining nine circuits, eight were delayed due to the May, June, and July 2011 storms and one was completed late due to the elm tree trimming restriction. We intentionally delayed vegetation management activities on the 61 circuits because we identified them as being very good performers and anticipated no negative impacts by pushing back their trimming dates. Notwithstanding the delays, all circuits were completed within the four-year trim cycle.

Q. **How did the Summer 2011 Storms impact these activities?**

A. The 2011 cyclic vegetation maintenance schedule was impacted due to severe weather that moved through ComEd's service territory in May, June, and July 2011. In particular, there were nine circuits that were not completed by their original planned date, which experienced vegetation-related outages in one of the six storms. With respect to these nine circuits, as a result of the subject storms, tree trimming for eight of the circuits was completed by September 28, 2011. Tree trimming for one other circuit, W689, was completed in November 2011. This was a consequence of both of the June storms and a seasonal Elm tree trimming restriction imposed by City of Elmhurst. Messrs. Gannon-Mehrtens further addressed this point in direct testimony, ComEd Ex. 2.0.

IV. <u>Additional Comments Concerning Mr. Owens' Testimony</u>

Q. **Before turning to the specific claims of AG witness Owens concerning ComEd's vegetation management activities, do you have any general observations concerning his testimony on this issue?**

A. Yes. First, Mr. Owens' claims are based upon an after-the-fact review of a limited portion of ComEd's distribution system, with his on-site review conducted well after the 2011 summer storms occurred. (See response to ComEd DR AG 2.018, attached as ComEd Ex. 8.01). Second, Mr. Owens has never independently developed a vegetation management plan or related standards for a utility. (See response to ComEd DR AG 2.09, attached as ComEd Ex. 8.02). Third, it appears that Mr. Owens has never been responsible for a utility's implementation or ongoing management of a vegetation management plan. (See Ex. GEO-1, attached to AG Ex. 1.0). Fourth, Mr. Owens' review of tree trimming on overhead service wires not located on ComEd property or easements is irrelevant because that is the responsibility of ComEd's customers, not ComEd.

Q. **AG Witness Owens claims that ComEd's tree trimming practices have been "inconsistent and inadequate to effectively deal with the high density of tree cover within much of its service territory." AG Ex. 1.0, 7:18-20. Is he correct?**

A. No. Mr. Owens' claims are based upon having reviewed only a limited portion of ComEd's distribution system. His testimony demonstrates that he is unfamiliar with ComEd's established vegetation management programs. For example, in response to Data Request AG 2.05, Mr. Owens states that ComEd is on a five-year cycle based upon his interpretation of DR OUT 1.01 SUPP_ATTACH 10 (ComEd Ex. 8.03). However, the reference he points to, and his statement that ComEd is on a five-year cycle, is simply incorrect. The information he cites relates to ComEd's transmission system, not ComEd's distribution system, which is on a four-year cycle. In addition, as I described previously, ComEd has established procedures and guidelines to achieve consistent and

sufficient clearances under various operating conditions, taking into consideration tree species, growth rates, temperature, sag, and sway of conductors while utilizing vegetation management industry best practices.

Q. **AG witness Owens also claims that because ComEd did not consistently maintain clearances from energized conductors, the "resulting growth aggravated the outages experienced during storms last year." AG Ex. 1.0, 8:1-4. How do you respond?**

A. Mr. Owens is wrong. First, Mr. Owens' testimony provides no facts concerning the status of ComEd's vegetation management activities prior to the onset of the Summer 2011 Storms. In fact, he did not conduct his limited "field inspections" until December 2011. Second, Mr. Owens fails to cite to even one example where alleged improper vegetation management actions actually resulted in aggravating the outages experienced due to the storms. Third, Mr. Owens fails to acknowledge that ComEd regularly provides the Commission with information concerning its vegetation management activities.

ComEd operates a four-year cyclic PM Program. Each overhead circuit is tracked, scheduled and trimmed on a consistent basis. We have programs in place to monitor and ensure the consistent application of our standards. For example, an independent third-party performs QC inspections to ensure the finished product meets ComEd's standards. Deficiencies in quality are documented as re-work and tracked through completion. Contract tree trimmers are required to complete re-work at their own cost within 30 days. ComEd Vegetation Management personnel supervise these activities in each of the regions within ComEd's service territory. It is simply incorrect to claim that clearances have not been consistently maintained throughout the service

territory. To be sure, there are instances where some trees that grow faster due to environmental conditions that may require additional, more frequent service. In those instances, ComEd has Vegetation Management Programs in place for targeted, reliability-based performance requirements.

