Unitil Energy Systems, Inc.

Compliance Report

Docket No. DE 10-001

Executive Summary

In the aftermath of the December 2008 ice storm, the New Hampshire Public Utilities Commission (the Commission) undertook an extensive review of the emergency preparedness and response procedures for the state's utilities. The results of the review were set forth in the Commission's After Action Review dated December 3, 2009 and an assessment from the Commission's consultant, NEI Electric Power Engineering, dated October 28, 2009 (NEI Report). In its After Action Review, the Commission developed a number of action items to facilitate improvements in utility emergency response and provide for further inquiry into certain aspects of the After Action Review results.

In summarizing the recommendations related to Unitil's performance, Staff reiterated that it did not find Unitil's response to be unreasonable. This finding reflected the overall context of the storm itself, including the wide scale, multi-state destruction, and the competition Unitil was faced with regarding the demand for outside resources. Nevertheless, Staff did make recommendations for improvement in Unitil's emergency response strategy and plan. Staff recommended the Commission approve the report and recommendations as a reasonable resolution for the issues raised in the docket.

The Commission's order, dated September 24, 2010 required Unitil to submit this report specifically to address Staff Recommendation Number 2. This report outlines the recommended improvements made by Unitil. Most of the recommendations had previously been addressed in Unitil's revised ERP.

The following sections describe Unitil's resource planning and procurement actions, as well as the strategy used prior to and post impact of severe weather events. In addition, Unitil highlights the process to acquire resource and defines procedures for resource allocation as recommended by the Staff and agreed upon previously by both parties. These improvements reflect a higher level of resource availability, a reduced reliance on mutual aid agreements, and ensure that the appropriate amount of resources can be made available for wide-scale outages.

Staff's Recommendation - 1

UES will work with Staff to provide a virtual network interface by which Staff could obtain emergency response information from UES in real time during emergencies. Staff recommended expedited implementation of such a network by December 31, 2010.

Unitil's Response

Unitil will respond to this recommendation in two phases. Unitil is in the process of implementing its new Outage Management System (OMS) that will be operational *internally* in conjunction with Centralized Dispatch on November 1, 2010. This is considered Phase I of the OMS project. Phase II will make this information public in a geographic format via a web application in the second quarter of 2011.

The information that will be provided to Staff in December 2010 is an output of Phase I. Staff will receive a password granting access, via the Internet, to outage information in a tabular format that is refreshed on an hourly basis. This information is collected from the OMS system and compiled to provide a comprehensive view of outages and status. Reporting is accomplished using a third-party application – Obvient FocalPoint Solution (Obvient). This solution not only generates the ORP report but also, at a future date, provides for the reporting of "live" outage information via a graphic user interface (GUI) and customer-facing web reporting via the Storm Central module of Obvient.

Phase II is a web application that provides a visual representation of the size and location of an outage and is schedule to "go live" Q2 of 2011. This information will provide a virtual interface to the OMS system output that will be available to all of Unitil's customers during different types and size outages. During "Blue Sky" or non-storm day outages and during small-scale storms, this interface will provide an Estimated Time of Restoration (ETR) by outage location (see Figure 1). However, for major storm events a tabular grouping of outages by town will be available without ETRs (initially) but will be populated once the differing damage assessment phases are complete.

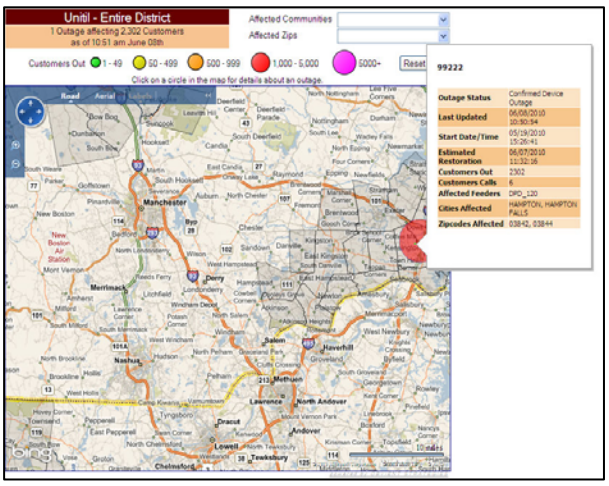

Figure 1

Status Unitil and the OMS vendors have developed several reports and continue to configure and test remaining reports within the OMS development and production environments. The OMS vendors have completed report training for application users at Unitil.

