NEI Summary of Recommendations

NEI Recommendation	Comments	Status
II-1 Unitil should adopt a storm restoration strategy that is based on achieving restoration for the largest number of customers in the least amount of time.	Unitil agrees with the strategy of achieving restoration for the largest amount of customers in the least amount of time, but disagrees with the recommendation and the characterization of Unitil's current strategy. Unitil's strategy is identical to that of the other companies. Reference Attachment 1. Unitil's restoration prioritization process follows industry-accepted practices. Listed in order of priority, Unitil will restore: 1. Public safety first 2. Transmission and substation restoration 3. Distribution main line with consideration to critical infrastructure (priority list of feeders) 4. Distribution side taps and secondaries 5. House services See ERP Section IV-H	●
II-2 Each electric utility should improve the systems and processes it uses to develop damage assessments and communicate ETRs to customers during storm restoration efforts.	Unitil has already completed and implemented this recommendation. Unitil has developed a robust two Phase process to conduct damage assessment. Phase I is a survey of the main lines and provides a Global ETR within 24/36 hours subsequent to the storm ending. Phase II is a survey of all remaining side taps and circuitry and provides a more detailed ETR, by municipality, within 72 hours. Unitil has developed the quantitative tools and methods to derive estimated crew-hour repair times from the results of damage assessment, and to determine ETR's given available resources. This process also supports the development of work packages for arriving resource throughout the event See ERP Section V -2	●
II-3 Each electric utility should adopt storm restoration procedures that require the process of procuring additional crews to begin at the first indication of an impending storm and include utilities and contractors beyond the local area.	Unitil has already completed and implemented this recommendation. Unitil's revised Emergency Response Plan (ERP) has provisions for preparations three days in advance of a forecasted event. This provides an opportunity to acquire the initial estimate of resources. For events with a lesser time Unitil has made arrangement with three major line contractors to provide restoration services to the Company. In addition, Unitil has joined EEI's Restore Power (providing access to hundreds of mutual aid utilities and contractors), and continues to be member of the Northeast Mutual Aid Group (NEMAG). See ERP Section IV- E	●

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NEI Recommendation	Comments	Status
II-4 Each electric utility should improve procedures for communications with state and municipal government officials and emergency response agencies during major storms.	Unitil has already completed and implemented this recommendation. Unitil has established in its revised ERP the positions of Chief information Officer, Liaison Officer and Municipal chief as well as dedicated municipal rooms to ensure each line of the communication has dedicated leadership to update state and municipal government officials. Communications protocols have been established with all state and municipal government emergency response centers. Specific actions include but are not limited to: • proactive prior notifications with elected officials and municipals • dedicated municipal rooms in each R-EOC • daily conference calls with regional emergency response officials • assigned a role to liaison at each state EOC • routine updates multiple times throughout the day • web enhancements for routine viewing of information See ERP Section II-A1-b,c,d: Section III –A3-c Note; communication protocols are woven into every aspect of the ERP, those areas identified provide a summary	●
II-5 Each electric utility should modify emergency planning procedures in order to implement a more effective means of estimating resource requirements.	Unitil has already completed and implemented this recommendation. Reference response to II-2. Resource requirements are determined from Phase I and Phase II damage assessment. Unitil has developed quantitative tools and methods to derived estimated crew-hour repair times from the results of damage assessment, which are then used to determine resource requirements to meet established or desired ETR's. See ERP Section V -2	●
III-1 Each electric utility should include post-storm critiques and lessons learned should be included in their Emergency Operations Plan.	Unitil has already completed and implemented this recommendation. Unitil's ERP details the need for an After Action Report (AAR) for every event requiring the opening of the S-EOC. See ERP Section IV – J	●
III-2 Each electric utility should include a contingency for coincidental emergencies in their Emergency Operations Plan.	Unitil agrees that contingencies for coincidental emergencies should be part of business continuity planning, but disagrees they should be explicitly identified in the ERP as there are many potential contingencies. Instead, Unitil plans for concurrent emergencies as part of the annual drill process. The Incident Command System itself provides the structure to establish a Joint Incident Command with electric operations, gas operations, and other areas of the organization.	◕

