

RESPONSES
OF
UIL HOLDINGS CORPORATION
TO
TROPICAL STORM IRENE HEARING QUESTIONS

LEGISLATIVE OFFICE BUILDING

HARTFORD, CT

September 19, 2011

I. Preparation:

I.A. What are the best practices for readiness? Response?

Best Practices for Readiness and Response:

About a year ago, the Public Utilities Regulatory Authority (the Department of Public Utility Control) retained Jacobs Consultancy to review the electric utilities' response to severe weather outages earlier in the year. In its report to PURA, Jacobs set forth its view of what constitutes best practices for readiness and response. UI sets forth the Jacobs best practices below:

Emergency Planning and Preparedness

- Emergency operations should be based on the concept of the Incident Command System.
- A dedicated emergency operations organization and facilities should exist.
- At the first indication of a storm, the restoration workforce should be geographically positioned. The restoration workforce should include damage assessors, as well as, crews so initial damage assessment can begin as soon as possible after the storm has passed, and restoration time estimates can be developed.
- Never underestimate the potential damage of a forecasted storm.
- A communications plan should be in place to interact with public officials and emergency response agencies. Communications should be initiated early and should be consistently continued throughout the event.
- Extensive use of nontraditional employees.
- Materials should be prestaged and could include items such as storm trucks or storm boxes.

Post-Storm Actions and Processes

- Determine the global estimated restoration times and publish that information within 24 to 48 hours.
- Employ a restoration strategy that targets the restoration of power to the greatest number of customers within the shortest amount of time.

- The need for supplemental crews should not be limited to local mutual aid groups and other local utilities.
- Communications should be correct and consistent.
- Following a major storm, lessons-learned should be gathered and implemented in a timely manner, implementation plans should include specific tasks and tracked completion dates.

UI has successfully adopted and followed industry best practices. UI is actively involved in many utility industry groups, such as the Edison Electric Institute (“EEI”) mutual assistance group, which focuses on sharing techniques and processes for restoring power during an outage. UI also uses this shared information to identify and adopt techniques used effectively by others to create, develop and implement UI specific practices. Two specific examples of best practice identification activities are UI’s participation in the DEEP annual hurricane preparedness table top exercise and in 2010 UI hosted a working meeting to describe UI’s storm response plan to all municipalities within our service territory, the session was attended by Deputy Commissioner Boynton of the Division of Emergency Management & Homeland Security and Director Hackett of the state DEEP. Many utilities are currently implementing an organizational Incident Command Structure (“ICS”) in conjunction with integrated Outage Management System (“OMS”) software, mobile work force technologies and enhanced real-time customer communication technologies; UI is very active in the development and implementation of new processes and technologies with the intent of improving the entire restoration process. During Irene, UI did implement portions of the ICS structure prior to the event. We are currently out to RFP for an OMS technical upgrade and have a plan established for a mobile workforce solution.

- As the Jacobs Consultancy report noted in October 2010, “In general, UI has successfully embraced many industry best practices for elements of its major event emergency response process. These include: use of Incident Command System, dedicated emergency operations staff and facilities, appropriate estimates of damage base[d] on known information, effective distribution of materials, able to escalate contact with and obtain mutual aid groups (although no mutual crews were called in [for the March 2010 storm reviewed by Jacobs]), extensive use of nontraditional employees, and gather and implement lessons-learned.” The Jacobs Consultancy report continued: “There are several other best practices that are embraced, but there is still room to improve. These include: UI’s ERP has a thorough internal communications plan that was followed; however, the Company has identified the need for a more proactive outreach to the towns and municipalities; due to the severity of the storm, UI’s outage management system’s initial restoration times were overly optimistic. Also, in order to avoid field reporting issues

more mobile data terminals are needed.” As to those areas, UI’s improvements have been reported to PURA and were evidenced in the Company’s response to Irene.

UI continued to develop enhanced communications capabilities with cities and municipalities. UI has in place a project to install mobile data terminals (MDTs) in all trucks by 2012, ensure that distribution supervisor and distribution line trucks are a high priority. In connection with outage restoration work MDTs, this will streamline the process of closing work order tickets and enhance the ability of the dispatcher and analysts to effectively and efficiently plan and direct the remaining work efforts. UI has provided additional training for staff assigned to patrol or damage assessment duties during emergency responses to enhance their understanding of the configuration and operation of the system.

UI has completed the enhanced training program and investigation of OSHA compliant wind speed working criteria and trained all overhead construction crews in this respect. Since the March 2010 event, UI has enhanced its communications with municipal and city officials; however, further enhancement is necessary. As mentioned, UI is also currently working on the mobile work force implementation which is scheduled for the end of 2012 in conjunction with an Outage Management System upgrade which is underway. Both of these efforts will enhance outage restoration by enabling field forces to receive and view real-time outage data and electric system status and allow direct reporting of damage assessment and restoration status into the OMS system. Ultimately, this will allow for more timely communications to all key internal and external stakeholders.