Unitil is on-target to provide an Internet-based GUI to OMS outages for Staff by December 2010.

Staff Recommendation – 2

Unitil will submit a report to the Commission within 30 days of this order outlining improvements the Company has made and will make regarding resource procurement, including revised resource acquisition procedures that reflect a higher level of availability assurance. This will include pre-staging, or other measures that address reliability issues and demonstrate that the Company is not reliant on mutual aid agreements as a primary source of restoration resources. The report will demonstrate the certainty that appropriate resources will be available from the onset of a wide scale, multi-state outage.

Unitil's Response

Resource Availability

As outlined in Unitil's revised ERP, a separate Logistics Section has been staffed, whose sole purpose is to acquire resources and materials prior and post storm impact. In addition, the Logistics Section (as identified under Unitil's ICS formatted ERP) is responsible for ensuring that the additional external resources are staged, fed and housed. This includes having predefined staging sites, hotels, and food preparation and delivery vendors ready to go. Supply chain activities necessary to ensure materials and special equipment, such as helicopters and off-road vehicles, are also a key responsibility of the Logistics Section. The section's personnel are strictly focused on the effective acquisition and support of the varied types of internal and external resources.

The Logistics Section has developed an extensive list of over 70 line contractors, which equates to thousands of line workers across various states including many national groups. Also, Unitil is a member of the Edison Electric Institute's (EEI) RestorePower program, which provides access to hundreds of contractors and mutual aid utilities for emergency restorations. Lastly, Unitil is a member of the Northeast Mutual Assistance Group (NEMAG), and the Company has agreements with other RMAGs across the country (see Section V – Logistics Procedure of the ERP).

Pre-staging Resources

Section IV of Unitil's ERP details a work flow that monitors forecasted events prior to their impacts. This includes conference calls with Unitil's weather service provider that supports identifying material and resource availability lead times. Resources acquisition is an iterative process that uses an array of techniques to monitor the status of contact resource availability. The pitfalls of delayed acquisition will be described in a latter section of this report.

Once an event's impact is imminent, Unitil's strategy is to "lock up" (retain a contractor's services) a group of resources that will be pre-staged based on forecasted impact. The numbers and types of resources are identified by the Incident Commander (IC) and submitted to the Logistics Section to acquire. The IC must provide enough lead time to the Logistics Section, based on available data, to ensure resources can be acquired and pre-staged prior to the event's impact.

Certainty of Resources

Unitil uses a variety of techniques to ensure it can acquire the needed resources to have a successful restoration. First, it reviews contracted resources working on the property and determines the maximum number of resources this group of contractors can provide. Standard industry protocol dictates that resources working on the property will provide Unitil the "right of first refusal."

Second, Unitil will request of previously contacted contractor "the right of first refusal" prior to them accepting work at another utility. This means that the contractor will contact Unitil if another utility has indicated that they are willing to retain their services. Unitil has the right to accept or reject the contractor's services at that time. This is a dynamic process – even if Unitil has a storm response purchase order (PO) with the contractor. There is no guarantee that the contractor will contact Unitil prior to promoting its services to another utility – especially if Unitil only exercises the PO during storm events.

During events when regional impacts are forecasted, resource acquisition (especially prior to impact) can be very competitive amongst utilities. To mitigate this, the best and most certain response is to "lock up" the contractors as soon as possible. Once a utility is paying for those resources, it "owns" their services.

Third, Unitil will determine the availability of mutual aid by other utilities, which is typically rendered after an event's impact. The reason for the delay is so that utilities can assess the damage they have encountered and those not impacted apportion their resources such that they can aid as many other utilities as possible. The NEMAG call is an example of that allocation process where resources availability and needs are discussed prior to and after an event; however, resource allocation only occurs after the event.

