Was this a typical storm?

- **Rare weather conditions prevailed.**
- Typically, winter storms in New Hampshire contain a relatively narrow geographical band with the potential for freezing rain (e.g. 10 to 20 miles wide), while the majority of areas experience snow, sleet, or rain. In this storm, the area hit by freezing rain was uncommonly large, and the freezing rain persisted for much longer—and in larger amounts—than any storm we’ve seen in New Hampshire for a very long time.

  As freezing rain quickly coated the Southern half of the state, branches and electrical equipment faltered under the weight of the ice, causing unprecedented power outages in a very short period of time.
WASHINGTON, D.C. -- The President today declared an emergency exists in the Commonwealth of Massachusetts and ordered Federal aid to supplement Commonwealth and local response efforts in the area struck by a severe winter storm beginning on December 11, 2008, and continuing.

The President's action authorizes the Department of Homeland Security, Federal Emergency Management Agency (FEMA), to coordinate all disaster relief efforts which have the purpose of alleviating the hardship and suffering caused by the emergency on the local population, and to provide appropriate assistance for required emergency measures, authorized under Title V of the Stafford Act, to save lives and to protect property and public health and safety, and to lessen or avert the threat of a catastrophe in the counties of Berkshire, Bristol, Essex, Franklin, Hampden, Hampshire, Middlesex, Suffolk, and Worcester.

Specifically, FEMA is authorized to identify, mobilize, and provide at its discretion, equipment and resources necessary to alleviate the impacts of the emergency. Emergency protective measures, limited to direct federal assistance, will be provided at 75 percent federal funding.

FEMA Administrator R. David Paulison named Mark H. Landry the federal coordinating officer for federal recovery operations in the affected area.
State Recognition of the Event

- **Extreme Weather: Governor Patrick Declares State of Emergency**
- Governor Deval Patrick has declared a State of Emergency, in response to the impacts of the winter storm that has produced high winds, heavy rain, icing conditions, widespread power outages and debris-removal challenges. The declaration of a State of Emergency will enable the Governor to take the appropriate steps to mobilize many of the Commonwealth's assets, such as the National Guard, and conduct other emergency business to assist local communities in their response to and recovery from the many impacts of this winter storm.
How did this storm compare in New Hampshire?
The 1998 Ice Storm
The Great Ice Storm of 1998

- Many power lines broke and over 1,000 pylons collapsed in chain reactions under the weight of the ice, leaving more than 4 million people without electricity, most of them in southern Quebec, western New Brunswick and eastern Ontario, some of them for an entire month. At least twenty-five people died in the areas affected by the ice, primarily from hypothermia, according to Environment Canada. Twelve more deaths and hundreds of millions of dollars in additional damage were caused by the flooding farther south from the same storm system.

- The bridges and tunnels linking Montreal with the South Shore were closed because of concerns about weight tolerances or ice chunks falling from the superstructures. All but one power linkage to the island of Montreal were down for several days, disabling both of the city’s water pumping stations. When power was restored, parts of Montreal remained impassable due to large chunks of ice falling from rooftops and endangering pedestrians and motorists; large portions of Old Montreal and the downtown core were cordoned off by police, due to the dangers of large sheets of ice falling from buildings.
The Ice Storm of 2008
How Many Households were Affected

- 550,000 National Grid customers lost power
- 40,000 Unitil customers lost power
- 322,000 Public Services of New Hampshire customers lost power
- 220,000 Central Maine Power customers lost power

- 1,132,000 households lost power in the Northeast not including the municipal providers
National Grid

- 4,000 different incidents of power damage
- 90 miles of new electrical wire run.
- 1,000 line and forestry crews brought in.
- 1,750 rooms in 46 hotels reserved.
- 970 vehicles used in the response.
1,200 line and forestry crews deployed.
120 miles of electrical wire run.
1,500 transformers replaced.
16,000 fuses replaced.
250 broken poles replaced.
100% of their Massachusetts customers were without power.

Initially 200 workers in 100 trucks were deployed and peaked at 650 workers in 320 trucks.

Unitil estimates that there was $10,000,000.00 in damages.
A Code 1 was called and continued for 105.5 hours.
The hospital was on generators for 48 hours.
The hospital expended $45,000.00 in employee overtime costs in the four days of the event and in excess of $100,000.00 over the entire event.
Friday, December 12

- One of two generators failed around 0545 for approximately 90 minutes
- The hospital requested to go on Diversion X2
- No CT or MRI Scanning capabilities
- Elective procedures were cancelled
- Patients coming to Heywood for medical sheltering
- Frequent communication with Health Alliance. Health Alliance loses a generator later in the day
Friday

- First meeting with Gardner EMA Director
- Discussions with Lachance Center about evacuation
- Funeral Homes cannot hold bodies (no power to coolers, no ability to embalm)
- Open shelters cataloged
- No staffing issues
- HIS system down most of day
Saturday, December 13