Regarding weather forecasting, the engagement and utilization of meteorologists such as those at the Western Connecticut State University (WesConn) weather center constitutes best practices. Use of this resource results in forecast information that goes beyond the readily available weather data and allows UI to gain specific knowledge of the probability and impact of weather events to UI’s service territory. Finally UI considers post-storm system inspections and repairs a best practice to prevent future outages from occurring due to lingering damage from the weather event; for example, damaged limbs and pole equipment. UI has recently completed its post storm damage assessment and repair work for Irene.

UI has in place an expansive Emergency Preparedness Plan that outlines the necessary steps to be implemented in response to an event. The plan defines all of the key components of the restoration effort. The plan used for Irene included the implementation of an ICS organization which allows for a clear definition of roles and responsibilities and the reporting channels needed to manage such a large event. The key areas were led by team leaders responsible for the critical functions of executive leadership, incident management, planning, finance, operations, logistics, public information, and inter-agency liaisons (municipal and government liaisons).

UI has a predefined “potential event level criteria” based on predicted weather to estimate the impact of a particular event. This “gauge” is used as a planning guide and categorizes events into four levels of impact based on number of customers, number of separate outage locations, number of wires down, and predicted length of the restoration among other criteria. Based on this “potential event level criteria”, Tropical Storm Irene was predicted to be the highest level event and planning was based on this assumption.

UI employed a best practice response strategy that executed restoration in the following prioritized sequence:

1. Ensuring public safety
2. Attending to pre-defined municipal priorities
3. Restoration of largest number of customers in the least amount of time
4. Restoration of single customer outages

The major response steps utilized include:

1. Resource planning and acquisition
2. Damage Assessment
3. Restoration prioritization and planning
4. Coordination and dispatch of construction forces
5. The construction effort
6. Safe re-energizing of outage areas
7. Completion reporting

The restoration process is evolving rapidly across many utilities and currently no single best practice has been unilaterally adopted. However, there are several elements of a restoration plan that UI and many utilities believe to be a best practice. Those elements include the ICS structure, integrated OMS, real time communication tools, mutual assistance group membership, and mobile work force tools. UI has in place, is implementing, or is considering implementing all of these components.

I.B. How did you fare for readiness? Response?

Readiness

UI had begun tracking Irene early on in its life cycle. The first indication that it may have an impact on UI's service territory was given on Monday, August 22. At this time the official track predicted a landfall in Florida. However, UI learned from WesConn at 2:15 PM on Monday, August 22 that certain forecast models predicted Irene could impact Connecticut late morning on Sunday, August 28. As a result of this early warning, UI initiated its restoration planning efforts on Tuesday, August 23. Throughout the week, UI prepared for the event. The comprehensive preparation included storm team planning meetings, defining the potential damage impact, acquisition of additional line clearance and line construction crews, development of the specific storm staffing plan and schedules, restoration strategy development, communication planning and stakeholder contact (for example, UI contacted the state EOC to secure major construction areas such as the Q-Bridge project), safety training, logistics planning, and system integrity activities such as returning the Transmission and Distribution systems to normal prior to the event (planned maintenance and other construction work can often require a change in system configuration to accommodate planned work), substation inspections, and the cancelling of all planned work. All pertinent UI departments were involved in numerous preparation activities in order to prepare for the impacts of the storm.

As a result of the successful planning stage, UI pre-staged all storm responders (i.e. staffed all key substations and having all UI first shift storm personnel report for their assignments) and logistic needs (such as pre-staging material at strategic locations throughout the service territory, procuring staging locations and accommodations for mutual assistance and contractor crews) prior to the storm in order to be able to utilize fully all available resources during the response.

Response

During a restoration effort, the major technology utilized by UI is an Outage Management System (OMS) that streamlines the outage prediction, identification, resource assignment and restoration reporting. The OMS also provides an internal work flow management tool and communication medium to various staff members associated with the restoration effort during storm events (the OMS is integrated with the SAP customer information system and provides the customer count information depicted on the UI website).

The restoration effort needs to ensure the effective blend and utilization of all resources such as engineering, operations, business and construction resources. The goals of the response effort are to ensure safe and effective completion of the following ordered restoration activities:

1. Ensuring public safety
2. Attending to pre-defined municipal priorities
3. Restoration of largest number of customers in the least amount of time
4. Restoration of single customer outages

