REPORT OF THE TWO STORM PANEL

PRESENTED TO:

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EXECUTIVE SUMMARY

Tropical Storm Irene and the October Nor'easter tested Connecticut's emergency resources in ways that they had not been tested in more than 25 years. In that intervening 25 years, Connecticut's infrastructure had increased significantly, while the manpower associated with the maintenance and repair of that infrastructure had decreased significantly. The result was that although Connecticut has faced far more significant storms, such as Category 3 hurricanes, both Tropical Storm Irene and the October Nor'easter left record numbers of residents without electricity, communications, heat or reliable supplies of water.

The significant impact of these storms has served as a wake-up call to Connecticut. Our state must do more to prevent, plan for, and respond to emergencies and natural disasters.

To that end, this Report serves as the beginning of what this Panel hopes will be a robust review and evaluation of Connecticut's approach to the prevention, planning and mitigation of impacts associated with emergencies and natural disasters that can reasonably be anticipated to impact our State. The Report contains 82 recommendations on a wide variety of topics, with subjects ranging from utility issues ("utility," for the purposes of this Report, shall include all infrastructure components, including electric, gas, water, sewer, telephone, cable, television, data and piping infrastructure) to municipal assistance to changes that can be implemented at the State level to improve the State's readiness for the next emergency. The recommendations in this Report include:

- The need to develop reasonable performance standards for utility recovery and restoration after storms, and link recoverable costs to these standards;
- Revisions to State engineering standards to accommodate predicted increases in storm surge along coastal areas;
- The need for improved worst-case planning and staffing by the State's utilities;
- Connecticut's infrastructure needs to be better hardened to withstand natural disasters, and such work should begin as quickly as possible;
- The use of microgrids and other emerging technologies should be considered as potential methods for mitigation of impacts to infrastructure;
- Increased collaboration between municipalities, State resources, electric utilities and telecommunications service providers with respect to tree trimming;

- Increased communication and planning between municipalities and utilities *before* a storm or disaster is imminent;
- Increased communication between labor and management in all utilities is strongly recommended;
- Additional emergency response training and exercises for municipalities, utilities and the State;
- A review of sheltering needs to ensure that at-risk populations can be served if sheltering is required for a significant length of time;
- The use of geographical information systems (GIS) should be better leveraged for both emergency planning and response purposes;
- The Public Utilities Regulatory Authority and the Connecticut Siting Council should be provided with additional enforcement resources;
- A Center for Research should be developed to study and make recommendations on storm hazard mitigation and power system resiliency;
- Standards should be more clearly developed for backup power requirements and communication infrastructure hardening for wireless telecommunications; and
- The vacancies of the Deputy Commissioner with the responsibility for DEMHS within the DESPP should be filled as expeditiously as possible, as should other vacant positions within DEMHS.
- The twelve (12) existing vacancies in the Office of Emergency Management (OEM) under DEMHS should be assigned at the regional level in order to facilitate planning, exercise, training, and evaluation at the community level.

INTRODUCTION

FORMATION AND TASKS OF THE TWO STORM PANEL

Connecticut's risk from extreme weather was on full display in August with Tropical Storm Irene and then again in October with the Halloween Nor'easter snow storm. Irene, a tropical storm with average maximum wind gusts of 52 mph, knocked out power to 800,000 customers. By way of comparison, although it was only a tropical storm, Irene exceeded the 506,150 outages wrought by Hurricane Gloria in 1985. Six weeks later, a freak October snow storm dumped up to 18 inches of snow on trees still full with autumn leaves. This resulted in a record-setting 880,000 customer outages, eclipsing the record set by Tropical Storm Irene only a few weeks earlier.

The final amounts of the costs associated with the storms are still being tallied, and true total costs will not be known for some time. That having been said, the Department of Emergency Management/Homeland Security (DEMHS) estimated that the cost of these two storms will exceed $750 million dollars. That figure does not include uninsured losses which could push the losses over $1 billion dollars.

In addition to the sheer number of customers that suffered outages, the length of the outages presented problems as well. Restoration of service took up to nine days in the case of Tropical Storm Irene and the restoration for the snow storm was not completed until twelve days after the first outages. Flawed restoration schedules and poor communication between utilities and municipalities exacerbated the situation and fueled public frustration and outrage.

Governor Dannel P. Malloy announced the formation of The State Team Organized for the Review of Management (STORM) of Tropical Storm Irene on September 13, 2011. The eight member Panel was charged with the following mission, "a broad, objective evaluation reviewing how Irene was handled in the state both in preparation and recovery, identify areas that can be improved upon and, most importantly, make recommendations for future disaster preparedness and response." Following the October snow storm, the Governor expanded the work of the Panel, renamed it The Two Storm Panel, and directed it to report its findings to him by the first week of January, 2012.

The Two Storm Panel first reviewed the State Emergency Framework as well as several representative municipal emergency plans in order to benchmark state and local emergency planning. In addition, the Panel conducted eight days of hearings with over

100 witnesses providing written and/or oral testimony to the Panel. Panel hearings were also carried on CT-N so that they could be viewed by the public. In addition to the public hearings, many members of the public provided written comments to the Panel that were also considered in the preparation of this Report.

This Report will be organized along various subject-matter headings, each with a series of findings and recommendations related to such findings. Every effort has been made to keep the Report as brief as possible, so that it will be as useful as possible to those charged with implementing the recommendations made in this Report. This need for brevity has been balanced with the need to provide sufficient detail to allow the reader to understand the conclusions of the Panel as well as the reasons for the recommendations being made by the Panel. Additional information, including meeting agendas, minutes, voting records, copies of written materials, and video footage of various Panel meetings can be obtained at: http://www.governor.ct.gov/malloy/cwp/view.asp?a=3997&q=489750.

Each member of the Panel appreciates the chance to serve the people of Connecticut in this important endeavor, and stand ready to assist the Governor and the State in any way that they can.

CHAPTER ONE – STATE RESPONSE TO THE TWO STORMS

Findings:

- State response to two storms each began with state declaration of emergency which set in motion the State Response Framework. These actions were timely and put in motion the standing up of the State Emergency Operation Center (SEOC), Regional Control Centers (RCC), and Municipal Emergency Operation Centers (EOCs) while allowing the activation of Community Emergency Response Teams (CERT), Medical Reserve Corps (MRC) and Urban Search and Rescue (USAR). All state agencies as well as other nonprofit community providers such as the Red Cross, the United Way, Civil Air Patrol, Amateur Radio and others were notified to increase level of readiness. The state requested and received Presidential Emergency Declaration before the landfall of Tropical Storm Irene which allowed for the alerting of federal Disaster Medical Assistance Team (DMAT). For the Nor'easter, Governor Malloy requested and received Presidential Emergency Declaration, Amended Emergency Declaration and Major Emergency Declaration bringing to bear expanded federal assistance as required. An alert of DMAT may have been more appropriate for the October Nor'easter considering hospital emergency room activity.

- The SEOC stood up a 24/7 operations for the duration of the response to the storms. Regional Control Centers experienced staffing issues in both storms but especially during the longer duration Nor'easter. The municipalities' EOCs varied from very robust 24/7 operations in the larger communities to minimal volunteer staffing in smaller communities. Limited staffing in some communities had the potential to create burnout during longer duration events.