In general and when determining needed resources, "the best offense is a good defense," and having a number of resources "locked up" prior to the event's impact is the most reliable way to mitigate lack of resources when forecast indicate a major impact to the region.

Staff Recommendation – 3

Unitil will file within 30 days of this order a revision to its Emergency Response Plan (ERP) that reflects recommendations Staff has provided in this proceeding, including clearly defined resource allocation procedures both before and after major storm events. Changes to the ERP will reflect the process by which resources are pre-staged at Regional Emergency Operations Centers prior to a wide-scale forecasted event that will affect all regions simultaneously. This process will afford weighting to the number of customers served and the infrastructure configuration in each service territory. Under such conditions, Unitil's restoration crews – both in-house and outside crews - generally will be pre-staged and initially allocated according to a 65 to 35 ratio between its UES and Fitchburg affiliates, respectively. Once an event that results in widespread service interruptions in more than one territory has occurred, resource allocations will be adjusted based on best available information. Initial resource allocations will be based primarily on the number of customers without service ("customers interrupted") in each territory until more detailed information is available from field damage assessment.

Unitil's Response

Unitil has revised its ERP (Section IV-G Mobilization) to reflect how crews are allocated and pre-staged given a similar weather forecast in all operating regions. In addition, Unitil has developed robust two-phase damage assessment process. Results from each phase of damage assessment are used to develop a strategy for reallocating resources across the operating regions.

Prior to a regional event's impact, both internal and external resources will typically be pre-staged at the regional distribution operating centers. The allocation of resources given similar conditions, between Unitil's New Hampshire subsidiary UES and Massachusetts FGE subsidiary represents an approximate 3:2 ratio (65% to UES and 35% to FGE). This split is indicative of the respective customer bases and associated infrastructure. The work flow associated with the resource acquisition and split is detailed in Section IV (Pg 19) of the revised ERP.

Relocating Resources

Once Phase I of the damage assessment process is complete, the resources will be reallocated based on the available damage results and initial customers interruptions. This reallocation will remain the standard until more detailed results are available from Phase II of the damage assessment process. At the completion of both phases of damage assessment, resources may yet again be reallocated among the regions, if a surplus of crew hours exists when compared to the remaining work hours for each region's published ETRs.

Staff Recommendation

Unitil will define within its ERP the process by which resource acquisition and allocation will occur once damage assessment has been completed. The process will rely on information provided by the two-step damage assessment process Unitil filed with the Commission in December 2009: (1) the number of line hours needed to effect repairs at each instance of damage and; (2) the total crew hours required to restore damage by region, as determined through

damage assessments, will support the decision to allocate any additional crews to distressed areas of the system. This process shall be incorporated into approximate estimated time of restoration (ETR) calculations, as well. Resources may be redirected to other regions of the system, if, based on the communicated ETR, a surplus of crew hours exists for the estimated remaining hours of work within that region. Unitil also agrees that if it intends to move resources between its operating affiliates it will notify the Commission or designated staff within two hours of the reallocation decision.

Unitil's Response

Unitil's ERP already reflects a two-step damage assessment process that includes the attributes described in this Staff recommendation. As recommended, though, the following statement has been added to Section IV of the revised ERP to reflect notifications be made to the Commission regarding resource relocation between operating affiliates:

"If resources are planned to be moved between operating affiliates during the restoration period, the appropriate state regulatory staff will be notified within two hours of the reallocation decision."

Attachment A – Revisions Summary List

ERP Section	Page(s)	Change(s) Made
IV-A	3	Revised "Typical Event Classification Chart – MA Region Only" and added "Typical Event Classification Chart – NH Region Only"
IV-C	8-10	Updated 3 day checklist
IV-F	14-17	Revised Outage Level Response Chart
IV-G	18-21	New Section G added "Allocation and Deployment Strategy" Text and figures added on initial resource location, reallocating resources between operating centers, and the resource acquisition process. Text also added regarding state notifications when moving resources between operating centers.