Unitil Energy Systems, Inc.

Major Storm Cost Reserve Fund Report

2013

Prepared By: Emergency Management

March 3, 2014

Introduction

Unitil Energy Systems, Inc. ("UES" or the "Company") submits this Major Storm Cost Reserve ("MSCR") Fund Report for the 12 month period ending December 31, 2013. This filing complies with the New Hampshire Public Utilities Commission ("Commission") requirements set forth in the Company's Rate Plan Settlement Docket No. DE 10-055 and as ordered in the Commission's Order in DE 11-277, Order No. 25,351 *Order Granting Increase to Storm Recovery Adjustment Factor* ("SRAF") issued April 24, 2012 (requiring UES "to file annual reports on the Storm Reserve Fund and storm recovery updates for those storms where costs are recovered through the SRAF") . The rate levels resulting from the distribution revenue changes specified in Section 2 of the Settlement Agreement approved in docket DE 10-055 and revised in Docket No. DE 13-065 (Order No. 25,502, issued April 29, 2013) include $0.8 million annually for the MSCR, which will be used to recover costs associated with preparing for, responding to and recovering from qualifying major storms.

All costs included in the MSCR through December 31, 2013 have been reviewed for accuracy, completeness and proper classification by Unitil Internal Audit. Please refer to the *UES MSCR Fund Balance Rollforward Schedule* on page 4 for a summary of the costs.

Please refer to the *Storm Recovery Adjustment Factor Reconciliation* which provides the reconciliation of the SRAF through December 31, 2013 on page 5.

Section 8 of the Settlement Agreement approved by the Commission in DE 10-055 provides, in part, that:

> 8.1 The rate levels resulting from the distribution revenue changes specified in Section 2 include $800,000[1] annually for the Major Storm Cost Reserve, which will be used to recover costs associated with; planning and preparing for, responding to and recovering from qualifying major storms. Qualifying major storms shall include severe weather events causing 16 concurrent troubles (interruption events occurring on either primary or secondary lines) and 15 percent of customers interrupted, or 22 concurrent troubles, in either the Capital or Seacoast regions of Unitil, as well as costs associated with planning and preparation activities in advance of severe weather if a qualifying major storm is likely occur.
>
> Planning and preparation activities will include pre-staging of crews, standby arrangements with external contractors, incremental compensation of employees, and other costs that may be incurred to prepare for a qualifying major storm. A qualifying major storm will be considered likely to occur if the Estimate Impact Indices ("EII")[2]

[1] Increase from $400,000 to $800,000 approved April 29, 2013.
[2] EII levels are indices developed by Unitil's weather forecast provider, Schneider Electric (Formerly Telvent DTN) of Burnsville, MN. An EII level is dependent upon various types of weather impacts and is a qualified indicator of both the possibility and severity of a particular weather event having the potential for customer outages.

from the Company's professional weather forecaster reaches a EII level of 3 or lower (2 or 1)[3] with a "high" (greater than 60 percent) level of confidence.

8.2 The parties recognize that certain weather events may result in extraordinary expenditures to prepare for, or recover from, storms or natural disasters that do not meet the defined criteria for a qualifying major storm. The Company may petition the Commission to recover the extraordinary costs of such events from the Major Storm Cost Reserve and has the burden to demonstrate the reasonableness of its expenditures.

[3] EII severity levels were reversed in order to align with state activation levels requested by MEMA July 2013.

Unitil Energy Systems, Inc.

Major Storm Cost Reserve Fund – Rollforward
As of December 31, 2013

Section #	Date	Description	Surplus (Deficit)
	12/31/2012	**MSCR BALANCE (As Filed on 2/27/2013)**	**$ (2,933,466)**
	Adjustments to 2012 Filing		
---	10/29/2012	Hurricane Sandy Approved for Recovery in SRAF	2,269,530
1.6	12/21/2012	Wind Storm (not reported in 2012)	(17,352)
---	9/18/2012	Wind/T-Storms Additional Cost[1]	(1,265)
2.6	12/27/2012	Winter Storm Estimate Reversal	246,544
2.6	12/27/2012	Winter Storm Final Costs	(236,449)
		Adjusted Opening Balance 1/1/2013	**$ (672,438)**
	2013 Deferred Charges		
3.6	1/31/2013	Wind Event	(219,359)
4.6	2/8/2013	Wind Storm (Nemo)	(593,908)
5.6	2/27/2013	Snow Event	(34,641)
6.6	3/19/2013	Snow Event	(45,516)
7.6	7/20/2013	Severe T-Storms	(112,086)
8.6	11/24/2013	Winter Storm	(121,364)
---	12/22/2013	Ice Storm[2]	---
	2013 Recovery		
---	1/1 - 4/30/2013	**Current Recovery Rate**	**133,333**
---	5/1 - 12/31/2013	**Current Recovery Rate**	**533,333**
	2013 Carrying Charges		**(45,731)**
	12/31/2013	**MSCR BALANCE**	**$ (1,178,376)**

[1]Additional costs totaling $1,265 were added to reserve after the 2012 report was filed. These costs were included in the NHPUC Audit Division Report dated May 24, 2013.
[2]Costs related to the December 22, 2013 Ice Storm were not available at the time this filing was prepared. This event will be included in the 2014 MSCR Report.