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NEI Recommendation	Comments	Status
III-3 Each electric utility should have its representatives make contact in person with the emergency directors of each of the towns in its service territory to gather information on critical customers within those towns. This should be done within 60 days after the publication of this report.	Unitil has already completed and implemented this recommendation. Meetings were held in August and September 2009 in which local emergency response personnel were invited to exchange information on key processes and critical infrastructure. Unitil has since met with each municipality to capture and revise critical infrastructure listings by location. This information is used to prioritize restoration activities in order to restore service to critical customers as quickly as possible. See ERP Section III –A3-c	●
III-4 Each electric utility should expand its emergency response plans to include procedures for communicating with telephone and cable companies so vital telecommunications can be restored as quickly as possible.	One of the pre-event checklist items is to establish contact with telecommunication companies EOC's. Communication is consistent both at the system and regional levels throughout the event. In addition, the telecommunication companies have recently attended the NEMAG conference to discuss mechanism to enhance planning and coordinate activities. Unitil has compiled the appropriate phone numbers and has identified the key coordinators from the telecommunication companies. Also, where scheduled work is performed daily with the regional organizational leaders, there are existing personal relationships and processes for communication protocols. See ERP Section IV- E	◔
III-5 Each electric utility should arrange for security services as part of its emergency plan.	Unitil has already completed and implemented this recommendation. This issue is addressed in Unitil's revised ERP, and falls under the responsibilities of the Logistics Section. Several security firms are on a contractor listing, and will be activated as needed. See ERP Section II-A3	●
III-6 Each electric utility should develop a method for collecting and archiving data following emergency events and use this data to develop a predictive damage model for use in future storm planning.	Unitil agrees that collecting and archiving data following emergency events is worthwhile and has incorporated such tasks into its emergency planning. Unitil is working with its weather service provider to perfect the Power Disruption Index (PDI) features which is a subjective measure of damage that may occur from a forecasted event. We receive a PDI forecast for each of our operating areas, along with hourly map predictions as well. Unitil disagrees with the emphasis NEI has placed on predictive models as these models are "immature" in their development and reliable only with a significant volume of storm data. In addition, these models require significant personalization for: geographic regions, demographics, and vegetation types. Given the uncertainty of weather forecasts and resulting damage impacts, Unitil does not believe such models provide as appreciable advantage over current planning and assessment methods. See ERP Section IV – C	●

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NEI Recommendation	Comments	Status
III-7 Each electric utility should expand emergency readiness drills beyond the individual companies.	Unitil agrees that joint exercises can be beneficial and has done so by inviting local emergency response personnel and state emergency response officials to participate in its recent drill. However, it is not a realistic expectation to presume that utilities should take the lead in coordinating an all encompassing exercise that will ensure all their constituents participate. Nor is practical for them to be the catalyst to coordinate a state wide exercise. A more practical approach is when designing exercises select those participants who may gain the most from a joint test and verification of their ERP's. As applied, Unitil held its first annual system-wide storm drill on September 18, 2009, which included the active participation of not only NEMAG members but also many local emergency response officials	◑
III-8 Each electric utility should fully implement the Incident Command System (ICS) concept and Unitil should adopt the IMS as its new structure for emergency management.	Unitil has already completed and implemented this recommendation. Unitil has fully implemented NIMS and the ICS protocol as the basis for its ERP See ERP	●
III-9 PSNH should dedicate an emergency response area solely for the purpose of managing outage events; Unitil should continue with their plans for a dedicated EOC; NHEC should explore options for building a dedicated EOC or obtaining a mobile command center.	Unitil has already completed and implemented this recommendation. Unitil has established a centralized system EOC in its Hampton, NH location. This system EOC was utilized during its recent system storm drill on September 18th, 2009. See ERP Section II- B; section III –B	●
III-10 PSNH should purchase an Outage Management System and deploy the system within 12 months of acquiring and implementing a GIS, and Unitil should continue with its present plans for installing an OMS.	Unitil is implementing a state-of-the-art integrated outage management system (OMS) which is scheduled for operation in December of 2009.	◕
III-11 Each electric utility should identify and train additional damage assessment personnel and have them activated prior to the storm.	Unitil has already completed and implemented this recommendation. This recommendation has been addressed in two ways. The Company has identified and trained additional damage assessment personnel internally that can be activated prior to the event. In addition, for major system-wide events, the Company has executed contracts with three major vendors that are capable of providing several hundred damage assessment resources. See ERP Section II-A3-d; section V-3	●