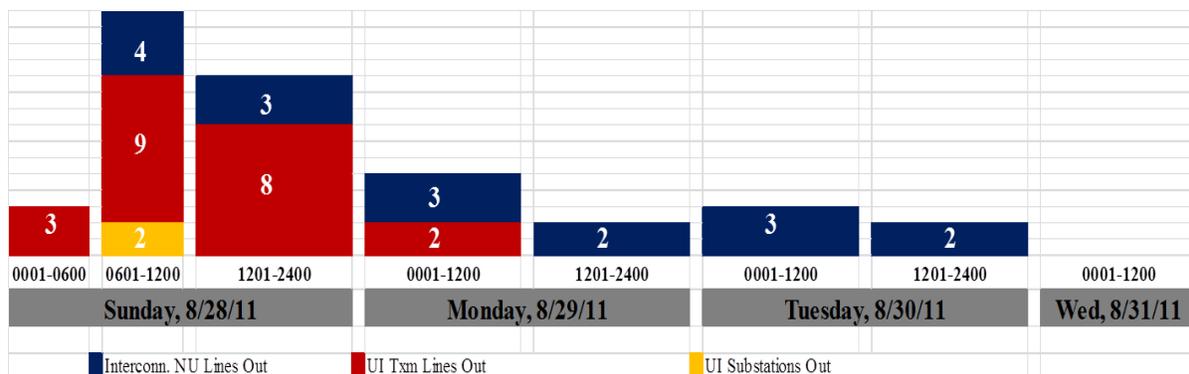
The major operational components of the restoration process are:

1. Resource planning and acquisition
2. Damage Assessment
3. Restoration prioritization and planning
4. Coordination and dispatch of construction forces
5. The construction effort
6. Safe re-energizing of outage areas
7. Completion reporting

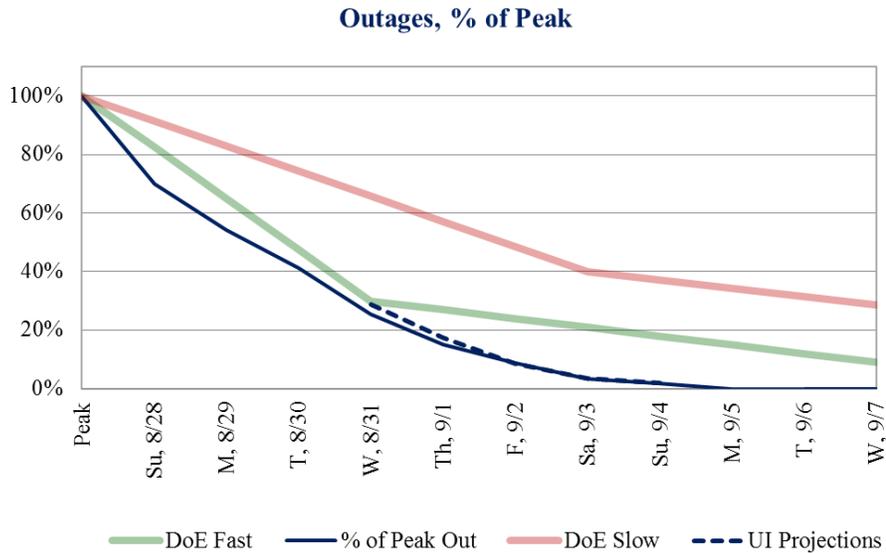
These major steps must be coordinated to ensure that a proper volume of work is created and dispatched to the construction forces to optimize crew utilization and ensure a safe working environment for the field forces. The restoration planners need to minimize the potential for crews being idle as well as avoiding placing crews in close proximity with the potential safety issue of working on the same contiguous distribution circuit. Throughout the execution of these major steps external coordination and communications need to occur between the emergency management team and the local, state and federal level as well as media and customers. The accomplishment of the major restoration steps for a large scale effort are best accomplished when the supporting functions such as financial management, logistics, safety assurance, security, communications, etc. are handled by predefined teams of subject matter experts as defined by an Incident Command Structure.

UI's transmission system and substation issues were assessed and corrected sufficiently on the first day such that distribution was unaffected thereafter, and were fully restored by noon on the second day. See diagram below.

Transmission Assets Out Over Time:



An efficient and effective flow of distribution construction work was processed out to the construction forces according to the pre-defined restoration strategy. Construction crews were not idled or considered unmanageable at any time during the restoration effort. Due to these planning efforts, the number of customers restored versus restoration duration exceeded the U.S. Department of Energy projections for a storm of this magnitude as depicted in the graph below.



Said another way, UI’s restoration efforts were more successful than what would have been predicted by the Department of Energy projections based on the government’s extensive modeling of restoration efforts for storms of a similar magnitude.

After a few days, UI was able to effectively predict the daily total restorations for the coming day as shown in the diagram above. As the number of customers without electric service became smaller and more widespread, the ability to predict the daily restorations with the same level of accuracy became more difficult.

However, as the restoration progressed, there were changes and additions to the priority locations which resulted in some redeployment of construction and line clearance resources affecting overall restoration progress. As stated earlier, the first step in the restoration process is a damage assessment. Due to the amount of damage and the breadth of area involved, the large number of outage locations and the “main-line first” restoration strategy (the construction effort focused initially on restoration of the “backbone” sections of circuits along major roads and leaving out the side tap streets for later) it was initially difficult to predict when specific customers would be restored. UI did release a list of circuits being addressed each day as early as Tuesday (the second day after the storm) and progressed to a street level list by Wednesday.