Unitil Energy Systems, Inc.
Storm Recovery Adjustment Factor Reconciliation

	(a) Beginning Balance	(b) Total Costs	(c) Total Revenue	(d) Ending Balance Before Interest (a + b - c)	(e) Average Monthly Balance ((a+d) / 2)	(f) Interest Rate	(g) Computed Interest	(h) Ending Balance with Interest (d + g)
May-11	$7,651,723 (1)	$0	$39,665	$7,612,058	$7,631,891	4.52%	$29,298	$7,641,356
Jun-11	$7,641,356	$0	$92,810	$7,548,546	$7,594,951	4.52%	$28,216	$7,576,762
Jul-11	$7,576,762	$0	$110,005	$7,466,757	$7,521,759	4.52%	$28,875	$7,495,632
Aug-11	$7,495,632	$0	$110,980	$7,384,652	$7,440,142	4.52%	$28,562	$7,413,214
Sep-11	$7,413,214	$0	$106,226	$7,306,988	$7,360,101	4.52%	$27,343	$7,334,332
Oct-11	$7,334,332	$0	$89,986	$7,244,345	$7,289,339	4.52%	$27,983	$7,272,328
Nov-11	$7,272,328	$0	$89,058	$7,183,271	$7,227,800	4.52%	$26,852	$7,210,122
Dec-11	$7,210,122	$0	$91,034	$7,119,089	$7,164,606	4.52%	$27,504	$7,146,593
Jan-12	$7,146,593	$0	$101,790	$7,044,804	$7,095,698	4.52%	$27,165	$7,071,969
Feb-12	$7,071,969	$0	$98,437	$6,973,532	$7,022,750	4.52%	$25,151	$6,998,683
Mar-12	$6,998,683	$0	$90,571	$6,908,112	$6,953,398	4.52%	$26,620	$6,934,733
Apr-12	$6,934,733	$ 4,356,990 (2)	$88,653	$11,203,070	$9,068,902	4.52%	$ 117,102 (3)	$11,320,172
Total		$4,356,990	$1,109,214				$420,673	
May-12	$11,320,172	$0	$124,240	$11,195,932	$11,258,052	4.52%	$43,100	$11,239,033
Jun-12	$11,239,033	$0	$169,342	$11,069,691	$11,154,362	4.52%	$41,326	$11,111,017
Jul-12	$11,111,017	$0	$196,202	$10,914,814	$11,012,916	4.52%	$42,162	$10,956,976
Aug-12	$10,956,976	$0	$203,481	$10,753,495	$10,855,236	4.52%	$41,558	$10,795,054
Sep-12	$10,795,054	$0	$197,514	$10,597,540	$10,696,297	4.52%	$39,629	$10,637,169
Oct-12	$10,637,169	$0	$161,635	$10,475,534	$10,556,352	4.52%	$40,414	$10,515,948
Nov-12	$10,515,948	$0	$160,373	$10,355,575	$10,435,762	4.52%	$38,664	$10,394,239
Dec-12	$10,394,239	$0	$184,407	$10,209,831	$10,302,035	4.52%	$39,440	$10,249,272
Jan-13	$10,249,272	$0	$194,821	$10,054,451	$10,151,861	4.52%	$38,972	$10,093,423
Feb-13	$10,093,423	$0	$193,221	$9,900,202	$9,996,812	4.52%	$34,663	$9,934,865
Mar-13	$9,934,865	$0	$167,559	$9,767,306	$9,851,085	4.52%	$37,817	$9,805,123
Apr-13	$9,805,123	$ 2,317,699 (4)	$166,892	$11,955,930	$10,880,526	4.52%	$40,422	$11,996,352
Total		$2,317,699	$2,119,688				$478,168	
May-13	$11,996,352	$0	$173,093	$11,823,259	$11,909,805	4.52%	$ 80,571 (5)	$11,903,830
Jun-13	$11,903,830	$0	$222,524	$11,681,306	$11,792,568	4.52%	$43,810	$11,725,116
Jul-13	$11,725,116	($600)(6)	$246,110	$11,478,406	$11,601,761	4.52%	$44,538	$11,522,944
Aug-13	$11,522,944	$0	$266,386	$11,256,558	$11,389,751	4.52%	$43,724	$11,300,282
Sep-13	$11,300,282	$0	$250,197	$11,050,085	$11,175,184	4.52%	$41,517	$11,091,602
Oct-13	$ 11,091,601.53	$0	$190,830	$10,900,771	$10,996,186	4.52%	$42,213	$10,942,985
Nov-13	$ 10,942,984.52	$0	$210,780	$10,732,205	$10,837,595	4.52%	$40,262	$10,772,467
Dec-13	$ 10,772,466.93	$0	$220,114	$10,552,353	$10,662,410	4.52%	$40,932	$10,593,285

(1) Per Settlement in DE 11-055, Section 8.4.
(2) Per Final Audit Report, DE 11-277, dated April 24, 2012.
(3) Includes $83,502.41 to trueup interest for storm costs as they were incurred from Hurricane Irene and Snowtober.
(4) Per Final Audit Report, DE 13-084, dated May 24, 2013.
(5) Includes $34,850.49 to trueup interest for storm costs as they were incurred from Tropical Storm Sandy.
(6) Invoice paid by Fairpoint for storm tree trimming for Tropical Storm Sandy.

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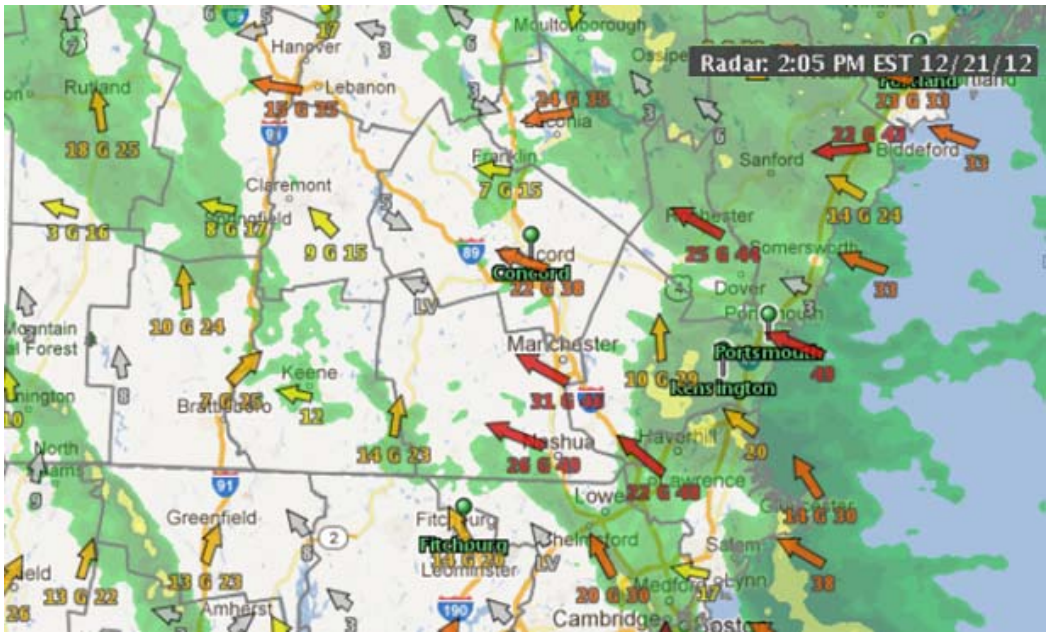
Attachments

Attachment A - Weather Estimated Impact Indices (EII)

1. Wind Storm (December 21, 2012)

1.1. Description of the Storm

On December 21, 2012, heavy winds and rain moved across the region throughout the day with hazardous level wind gusts of 40-50 mph being predicted to impact the region with higher amounts predicted along the coastal areas. These predicted hazardous level winds were of concern particularly along the coast causing interruptions to Unitil customers throughout the day and evening hours until diminishing overnight.



Recorded Wind Speeds 12/21/12

1.2. Summary of the Extent of the Storm Damage

Unitil Energy Systems experienced limited impact to its service territories as the storm system passed through the region as detailed in the table below.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	17	11	3,524	2,154	5%
Capital	8	2	658	526	2%

With the available resources outages were responded to and restored throughout the day and evening hours with the last customers being restored by 1:40 AM the following day, 12/22/12.