- Radio communications for emergency responders has been well-developed and deployed by DEMHS with varied and redundant systems. These systems allow emergency responders with multiple radio frequency bands to talk on a common channel utilizing State Tactical On-Scene Channel System (STOCS). The National Guard Joint Incident Site Communications Capability along with their Civil Support Team's Advanced Liaison and Unified Command Suite also give responders common channel capability as well as secure and non secure satellite internet and telecommunications reach back. DEMHS regional Tactical Interoperable Communications Plans(TIC-P) also includes ICALL/ITAC 800 MHz portable radio and DEMHS High Band Radio Systems provided to all communities in the state.

- It should be noted that the State Response Framework supports 169 Municipalities and 2 Tribal Nations through 5 designated regions. Since there is

no county system, the regional concept is designed to aid in span of control issues stemming from 171 entities reporting to 1 control center. Each municipality is required to designate an Emergency Management Director (EMD) and have an emergency response plan on file at DEMHS regional offices to be reviewed annually.

- In all likelihood, at least some portion of the two storms tested the response system in the majority of the communities beyond that experienced in past training and exercises. It cannot be overlooked that the response to the emergency situations as a result of the storms brought on by primarily extended utility (electrical and telecommunications) outages resulted in minimal loss of life, medical emergencies, and loss of property. Precautionary evacuations of areas prone to coastal flooding precluded rescue operations for the most part. The majority of the thirteen fatalities and medical problems were related to carbon monoxide poisoning or other issues related to the misuse of backup power generation and or alternative heat sources. Considering the heavy utilization of power equipment for clearing roads, downed utility wires and high voltage electrical repair, the emergency response overall was good for the magnitude of the storms. Nonetheless, there were many lessons to be learned from these events, as well as many best practices to be replicated as permitted by available resources. Looking to a situation brought on by a disaster of greater magnitude these after action reviews will serve the state and its communities well going forward.

- The success of the response efforts varied amongst the communities and state agencies. These two storm events have served to place a spotlight on proper disaster preparation and response, and it can be reported that many initiatives have already been put in place to take advantage of the lessons learned.

- The Commodities Task Force made up of primarily the Department of Correction, Army Corps of Engineers and National Guard demonstrated continuous improvement from events leading up to Tropical Storm Irene through the October Nor'easter. During the July annual training period, the 143 Combat Service Support Battalion exercised functional areas for civil support in a hurricane scenario. During Tropical Storm Irene this unit set up the point of distribution (POD) at Rentschler Field and passed out 237,000 Meals Ready to Eat (MRE), 907,000 bottles of water, 17 pallets of ice, generators and numerous infant food cases to 87 towns. Due to confusion amongst communities in ordering and capability to pick up commodities a working group was established to deal with these issues and other problems. As a result of lessons learned processing was streamlined and the National Guard delivered commodities to the municipalities during response to the October storm. There were more than 34,000 cases of MRE's and 34,000 cases of water delivered to 86 towns.

Recommendations:

1) The Department of Correction and Military Department, along with other state agencies, are potential manpower sources available to alleviate staffing challenges in the future.

2) Expanding the CERT capability for a variety of staffing functions will assist where communities themselves have limited staffing.

3) Since radio communications equipment and other emergency response equipment is costly to maintain, a review of equipment absolutely required for effective emergency response is in order as not to dilute discretionary grant funding for training.

4) The municipalities' emergency response plans vary greatly in specificity of responsibility and would be enhanced by training and exercise to increase all participants' understanding of their role relative to other responders. Put simply, one of the goals of emergency planning is to ensure that meetings between those responsible for emergency response occur in the exercise environment rather than a first meeting of participants at the actual emergency.

5) Lessons learned from these two storms should be utilized to improve the state and various communities' emergency response capabilities. This will create a framework to deal with disasters of greater magnitude. To that end, a strong DEMHS Division within DESPP is essential to a robust response to an all hazards disaster in the future.

6) An aggressive training exercise program should be undertaken. As DEMHS has indicated, an appropriate training goal would be one training per region per year. The goal is to have municipalities, especially the smaller communities whose resources can be stretched beyond the resources of larger communities, look to regional support and multi-municipality planning. This will require a well-resourced and integrated DEMHS Division to provide the support necessary for success in this area.

7) The solid relationship that has been formed with municipalities and their plans needs to be enhanced through training, exercise, and lessons learned. With strong DEMHS regional support these plans can be adjusted as necessary.

CHAPTER TWO – ASSESSING RISK: THE IMPACT OF CLIMATE CHANGE, THE RISE OF SEA LEVELS

Findings:

- The State of Connecticut has been subject to several hurricanes in the recent past, including the hurricane of 1938 (a Category 3 hurricane), Hurricane Bob (a Category 2 hurricane) and Hurricane Gloria (a Category 1 hurricane).

- As a result, in the State's Natural Disaster Plan, "The State Department of Emergency Management and Homeland Security (DEMHS) considers a strong Category 3 hurricane as the most probable, worst-case disaster scenario facing the state." Accordingly, the Panel focused on a Category 3 hurricane as the disaster for which the State should be prepared.

- Tropical Storm Irene and the October snow storm were powerful storms each knocking out power to more than 800,000 customers, far exceeding any storm in recent history. However, they pale in comparison to the damage that will be inflicted on Connecticut by a Category 3 hurricane with sustained winds between 100 to 120 mph.

- Irene downed approximately 1-2% of the State's trees. A major hurricane may down up to 70-80% of Connecticut's trees.

- Irene and the October storm resulted in over 800,000 outages each and took between 9-12 days to restore power. A Category 3 hurricane may black out the entire State, some areas for over a month.

- Total damages from both storms estimated at $750 million - $1 billion dollars. The damage from a Category 3 hurricane similar to the 1938 hurricane is estimated (HAZUS MH) in today's dollars at $54.2 billion.

- Testimony given to the Two Storm Panel by meteorologists from the National Weather Service stated that Connecticut is overdue for a major hurricane.

- Connecticut engineering drainage standards currently use rainfall data based on National Weather Service from the 1960's.

- Data from the Northeast Regional Climate Center indicates a major increase in precipitation over the last 40 years.

- The impact of climate change on the rise of sea levels and its effect on more damaging storm surges presented to the Two Storm Panel raises serious concerns about the need to protect critical infrastructure along the coast and adjacent to rivers.

- Indeed, meteorological information presented to the Panel indicated that sea levels are anticipated to rise approximately 1.5 feet by mid-century, and from three to five feet by century's end.

- During Storm Irene, storm water surge came perilously close to flooding water and sewage treatment facilities. For example, during Tropical Storm Irene, storm surge came within a foot of flooding Norwalk's wastewater treatment plant. In addition, according to incident reports received from the Department of Energy and Environmental Protection, flood waters in combined sewer overflow systems, or in sewer systems where pump failure is present, may have lead to the discharge of raw sewage into receiving bodies of water.

Recommendations:

8) The Department of Construction Services (DCS) should compare results between the 1960's rainfall data and the extreme precipitation data obtained from the Northeast Regional Climate Center in drainage facility design. The results should also compare the construction costs between the two datasets and any other relevant impacts.

9) DCS in collaboration with the Departments of Transportation (DOT) and Energy and Environmental Protection (DEEP) should develop new engineering standards that will better protect the built environment from the effects of extreme weather. These standards should then be incorporated into the State's Building Code within six months of development to reflect such new standards.