I.C. What was the damage from Tropical Storm Irene? How many lines were affected? How many customers were affected?

Transmission

- Maximum of nine (out of 41) UI transmission lines out. All back except two by midnight Sunday. By Sunday afternoon (following the restoration of North Haven Substation), transmission assets did not impact customers because locations/distribution of lines out was such that no UI substation was without at least one feed.
- Only two substations were out of service (for a short period): one tripped, one was taken out of service (as a precautionary measure associated with flooding). Both back in service by early afternoon on Sunday
- Two substations properties flooded (but only one of the two was taken out of service).

Distribution Damage

- 263 of the 443 distribution circuits were affected/impacted.
- UI's circuits comprise 3,275 miles of overhead pole lines.
- There were 1751 locations affected by trees, including over 300 locations where trees were uprooted.
- Note that although each circuit is often referred to as a single "line," each circuit is actually made up of a large number of lines branching and rebranching off of a main line.

Approximate Breakdown of Problems on Affected Circuits

- 209 poles (UI – 84, ATT – 125)
- 784 fuse cutouts blown
- 67 circuit breakers
- 34 switches (ABSW, disconnect)
- 74 reclosers
- 2,041 sections of primary
- 1,070 sections of secondary
- 371 locations with primary off pin
- 165 broken crossarms
- 27 sections of aerial cable
- 2,469 services
- 175 transformers replaced
- 143 transformers tripped offline
- 1,751 tree issues/locations (including an estimated 321 uprooted trees)

Locations and Quantity of Work

- Estimated 10,324 locations visited by overhead line crews, line clearance crews and service crews
- In addition, an estimated 9,697 locations were visited by damage assessment patrollers
- An estimated 39,318 hours of work were performed by restoration crews (i.e. line clearance, overhead and service crews), as follows:
 - Replace poles – 2,977
 - Shifts poles – 1,868
 - Replace primary – 8,164
 - Replace secondary – 4,285
 - Transformer work – 2,875
 - Replace crossarms – 494
 - Replace/refuse cutouts – 407
 - Re-tie primary – 373
 - Line clearance work – 12,518
 - Service work – 4,938
 - Other (aerial cable, recloser, current limiting fuses, street lights) – 420
- Summary of estimated commodities consumed:
 - Wire (primary) – 14,000 ft
 - Secondary/service – 136,000 ft
 - Transformers – 175
 - Crossarms – 307
 - Poles – 84
 - Fuel – 37,900 gallons
 - Vehicles used – 455

Affected Customers

- Maximum of 158,130 customers were out on Sunday, August 28 at the peak reported hour

I.D. What was the extent of your disaster preparedness plan? Please provide details.

The UI Emergency Preparedness Plan (EPP) is quite extensive and on file with PURA. The plan, which is currently under planned revision, was utilized fully for Irene, and covers all aspects of storm restoration internal and external to the company. The plan covers the following major areas:

1. Corporate Affairs
2. Information Technologies
3. Supply Chain
4. Electric Systems
5. Customer Fulfillment

Within these major areas the plan covers, among other aspects, the following:

1. Storm response activation
2. Notification procedures
3. Response planning
4. Communications
5. Storm team functions
6. Training and test plans
7. Purchasing and logistics
8. Emergency material support
9. Key personnel responsibilities
10. Available contactors
11. Service restoration priorities
12. Storm roles and responsibilities
13. Municipal liaison
14. Field communications
15. Safety and environmental functions
16. Transmission system restoration

As mentioned earlier the UI preparedness plan was reviewed by Jacobs Consultancy in 2010. The review concluded the UI's Emergency response Plan (ERP) is adequate and makes use of key emergency response concepts including: Incident Command System, escalation decision points, restoration priority based on customer and/or circuit criticality, decentralization provisions, and communication protocols. The report identified a number of lessons learned and recommendations, discussed above. In all, 73 action items were identified in which UI had completed 82% of as early as 2010.

I.D.1. Were we prepared for a category 1 hurricane?

Yes. Beginning on Tuesday, August 23, UI began to prepare for Irene as a category 1 hurricane that would impact Connecticut, although the probability was low at that time. All available internal resources were enlisted on Wednesday, August 24 as the probability of impact increased. As the certainty of an Irene landfall along the Eastern Seaboard became clearer, many contract and mutual assistance crews became unavailable, as their host utilities needed to retain those crews to aid in the restoration of their service territories. UI went beyond local or Eastern utility crews in its efforts. UI was able to obtain in advance a number of line clearance and service crews as well as contract Thirau crews (UI currently has a long term contract with Thirau, LLC and Lewis Tree). UI put in place a standing request with the NEMAG group for additional line crews to assist UI as those crews became available. The strategy of obtaining additional line clearance crews at the outset was effective since UI predicted extensive tree damage and the major initial work involves tree removal.

On the day of the event, UI was also able to increase the level of storm patrollers by obtaining Osmose Utility services. This allowed for a faster damage assessment at the front end of the process.