1.3. Preparations

Unitil began to monitor the predicted hazardous wind conditions the day prior to the forecasted impact while coordinating internal preparations through email and system wide phone calls. Based on the forecasted predictions that the majority of winds would occur during normal business hours Unitil had 7 internal crews available as well as 2 contractor crews on standby throughout the day to respond.

1.4. Restoration

Small outages were reported throughout the day with 17 out of the 25 total reported outages in the Seacoast Region. Persistent hazardous wind speeds caused a steady occurrence of outages however the Company was able to consistently respond and restore customers that evening and into the early morning hours the following day making the duration of this event 15 hours for the UES system.

1.5. Exclusionary Criteria

Based on the forecast, the forecasted rain and heavy winds were capable of having a significant impact on UES' customers and met the weather criteria (weather forecast attached) for storm reserve treatment related to preparatory activities; however it did not qualify under the outage exclusionary criteria.

Severe Weather Alert Service From Telvent
For Unitil Services Corp
Date: December 21, 2012
Time: 2:15 PM EST
Forecaster: J. Meikle

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	GUST	NONE	NONE	GUST
Event Begin Time	ONGOING			ONGOING
Event End Time	5 PM			6 PM
Day 1 EII	3	1	1	3
Event Confidence	HIGH			HIGH
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount				
Snow Amount				
Snow Character				
Ice Amount				
Sustained Wind				
Wind Gust	45-58	30-40	30-40	45-58
Temp. Extremes	50/34	49/31	52/33	49/34

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	1	1	1	1
Day 2 Ice	1	1	1	1
Day 2 Wind	1	1	1	1
Day 2 Gust	2	2	2	2
Day 2 Confidence	Medium	Medium	Medium	Medium
Day 3 Snow	1	1	1	1
Day 3 Ice	1	1	1	1
Day 3 Wind	1	1	1	1
Day 3 Gust	2	2	2	2
Day 3 Confidence	Medium	Medium	Medium	Medium

1.6. Qualifying Costs Charged to the Storm Reserve.

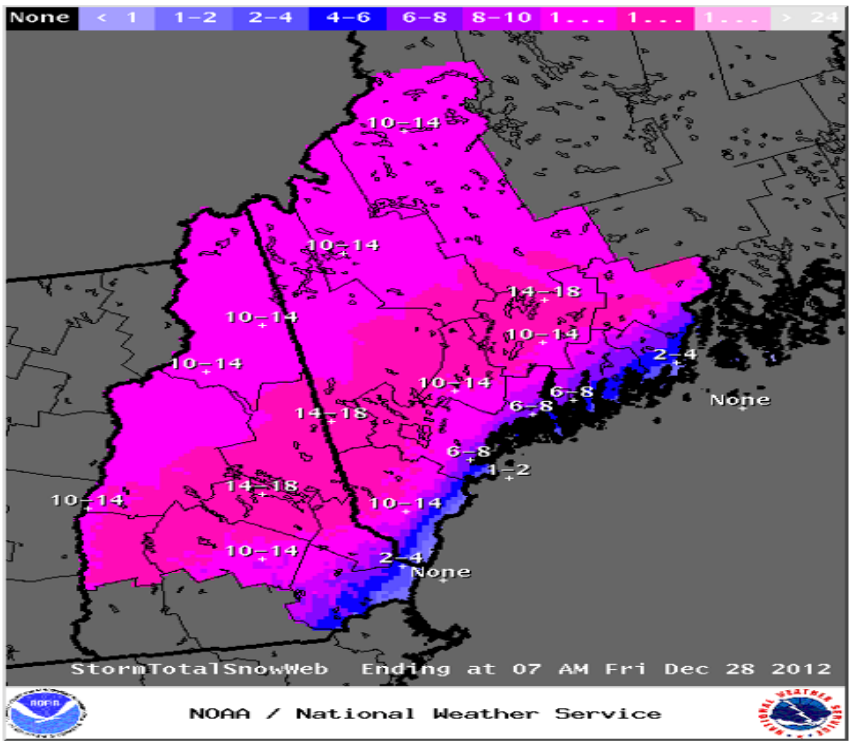
The total amount charged to the storm reserve for this event was:

Payroll	$	3,102
Materials & Supplies		345
Transportation		758
Contractor Invoices & Other		14,027
Total Expenditures	$	18,232
Utility Plant Additions		(880)
Total Charged to MSCR	$	17,352

2. Winter Storm (December 27, 2012)

2.1. Description of the Storm

On the evening of Wednesday, December 26, 2012, a winter storm was forecasted to move across the New England region and continue through the following 36 hours. Several winter storm watches and advisories were issued by NOAA and Unitil's forecasting service. The concern related to this storm included the size and duration of the event and amount of predicted snowfall. Another risk was the ambiguity of the of transition line between snow and a wintery mix of ice, sleet and rain that referenced possible accumulations of wet snow in excess of 6" with ice accretion over ¼ inch.



Predicted Snow Totals (December 27, 2012)

2.2. Summary of the Extent of the Storm Damage

The event resulted in no damage or customer interruptions in the Capital region; however the Seacoast region experienced a significant amount of interruptions as detailed in the table below.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	4	1	10,320	7,616	17%
Capital	0	0	0	0	0%

The outages were responded to quickly and all customers were promptly restored throughout the morning and afternoon hours making the duration of the event approximately 11 hours.

2.3. Preparations

Once elevated EII levels were identified by the forecaster, Unitil held a system-wide storm call on Wednesday, December 26 to coordinate response activities. The Company issued a Public Service Announcement ("PSA") regarding the predicted winter weather and initiated communications with customers, regulators, emergency response and municipal officials. In addition to other preparatory activities, Unitil acquired approximately 19 line crews, 20 tree crews and 12 wires down personnel in addition to the 8 internal crews for the NH service territory. The decision to acquire additional crews was based on the forecast and a desire to mitigate extended outages during the holiday season.

2.4. Restoration

Throughout the event, the Seacoast experienced 4 outages affecting 10,320 customers in total (1 outage interrupting approximately 7,616 customers at peak, 17% of Seacoast customers) with no impact to the Capital region. The outages were responded to as appropriate with all customers restored by 4:00 p.m. of the same day making the total duration of the event just over 11 hours from the time of the first outage.

2.5. Exclusionary Criteria

Based on the forecast this event was capable of having a significant impact on UES customers and met the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities; however, it did not qualify under outage exclusionary criteria.