10) The DCS should lead a Working Group of state departments in assessing, through Geographic Information Systems (GIS), state-owned critical infrastructure within FEMA designated flood zones and hurricane surge zones and assess the long-term risks or impacts to such facilities due to potential increases in extreme weather patterns and the impact of sea level rise on Connecticut's state as well as municipal infrastructure.

11) The DEEP should also investigate and develop a plan for addressing combined sewer overflows and dam safety issues, particularly in light of anticipated rising sea levels over the next 50-100 years.

CHAPTER THREE – UTILITY ISSUES

PREPARATION

Findings:

- For purposes of this Report, the term “utility” is defined more broadly that the traditional definition of “utility” or “public service company” as might be found in Conn. Gen. Stat. § 16-1. Rather, the term “utility” shall include all infrastructure components, including electric, gas, water, sewer, telephone, cable, television, data and piping infrastructure.

- The Two Storm Panel reviewed multiple after storm reports, including: the Department of Utility Control reports issued after Hurricane Gloria in 1985, the Jacobs Consultancy report issued after the nor’easter of 2010 and Witt Associates report on Storm Irene and the October snow storm. The repetition of essentially the same problems identified after each storm over a 25 year period and similar recommendations is striking:

    - utility communications were reactive relative to contact with municipalities;

    - expand the after action/lessons-learned reviews to include direct input from field workers;

    - improve labor management relations (CL&P);

    - provide mobile data terminals to line trucks; and

    - improve supervisory training to handle large increase in workforce crews.

- In fairness, the utilities did improve in some areas, however their preparation was still materially deficient. In the case of the electric utilities, for example, a difficulty arises in that their Emergency Response Plans, although based on national best practice, proved during the two storms to have failed primarily in two key areas:

    A) They were not based on a worst case scenario, a cardinal tenet of disaster preparedness. In fact, the Witt Report noted that CL&P’S Emergency Response Plan’s working standard for a worst-case scenario was an outage of 100,000 customers. This is far less than the number of outages experienced during the two storms, and clearly less than the outages that would be anticipated should a Category 3 hurricane strike Connecticut.

B) As both storms so vividly demonstrated, the utilities' incident command systems were not scalable, another major tenet of disaster preparedness. The size of the two storms revealed serious structural flaws in their actual on the ground response to their customers.

- The work of the utilities' line crews, i.e., the personnel in the field, is not what is in question. They worked hard and did admirable work. However, it is apparent that a toxic relationship exists between labor and management, and this relationship was on full display before the Panel. This issue has the potential to adversely affect public safety, and it is the obligation of management to improve this situation.

- In addition, the commitment of senior management in the electric, telecom and wireless communications sectors to implement recommendations that have been repeatedly proposed after major storms in the past is in question. This a particular concern regarding the Board of Northeast Utilities, its subsidiaries (including CL&P) and its executive suite management.

- Based on the responses that they provided to PURA and/or the Siting Council, certain utilities' senior management also appear to give short shrift to the concept of emergency planning and related issues associated with potential public safety impacts.

- The Panel acknowledges that there are no national standards for utility responses to emergencies and national disasters, either in terms of planning, staffing and equipment, response activities or recovery operations. Several jurisdictions are investigating this issue and appear to be planning to develop such standards.

- Wireless telecommunications service providers were not prepared to serve residential and business customers during a power outage. Certain companies had limited backup generator capacity.

- Wireless telecommunications service delivery maps indicate coverage quality that does not match experience. Services identified as "good" were minimally functional during power outages.

Recommendations:

12) PURA and/or the DEEP should work to ensure that previous findings related to utilities' handling of crises are enacted upon, including:

  - utility communications were reactive relative to contact with municipalities;

- expand the after action/lessons-learned reviews to include direct input from field workers;

- improve labor management relations (this could be accomplished by creating a labor/management committee within each company whose members shall include elected labor leaders and whose findings shall be reported to the appropriate regulatory authority on an annual basis);

- provide mobile data terminals to line trucks; and

- improve supervisory training to handle large increases in workforce crews.

13) With respect to improvement of handling large increases in workforce crews, under the auspices of PURA, Connecticut's electric utilities should review and revise (as necessary) mutual aid compacts and major contractor contracts. Utilities should demonstrate to PURA managerial capacity to increase their field workforce by at least 500% in time of emergency as well as increasing corresponding customer service functions proportionally.

14) The utilities' emergency plans should be based on a true worst case scenario. In the case of Connecticut, this would mean planning for the effects of a Category 3 hurricane.

15) The Legislature should authorize PURA to develop performance standards for utilities' response to emergencies, storms and natural disasters. These standards should include standards for: planning, hazard mitigation, staffing and equipment, response times and recovery efforts in response to emergencies. The Legislature should also establish penalties for failure to meet such standards.

16) Utilities should be required to maintain a portion of their service fleets for use by outside contractors in case of emergency.

17) The utilities' incident command systems also need to be made scalable. In short, the utilities should be able to seamlessly adjust the ground response to their customers, whether the outage is 5,000, 50,000 or 500,000 customers.

18) State regulatory bodies should review telecommunications services currently in place to verify that the vendors have sufficient generator and backhaul capacity to meet the emergency needs of consumers and businesses.

19) All communications systems should supply an accurate accounting of the effectiveness and "lasting use" of their systems in the event of a loss of power.

TREE TRIMMING

Findings:

- Trees have great value, both aesthetic and economic, and Connecticut residents not only take great pride in their beauty, but benefit significantly from them. Testimony presented by the Urban Forestry unit of DEEP showed the heating and cooling costs of a home were lowered with the presence of appropriate trees.

- Trees knocked down 90% of the utility wires that fell in Tropical Storm Irene.

- Data presented to the Two Storm Panel indicated that Connecticut has one of the most dense tree canopies in the United States (# 1 in the U.S. for our Wildland/Urban Interface tree density). Connecticut's tree profile, also, revealed trees with larger circumferences than average. UIL Holdings estimated that over 300,000 trees are planted in the utility pole rights of way (ROW) in its 17 town territory.

- Tree trimming and removal budgets consist of four sources:

Source of Tree Trimming Budget	**Amount of Budget**
Municipal (Used primarily for maintaining health of town trees, not for utility rights-of-way)	Approximately $10 million a year
Connecticut Dept. of Transportation (Used primarily for roadway clearance and safety)	$550,000 per year
Telecommunications companies	Failed to provide a tree trimming budget to Two Storm Panel
CL&P (For 143 towns)	$24,625,000
UI (For 17 towns)	$3,418,883

- In its proposal to harden or strengthen its pole and wire infrastructure that CL&P submitted to the Two Storm Panel, the company recommended that they be approved to spend $366 million over the next ten years, essentially a 50% increase over what CL&P spent in the previous ten years, on tree trimming and vegetation management.

- There does not exist in Connecticut specific industry standards for tree trimming aside from the safety standards in ANSI Z 133.1 and OSHA 1910.269 and the operation standards in the ANSI A 300 series to direct the actions of tree wardens or of those performing utility pruning.

- There are also no criteria by which a person may be appointed a tree warden.

Recommendations:

20) Conduct a state -wide tree risk assessment and prioritization schedule particularly targeting hazardous trees.

21) Establish a state-wide Hazardous Tree Removal Fund that will provide matching grants to homeowners for the removal of trees on private property that endanger utility wires.

22) 1.5 % of all funds approved for utility vegetation management by PURA should be used to fund the private property Hazardous Tree program for 5 years.

