

**RESPONSE OF GROTON UTILITIES
TO
TROPICAL STORM IRENE HEARING QUESTIONS
SEPTEMBER 19, 2011**

Introduction

Groton Utilities (GU) appreciates the opportunity to participate in these hearings pertaining to the preparation for and response to Hurricane Irene during late August and early September 2011. GU, and its subsidiary Bozrah Light & Power (BL&P), provide electric service to a total of 16,900 customers in Groton City, part of the Town of Groton, Bozrah and part of Lebanon, in addition to providing water service to 6,800 customers in the southeast part of the State. Please note that, except where indicated in the responses below, GU should be interpreted to include both Groton Utilities and Bozrah Light & Power organizations.

Our rapid and effective response to Hurricane Irene is attributable to many factors, but primarily is due to the dedication and hard work of the employees of GU and BL&P, who labored tirelessly both before and after the storm to prepare for and respond to the storm-related service interruptions. We wish to take this opportunity to publicly thank the men and women of both organizations who gave of themselves to restore electric service as rapidly as possible.

Preparation

What are the best practices for readiness? Response?

Response: Groton Utilities' (GU) preparation for specific unusual events, including those caused by extreme weather, is well-supported by the creation and maintenance of its Emergency Preparedness Plan. The Plan identifies key system vulnerabilities and specifies response activities required by specific events. The Plan is a living document, and is reviewed, updated, and exercised on a regular basis. When the likelihood of particular threat is identified, such as Hurricane Irene, the plan is set in motion.

In response to early reports of the impending storm, GU and BL&P personnel began scheduling personnel, staging material, reviewing and augmenting inventories, and acquiring provisions (such as: motor fuels, food, water, sleeping quarters) for an extended storm response. These preparations involved electric distribution personnel, customer service staff, information technology staff, and administrative support. In addition, water utility staff personnel were used to augment electric crews where appropriate and necessary.

How did you fare for readiness? Response?

Response: GU's readiness plan rendered the organization well-prepared for the storm with people, equipment, materials, provisions, shelter, communications, and a plan for restoration. In addition to internal arrangements, GU established contact with the New England Public Power Association (NEPPA) to arrange for the potential use of mutual aid crews in assisting with the restoration process.

During the storm itself, GU maintained a management presence in the City's Emergency Operations Center to communicate with local first responders with respect to observed damage to electric facilities and public street obstruction. These reports were relayed immediately to the electric operations center, in most cases by telephone. In addition, outages and damage to facilities were received from customers by GU's customer service center, backed up by our contract answering service. These reports were relayed to electric operations by customer service personnel by telephone and e-mail. We wish to point out that over 90% of the inbound calls were handled by GU personnel.

During the height of the storm, electric operations personnel only responded to issues that were a threat to the public, and, due to safety regulations, did not use aerial bucket trucks in the air when wind velocities exceeded 35 mph. Wind velocities recorded at GU's operations center at around 9:00 a.m. Sunday, August 28th were sustained at 53 miles per hour, with a gust of 79 mph. Although the intensity of the precipitation began to abate early in the afternoon, high winds continued into later that day. While the winds on the "back side" of the storm delayed the use of aerial equipment somewhat, GU crews began to conduct surveillance patrols to determine and map the extent of the damage when wind speeds dropped below 50 mph. GU personnel prioritized the restoration efforts using standard criteria to identify critical areas requiring rapid restoration. These included situations affecting public safety, hospitals, elder care and nursing facilities, and certain commercial centers to allow residents access to food, ice, gasoline, and other necessary commodities. After storm winds fell below 35 mph, the restoration process continued at all possible speed until it was completed in GU territory on Wednesday, August 31st, at about 1:00 p.m., and in BL&P territory at about 10:00 p.m. on the same day.

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

Response: Twelve (12) of the system's main distribution feeder circuits were out of service, as well as many branch circuits and individual services. Several poles were damaged and required immediate replacement. In total, there were approximately 180 miles of circuits that needed to be patrolled, faults cleared, and repairs made to many downed lines prior to restoration.