Q. **AG witness Owens suggests that to avoid the impact of falling tree limbs on energized conductors, the "entire vertical space above energized conductors should be cleared …." AG Ex. 1.0, 9:2-5. Is this suggestion realistic?**

A. No. Although ComEd would fully endorse such a practice if it could recover the costs of such a program, the public has little appetite for this. Removal of overhangs is currently performed on all T-lines. Whenever possible, we also clear ground-to-sky on 34kV lines. While clearing the entire vertical space above an energized conductor is optimal, it goes well beyond existing regulations and standards. Moreover, ComEd operates in areas and communities that often place a high value on trees, tree canopy (overhang), and urban forestry. Distribution lines at the 12kV level and below frequently pass through residential backyards and streets where the public often has little or no tolerance for essentially removing all overhang around those power lines. Indeed, I have experienced, first hand, the concerns and resistance surrounding our tree trimming activities. Thus, ComEd must delicately balance reliability with arboricultural standards and the demands of the numerous communities we serve. In order to do so, ComEd relies on utility arborists who use their knowledge of trees, including growth habits, failure potential, and electrical configurations to assess maintenance programs and practices. ComEd's clearance guidelines take all of these factors into account.

Q. **Based on his visual inspection, AG witness Owens claims that ComEd's vegetation management activities were not applied in a "consistent and uniform manner" for primary overhead lines along alleys and residential back property lines. AG Ex. 1.0, 9:18-10:6. How do you respond?**

A. ComEd's standards for proper vegetation management require the same clearance measurements regardless of whether our lines are located near easy-access streets, alleys, or residential back property lines. ComEd utilizes trained technicians and supervising arborists that manually climb trees in areas inaccessible to mechanical lift devices. Additionally, the same QC process applies. Frankly, given Mr. Owens' limited "field inspections," I find it astonishing that he makes such a sweeping conclusion. ComEd operates more than 35,000 overhead circuit miles. Yet, in looking at less than 10 locations, and without knowing where such locations stand in the trimming cycle, he determines that ComEd's vegetation management program is not applied consistently. Such a conclusion is not reasonable, and is contrary to ComEd's performance.

Q. **Based on Mr. Owens' view that ComEd has not properly maintained vegetation near primary overhead lines in alleys or back property lines, he states that winds which impact trees in those areas will result in extensive damage to distribution circuits. AG Ex. 1.0, 10:7-14. Does he link this statement to specific outages resulting from the Summer 2011 storms?**

A. No. Even assuming his claim concerning the maintenance of vegetation near primary overhead lines in alleys or back property lines is correct – and it is not - Mr. Owens' testimony fails to cite to even a single incident where such a result occurred during the

Summer 2011 Storms. Severe high winds similar to those experienced throughout the 2011 storm season are likely to have affected trees and wires regardless of whether they were in alleys, rear lots, or easily accessible streets.

Q. **Mr. Owens also opines that ComEd's inconsistent vegetation management practices have "resulted in … extensive customer outage periods caused by tree damage to aerial distribution lines." AG Ex. 1.0, 14:9-16. Does Mr. Owens link this statement to any outage resulting from the summer storms of 2011?**

A. No. Not only does Mr. Owens fail to link his claim, in any way, to the Summer 2011 Storms, but he fails to cite a single outage that relates to his claim. In contrast, I have demonstrated that ComEd does, in fact, have a well-structured and properly supervised vegetation management program.

Q. **Mr. Owens claims that "much of ComEd's electrical distribution system was not in compliance with the National Electrical Safety Code when the summer 2011 storms occurred." AG Ex. 1.0, 15:13-15. Specifically, based on his visual inspections, he states that ComEd's distribution circuits are "extensively in violation of the requirement of NESC Rule 218(A)(1) …." *Id.* at 16:3-4. Are these claims at all accurate?**

A. No.

Q. **Why not?**

A. It is simply not credible for Mr. Owens to claim that "much of ComEd's electrical distribution system was not in compliance with the National Electrical Safety Code when

the summer 2011 storms occurred." AG Ex. 1.0, 15:13-15. ComEd not only monitors its own vegetation management program but reports to the Commission and its Staff on its execution of the vegetation management program. The Commission's Staff then conduct quality control inspections and audit to verify ComEd's reports. We have consistently been found in compliance with vegetation management requirements, and we were in compliance in the summer of 2011.

Moreover, Mr. Owens has no basis for making such a claim, apart from its falsity. He only "inspected" a fraction of ComEd's 35,000 circuit miles of overhead circuits. Second, his "inspection" occurred six months after the 2011 summer storms; thus, he has no contemporaneous knowledge of ComEd's distribution system at the time the storms occurred.

