

Public Service Company of New Hampshire
P. O. Box 330

Manchester, NH 03105-0330

(603) 634-2961

Exhibit No. Ha Fax (603) 634-2438

Witness R. Baumanut Flutte eatongm@psnh.com

DO NOT REMOVE FROM FILE The Northeast Utilities System

Gerald M. Eaton Senior Counsel

December 14, 2011

#### By Hand Delivery and Electronic Mail

Debra A. Howland Executive Director New Hampshire Public Utilities Commission 21 South Fruit Street Suite 10 Concord, New Hampshire 03301-2429

Re: Public Service Company of New Hampshire

Docket No. DE 11-215 - Default Energy Service Rate

Docket No. DE 11-217 - Petition to Establish 2012 Stranded Cost Recovery Charge

Dear Ms. Howland:

In accordance with the procedural schedules in Docket Nos. DE 11-215 and DE 11-217, I enclose for filing an original and six copies of the following:

- 1. <u>Docket DE 11-215</u>: Updated exhibits and supporting Technical Statement to the testimony of Robert A. Baumann that reflect Public Service Company of New Hampshire's ("PSNH") most recent calculation of a Default Energy Service rate of 7.90 cents per kilowatt-hour for the period from January 1, 2012 through December 31, 2012 and the Joint Technical Statement of Robert A. Baumann and Frederick B. White which describes the changes in revenues and expenses used for this filing compared to the original September 23, 2011 filing in this proceeding.
- 2. <u>Docket DE 11-217</u>: Revised exhibits of Robert A. Baumann that reflect PSNH's revised calculation of an average Stranded Cost Recovery Charge (SCRC) of 1.23 cents per kilowatt-hour. The increase in the calculated average SCRC rate is attributable to a decrease in market prices. Part 2 Stranded Costs recovers the above-market costs of small power producers who sell to PSNH under rate orders or long term contracts. When market prices decrease, the above market costs of small power producers included in the SCRC increases.

In addition, I also enclose for filing in DE 11-215 and DE 11-217 an original and six copies of PSNH's Motion for Postponement of December 19 Hearings and Request for Waiver of Puc 203.13(a). In that Motion for Postponement, the Company is requesting that the hearings

scheduled for December 19, 2011 in Dockets DE 11-215 and DE 11-217 be postponed until a date closer to when the Commission holds a hearing on temporary rates in Docket DE 11-250 in order to avoid volatility in the Company's energy service rate. If the Commission grants PSNH's Motion for Postponement, the currently-effective rates would remain in effect until that time.

Thank you for your assistance with this matter.

Very truly yours,

Gerald M. Eaton Senior Counsel

**Enclosures** 

cc: DE 11-215 and DE 11-217 Service Lists (via electronic mail only)

ROBERT BAUMANN NORTHEAST UTILITIES SVC CO PO BOX 270 HARTFORD CT 06141-0270 baumara@nu.com MEREDITH A HATFIELD
OFFICE OF CONSUMER ADVOCATE
21 SOUTH FRUIT ST STE 18
CONCORD NH 03301
meredith.a.hatfield@oca.nh.gov

WILLIAM SMAGULA
PUBLIC SERVICE COMPANY OF NEW HAMF
PO BOX 330
MANCHESTER NH 03105-0330
smaguwh@psnh.com

KRISTI L DAVIE
PUBLIC SERVICE COMPANY OF NEW HAMF
PO BOX 330
MANCHESTER NH 03105
daviekl@nu.com

SARAH B KNOWLTON
PUBLIC SERVICE COMPANY OF NEW HAMF
780 NORTH COMMERCIAL STREET
PO BOX 330
MANCHESTER NH 03105-0330
knowlsb@nu.com

ELIZABETH TILLOTSON
PUBLIC SERVICE COMPANY OF NEW HAMF
PO BOX 330
MANCHESTER NH 03105-0330
tilloeh@nu.com

ALLEN M DESBIENS
PUBLIC SERVICE COMPANY OF NEW HAMF
780 N COMMERCIAL ST
PO BOX 330
MANCHESTER NH 03105-0330
desbiam@psnh.com

DOUGLAS LANGDON
AXSESS ENERGY GROUP LLC
1 LOCKE HILL LANE
BARRINGTON NH 03825
langdond@axsessgroup.com