UI activated its storm plan anticipating damage consistent with a Category 1 (or greater) hurricane. UI projected that with the existing construction resources this event would require a greater than seven day effort to restore service to all customers. This estimate – which was made before Irene made landfall in Connecticut -- was based on an assessment of all the resources working in the end-to-end restoration process which includes patrollers, engineers, dispatchers and others in the effort, not solely based on the construction resources available.

In summary, as outlined above, in the discussion of planning, UI was prepared for a Category 1 hurricane.

I.D.2. What damage could have been done?

If Irene impacted Connecticut as a Category 1 hurricane, UI expects there would have been even more trees down in interior Connecticut as well as an increased tidal surge along the Connecticut coast. Both of these factors would have resulted in more widespread damage, including the potential for increased damage to the transmission and distribution systems. The time and difficulty associated with conducting damage assessments would have increased, perhaps substantially. The result could have been that conditions and damage that greatly impeded

restoration efforts to the electric system infrastructure. Additionally, there could have been a strain placed on debris management at the state and municipal level.

Due to the extent of the damage that a Category 1 hurricane could have on the system, material availability and access to locations that required assessment and/or work could become an issue as well.

In summary, storms of Category 1 (or greater) would produce more damage, more outages, and longer restoration duration than we experienced after Irene.

I.D.3. Where/how could we have done better?

I.E. What lessons did you learn?

Our restoration and repair was fast and effective, given the breadth and nature of the impacts. We need to work to enhance the ability to gather and process large amounts of varied, complex data very quickly; to convert the data to useful information; and to distribute understandable and helpful restoration information to governmental entities, particularly the municipal emergency operations personnel, for their own use and/or the use of their stakeholders. And we need to work to enhance the ability to provide restoration information directly to our customers who are out of service as early as feasible after assessment and as we implement the restoration. We all have become more information-based, with increasing information-related expectations. We need to expand our use of multiple channels to provide current information to our customers, municipalities and other stakeholders.

I.F. What are your standards in regards to tree trimming? Have these standards changed over the past 10 years?

UI's line clearance specification provides:

The overhead distribution system is trimmed on a split four-and eight-year cycle. The three-phase portion of the system is trimmed on a four-year cycle, while the single-phase portion of the system is trimmed on an eight-year cycle or where performance triggers more frequent trimming. Any single-phase portion of the system that experiences two or more tree related outages in a 36-month period is, at a minimum, trimmed to minimize the potential for future outages. Other system modifications, such as reconductoring, may also be performed to help minimize the

potential for future tree related outages. In addition, trimming is completed at new construction sites as needed. Similarly, the overhead transmission system is trimmed on a program basis and where required by localized conditions.

In addition to the above tree trim components UI's Line Clearance program also contains the following components:

- Hazard Tree Removal – to remove trees determined to have visible signs of decay or deterioration which if they fall will likely cause outages
- Vine Removal – to remove vine growth at the base of poles to keep the vines from growing into the overhead conductors and/or equipment and causing outages

Clearance Requirements

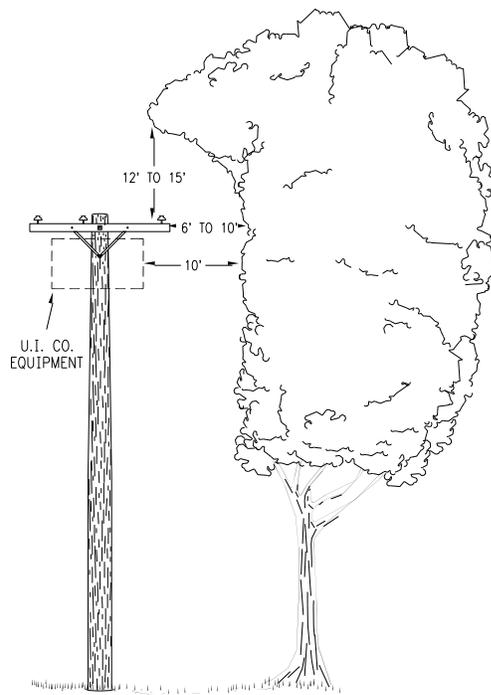
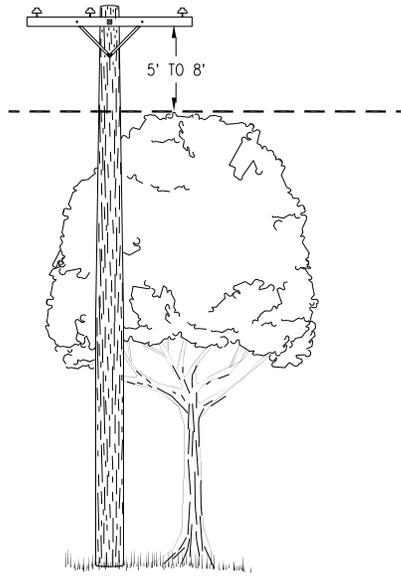
A. Distribution Clearance Requirements

I. Standard Clearances

In general, the recommended tree to primary wire clearances are, where possible:

- a. a minimum of six (6) feet side clearance,
- b. twelve (12) to fifteen (15) feet clearance from overhanging limbs,
- c. five (5) to eight (8) feet under-clearance.
- d. Six (6) to ten (10) feet around poles.