23) Establish a State Vegetation Management Task Force (SVMTF) that will develop standards for road side tree care in Connecticut, vegetation management practices and schedules for utility rights of way, right tree/right place standards, licensing standards for tree wardens, municipal tree inventories and pruning schedules. This Task Force should consist of State, municipal, utility and nonprofit environmental organizations. The Commissioner of the DEEP or his/her designee should be its Chairperson.

24) DEEP should convene appropriate State agencies, municipalities and utilities for the purpose of creating a 5 year collaborative effort for an enhanced tree maintenance program and the development of an educational effort regarding the use of appropriate and diverse tree species in both public and private spaces.

25) At least four entities—electric utilities, municipalities, telecom utilities, and the State of Connecticut—engage in tree trimming/removal activities that may protect the necessary infrastructure. On a semiannual basis, these activities should be coordinated amongst them to maximize the effectiveness of each entity and goals/targets should be established. This activity would be monitored through the SVMTF.

26) Increase DOT Tree Maintenance budget by $1 million a year for three years for road/ tree safety program.

27) Legislation should be adopted providing for the removal of “hazard trees” from private property by utilities or municipalities, which should include reasonable protections for property owners.

INFRASTRUCTURE HARDENING

Findings:

- Electric and telecom utility general maintenance was insufficient to effectively protect the existing “pole and wire” infrastructure from natural disaster, specifically the impact of falling trees/limbs on this infrastructure.

- The panel reviewed several analyses of underground cable costs and feasibility in Connecticut, using data from other states to make estimates on cost and feasibility/effectiveness.

- The utilities have maintained that undergrounding is not feasible in many areas due to cost factors and damage caused by traffic, weather, and condensation. The majority of studies that were reviewed, however, indicated that the appropriate installation of underground cables protected the cables from traffic and frost, and a common system of condensation elimination, used in many states in extensive underground systems, prevented damage caused in this way.

- In addition, the cost of underground cables in many areas, especially city and town centers, is not drastically different from that of above-ground utilities, due to the absence of impediments below the surface (i.e, ledge).

Recommendations:

28) The Panel recommends that undergrounding be immediately studied by DEEP in the areas discussed by the Panel and the utilities. Such study should encompass feasibility of such undergrounding, the costs associated with the undergrounding, as well as potential reliability issues associated with undergrounded assets.

29) Selective undergrounding of utilities and strengthening assets beyond the requirements of the National Electric Safety Code (e.g., use of composite poles and spacer cable) should be recommended to PURA, with the cost shared between ratepayers and shareholders. All work should be permitted by municipalities, and the utilities should be required to pre-plan with other utilities with above-ground or below ground assets to reduce all costs for upgrades, bringing evidence of such cooperation as a requirement for local permitting.

30) Pole custodians should develop an audited list of assets, including age of assets and wind load, to better assist in managing a work plan for asset strengthening. This list should be provided to the newly-created pole

administrator position (discussed in Chapter 8, Recommendation 74 of this document) on an annual basis.

31) As one utility needs to expand or build new infrastructure, it should consult with other utilities, and where possible, co-locate such expansion with other utilities to minimize the cost of burying them underground. Such an effort would need to be coordinated through a combination of PURA and the Siting Council so that utilities could be co-located.

CHAPTER FOUR – GENERAL COMMUNICATIONS AND THE SHARING INFORMATION BETWEEN UTILITIES AND MUNICIPALITIES

ESTABLISHING MUTUAL PRIORITIES/ SHARING INFORMATION BETWEEN UTILITIES AND THE COMMUNITIES THEY SERVE

Findings:

- Testimony before the Two Storm Panel, particularly by municipal officials and first responders repeatedly stressed the confusion or conflict over municipal priorities during storms and the utilities' desire to restore service.

- There was a lack of accurate information about the resumption of power that affected all individual consumers and all businesses in the state.

- Hospitals, community providers and other healthcare and human service providers were limited in their ability to provide continuous services for their service populations without accurate information.

- This resulted in service inefficiencies, for example, individuals spending additional days in hospital settings although they did not require hospital level of care, community providers paying for relocation costs in hotels and other settings for indefinite periods of time and consumers unable to access basic healthcare because care settings could not open.

- Accurate information about resumption of power is necessary in order to safely discharge patients to homes, serve individuals in their own homes and allocate staff resources so that essential healthcare services can be provided

- Some text services offered by utilities directed individuals to shelters that had been closed or moved. The text information was not updated in a timely fashion.

- Outage maps did not provide local detail.

Recommendations:

32) A Municipal/Utility Collaborative Working Group should be created. This group would be chaired and convened by the Deputy Commissioner of the Department of Emergency Management/ Homeland Security and should develop:

A) A statewide protocol that will establish key municipal priorities for safe and timely power restoration;

B) A compatible storm damage assessment program that gathers and shares information between utility personnel and municipalities;

C) A protocol for the development of Municipal/Utility Storm Teams in which utility line crews and municipal public works road clearing crews partner in a more efficient team effort to restore power;

D) Each municipality should have the flexibility to have their local plan reflect local conditions as long as those local conditions are compatible with the State's overall goal of safe and timely safe power restoration;

E) Each municipality through its Mayor or First Selectman and the utility serving that community by its President or Chief Operating Officer should sign an agreement which will then be a basis for determining a benchmark for performance in future storms; and

F) DEMHS should monitor and audit the implementation of such individual municipal/utility collaborative agreements.

33) The electric utilities must improve systems to provide timely, accurate information about power restoration projections, remedying problems that occurred during both of the two storms.

34) Standards should be developed so that accurate information about resumption of telecommunication service to allow the safe discharge of patients to homes, allow individuals with medical needs to safely remain in their own homes and allocate staff resources so that essential healthcare services can be provided.

REGULAR MEETINGS OF ALL STAKEHOLDERS

Findings:

- Municipal responses to disasters such as storms often involve people who, in the course of their normal duties, may never come in contact with each other. A declaration of emergency should not be the first time that key actors meet each other or plan their strategy.

- Currently large (100,000+) towns are assigned a CL&P accounts manager and smaller towns share a manager between up to 20 towns.

- CL&P began a liaison mechanism in 2010 after the flooding caused by March nor'easter of that year. After the storm began, the utility selected existing

employees from its workforce, which included administrators, legal professionals and other office workers to act as liaisons with respective towns.

- When these individuals did arrive, they had no prior knowledge of the municipalities to which they were assigned, nor did they have access to any useful information regarding timetables for re-establishment of power to homes, schools, businesses, or health care facilities. They did not know how to request information regarding when trucks would arrive, when crews would clear lines from roads, as well as when lines would be re-established and repowered.

- During the recent testimony, CL&P made a commitment that it would provide appropriate representatives to each municipality. Some municipalities have asked that a representative be sent to work with a group of towns that are geographically and demographically similar, and that have gridlines that impact each other.

- It is important when considering the role that utilities play in disaster response and public safety to acknowledge (and hold accountable) all types of power and communications networks, including cell towers, cable companies, telecommunications providers and others. For example, CL&P has committed to fixing all utility poles, including those owned by AT&T, however AT&T is unable to repair poles where electrical cables are present. AT&T has an obligation, then, to participate fully in these key stakeholder meetings in order to provide exact information on how they will assist in the restoration of service as quickly as possible.