Service From Schneider Electric
For Unitil Services Corp
Date: December 26, 2012; Time: 1:00 PM EST
Forecaster: J Meikle

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	SNOW/GUST	SNOW/GUST	SNOW/GUST	SNOW/GUST
Event Begin Time	9PM	9PM	8PM	10PM
Event End Time	12PM THU	12AM FRI	12AM FRI	2PM THU
Day 1 EII	2	3	2	3
Event Confidence	MEDIUM	HIGH	MEDIUM	MEDIUM
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount				
Snow Amount	2-6"	6-12"	4-7"	6-12"
Snow Character	WET	WET	WET	WET
Ice Amount	Tr-0.15		0.05-0.20	
Sustained Wind				
Wind Gust	40-50			40-50
Temp. Extremes	37/29	33/27	35/29	35/27

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	3	3	1	2
Day 2 Ice	1	1	1	1
Day 2 Wind	1	1	1	1
Day 2 Gust	2	1	1	2
Day 2 Confidence	Medium	Medium	Medium	Medium
Day 3 Snow	1	1	1	1
Day 3 Ice	1	1	1	1
Day 3 Wind	1	1	1	1
Day 3 Gust	1	1	1	1
Day 3 Confidence	High	High	High	High

2.6. Qualifying Costs Charged to the Storm Reserve

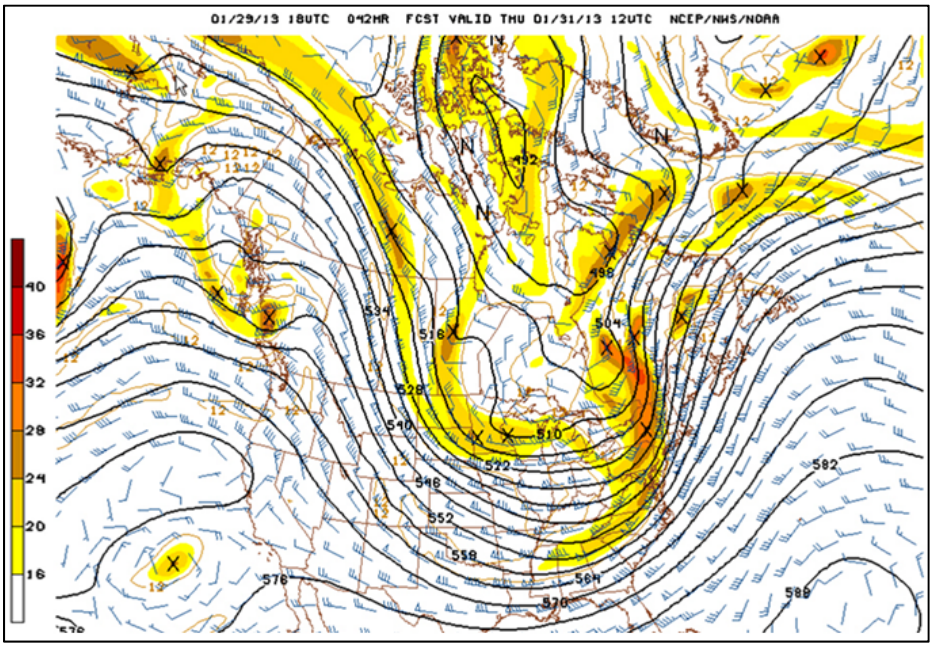
The total amount for preparation activities charged to the storm reserve for this event was estimated at $246,544 as of December 31, 2012. The actual amount charged to the storm reserve, when accounting was completed in 2013, was decreased by $10,095 as follows:

Payroll	$	2,235
Contractor Invoices & Other		234,214
Total Expenditures	$	236,449
Total Utility Plant Additions		-
Total Charged to MSRC	$	236,449

3. Wind Event (January 31, 2013)

3.1. Description of the Storm

On January 30, 2013, several alerts were issued through various weather and media outlets of a major wind threat to the Northeast region of the U.S. ultimately causing over 330,000 customers across multiple states to be interrupted. Overnight and during the early morning hours on January 31, 2013, strong winds and gusts impacted the entire service territory, particularly in the Seacoast region where wind gusts up to 60 mph were predicted. During the early morning hours wind speeds were sustained between 18-20 mph with recorded wind gusts in the Seacoast region reaching up to 48 mph. Winds persisted throughout most of the day before subsiding in the early evening hours.



Wind Predictions (January 30, 2013)

3.2. Summary of the Extent of the Storm Damage

Unitil began to experience outages resulting from the wind at approximately 4:00 AM on January 31 in the Seacoast and Capital regions and continued steadily throughout the early morning and afternoon hours before the winds subsided. Over 15,000 customers were ultimately impacted as a result of 63 outages occurring throughout the day at detailed in the table below.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	34	8	10,865	6,543	14%
Capital	29	9	5,229	1,948	7%

The majority of outages and damage was attributed to flying debris caused by heavy winds.

3.3. Preparations

Once the Company was notified of the threat of high winds, internal preparations began including contacting contractors, mobilizing key internal personnel, holding internal preparation conference calls, and participating in mutual assistance calls. Due to the threat of impact, both the Capital and Seacoast EOCs mobilized under a limited decentralization with personnel ready to respond once outages occurred. Additional resources were retained through local contractors to supplement the 10 internal crews, including 19 line and 16 tree crews while wires down standby personnel were retained internally through Unitil's gas operations department.

3.4. Restoration

From the time of the first outage occurring in the early morning hours of January 31, resources responded steadily to outages throughout the day as possible given the ongoing gusty conditions. Customers in the Capital region were restored by 7:00 PM the same day; however, in the Seacoast region, which was more impacted, customers were restored by 1:00 AM the following day February 1 making the total event duration 20 hours.

3.5. Exclusionary Criteria

Based on the forecast this event was capable of having a significant impact on UES customers and met the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities; however, although there was a large amount of non-concurrent outages and customer interruptions, it did not qualify under outage exclusionary criteria.