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<u>III-12</u> Each electric utility should develop a mechanism for quickly assessing global damage and providing restoration times in order to allow customers and government to take prompt appropriate action.	Unitil has already completed and implemented this recommendation. This recommendation is redundant with prior recommendations. Please refer to responses to II-2 and II-5. See ERP Section V -2	●
<u>III-13</u> Each electric utility should expand its available resource pool to reach across the boundaries between cooperative and investor owned utilities (IOU), and consider using resources from other sources.	Unitil has already completed and implemented this recommendation. Please refer to response in II-3. In addition, the regional cooperatives are now being included in the mutual aid process through participation in NEMAG and NEPPA. See ERP Section IV- H	●
<u>III-14</u> Each electric utility should work with the community first responders to develop a process for "batching" wires down calls during a major emergency.	Unitil has already completed and implemented this recommendation. Unitil has established dedicated Municipal Rooms in each Region for the sole purpose of communicating with the local emergency response officials. Several mechanisms have been established for communicating wires down information to the Municipal Rooms. These include: phone, e-mail, and fax. The information can be sent via a batch form or as individual incidents. See ERP Section III – A3-c	●
<u>III-15</u> Each electric utility needs to expand its communications program to better educate their customers about the restoration process.	Unitil is committed to informing its customers on preparation for large scale storm events. A mechanism to educate customers in how to prepare for events is the use of bill stuffers distributed multiple times throughout the year that reflective of possible issues a customer might face. Unitil also issues the appropriate Public Service Announcements (PSA's) prior to inclement weather. Unitil uses the PSA, media, Customer Service announcements, Web and direct hand delivery to secluded locations such as shelters to ensure our customers understand the status of the restoration. Unitil is in the process of reviewing social media options such as twitter. Unitil will use whatever means are most effective to provide the customers information on how to prepare for the event and our restoration process during the event. Unitil has separate, yet integrated strategies to ensure its communication with the customer occurs throughout the year.	◕
<u>III-16</u> Each electric utility should better define the methods it uses for communications with government officials during emergencies.	Unitil has already completed and implemented this recommendation. Using the ICS protocol, Unitil has created a team of individuals under the Liaison Officer (Municipal rooms) whose sole responsibility it is to communicate with agencies and government officials. In addition, the Company has established a Strategic Response Committee (SRC), comprised of senior executives that also will be engaged in the communication process at the appropriate governmental level. See ERP – Section II -A1-b,c:	●

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III-17 Each electric utility should file their Emergency Operating Plans with the State Homeland Security and Emergency Management Office (state EOC) and work with the state to define thresholds which would trigger communications with the EOC.	Unitil's ERP is available to all appropriate agencies. There is no directive to file the document at this time. This recommendation should align with joint exercises – recommendation **III-7** Unitil's revised ERP defines the S-EOC opening as the trigger for notifying the State EOC. Unitil has met with the State Director of Homeland Security and Emergency Management and exchanged contact information. In situations when the State EOC is open and Unitil is not, then Emergency management at Until will act as the line of communicate with internal personnel for issue resolution. See ERP – Sections II – A1 – b, c: section A2-d	●
IV-1 PSNH should inspect the condition of the static wire on Line 367, compare it with the original design, and present a report to the NHPUC.	N/A	
IV-2 NHEC should upgrade their substation SCADA back-up power systems to provide reliable power for a minimum of eight hours.	N/A	
IV-3 Each electric utility should perform a review of substations supplied by sub-transmission lines.	Unitil completes annual load flow and reliability studies on the sub-transmission system. System improvements are implemented as required to address loading, voltage or reliability concerns. Unitil believes that these annual studies are adequate to address this recommendation.	●
IV-4 Unitil should investigate the failure of the Iron Works Substation transformer and correct any deficiencies on their system that could result in failures in the future.	Unitil employs a transformer protection philosophy that relates to the following industry standards. C37.41IEEE Standard Design Tests for High Voltage Fuses, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Accessories. C37.91 IEEE Guide for Relay Applications to Power Transformers. C37.91 Appendix Application of the Transformer Through-Fault Current Duration Guide to the Protection of Power Transformers. C57.12.00 IEEE Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers C57.109 IEEE Guide for Transformer Through-Fault-Current Duration.	●