Recommendations:

35) Each town should hold annual emergency preparedness meetings/tabletop exercises with the chief elected official, emergency management director, fire chief, resident state trooper or police chief, emergency medical services, public works supervisor, water/wastewater authority representative, representative from the Board of Finance, the Superintendent of Schools, the area Senior and Shelter coordinator, the accounts manager/liaison from the utility company, and other appropriate personnel.

36) In addition, an annual meeting should be held for members of each DEMHS region with all of the above-named individuals present.

37) A DEMHS/DESPP-sponsored real time regional training exercise should be held, incorporating utilities, municipalities, the State of Connecticut, and other critical stakeholders (including American Red Cross and CT ARES), in which all parties identify the assets available and the condition of those assets. Communities not participating can observe and provide input as well.

38) Each utility representative must understand the municipality's position and activity with respect to the overall grid, and be able to give accurate, non-inflated, and up-to-date information to each community regarding timelines for power restoration. To this end, these representatives must be identified and assigned to each municipality or municipal cluster, and trained to perform these functions at any given moment.

STATEWIDE COMMUNICATIONS

Findings:

- The Governor and the EOC team did an exceptional job of briefing the public during the two storms. Information was available on TV, the internet, radio and via print media and could be accessed by the public even those with no power and limited communication tools.

- Community providers provided 24 hour supports for a vulnerable population for the duration of both storms. Earlier access to power and telecommunications would have better assured the health and safety of the individuals served.

- WebEOC is a web based communication and information sharing tool for planning. According to the municipalities, there is need to add to the local component to improve the coordination between local, regional and state resources. DEMHS would be the appropriate agency to assess any shortfalls that may exist in the system.

- United Way of Connecticut 2-1-1, working under contract with the State of Connecticut, provided significant communication services to residents during Tropical Storm Irene and the Nor'easter, far surpassing previous demand for information and referral service. In providing these contractual services to the state, it is reliant on government funding to support service expansion.

Recommendations:

39) During a state-declared State of Emergency, the Governor (or his/her designee) should continue the practice of daily teleconference briefings with municipal CEOs (or their designees).

40) In addition, the Governor (or his/her designee) should launch a public service communications campaign advising individuals about the potential dangers of using generators improperly or undertaking activities that may result in carbon monoxide poisoning or other health hazards.

41) Utilize additional communication mechanisms to convey emergency information to the broader public including utilization of social media, American Sign Language and closed captioning in EOC and other briefings.

42) Coordinate with municipalities and utility providers to give priority restoration to community provider organizations so that the individuals served can continue to receive services in their own homes and in provider service delivery locations rather than in municipal shelters, nursing homes, hospitals or other more costly levels of care.

43) United Way of Connecticut 2-1-1 needs to expand its communication capacity through its contract with the State in order to meet a high level of service and in order to be prepared for the next emergency situation. This can be accomplished by providing access to a "remote configurable IVR system" to allow for internet access for call routing and installing a back-up generator with transfer switch and wiring to power back up cooling and heating systems and lighting. In addition, the purchase of laptops and docking stations and increased Virtual Private Network (VPN) capacity to allow for remote operation in emergency situations should be considered.

CHAPTER FIVE – MUNICIPAL ISSUES

PREPAREDNESS AND TRAINING

Findings:

- The assessment of Connecticut municipalities' experience with the two storms indicates that, although towns differ greatly with respect to population demographics, existing /problematic infrastructure, and regional weather patterns, there were similar municipal responses throughout the state.

- The largest resulting difference was found in the shelter needs of citizens during the second storm due to the freezing temperatures. Many municipalities reported little or no difference, however, in pre-event preparation, coordinated command responses, communication with utilities, and ability to adhere to uniform standards regarding training, resources, and information dissemination in other areas of the needed storm response.

- Connecticut municipalities and their respective partners at the Department of Emergency Management and Homeland Security (DEMHS), OPM, the Department of Public Safety, and other state agencies have created their disaster response systems based on the NIMS model of preparation, recovery and restoration. The model suggests that when a disaster preparedness system is working well, emergency management is a 365 day per year endeavor. Municipalities play an integral role in any recovery event because "all emergencies are local."

- While this model is academically in place in Connecticut, combined municipality experience during the past two storms suggests that there need to be several systems and procedures in place, which are common to all public and private stakeholders, for the model to be effective in a real emergency.

- As an overall strategy, municipalities must be prepared at all times to protect the most vulnerable of their citizens for up to 5 days at a time with no real assistance from any entity outside their community, and citizens must be prepared for outages of, in some instances, up to two weeks.

- Within these parameters, municipalities identified 4 main areas in which specific coordination activities, applied resources, and/or mandated trainings and responses would mitigate the majority of storm-related safety and reconstruction issues. These areas are:

    A) identified and enforced responsibility of elected officials,

B) year-round coordination between key town actors, emergency preparedness representatives, and utility companies,

C) statewide consistency in storm-related regulations and their enforcement, and

D) the re-vesting of authority and resources to appropriate state agencies and divisions, as well as key utility personnel.

- Municipalities have specific obligations to ensure that their citizenry, comprised as it is of individuals who serve their towns mostly voluntarily and with little technical knowledge, is continually prepared for the eventuality of a natural disaster. As the NIMS guidelines state, “Elected and appointed officials should have a clear understanding of their roles and responsibilities for successful emergency management and incident response.”

- These activities can all be discussed in the context of the NIMS framework components of preparedness, communications/information management, resource management, command management, and ongoing management/maintenance.

- Just as Florida learned after the devastating 2004/2005 hurricane season, pre-storm training is critically important and there is no substitute for an annual real exercise that brings all parties together with an agreed upon plan of action and clear roles and responsibilities that are tested in a real time experience.

Recommendations:

44) The Department of Emergency Management /Homeland Security should develop an emergency response plan as part of its training program, and train municipal officials with respect to their respective roles within that plan. Its training budget will need to be increased to reflect the additional training responsibilities that are proposed. Regional Emergency Planning Team training funds can be used for this purpose.

45) All Mayors, First Selectmen, Town Managers and Commissioners of State Agencies together with their EMDs, and Emergency Operation Chiefs should receive emergency preparedness training within 45 days of assuming office. These officials may also request similar training for their EMD subordinates, so that all town responders who normally do not work together can coordinate seamlessly in the event of a disaster. An advisory curriculum committee should be established whose membership should reflect the real world needs of municipal CEOs and commissioners.

46) A primer for municipal officials of "what to do in an emergency" that delineates roles and responsibilities between state, local and national governments and private and nonprofit sectors should be developed as part of this curriculum.

47) Municipalities should be provided the opportunity to delineate a "town center", and in doing so, may mandate the inclusion of alternate power sources *(*including distributed generation) for private facilities including filling stations and grocery stores.

ROAD SAFETY AND DOWNED TREE REMOVAL

Findings:

- The relationship between each municipality and the utility companies needs to be negotiated and consistently maintained, in order to provide a continuum of storm assessment and recovery.

- Municipalities statewide agreed that in a storm the first priority is to make roads safe. There were many delays in clearing routes during the first 72 hours emergency push after the storms passed. Without this component of storm management in place, public safety interventions and health/damage assessments cannot occur. When wires are down the resources of municipalities, in the form of public works and emergency apparatus, are at a standstill.

- During both storms, the understanding between CL&P and the municipalities was that public works crews would be relied upon to clear roadway debris, which for the most part worked well. The issues arose when downed wires were not identified and/or attended to by appropriate utility officials.