Service From Schneider Electric
For Unitil Services Corp
Date: January 30, 2013; Time: 9:45 AM EST
Forecaster: J Meikle

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	WIND/RAIN	WIND/RAIN	WIND/RAIN	WIND/RAIN
Event Begin Time	10PM	1AM	12AM	10PM
Event End Time	ONGOING	ONGOING	ONGOING	ONGOING
Day 1 EII	3	2	2	3
Event Confidence	HIGH	HIGH	HIGH	HIGH
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount	1-1.25"	1-1.25"	1-1.25"	1-1.25"
Snow Amount				
Snow Character				
Ice Amount				
Sustained Wind	25-35	20-30	20-30	25-35
Wind Gust	45-60	40-50	40-50	45-60
Temp. Extremes	53/29	51/26	55/28	52/28

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	1	1	1	2
Day 2 Ice	1	1	1	1
Day 2 Wind	1	1	1	1
Day 2 Gust	2	1	1	2
Day 2 Confidence	Medium	Medium	Medium	Medium
Day 3 Snow	1	1	1	1
Day 3 Ice	1	1	1	1
Day 3 Wind	1	1	1	1
Day 3 Gust	1	1	1	1
Day 3 Confidence	High	High	High	High

3.6. Qualifying Costs Charged to the Storm Reserve

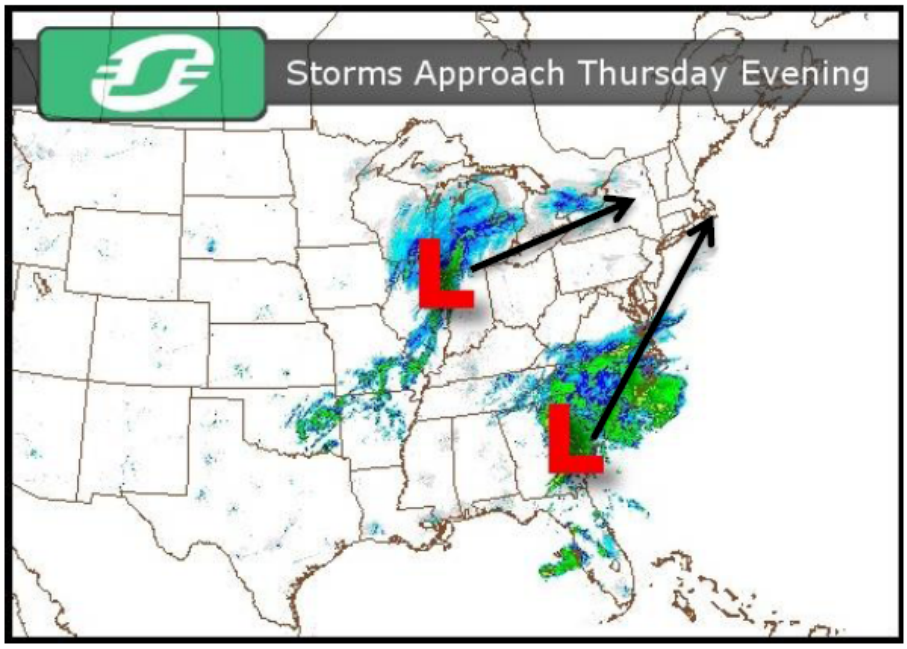
The total amount charged to the storm reserve for this event was:

Payroll	$	12,485
Materials & Supplies		516
Transportation		2,045
Contractor Invoices & Other		209,091
Total Expenditures	$	224,138
Utility Plant Additions		(4,779)
Total Charged to MSCR	$	219,358

4. Winter Storm Nemo (February 8, 2013)

4.1. Description of the Storm

Beginning on February 6, Unitil began receiving reports of a winter storm warning estimated to drop between 1-2 feet of snow with high winds across the region on February 8, 2013. The blizzard was a result of two separate storms from opposite ends of the country phasing together forming the nor'easter which was expected to bring heavy snow and wind gusts with the potential to cause flooding and storm surge along the coast. From southern New England to the Maine coastline totals of up to 20-30 inches were estimated resulting in several New England states (including MA and NH) to declare a state of emergency prior to the storm's impact on February 8. The system also produced near hurricane force winds along the eastern coast; however, the NH coast saw wind gusts up to 51 mph throughout the storm.



Schneider Electric Storm Graphic

4.2. Summary of the Extent of the Storm Damage

Although the storm was severe to the region with heavy amounts of snow and high wind gusts, UES experienced few customer interruptions throughout the storm with 2 outages occurring impacting less than 5 customers in the state as detailed in the table below. This may be attributed to the colder than expected temperatures producing snow with a dry moisture content and the fact that the region had recently endured a severe wind event only a week prior that had taken down many loose tree limbs and debris.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	1	1	1	1	-
Capital	1	1	2	2	-

4.3. Preparations

Beginning on February 6, the Company began to make preparations including holding conference calls, retaining contractor resources, notifying the customers and public officials, submitting required reporting to regulatory agencies and mobilizing internal personnel. The EOC's were staffed throughout the duration of the event with resources ready to respond to customer outages. In addition to the 10 internal crews, 42 additional line and 14 tree crews were secured to be available in NH. Additionally wires down standby and damage assessment personnel were also acquired to respond if necessary.

4.4. Restoration

The nor'easter caused little impact to Unitil customers with only 3 customers being impacted across the service territory and were immediately responded to within two hours of interruption.

4.5. Exclusionary Criteria

Based on the forecast this event was capable of having a significant impact on UES customers and met the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities; however, it did not qualify under outage exclusionary criteria.

Service From Schneider Electric
For Unitil Services Corp
Date: February 8, 2013
Time: 6:00 AM EST
Forecaster: N. Hamblin

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	SNOW/WIND	SNOW/WIND	SNOW/WIND	SNOW/WIND
Event Begin Time	Now	Now	Now	Now
Event End Time	8pm Sat	6pm Sat	6pm Sat	8pm Sat
Day 1 EII	4	4	4	4
Event Confidence	HIGH	HIGH	HIGH	HIGH
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount				
Snow Amount	18-24	18-24	18-24	18-24
Snow Character	AVERAGE	AVERAGE	AVERAGE	AVERAGE
Ice Amount				
Sustained Wind	25-40	20-30	20-30	24-40
Wind Gust	50-60	35-45	35-45	50-60
Temp. Extremes	32/19	27/19	30/20	25/11

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND

Day 2 Snow	4	4	4	4
Day 2 Ice	1	1	1	1
Day 2 Wind	1	1	1	1
Day 2 Gust	3	2	2	3
Day 2 Confidence	High	Medium	Medium	High
Day 3 Snow	1	1	1	1
Day 3 Ice	1	1	1	1
Day 3 Wind	1	1	1	1
Day 3 Gust	1	1	1	1
Day 3 Confidence	High	High	High	High

4.6. Qualifying Costs Charged to the Storm Reserve

The total amount charged to the storm reserve for this event was:

Payroll	$	40,200
DOC Salary, USC Time & Expenses	$	31,500
Contractor Invoices & Other	$	522,207
Total Expenditures	$	593,908
Utility Plant Additions	$	-
Total Charged to MSCR	$	593,908

5. Snow Event (February 27, 2013)

5.1. Description of the Storm

On February 26, Unitil received notice from its weather provider of a snow event predicted to impact the area with between 5-10 inches of snow. Although the snow amounts were not very high, the event was particularly concerning due to the consistency of the snow which was predicted to be heavy and wet in nature.