- Staffing remains to be good
- First City EOC meeting held
- Open pharmacies are being cataloged
- No open gas stations in Gardner, no credit card to purchase gas in Fitchburg
- Two hospital vehicles cannot be used
- Significant public use of hospital cafeteria
- Shelters becoming full, no place for people to go.
The hospital has excellent communication with National Grid.
National Grid informs the hospital that they expect power to be restored overnight.
The hospital is #1 on their priority list.
Facility Services staff recalls employees to assess all systems as power is restored.
Sunday, December 14

- EOC Meeting requested with senior leadership to discuss Monday plans.
- Staff assigned to check all remote buildings
- Pharmacy supplies a concern
- Medical sheltering at hospital continues
Shelters operating (2 in Gardner)
GHA has significant concern about the possibility of evacuating three senior facilities.
Medical Shelter patients moved to GMS Shelter
SDC becomes Medical Surge Unit
Food, medical and pharmacy supplies good
Sunday

- CT remains down until 4 pm, MRI vendor working on that unit
- Discussions with Don Boyce from MEMA regarding Ambulance Task Force need
- Shelter has no or limited medical staff from their volunteers and MRC volunteers
Monday, December 15

- WHC has new power issue and trees down, staff re-assigned to hospital
- HMG practice staffs used as volunteers
- Rehab has no power, broken pipe
- Patient volume surging, patients being boarded in SDC and ED
- Supplies are still in good shape.
Monday

- Telephone service to hospital fails.
- Back-up systems initiated and Gardner EMA provides Ham Radio Operator
- Staff is getting tired, running out of clothes, taking showers at the hospital and need day care assistance
- Area hospitals all full but information is not clear.
- Question need for RMCC activation
Patient volume still at surge levels, SDC operating as both surgical unit and surge unit. Staffing is good.

- All hospitals full except Hubbard
- Discussion with DPH about RMCC activation
- Request for DPH to issue HHAN Alert
- City expects to close shelters by evening
- Code 1 ended at 1630.
Was Heywood prepared?

- The Ice Storm tested multiple policies and plans in a manner never before seen at the hospital.
- The Ice Storm also pointed out areas where the hospital could improve its process.

**Answer:** Yes and No
Major Hospital Policies Tested

- Code 1
- Loss of Electricity
- Loss of Suction/Vacuum
- Staff Recall procedures
- Loss of Generators
- Loss of Telecommunications
- Cancellation of elective procedures
- Loss of overhead paging
- Loss of nurse call
New Policies Tested

- Medical Surge Plans
- Fatality Management Plans
- Integration with local Ham Radio Operators
- Shelters and Alternate Site Plans
- Regional Medical Control Center Concept
- Impact of the “No Diversion” policy 01/01/09
- Volunteer processes during disasters
- Employee transport program
- TJC 96 Hour Plan
AAR: Communication

- Code 1 communication
- List of radio locations
- Blackberries, Internet
- Ham Radio interference
- Resource person in ED Waiting
- Telephone failure
Should the RMCC have been activated?
HHAN alerts for bed status appear to be largely ignored by local hospitals
Miscommunication between EOC’s
AAR: City of Gardner

- The city did not implement ICS
- No provisions for Medical Sheltering
- MRC’s used at GMS Shelter but no medical staff available
- Daily EOC meetings helpful
- Communication with Gardner EMA worked well
- Outside of Gardner was the issue
AAR: Electricity

- CT Scanner and MRI no power
- Omnicells not on emergency power
- ICU307/309, bathrooms, Hospital Aid, OBS Alarm system, vending machines, copiers and red MHU outlet not on emergency power
- Christmas lights were on emergency power.
AAR: Electricity

- Billing and Patient Registration not on power
- Materials Management not on power
- Dining Room not on power
No credit card to purchase gas
Finance Officer negotiation with generator company was essential
Emergency Purchase Orders issues for CT repair and WHC clean-up
AAR: Fatality Management

- 4 Code Blues on Friday & other deaths
- Morgue volume increasing on Friday
- Local Funeral Homes could not take bodies to their facilities and could not embalm
- Complicated ME Case
AAR: Sheltering

- Should hospital take in people and arrange for transportation to shelters?
- Should the hospital take in medical sheltering needs?
- Conditions at the shelters reviewed
- Would the hospital discharge patients to shelters?
AAR: Staffing

- Staffing was generally very good!!!!!!
- D/C Planners automatically staffed
- Staff transportation plans with outside contractor???
- Staff was getting tired, no clothes, no showers
- SIT Teams encouraged
AAR: Supplies

- Meetings 3X daily with Food Service
- MM Staff re-stocking ED 3X daily
- Omnicells not on emergency power
- What role does the hospital have in filling community prescriptions in this situation?
- PC in Command Center was a problem
- Blood Bank lost 10 units of FFP
Inpatient Volume
Outpatient Volume
Lessons Learned

- The need for the TJC 96 Hour Plan is a reality!!
- The hospital is not prepared to be on generators for multiple days.
- There is significant emotional trauma in a disaster of this nature.
- Expect a patient surge.
- Communications with employees failed.
Questions?