Finally, the fact that during a storm system a branch or tree contacts a wire does not demonstrate or imply that an NESC violation ever occurred. The version of NESC Rule 218 for Tree Trimming used in Illinois states:

> 1) Trees that may interfere with ungrounded supply conductors should be trimmed or removed.
>
> 2) Where trimming or removal is not practical, the conductor should be separated from the tree with suitable materials or devices to avoid conductor damage by abrasion and grounding of the circuit through the tree.

Incidental contact between a tree and distribution conductor, especially during a storm, does not suggest, let alone demonstrate, that an interfering tree was not properly trimmed.

Q. **Mr. Owens also states that ComEd violated its "stated practice of providing for 10 feet of vegetation clearance ..." AG Ex. 1.0, 16:3-8. Is 10 feet of clearance ComEd's standard clearance specification?**

A. No. Nowhere in ComEd's vegetation management standards (except for side clearance of 34kV circuits) is there a 10-foot clearance standard. Nor is that our standard clearance specification. While some ComEd personnel may occasionally reference a distance of 10 feet for vegetation clearance as a "rule of thumb" when communicating with the public about clearance distances, such a distance is neither a ComEd nor NESC rule. Honestly, a vegetation management professional should know this from the NESC Rules and the documents we provided Mr. Owens during discovery. Notwithstanding, ComEd has its own defined clearance procedures that it adheres to. The following table (Table 1) lists those clearances, which have been submitted to and reviewed by ICC Staff.

Table of Recommended Line Clearances (in feet)

Clearance From Trees	Rate of Re-growth	Service Wire *(120-480v)*	Isolated Open Wire Secondary *(120-480v)*	Open Wire Secondary *(120-480v)*	Secondary Cable *(120-480v)*	Primary Voltage *(2-13.2kV)*	Primary Aerial Cable	34 kV
Side	Slow	(a)	4 (e) (f)	4 (e)	(a)	6 (e)	4 (e)	10 (g)
	Fast	(a)	4 (e) (f)	4 (e)	(a)	8 (e)	4 (e)	12 (g)
Over	Slow	(a)	4 (e) (f)	4 (e)	(a)	6 (b) (e)	4 (e)	None (c)
	Fast	(a)	4 (e) (f)	4 (e)	(a)	8 (b) (e)	4 (e)	None (c)
Under	Slow	(a)	6 (f)	6	(a)	8	4 (e)	12 (d)
	Fast	(a)	8 (f)	8	(a)	12	4 (e)	12 (d)

1. Remove hard contact that may damage equipment.
2. All dead overhang shall be removed.
3. No overhang on 34kV, unless otherwise directed by ComEd.
4. ComEd will remove all fast growing trees when practical.
5. Large tree trunks or major limbs of established trees may be allowed to remain as close as 2 feet from the conductors if (1) movement of either the conductor or the tree will not result in contact between the tree and the conductor, (2) the tree is not easily or readily climbed without the use of ladders or specialized climbing equipment, and (3) There is no evidence of re-growth or sprouting from the tree trunk towards the line.

Q. **In your opinion, does Mr. Owens' testimony represent knowledgeable system performance expectations for the extraordinary storm conditions experienced?**

A. No. His testimony does not acknowledge the near-hurricane force winds that occurred throughout our service territory. Much of his testimony implies that inconsistency and lack of a routine maintenance program led to vegetation growth, which, according to him, was the major contributor to interruptions. However, as further explained in Ms. Maletich's and Mr. Piazza's Rebuttal testimony (ComEd Ex. 10.0, ComEd Ex. 9.0, respectively), the primary causes of storm-related interruptions were uprooted trees and

tree limbs from tall, growing trees that broke and fell onto power lines due to the extremely high wind conditions.

Additionally, I would observe that Mr. Owens fails to acknowledge or compare the performance of ComEd to other peer utilities under similar storm conditions.

Q. **Are Mr. Owens' observations and theories regarding ComEd's vegetation management practices consistent with the Commission's annual reliability report findings?**

A. No. In every reliability report for the past five years, the Commission has stated that ComEd is on a four-year program. For example, in the Commission's most recent report, covering 2009, released December 31, 2010, it stated, "[S]taff recommends ComEd continue to investigate problem areas and modify programs to advance *and maintain* a four-year (minimum) tree trimming cycle throughout its service territory that is in compliance with NESC Rule 218." The 2008 and 2009 Reports have also noted ComEd's continuing improvement in vegetation management.

V. <u>Conclusion</u>

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

A. Yes.