5.2. Summary of the Extent of the Storm Damage

Unitil experienced few interruptions resulting from the snow event with less than 500 customers impacted at peak and a total of 4 outages throughout the day as detailed in the table below.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	3	1	105	62	1%
Capital	1	1	428	428	1%

5.3. Preparations

In response to the forecast on February 26, Unitil held an internal conference call to discuss preparations in the event of customer interruptions. Local contractors already working on Unitil's system for the week were put on standby for additional support however little outages occurred throughout the day.

5.4. Restoration

Only 4 outages were reported throughout the day and were handled immediately with all impacted customers being restored by 4:30 PM the same afternoon making the total duration for the event 9 hours.

5.5. Exclusionary Criteria

Based on the forecast this event was capable of having a significant impact on UES customers and met the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities; however, it did not qualify under outage exclusionary criteria.

Services From Schneider Electric
For Unitil Services Corp
Date: February 26, 2013
Time: 6:00 AM EST
Forecaster: N Hamblin

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	NONE	NONE	NONE	NONE
Event Begin Time				
Event End Time				
Day 1 EII	1	1	1	1
Event Confidence				
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount				
Snow Amount				
Snow Character				
Ice Amount				
Sustained Wind				
Wind Gust				
Temp. Extremes	41/28	41/28	42/30	41/30

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	3	3	2	3
Day 2 Ice	1	1	1	1
Day 2 Wind	1	1	1	1
Day 2 Gust	1	1	1	1
Day 2 Confidence	High	High	Medium	High
Day 3 Snow	1	1	1	1
Day 3 Ice	1	1	1	1
Day 3 Wind	1	1	1	1
Day 3 Gust	1	1	1	1
Day 3 Confidence	High	High	High	High

5.6. Qualifying Costs Charged to the Storm Reserve

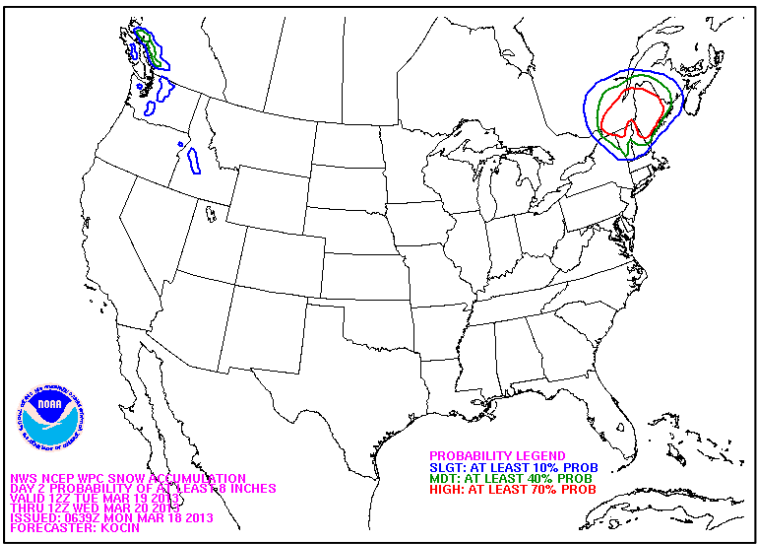
The total amount charged to the storm reserve for this event was:

Payroll	$ 2,315
Contractor & Invoices & Other	32,326
Total Expenditures	$ 34,641
Utility Plant Additions	-
Total Charged to MSCR	$ 34,641

6. Snow Event (March 19, 2013)

6.1. Description of the Storm

On March 18, Unitil received weather reports indicating a mixed system of snow and rain expected to move across the service territory during the evening of March 19 and overnight. Weather reports were uncertain, based on temperatures, of the location of the snow/rain line and timing of the event however were indicating a wet snow mix particularly along the coastal areas with winds gusting up to 40 mph over an extended period of time. A freezing rain and snow mix fell throughout the evening on March 19 with gusts up to 37 mph reported in the Seacoast region.



Winter Mix Probability 3/19/2013

6.2. Summary of the Extent of the Storm Damage

Although there were no outages or impact to the Capital region, the Seacoast region experienced a significant impact to the sub transmission system in Hampton, NH. At 5:45 PM on March 19, during the height of the freezing rain/snow mix both the 3342 and 3353 sub transmission lines located in the marsh area were tripped to lockout resulting in an outage of approximately 4,300 customers. The impacted subs transmission lines are parallel and designed to provide full backup for each other if one should be interrupted. Static wires on both of the lines, however, caused both to be impacted. Given the fact that the static wire to be replaced was inaccessible (located in the marsh area) without the use of a boat, and the boat generally used in this situation (from the Hampton Fire Dept.) was also unavailable, alternative means were used to access the site. Another boat was retained to access the locations; however, this resulted in extended outages in the towns of Hampton and Seabrook. Due to the relative severity of the event, statistical analysis was conducted with a comparison to other excludable events resulting in a request to the NHPUC to declare the event excludable for Seacoast.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	2	2	14,849	12,329	27%
Capital	0	0	0	0	0%

6.3. Preparations

Internal conference calls were held to discuss preparations activities as a result of the forecasted weather conditions. Local contractors already on the system were held with additional crews being acquired locally. In addition to the 10 internal line crews and support personnel located at the EOCs (which were partially activated), Unitil had acquired 12 additional line and 18 tree crews to respond for the event as well as a number of internal wires down standby personnel.

6.4. Restoration

At peak, Seacoast experienced 2 outages interrupting over 12,000 customers. Due to the inaccessibility of the wires needing to be replaced and the ongoing adverse weather conditions, the outage was extended throughout the night with all customers being restored at 6:24 AM the following day (March 20) making the duration for the event 12 ½ hours.

6.5. Exclusionary Criteria

Based on the forecast this event was capable of having a significant impact on UES customers and met the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities. It also did not meet the outage criteria for a major excludable event; however, Unitil was granted a special exception for this event for the Seacoast region due to the large amount of customers impacted.