The drawings on the following page illustrate these general guidelines.



TYPICAL DIMENSIONAL CLEARANCES

Often, the best or only suitable lateral that a branch can be pruned to is within or well outside of the standard clearance area. Exceptions are allowed, where judgment prevails that the removal of major limbs would drastically alter the shape of the tree. Such exceptions shall not result in unsafe conditions or interfere with the safe operation and maintenance of the line.

Consideration must also be given to the movement of branches and wires resulting in a change of clearance, due to storm and wind conditions.

II. Special Notes:

- Trees or limbs hazardous to the operation of the line, shall be patrolled for and every effort made to remove them.
- Pole mounted electrical equipment such as transformers, capacitors, switches, etc. should be provided at least ten (10) feet of clearance.
- Secondary and service cables should be cleared such that tree limbs do not rub on cables or entangle the wire.
- Vines shall be removed from down guys and poles. If vines are in contact with energized wires, the worker while in a bucket, shall cut out a section of the vine stem measuring approximately one (1) foot in length starting at a point approximately 30 inches below the lowest electric wire. Then, the worker shall cut the vine at ground level. Report the location to UI's Line Clearance supervisor for further action by UI's crew.
- Street Lights – The local municipality is responsible to perform routine maintenance trimming to maintain street light patterns on sidewalks and roadways. Conflicts with energized lines shall be referred to UI.
- Private Area Lights – During routine maintenance, pruning should clear any vegetation on the pole which is obstructing the pole-mounted fixture.

Changes to UI's Tree-Trimming Standards Over the Past Ten Years:

To enhance the effectiveness of UI's line clearance programs, we implemented three changes in 2005: a vine inspection and removal program to identify and remove fast growing vines before they cause outages; an expansion of the trimming zone around conductors¹; and a hazard tree program to remove dead trees or limbs that are not within the trim zone but are in danger of contacting conductors if they should break. In addition, beginning in 2008 UI began more aggressive trimming of brush below the lines to minimize the future for this tree growth to contact wires and equipment. These changes allow UI customers to continue to benefit from the

¹ *The trim zone clearances were changed as follows: above the conductors from 12ft to 15ft, side of the conductor from 4ft to 6ft, side of pole 8ft to 10ft, and below the conductor no change.*

cost efficiencies of the Performance-Based tree trimming program, while allowing UI to maintain system reliability levels.

UI continues to work with local tree wardens, as well as civic and professional groups, to help educate customers about the proper selection and care of trees that may be planted near UI's electric facilities. In addition, safety brochures are distributed annually through bill inserts, and other events are held to educate the public on the dangers associated with energized wires and the importance of having qualified tree contractors or UI line clearance crews remove hazardous tree growth. We believe that we can continue to provide safe, reliable service in a cost-effective manner by working together with our customers in matters of line clearance and vegetation management.

II. Staffing/Labor:

A. How many line crews were deployed during peak restoration?

We had a total of 204 overhead line and line clearance crews (432 FTEs):

- Overhead Line Crews (these numbers do not include Line Clearance Crews, enumerated separately below)
 - UI – 50 Crews, 100 FTEs
 - Contractor Crews – 58 Crews, 130 FTEs
 - Mutual Assistance – 12 Crews, 34 FTEs
 - Total 120 Crews, 264 FTEs

- Line Clearance Crews
 - Contractor, On site – 84 Crews, 168 FTEs

B. How many line crews were brought in from other places, if any?

Total of 132 crews (296 FTEs):

- Overhead Line Crews (Line Clearance Crews are enumerated separately below)
 - Thirau On Site – 23 Crews, 46 FTEs
 - Thirau Add'l – 12 Crews, 24 FTEs
 - R&M Pole (Kansas) – 10 Crews, 30 FTEs
 - Campbell Construction (Michigan) – 8 Crews, 18 FTEs
 - Kansas City Power & Light (Missouri) – 8 Crews, 24 FTEs
 - Meade Inc. (Indiana) – 5 Crews, 12 FTEs
 - Madison Gas & Electric (Wisconsin) – 4 Crews, 10 FTEs
 - Total 70 Crews, 164 FTEs

- Line Clearance Crews
 - Lewis Tree (Florida Progress) - 26 Crews, 52 FTEs
 - Lewis Tree (Florida Power & Light) – 9 Crews, 18 FTEs
 - Lewis Tree (Lumbee River) – 6 Crews, 12 FTEs
 - Lewis Tree (Ohio Duke) – 4 Crews, 8 FTEs
 - Warrensburg Tree Service (Illinois) – 3 Crews, 6 FTEs
 - Asplundh (Local) – 2 Crews, 4 FTEs
 - Asplundh (Ohio) – 4 Crews, 8 FTEs
 - Wright Tree/Lewis (Kansas Westar) – 12 Crews, 24 FTEs
 - Total 66 Crews, 132 FTEs

II.C. How many line crews are employed by your company now vs. 2000?