- No individual or municipal representative can move wires unless he/she is trained and approved by the electric utility company in the operation of the power distribution system. It is therefore incumbent upon the utilities to have a plan in place, and to work with the relevant municipalities affected, in order to get roads cleared as quickly as possible so that public safety can be assured.

- Much of the testimony received regarding this topic had at base a frustration with the ability of the utility company (CL&P) to respond with appropriate personnel in a timely manner.

- The Interagency Debris Management Task Force which includes DESPP-DEMHS, DEEP, DOT, DAS, OPM, NG, DOL and electric utilities manage state debris management contractors (activated in both storms by Governor Malloy) and other parties for debris removal. Task force could have deployed state agencies particularly contractor, DOT, and National Guard in critical areas more

efficiently. When deployed, the National Guard completed route clearance in 34 towns and contractors cleared 44 towns with DOT maintained routes.

Recommendations:

48) Utilities and municipalities should work together and expend appropriate resources to ensure that sufficient technicians and resources are available to each municipality to ensure proper and prompt roadway clearance.

49) Municipalities should consider regional methods to purchase equipment for debris removal and clearance, which may not be available to them otherwise.

50) To eliminate jurisdictional concerns, Connecticut DOT should establish agreements with each municipality that critical local roads should be cleared by combination municipal/utility crews if they can respond more efficiently than CTDOT crews in a state of emergency.

51) There should be a consideration of enhanced communication interoperability of public works departments, in particular between smaller municipalities. Communications between municipalities and their public works crews should be possible at the lowest level (i.e., truck-to-truck). This would allow for multi-municipality responses with public works crews, both during the emergency and during the cleanup/recover effort, which is borne almost entirely by this group of workers.

SHELTER OPERATIONS[1]

Findings:

- Most small towns (under 6,000) have individualized plans that include the provision of some amenities (cots, water, bathing/toilet facilities) to a small number of citizens, but lack the resources to adequately construct and maintain facilities that would be adequate for all citizens in the wake of a large disaster.

- During Tropical Storm Irene, 30 towns experienced some level of evacuation. For example, approximately 13,000 households were evacuated in Bridgeport.

- During the October Nor'easter sheltering became a significant issue because of the colder weather and longer period of electrical outage. The primary problem was sheltering at risk populations particularly functional needs populations requiring electricity and life sustaining equipment/supplies. Of the 58 shelters and 118 warming centers opened, there were shelters that provided for the at-

1 For purposes of this Report, shelter is defined as an area that provided any one of the following conditions: 1) sleeping; 2) showering; 3) warming centers; 4) charging stations; and/or 5) food preparation areas.

risk sector of our population. Community shelters that did not provide for the functional needs of at-risk individuals compelled many to find it necessary to go to a hospital emergency room. This situation along with patient discharge difficulties due to electrical utility issues created a capacity problem for many hospitals.

- The State Mass Care Working Group has expanded its membership to include representatives of nonprofit associations. This will assist in assuring that nonprofit community-based providers are included in the preparedness planning and preparation for emergency situations including exercises.

- Individuals with medical, mental health and other healthcare needs are best served in their own homes; however, if conditions are dangerous in home settings, *shelters need to be able to accommodate individuals with varying needs.*

- The following statement is from the Executive Director of the Office of Protection and Advocacy for Persons with Disabilities which summarizes the sheltering of functional needs population during an extreme event in a very comprehensive manner:

> *We now know we have to allow families and support circles to shelter together; that we have to assure people that a public shelter can accommodate "people like them"; that their functional support needs – including their need to bring mobility devices, respiratory and feeding equipment and to recharge their batteries - will be met; and, perhaps most importantly, we must be able to assure them that they will not find themselves being sent to a medical or long term care facility simply because they have disabilities. Many seniors and younger people with disabilities dedicate their lives to staying out of nursing homes, and any suggestion that that is where they will end up if they present themselves at a local shelter, or heed an evacuation order, will result in non-compliance and decisions to" tough it out", with possibly tragic results.*

- Community providers were asked by families of those they serve and residents of their local communities if they could make their provider agency locations available as warming centers or shelters. Limitations of their state-issued licenses and liability concerns created obstacles.

Recommendations:

52) Utilizing the services of the Mass Care Working Group of the Advisory Council to DEMHS, municipalities should:

A) Work with the Department of Public Health to develop plans to serve individuals with functional and access needs, medical dependencies and other “at-risk” groups to assure that individuals can be served at local or regional shelters;

B) Assure that all shelters are accessible to people with disabilities;

C) Utilize resources to assure that shelters are set up to meet the access and functional support needs of local residents;

D) Link nonprofit organizations with municipalities for better integration and coordination at the local level;

E) Link nonprofit organizations with municipalities to determine “pre-identified priority lists” in each community along with hospitals, nursing homes, shelters, fire stations and other essential services. In addition, municipalities and nonprofit organizations should be linked with power providers and telecom providers for better integration and coordination at the local level;

F) Determine the best ways to address the needs of residents who need electricity for medical needs but require little or no medical care;

G) Develop a plan for shelters that includes all individuals in the community including those who are “medically compromised” but provide self-care and others who are “medically compromised” but do not meet hospital criteria for admission;

H) Plan for assisting vulnerable residents who require home care supports, oxygen and other health-related services in shelters.

I) Assure that individuals under the care of home care providers continue to be served by the home care providers;

J) Coordinate distribution of oxygen to shelters;

K) Plan for assisting individuals with disabilities and older adults with complex healthcare, physical and cognitive needs in shelters with the assistance of community provider staff;

L) Allow for individuals under the care of a community provider (i.e. group home for individuals with disabilities) continue to be served by those providers in the shelter;

M) Provide for behavioral health services in shelters with the assistance of community provider staff;

N) Assure that all shelters have sufficient auxiliary power to support mobility devices, respiratory and feeding equipment and to recharge batteries;

O) Assure that all shelters have pre-arranged plans with local home care, Medical Reserve Corps and Community Emergency Response Teams and vendors of oxygen and medical supplies; and

P) Provide consolidated list of all shelters by location including any specialized services available at the sites.

53) Utilizing the services of the Mass Care Working Group:

A) Develop protocols for “one-stop” “pre-registration” for individuals who are vulnerable and living in their own homes;

B) allow individuals to opt-in to be included on this list;

C) determine what services individuals can expect to receive from telecommunications and power suppliers;

D) determine what services individuals can expect to receive from municipalities; and

E) determine what services individuals can expect to receive from home care, community providers and other healthcare providers.

54) Amend the Good Samaritan legislation to allow community providers to provide sheltering services to the general public during a declared State of Emergency.

55) Consideration should be given to creating regional or specialized shelters for those individuals with special needs. For example, “medical shelters” could be developed for those who are “medically compromised” but do not meet hospital criteria for admission.

56) Develop protocols for mutual aid agreements between shelters, hospitals, home care organizations and community providers to address the needs of individuals with life-threatening healthcare needs.

57) Utilize regional, “medically oriented” shelters in conjunction with hospitals to provide medical monitoring and medical interventions.

UTILIZATION OF VOLUNTEERS

Findings:

- One of the largest issues affecting any town's preparedness strategy is the ability to attract volunteers and citizen response teams.

- As most of us are aware, the same small core group is relied on by municipalities to perform nearly every town service that is not compensated, from work on commissions and boards to special event planning, fundraising, senior services, animal protection, and emergency medical and fire service.