Service From Schneider Electric
For Unitil Services Corp
Date: March 18, 2013
Time: 6:00 AM EST
Forecaster: N Hamblin

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	SNOW	SNOW	SNOW	SNOW
Event Begin Time	2AM TUE	1AM TUE	12AM TUE	3AM TUE
Event End Time	4AM WED	3AM WED	11PM TUE	6AM WED
Day 1 EII	2	2	2	3
Event Confidence	HIGH	HIGH	HIGH	HIGH
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount				
Snow Amount	2-10”	5-10”	4-8”	6-12”
Snow Character	WET	WET	WET	WET
Ice Amount				
Sustained Wind				
Wind Gust				
Temp. Extremes	35/15	36/11	38/17	35/15

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	3	3	2	3
Day 2 Ice	1	1	1	1
Day 2 Wind	1	1	1	1
Day 2 Gust	1	1	1	1
Day 2 Confidence	High	High	High	High
Day 3 Snow	1	1	1	1
Day 3 Ice	1	1	1	1
Day 3 Wind	1	1	1	1
Day 3 Gust	1	1	1	1
Day 3 Confidence	High	High	High	High

6.6. Qualifying Costs Charged to the Storm Reserve

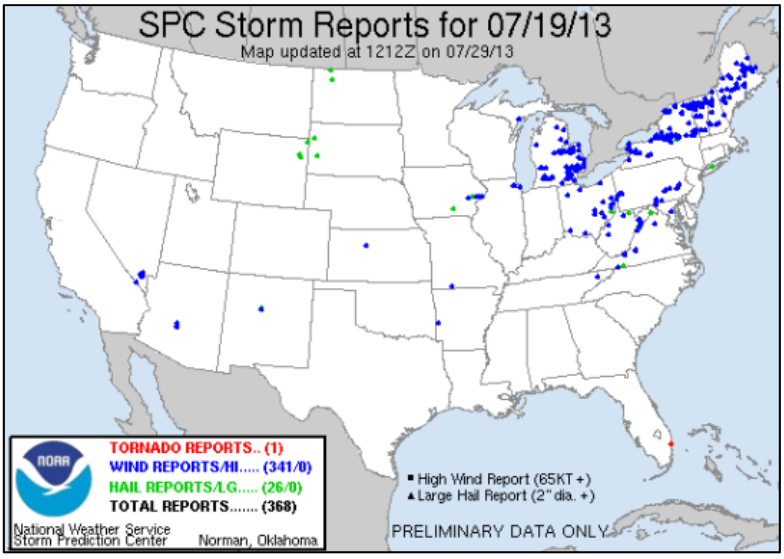
The total amount charged to the storm reserve for this event was:

Payroll	$	8,663
Materials & Supplies		112
Transportation		1,260
Contractor Invoices & Other		36,117
Total Expenditures	$	46,153
Utility Plant Additions		(637)
Charged to MSCR	$	45,516

7. Severe T-Storm Event (July 20, 2013)

7.1. Description of the Storm

On July 19, Unitil's weather service provider began forecasting the likelihood of the area being impacted with severe thunderstorms capable of producing heavy downpours and wind gusts between 35-45 mph particularly in the Capital region. The scattered but severe thunderstorms impacted the area the evening of July 19 and throughout the early morning on July 20 with reported wind gusts of up to 56 mph in the Concord area causing damage across the service territory.



Wind Advisory Information July 19, 2013

7.2. Summary of the Extent of the Storm Damage

The storm produced numerous outages throughout the evening in the Capital region with the first outage being reported at 11:00 PM on July 19 with only a small amount of impact to the Seacoast region as detailed in the table below.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	4	1	225	160	>1%
Capital	56	40	11,064	8,328	28%

The majority of outages were caused by tree damage and debris from the high winds.

7.3. Preparations

Once the Company was notified of the pending severe weather, Unitil held an internal conference call with key members to ensure an efficient response to the weekend storm. Local contractors already working on the Unitil system were held with additional crews being acquired. In total, Unitil retained 15 line and 15 tree crews in addition to 10 internal crews while shifting these resources all to the Capital region once it was indicated that the area had incurred serious damage.

7.4. Restoration

Restoration began as soon as outages were reported and continued throughout the day. With higher amounts of damage and over 55 outage locations in the Capital area, crews continued restoration efforts throughout the night and following day with all customers being restored by 4:00PM on July 21 making the duration for the event at total of 41 hours from the first interruption.

7.5. Exclusionary Criteria

Based on the forecast this event was capable of having a significant impact on UES customers and met the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities. Given the severe damage and interruptions in the Capital region it also qualified under the outage exclusionary criteria.

Service From Schneider Electric
For Unitil Services Corp
Date: July 20, 2013
Time: 6:00 AM EST
Forecaster: Kyle Schanus

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	T-STORMS	T-STORMS	T-STORMS	T-STORMS
Event Begin Time	11AM	11AM	11AM	12PM
Event End Time	9PM	8PM	9PM	9PM
Day 1 EII	4	3	4	3
Event Confidence	HIGH	HIGH	HIGH	HIGH
Tstrm Wind Gusts	35-45	45-55	35-45	45-55
Ltng Intensity	MEDIUM	MEDIUM	MEDIUM	MEDIUM
Storm Mvmt Dir	E-SE	E-SE	E-SE	E-SE
Rain Amount				
Snow Amount				
Snow Character				
Ice Amount				
Sustained Wind				
Wind Gust				
Temp. Extremes	90/67	87/60	91/66	87/64

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	5	5	5	5
Day 2 Ice	5	5	5	5
Day 2 Wind	5	5	5	5
Day 2 Gust	5	5	5	5
Day 2 Confidence	High	High	High	High
Day 3 Snow	5	5	5	5
Day 3 Ice	5	5	5	5
Day 3 Wind	5	5	5	5
Day 3 Gust	5	5	5	5
Day 3 Confidence	High	High	High	High

7.6. Qualifying Costs Charged to the Storm Reserve

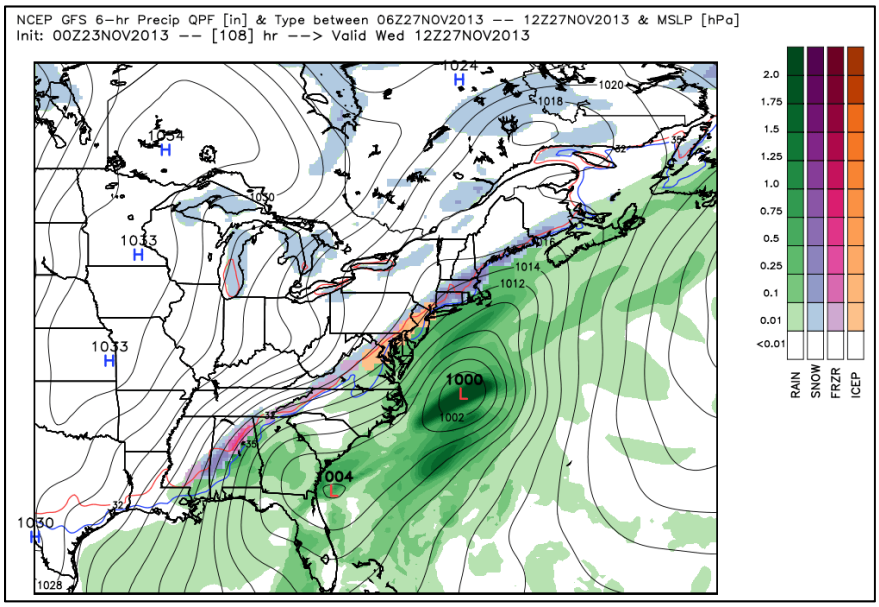
The total amount charged to the storm reserve for this event was:

Payroll	$	18,166
Materials & Supplies		4,152
Transportation		3,753
Contractor Invoices & Other		102,685
Total Expenditures	$	128,757
Utility Plant Additions		(16,671)
Total Charged to MSCR	$	112,086

8. Wind Event (November 24, 2013)

8.1. Description of the Storm

Throughout the day on November 24, a system moved across the service territory producing scattered snow flurries and gusty winds which persisted until early morning the next day. Gusts up to 58 mph were felt in Concord with winds gusting up to 47 mph along the coastal areas causing scattered widespread outages across the service territory particularly in the Capital region.