UI has more line workers today than it did in 2000:

- Current line workers (as of 8/31/2011) 99 FTEs
 - Plus 23 contractor crews, with 2 FTEs each = additional 46 FTEs
- Number of line workers in 2000 (as of 12/12/2000) 77 FTEs

II.D. What are your policies/standards regarding hours of work (hours/shift)?

- Our normal practice for long-duration events is 16 hours on, 8 hours off.
- For short-duration events, e.g. one day, we may allow a longer work shift, since field forces can then recuperate the following day.

III. Communication

III.A. How was the communication between your company and municipalities?

The communication between UI and our municipalities has been significantly enhanced as a direct result of lessons learned during recent storms. Specifically, the role of the Municipal Liaison (ML) has increased the effectiveness of communication between the UI Storm Information Center and municipal emergency operations centers (EOC) during emergency events. We have designated a specific ML (and backup) for each municipality. Before and during a storm, the ML is dispatched to provide a direct channel for storm related information exchange within each town. If a municipal EOC is open in the evening, on weekends, or 24/7, UI has an ML assigned to the EOC.

Additionally, UI has an Account Manager assigned for each municipality. The Account Manager is the primary point of contact for the First Selectman/Mayor and other officials within the town government. The Account Manager meets with the First Selectman/Mayor on a regular basis throughout the year and has frequent interaction with the municipality regarding a variety of issues, including storms and outages. The Account Manager provides municipal officials with a storm sheet that details the complete contact information for UI personnel in the event of a storm. Below is an outline of key events, prior to and during the storm:

Long Before the Event

- In 2010, UI conducted an annual storm meeting with town officials, EOC personnel, UI Account Managers, municipal liaisons, storm center personnel, and other key stakeholders titled, "Getting You Connected with UI during a Storm". This was attended by over 150 individuals. A similar meeting is planned again for 2012.
- During 2011, UI Account Managers held one-on-one meetings with the Director of the town's EOC and the municipal liaisons. UI plans these meetings at each EOC headquarters on an annual basis. UI Account Managers and Municipal Liaisons attend and fully participate in any mock storm events that the Town or State EOC organizes.
- On a semi-annual basis, UI holds meetings with the administrators for municipality to review the storm process. UI also meets with newly elected officials to apprise him/her of the storm procedures.
- In 2010, UI completed initial training of over 60 municipal liaisons who have been assigned to report to specific towns during a storm. Each municipal liaison was provided with essential tools and information needed to communicate with his or her assigned town during a storm. Within the past four months of 2011, each ML attended a refresher course on the ML's role and responsibilities and what to expect during the opening of municipal EOCs.
- UI provides a copy of a safety video on down wires to each EOC, Police and Fire department within the municipality and provided a Storm Sheet to all municipalities with

phone numbers and contacts, as well as a magnet with phone numbers for UI's Call Center, Police & Fire Emergency Dispatch and UI's Major Customer 24 Hour Hotline.

Week Before the Event (August 23–27, 2011):

- Prior to the storm, UI Account Managers and MLs initiated contact with their First Selectman/Mayors and EOC Directors
- Wednesday, August 24:
 - Account Managers informed their assigned Towns regarding UI's Contingency Plans re Hurricane Irene
 - Towns are notified that UI Storm Center opened at noon and contingency plan with crews. We informed the municipalities that UI was monitoring the weather, and that based on the current information, a 4-7 day outage should be planned for. UI encouraged the towns to activate their EOCs.
 - UI Account Managers and MLs attended pre-storm preparation meetings at the six EOCs within UI territory who conducted such a meeting (Stratford, Bridgeport, Trumbull, Milford, Fairfield, and New Haven). UI personnel were available to meet with all other EOCs if requested.

During the Storm and Restoration (August 28 – September 5, 2011):

- Throughout the time the EOCs were open: UI Account Managers and MLs provided storm updates every few hours to Selectmen/Mayors and EOC Directors regarding the status of outages and restoration efforts in their respective towns.

Below are a few examples:

- 8/29: Towns & Municipal Liaisons receive status report which includes: total customers in town, number of events, number of customers out at the peak, current number out, percent of town without power, and number of outages, crews
- 8/31: Towns receive status report as of 3 p.m.: outages, crews, number of customers restored
- 9/2: Towns receive 8 p.m. Status Update
- 9/5: Towns receive final update for storm. Directed to visit UI website and view outage map for remaining outages

III.A.1. What worked? What didn't?