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IV-5 Each electric utility should replace existing electro-mechanical relays with microprocessor based relays that feature event reporting ability, within the next five years.	Unitil disagrees with this recommendation. Unitil experienced no electro-mechanical relay failures and had no electro-mechanical relay misoperations during the December 2008 Ice Storm. In fact, over the recent past, Unitil has experience more failures of microprocessor based relays than electromechanical relays. Unitil's electromechanical relays have the ability for instantaneous operation and fuse saving. In order to replace an electromechanical relay with a microprocessor based relay, major panel and wiring modifications are required. This recommendation results in a high project cost with very little apparent benefit.	●
V-1 PSNH should abandon their existing OMS system in favor of a modern fully integrated GIS based system, Unitil should continue on the path they have begun and choose an OMS, and National Grid and NHEC should continue on with their plans for their OMS.	Unitil is implementing a state-of-the-art fully integrated outage management system (OMS) scheduled for operation in December of 2009. Please reference response to III-10	◔
V-2 Each electric utility should include provisions for rapid restoration of communications in their disaster recovery plans.	Unitil agrees that integrity of communications is vitally important for receiving outage information and system status information. Unitil's implementation of a state-of-the-art OMS will rely on outage information from customer calls (IVR) initially, and will then be expanded to include integration of both SCADA and AMI within 1-2 years following. This multiple input approach provides redundancy in outage data. In addition, Unitil plans to take steps to "harden" communication infrastructure for SCADA and AMI.	◔
V-3 Each electric utility should ensure that all its poles, including joint use poles, are being properly inspected.	Unitil agrees that all poles, regardless of maintenance area, should be properly inspected. Unitil has recently renegotiated their Intercompany Operating Procedure with Fair Point to ensure that they are performing periodic pole inspections in their respective maintenance area. In addition, pole replacement schedules are now being provided to Unitil.	◔
V-4 Each electric utility should establish a more comprehensive vegetation management plan..	Although Unitil would be in favor of a more comprehensive vegetation management program, it also believes that such a policy decision should not be made without regulatory relief. In addition, although Unitil believes that ground to sky trimming is prudent in certain applications, we disagree that such a trimming program is practical.	◔
V-5 State and local governments should extend laws regarding vegetation management for roads and highways to include electric and communication corridors. Utilities should be assisted by local and state government to streamline the property owner permission process	Unitil agrees.	

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V-6 Each electric utility should be required to employ at least one system forester or arborist in their New Hampshire service area.	Unitil contracts its vegetation management program to several vendors. Our current vendor, Asplundh, has their own forester/arborist on staff and is available to us upon request. Therefore, Unitil does not believe that employing a forester/arborist is necessary.	
V-7 Each electric utility should expand its vegetation management program to include the judicious use of herbicides for stump treatment.	Unitil performed herbicide treatment for ROW trimming up until 2000. The program, although effective, was terminated due to the increase in administrative burden associated with application of the herbicide. In addition, we were receiving a significant amount of objections to the program. Considering this fact, Unitil does not believe that introducing such a program for use within the public way would be successful or acceptable to municipals and customers.	
VI-1 Each electric utility should gather and analyze weather and damage information during and immediately following weather events and develop models to predict damage.	See III-6. Unitil agrees there is value in capturing post event data but would again emphasize caution when using predictive models.	●
VI-2 PSNH should develop a process for responding to the IMS review and future post action reports and should expand the number of participants in its post storm reviews.	N/A	
VI-3 Unitil should include post storm reviews in its Emergency Operations Plans.	Unitil has already completed and implemented this recommendation. See III-1, Unitil's ERP Section IV item J, all drills and events will be accompanied by after action plans.	●
VI-4 NHEC should make post storm critiques a part of its Emergency Operations Plan.	N/A	