In all, 11,769 customers were out of service during the storm, comprising some 70% of the GU service territory. As noted above, all customer service was restored by 10 p.m. on August 31st.

What was the extent of your disaster preparedness plan? Please provide details. Were we prepared for a category 1 hurricane?

Response: GU's Emergency Preparedness Plan was outlined in the response to an earlier question. We believe that we were indeed prepared for a Category 1 hurricane, and had sufficient personnel, material, and equipment to respond to the challenges of the storm.

What damage could have been done?

Response: Clearly, the GU service territory saw significant damage as a result of Hurricane Irene, with damaged poles, distribution overhead devices, and conductors experiencing widespread damage. However, the damage could have been considerably worse, with a longer and/or more intense wind scenario causing a greater numbers of poles and other distribution equipment to be damaged.

Over the last several years, GU has implemented an aggressive pole replacement and tree-trimming program which helped to somewhat limit the severity of the storm damage.

Where/how could we have done better? What lessons did you learn?

Response: There are a number of operational areas that GU has identified as improvement opportunities: system control and data acquisition (SCADA), use of so-called "Smart Meter" information, and internal communications.

Full deployment of an enhanced SCADA capability would have provided improved telemetry of system conditions and could have better supported analysis of system conditions and allowed for remote switching operations.

Complete deployment of Smart Metering technology would have provided updated information on the status of individual customers and assisted in ensuring that no isolated customers were without power as the restoration process continued to its conclusion.

Improvements to GU's SCADA capability and full deployment of Smart Metering technology across our territory are both expected to be complete by the second quarter of 2013.

Additionally, GU has determined that its internal communications during and after the storm are highly dependent upon telephone technology, both "land-line" and cellular. GU was fortunate in that its telephone assets remained unimpaired

throughout Hurricane Irene. However, it is not unrealistic to assume that a future storm event could adversely affect this mode of communications, and GU plans to address this issue in the near future.

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

Response: The standard that GU applies for primary distribution is to maintain fifteen (15) feet above, eight (8) feet to the side, and ten (10) feet under the closest primary wire. GU attempts to maintain twenty (20) feet of clearance near transmission lines. Our aggressive tree-trimming program calls for trees to be trimmed as necessary, as determined by on-going surveillance by electric distribution personnel.

The obvious challenge to all utilities is maintaining these clearances while respecting the natural beauty that trees add to our communities.

Staffing/Labor

How many line crews were deployed during peak restoration?

Response: GU deployed eight (8) line crews and four (4) tree-trimming crews.

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

Response: Two (2) of the line crews were from Holyoke, Massachusetts; GU wishes to publicly express its appreciation for the strong support we received from our neighboring utility.

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

Response: GU currently employs six (6) line crews, which is unchanged from 2000.

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

Response: Under emergency circumstances, GU crews work sixteen (16) hours on, eight (8) hours off. In addition, GU provided employees with meals, sleeping quarters, cots, air mattresses, and sleeping bags in order to facilitate the taking of rest time on GU premises. Customer service personnel worked staggered shifts to provide continuous telephone coverage.

Communication

How was the communication between your company and municipalities?

What worked? What didn't? How could this communication be improved?

Response: Communications between electric operations and local Emergency Operations Centers was generally effective, and was of great assistance in providing information that enabled GU to determine the extent of damage.

As noted above, the need for a communications back-up to telephone-based systems needs to be explored.

How was the communication between your company and your customers?

What worked? What didn't? How could this communication be improved?

Response: GU prides itself on providing, whenever possible, a “human” face to the customer. As noted in the response to an earlier question, 90% of inbound customer calls were handled by GU customer service personnel; the remainder was handled by our contract answering service.

However, GU believes that it can improve the value and timeliness of information provided to customers during and after an extraordinary weather event. In particular, GU will be working towards improving its predictive capability with respect to restoration time. In addition, the GU and BL&P websites could be overhauled to give customers more current and meaningful information during the course of restoration; and finally, other avenues of communications, such as reverse telephony and social networks need to be researched to determine how they can be employed to provide customers with up-to-date outage status and restoration times.