Worked:

- The ML framework was firmly established; MLs had all received proper training.
- Specific pre-storm planning ensured that MLs were scheduled to report to each of the 17 EOCs in advance of the storm and six towns held storm preparedness meeting that were attended by UI.
- MLs maintained coverage in each of the EOCs throughout the storm and their presence at the towns EOC locations throughout the duration of the storm was maintained
- Periodic updates on the status of emergency issues and ongoing restoration were sent to all towns through direct and personal communication by the MLs and in emails to Town groups

- Dedicated UI line construction/tree crews were sent to selected towns and were dispatched to address priorities set by representatives in the towns

Didn't Work:

- The volume of wires down, police and fire priorities, trees on wires, and other calls from the municipal EOCs via the municipal liaisons into the UI storm center was far larger than anticipated. This made detailed and timely communication regarding the status of these issues back to the municipal liaisons challenging.
- The interaction between the EOCs and the UI MLs was untested in many circumstances. In eleven of UI's towns, this was the first time opening their EOC. Priority lists were sometimes not optimally coordinated among the various groups within a municipality (Police, Fire, Parks, Public Works, Town Officials, etc.) and the UI ML.
- As restoration activities progressed and the municipal priority issues completed, many of the EOCs and municipal leaders began using the liaisons as a channel to report issues and status updates of outages unrelated to critical municipal priorities. Their focus shifted towards industrial, commercial, and even residential premises within their towns. This was not the intent or role of the municipal liaisons and requests of this type need to be redirected to the Call Center or Strategic Account Services Hotline.

III.A.2. How could this communication be improved?

UI is committed to engaging customers to explain our storm preparations, restoration prioritization, resources involved in storm activities, and provide timely and relevant information related to their outage status. In today's information age, customers are looking for more direct, timely, and transparent interaction and, to the extent possible, we need to work towards providing it.

UI is planning individual meetings with each of the 17 towns it serves, to discuss the event and means of enhancing processes and communications in the future.

III.B. How was the communication between your company and your customers?

Communications between UI and its customers was effective and consistent. UI activated various communications media to disseminate information and provide data to its customers. These communications began prior to the storm and continued during and post Irene.

UI pursued and utilized its own communications channels as well as public and media channels. We issued news releases, frequent updates to the corporate website, provided data and video through social media sites, gave live interviews through print, radio, electronic and TV interviews. UI personnel participated in press conferences with the Governor and municipal officials.

Week Before the Storm (August 23–27, 2011):

- 8/25 – UI provided first responder safety training at regional fire houses across the UI service territory.
- 8/25 – UI issued news release on storm and outage preparedness and provided customer tips and storm checklist.
- 8/25 – UI personnel were interviewed for radio, print and television on preparedness
- 8/26 – UI issued additional news release on preparedness and provided more interviews with radio
- 8/27 – UI initiated outbound calling for medical hardship customers (as identified in UI's customer information system)

During the Storm and Restoration (August 28 – September 5, 2011):

- 8/28 – The Company began using social media to disseminate information to customers and the public.
- 8/28 – UI issued multiple news releases on the status and impact to the electric system and operations, including updates on restoration progress and goals.
- 8/28 – UI personnel gave thirty-two separate interviews with electronic, print, radio and television outlets – local, regional and national.
- 8/29 – The Company issued multiple news releases on the status of restoration and posted social media messages on progress and updates.
- 8/29 – UI personnel conducted fifteen separate interviews with electronic, print, radio and television outlets.
- 8/30 – The Company continued to issue news releases and update social media status with information.
- 8/30 – UI conducted seven separate interviews with media outlets.

- Interviews, news releases and social media posts continued through Labor Day totaling one hundred and six media interviews, forty social media type messages and video, sixteen press releases and phone messaging for customers.
- On August 30, 2011, UI's website experienced over 50,000 hits. In the days preceding the storm, the daily website hits ranged from 4,700 to 6,800.
- From August 28 through September 5, 208,500 calls were handled by UI's Customer Call Center.

III.B.1. What worked? What didn't?

Worked:

- Frequent communication with customers.
- Participation in Governor Malloy's press conferences and briefings.
- Participation with municipal officials in press conferences.
- Joint releases with Connecticut Light and Power.
- Frequent briefings and updates to local, state and federal constituents.

Didn't Work:

- We did not always meet the demands of our customers for information (especially regarding individual restorations) in the time-frame desired.
- UI experienced challenges with its website due to high web traffic and technical difficulties.
- At times, UI's customers experienced difficulties getting through to UI's Call Center
- The company and its customers also experienced some challenges with telecommunications systems

III.B.2. How could this communication be improved?

- In the future, UI will consider regular UI-specific press briefings for all media outlets on a frequent basis.
- The Company will more actively utilize social media and other communications techniques to disseminate information and updates.
- UI is also engaging its customer base to determine their desired way for the Company to communicate with them.
- UI will also use research, such as customer surveys, and information to refine its approach and adapt its communications practices based on the results.
- If practical, over the next two to three years, UI would like to implement/install systems and procedures that would make it possible to provide restoration information to individual customers once the assessment of damage to the system is complete.