Recommendations:

58) Create within DEMHS a volunteer initiative/follow-up unit.

59) Mechanisms need to be developed to encourage citizens to become consistently engaged in disaster preparedness, both at home and in tandem with other community members.

CHAPTER SIX – USE OF GEOGRAPHICAL INFORMATION SYSTEMS

Findings:

- The need for a common platform to share information about storm assessments was a major concern that was brought to the Panel's attention, and the sharing of GIS mapping data between towns, utilities and state agencies was a repeated suggestion that was made to the Panel.

- Questions as to what streets are blocked, what poles and wires are down, where the power is on and where it's off were consistent complaints.

- Recent testimony from the utility companies reveals incomplete GIS data pertaining to its infrastructure, or the towns in which it operates. Though their grids provide information on line breaks, utilities are relying on consumers to identify exactly where resulting problems exist.

- Some Councils of Governments have recently completed GIS data profiles for Connecticut towns and their land parcels. Several utility companies have indicated that they are in the process of creating this information for their own grids using a "smart grid technology to target trouble areas," but to date no such information or resource exists.

- Currently there is no individual or department in the state that is assigned to or has authority over the implementation of standards with respect to using existing GIS information to help address storms.

Recommendations:

60) The Connecticut GIS Council should expand its membership to include the State's utilities, both investor-owned as well as municipally-owned utilities. In addition, a division should be established in OPM that is charged with working with all planning departments and organizations—emergency management, water/wastewater, all utility companies, private and public and others—to synthesize all GIS information layers available and provide it to DEMHS for integrated and uniform planning purposes. In addition, all COGs, utilities and others should be mandated to regularly report their respective GIS updates to this division.

61) The Connecticut GIS Council should elevate the Critical Infrastructure/Key Resources subcommittee of the Data Inventory and Assessment Working Group as a distinct Working Group. The CI/KR Working Group should be comprised of members of the GIS Council, municipalities, first

responders, utility companies, emergency operation center (EOC) managers, and federal GIS partners. The purpose of the Working Group should be, but not limited to, the promotion and sharing of GIS data across various entities, and provide a forum for utility companies and governments to discuss and promote mutual benefits through GIS.

62) The GIS Council's Storm Response and Recovery Assessment Group should propose models or examples of legislation that promote GIS data sharing of critical infrastructure information between utility companies, state, and local governments during disaster events, but also addresses security risks.

63) Within ninety (90) calendar days, the Department of Administrative Services, Bureau of Enterprise Systems and Technology (DAS-BEST), should make available to all state agencies the ArcGIS Server system currently managed by DAS-BEST and eliminate barriers and redundancies that prohibit the use and benefits of such a system. Members of the GIS Council should then work to streamline and develop means and methods that promote the use of the system for disaster response and recovery.

64) Electric utilities should be required to develop extensible GIS applications--incorporating information from smart meters/smart grids and mobile data terminals as required by PURA--to facilitate the real-time sharing of data on service outages.

65) Utilities should dispatch to local EOCs: circuit maps, piping maps organizational flow charts, escalation paths, and up-to-date information on service outages within 120 minutes of the opening of an EOC.

CHAPTER SEVEN – HEALTH CARE AND COMMUNITY PROVIDER ISSUES

Findings:

- People with disabilities, including individuals with intellectual, behavioral health and physical disabilities and individuals with acute and chronic medical conditions, may be at significant risk during emergency situations. Such situations could include extreme weather conditions, loss of power and/or loss of heat.

- Home health and other community providers provide critical healthcare services for individuals in every community of the state in their own homes and in home-based locations. They serve individuals who are best served in their own homes. They serve individuals who would be difficult and/or at risk to evacuate.

- During the recent storms providers had difficulty driving to their client homes and community-based locations in part due to gasoline shortages.

- Community providers – organizations that support individuals with disabilities and significant challenges in community-based settings - made exceptional efforts during the two storms to support those individuals and families that they serve in home, home-based or other community settings. Community providers evacuated and relocated individuals in those settings without power to other locations within their service area, to administrative or day program locations, to hotels and to other sheltering settings.

- They provided services 24 hours a day for the duration of Tropical Storm Irene and the October Nor'easter in temporary settings, maintaining critical and emergent services.

- Many individuals with disabilities are reliant on services that require electricity ranging from refrigeration to protect medicine and special diet foods, power to recharge wheelchair batteries and operate Hoya lifts, pumps for bathing and toilets and lighting to assure proper medication administration.

- Approximately 44% of provider organizations had some type of generator, but those with gasoline or diesel generators struggled to replace fuel and continue operating those generators. A more resilient solution is purchase of permanent standby generators.

- Community providers are funded largely with state General Fund and Medicaid dollars. Flat funding and capped rates preclude or greatly limit expenditures such as generator systems.

- Community providers do extensive planning for emergency situations, but the length of the power and communications outages put many plans to the test. Organizations faced shortages of food and healthcare supplies, having difficulty procuring bulk quantities of these supplies with transportation and storage limitations during the storms.

- Individuals with medical and other healthcare needs are best served in their own homes.

- Older individuals are "aging in place." Younger people with significant disabilities are living independently in their own homes. Families are raising children with complex needs in their own homes. Individuals with intellectual disabilities, mental illness and other healthcare needs are living in their own homes or are receiving home-based supports from community provider agencies.

- Individuals with medical and other healthcare needs are best served in their own homes or community shelters if situations in homes are dangerous. However, some individuals may have greater needs that community shelters can provide.

- Federal Medicaid legislation and state licensing regulations limit flexibility to transfer patients/ clients, to provide alternative services, to address the needs of "social patients" and to address other healthcare issues during emergency situations.

- During the recent storms the Department of Social Services implemented several emergency provisions. DSS recognizes that the Department could have communicated these provisions in a more timely way, however, the following steps were undertaken:

  A) waived "level of care" requirement for seven days for pre-admission screening to nursing homes (allowing hospitals to discharge patients to nursing homes);

  B) allowed nursing homes to admit Medicaid patients without "medical necessity level of care determination" for the first seven days of stay;

  C) waived pharmacy requests for early refills; and

  D) allowed pharmacy "temporary supplies" to be dispensed.

Recommendations:

66) Convene a small working group under the auspices of the Nonprofit Liaison to the Governor to develop recommendations for the funding of permanent standby generators and related installation and maintenance costs.

67) Convene a small working group under the auspices of the Nonprofit Liaison to the Governor, in conjunction with the Fuel Task Force, the Commodities Task Force and the Department of Administrative Services, to develop recommendations for assuring access to essential supplies such as gasoline, propane, food and healthcare supplies in emergency situations.

68) The Department of Social Services should communicate with hospitals, nursing homes, home care agencies and other community providers, including organizations that support individuals with disabilities, about implementation of emergency provisions in a more timely way. In addition to "fax blasts" other media should be considered including: email, text messaging, voice mail, radio announcements, social media and website postings.

69) When the Governor declares a state of emergency, the accompanying Executive Order should temporarily waive regulations of state agencies that would impede the provision of health, safety and/or sheltering services.

70) In addition, regulations should also be examined to see if changes are warranted during emergencies. For example, Department of Public Health regulations should be amended to allow for immediate implementation of emergency provisions when an emergency is declared by the Governor (Department of Social Services and Department of Public Health joint responsibility). In addition, a small working group should be convened under the auspices of the Nonprofit Liaison to the Governor and including the Department of Public Health to develop recommendations for protocols for waiving licensing standards during emergency situations.