8.2. Summary of the Extent of the Storm Damage

Both the Capital and Seacoast regions experienced outages throughout the day mostly attributed to flying debris and tree damage. The first outage occurred at approximately 9:30 AM on the 24 with outages continuing to occur throughout the day and overnight.

UES Region	Total # of Outages	Total # of Outages (Peak)	Total Customers Interrupted	Customers Interrupted (Peak total)	Percentage Affected (at Peak)
Seacoast	13	7	1,068	750	2%
Capital	35	25	7,058	3,801	13%

8.3. Preparations

Unitil held an internal conference call on November 23 to notify key individuals and align preparation activities. Although weather services was only predicting minor damage resulting from the forecasted weather conditions, the EOCs partially opened with staff monitoring the situation. Once outages across the service territories exceeded the amount able to be handled by central dispatch, operations were decentralized to the EOCs. In addition to support staff in the EOC and Unitil's 9 internal crews, the Company acquired 18 additional line crews and 15 tree crews for standby services.

8.4. Restoration

Outages began occurring around 9:30 AM on November 24 in both regions with the majority in the Capital region, which reached 35 outages (25 at peak) interrupting a total of 7,058 customers (3,801 at peak). In the Seacoast region, minor scattered outages occurred totaling 13 (7 at peak) which impacted a total of 1,068 customers (750 at peak). Outages were responded to as possible throughout the day and overnight in the extended weather event with all customers being restored by 5:20 PM the following day, November 25 making the duration of the event over 31 hours from the first interruption.

8.5. Exclusionary Criteria

Although the weather services were not indicating much damage for the event and it did not meet the weather criteria (weather forecast attached) for storm reserve treatment of preparatory activities, it did qualify under outage exclusionary criteria for the Capital region reaching over the criteria of 22 concurrent outages.

Service From Schneider Electric
For Unitil Services Corp
Date: November 23, 2013
Time: 6:00 PM EST
Forecaster: J Wegwerth

Zones	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Event	GUSTS	GUSTS	GUSTS	GUSTS
Event Begin Time	12PM SUN	11AM SUN	12PM SUN	12PM SUN
Event End Time	ONGOING	ONGOING	ONGOING	ONGOING
Day 1 EII	4	4	4	4
Event Confidence	MED	HIGH	MED	MED
Tstrm Wind Gusts				
Ltng Intensity				
Storm Mvmt Dir				
Rain Amount				
Snow Amount				
Snow Character				
Ice Amount				
Sustained Wind	18-28	18-28	18-28	18-28
Wind Gust	38-50	38-50	38-50	38-50
Temp. Extremes	44/22	39/19	43/21	42/21

EII	SEACOAST	CAPITAL	FITCHBURG	PORTLAND
Day 2 Snow	5	5	5	5
Day 2 Ice	5	5	5	5
Day 2 Wind	5	5	5	5
Day 2 Gust	4	4	4	4
Day 2 Confidence	Medium	High	Medium	Medium
Day 3 Snow	5	5	5	5
Day 3 Ice	5	5	5	5
Day 3 Wind	5	5	5	5
Day 3 Gust	5	5	5	5
Day 3 Confidence	High	High	High	High

8.6. Qualifying Costs Charged to the Storm Reserve

The total estimated amount charged to the storm reserve for this event was:

Payroll	$	14,680
Materials & Supplies		5,969
Transportation		1,277
Contractor Invoices & Other		125,503
Total Expenditures	$	147,468
Utility Plant Additions		(26,104)
Total Charged To Storm Reserve	$	121,364

Attachment A

Estimated Impact Indices (EII)
Note: These have been reversed to align with current levels as of July 18, 2013

Forecasted Wind Speed/Wind Gusts *WITH LEAVES* (April 1 - October 31)

Level	Wind (Sustained)	Wind Gusts[1]	Frequency of Wind Gusts ≥ 50 mph[2]
EII = 4	N/A	> 30 and < 50 mph	No
EII = 3	≥ 30 and ≤ 40 mph	> 40 and < 50 mph	Yes
EII = 2	N/A	> 50 mph	Yes
EII = 1	N/A	> 75 mph	Yes

Forecasted Wind Speed/Wind Gusts *WITHOUT LEAVES* (November 1 - March 31)[3]

Level	Wind (Sustained)	Wind Gusts	Frequency of Wind Gusts ≥ 50 mph[2]
EII = 4	N/A	> 40 mph	No
EII = 3	≥ 30 and ≤ 40 mph	> 45 mph	Yes
EII = 2	N/A	> 60 mph	Yes
EII = 1	N/A	> 75 mph	Yes

Forecasted Ice Accretion (assumes "normal" wind speed)

Level	Ice Accretion
EII = 4	> 1/10 inch
EII = 3	> 3/8 inch
EII = 2	> 1/2 inch
EII = 1	> 1 inch

Forecasted Snow Amounts (assumes dry snow consistency). These amounts are factored with wind speed more so than actual accumulation.

Level	Snow
EII = 5	> 6 inches
EII = 4	> 12 inches
EII = 3	> 18 inches
EII = 1-2	> 24 inches

Forecasted Snow Amounts (assumes wet snow consistency). Season will modify amount within level – A fall storm (with leaves) will have a significantly increased impact.

Level	Snow (Without Leaves)	Level	Snow (With Leaves)
EII = 4	> 6 inches	EII = 4	> 4 inches
EII = 3	> 8 inches	EII = 3	> 6 inches
EII = 2	> 12 inches	EII = 2	> 12 inches
EII = 1	> 24 inches	EII = 1	> 24 inches

[1] At Medium or High confidence level
[2] Note frequency of gust regardless of confidence level
[3] For Operations planning purposes only

Forecast Confidence Levels

Low	Medium	High
< 30% Chance	≥ 30 ≤ 60% Chance	> 60% Chance

Temperature	**Snow/Water Ratio**	**Character**
> 30 F	6:1	Wet
25-29 F	10:1	Average
15-24 F	15:1	Dry
5-14 F	20:1	Very Dry
< 5 F	30:1	Extremely Dry