CHAPTER EIGHT – GENERAL STATE ISSUES

REGULATION OF UTILITIES

Findings:

- The failure of a large portion of Connecticut's telecommunications system during the two storms is a life safety issue

- Back up generation and backhaul (the physical telephone line that connects cellular towers and transmits the calls) capabilities for cell towers is inconsistent. Different standards are used by different companies, and there is no state standard currently applicable to all cell towers.

- Utility poles are owned by electric utility companies, telecommunication companies, jointly owned by utilities and telecommunication companies and by other third party entities.

- Standards for maintenance, tree trimming, and replacement vary from town to town and utility to utility. The standards used by telecommunication companies are of particular concern.

- PURA has not uniformly enforced its own compliance orders involving utility storm preparation and power restoration efforts. For example, PURA reviews both CL&P's and UI's emergency response plans. As noted in the Witt Report, CL&P's plan was based on an outage of 100,000 customers, or 8.2% of the customer base, while UI's plan was based on an outage of 250,000 customers, or 71% of the customer base. This wide variation raises serious questions about the regulatory agency's oversight and enforcement functions.

- Neither the PURA nor the Connecticut Siting Council has an effective enforcement capability in the structure of either agency. Put another way, neither agency is designed with a separate division tasked with the enforcement of orders and decisions issued by those agencies.

- Currently, there is no entity within the state of Connecticut that is tasked with developing best practices for utility systems and infrastructure.

Recommendations:

71) An enforcement division should be created within PURA that will serve both PURA and the Connecticut Siting Council. This division will be tasked with reviewing open orders issued by both agencies; investigating potential

violations of such orders; negotiating administrative penalties with violators; and, if necessary, referring violations to the office of the Attorney General for enforcement proceedings. The creation of this division will require additional personnel and funding for PURA.

72) Develop collaboration with the State, the utilities and a university, or other third party expert, that would create an interdisciplinary Center for Research on storm hazard mitigation and power system resiliency. The Center for Research would be responsible for the following:

A) Develop a more robust hazard assessment capability that can identify "hot spots" for storm damage and integrate early warning with preparedness and emergency management;

B) Conduct research on hardening present utility pole and wire infrastructure;

C) Perform life cycle analysis of the cost of undergrounding utilities;

D) Evaluate the use of cogeneration and microgrids to improve the overall reliability and resiliency of the electrical distribution system;

E) Evaluate the use of alternative energy as part of a more resilient power system;

F) Perform research on regulatory reform and the financing of energy infrastructure for an economically competitive and environmental appropriate 21st century power system for Connecticut; and

G) Leverage funding available from FEMA by becoming a regional center of excellence for storm hazard mitigation.

73) The Connecticut Siting Council should require continuity of service plans for any cellular tower to be erected. In addition, where possible, the Siting Council should issue clear and uniform standards for issues including, but not limited to, generators, battery backups, backhaul capacity, response times for existing cellular towers.

74) PURA should develop a new position of pole administrator to manage utility pole rights-of-ways, aging of utility pole infrastructure as reported by pole custodians, and other issues associated with the reliability of utility pole infrastructure.

75) DEEP should investigate the physical and fiscal issues associated with the development of distributed power generation systems in critical areas and delineated "town centers." This would include investigation of energy

improvement districts, use of microgrids, and potential legislative fixes to address any issues associated with crossing rights-of-way.

REVIEW OF DESPP

Findings:

- A strong DEMHS Division within DESPP is essential to a robust response to an all hazards disaster in the future. In the National Incident Management System (NIMS), all initial response is local utilizing the Incident Command System.

- The goal is to have municipalities, especially the smaller communities whose resources would be stretched beyond the capabilities of a larger community, look to regional support and multi-municipality planning.

- The solid relationship that has been formed with municipalities and the planning in place needs to be enhanced through training exercises and lessons learned with plans adjusted accordingly.

- An aggressive exercise program was recommended by DEHMHS for one per region per year.

- There are currently eleven vacancies in the Office of Emergency Management (OEM) within DEMHS, the function most responsible for emergency training and planning.

- In addition the Deputy Commissioner position charged with oversight of DEMHS is currently filled by acting personnel, while waiting for a permanent designee to be appointed and confirmed.

Recommendations:

76) A number of inter-agency successes within the task force format were employed within the two storms. These task forces should become working groups for planning purposes and include both private and public entities, especially utilities.

77) The Deputy Commissioner position should be filled expeditiously. The Department of Emergency Service and Public Protection (DESPP) should assign this deputy the following divisions for primary oversight:

-Division of Emergency Management and Homeland Security (DEMHS)

- Division of Fire Investigation and State wide Emergency Telecommunications (FI-SET)

-Commission on Fire Prevention and Control (CFPC)

-Police Officers Standards Training Council (POST)

These divisions have close connectivity to the 169 communities and 2 Tribal nations in Connecticut. It would serve to allay the anxiety at the community level that their needs for a strong emergency response framework and the funding attendant to this capability would be met.

78) In addition, during declared states of emergency, the Deputy Commissioner should have a direct reporting line to the Governor, which will terminate at the conclusion of the response period.

79) The exercise and training and special projects (exercises) manager position should be filled at OEM. A planning manager position should be added at OEM. This gives OEM the ability to oversee and manage planning, training and exercise programs.

80) The five vacant planning positions under strategic planning in OEM should be assigned to the regions, with one per region. In addition, the Panel recommends that three currently assigned trainers, along with two vacant training positions in OEM, be assigned to each DEMHS region (one per region). The two vacant positions in Region 2 should also be filled expeditiously. This gives the regional offices, which are key to municipal planning and training, the resources to exercise the state response framework and increase ability to execute their regional responsibility for deployment of state and federal support during actual disasters.

81) The DEMHS recommendation for one exercise per region per year is acceptable as long as the exercise is robust enough to tax the functional responses properly. Any DEMHS exercise should involve all OEM and regional staff for planning and execution to include exercise input and evaluation of state and community response during the exercise. DEMHS, along with other appropriate division personnel within DESPP, could augment this effort. Fewer exercises per year rotated through the regions, for primary responsibility, may be preferable. This creates better documented lessons learned available to all communities. Communities not participating can observe and provide input as well.

STRENGTHENING THE INTERACTION BETWEEN THE STATE AND THE COMMUNITY

Findings:

- The need for the private sector (including food, fuel, hospitality, small business and retail) to be fully engaged with the State of Connecticut and its municipalities is reflected in the State's Emergency Planning Documents.

- Private sector involvement is key to recovery from storm damage. FEMA is strongly encouraging a more robust national effort to partner with the private sector. Connecticut can play a leading role in this effort.

- Like many businesses, community providers lost hundreds and thousands of dollars in anticipated revenue when clients couldn't receive services due to power failure, communications outages and transportation issues. Business interruption insurance does not cover this type of loss. Neither does FEMA.

- Community providers who had to relocate their services due to power failure and communications outages in order to provide the required 24 hour supports suffered increased deficits as neither business interruption insurance nor FEMA covers this type of loss.

Recommendation:

82) Create a Public/ Private Initiatives Unit within DEHMS that: 1) supports the resiliency of Connecticut's private sector through information sharing, partnership building, training and education on preparedness principles and the State's preparedness plans; and 2) coordinates with businesses of all types and sizes to create a culture of preparedness that extends beyond the workplace and that engages employees.