GERALD M EATON
PUBLIC SERVICE COMPANY OF NEW HAMF
780 N COMMERCIAL ST
PO BOX 330
MANCHESTER NH 03105-0330
eatongm@nu.com

CHRISTINA MARTIN
OFFICE OF CONSUMER ADVOCATE
21 SOUTH FRUIT ST STE 18
CONCORD NH 03301
christina.martin@oca.nh.gov

STEPHEN R ECKBERG
OFFICE OF CONSUMER ADVOCATE
21 SOUTH FRUIT ST STE 18
CONCORD NH 03301
stephen.r.eckberg@oca.nh.gov

DONNA L MCFARLAND
OFFICE OF CONSUMER ADVOCATE
21 SOUTH FRUIT ST STE 18
CONCORD NH 03301
donna.l.mcfarland@oca.nh.gov

STEPHEN R HALL
PSNH
780 N COMMERCIAL ST
PO BOX 330
MANCHESTER NH 03105-0330
hallsr@nu.com

OCA LITIGATION
OCA LITIGATION
21 SOUTH FRUIT ST STE 18
CONCORD NH 03301
ocalitigation@oca.nh.gov

Docket #: 11-215-1 Printed: October 14, 2011

#### **FILING INSTRUCTIONS:**

a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:

DEBRA A HOWLAND

EXEC DIRECTOR & SECRETARY
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429

- b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.
- c) Serve a written copy on each person on the service list not able to receive electronic mail.

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LIBRARIAN - DISCOVERY NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

SUZANNE AMIDON NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

THOMAS FRANTZ NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

STEVE MULLEN NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

AMANDA NOONAN
CONSUMER AFFAIRS DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429

#### **BULK MATERIALS:**

Upon request, Staff may waive receipt of some of its multiple copies of bulk materials filed as data responses. Staff cannot waive other parties' right to receive bulk materials.

Docket #: 11-215-1 Printed: October 14, 2011

HEATHER ARVANITIS

PUBLIC SERVICE COMPANY OF NEW HAMF

PO BOX 330

MANCHESTER NH 03105

arvanhm@nu.com

ROBERT BAUMANN

NORTHEAST UTILITIES SVC CO

**PO BOX 270** 

HARTFORD CT 06141-0270

baumara@nu.com

MEREDITH A HATFIELD

780 N COMMERCIAL ST

OFFICE OF CONSUMER ADVOCATE

21 SOUTH FRUIT ST STE 18

MANCHESTER NH 03105-0330

CONCORD NH 03301

STEPHEN R HALL

**PSNH** 

PO BOX 330

hallsr@nu.com

meredith.a.hatfield@oca.nh.gov

STAN PUZIO

njperess@clf.org

NORTHEAST UTILITIES SERVICE COMPANY

CONSERVATION LAW FOUNDATION

PO BOX 270

HARTFORD CT 06141

N JONATHAN PERESS

CONCORD NH 03301-4930

27 NORTH MAIN ST

puzios@nu.com

KRISTI L DAVIE

PUBLIC SERVICE COMPANY OF NEW HAMF

PO BOX 330

MANCHESTER NH 03105

daviekl@nu.com

SARAH B KNOWLTON

PUBLIC SERVICE COMPANY OF NEW HAMF

780 NORTH COMMERCIAL STREET

PO BOX 330

MANCHESTER NH 03105-0330

knowlsb@nu.com

WILLIAM SMAGULA

PUBLIC SERVICE COMPANY OF NEW HAME

PO BOX 330

MANCHESTER NH 03105-0330

smaguwh@psnh.com

ALLEN M DESBIENS

PUBLIC SERVICE COMPANY OF NEW HAMF

780 N COMMERCIAL ST

PO BOX 330

MANCHESTER NH 03105-0330

desbiam@psnh.com

CHRISTINA MARTIN

OFFICE OF CONSUMER ADVOCATE

21 SOUTH FRUIT ST STE 18

CONCORD NH 03301

christina.martin@oca.nh.gov

**ELIZABETH TILLOTSON** 

PUBLIC SERVICE COMPANY OF NEW HAMF

PO BOX 330

MANCHESTER NH 03105-0330

tilloeh@nu.com

GERALD M EATON

PUBLIC SERVICE COMPANY OF NEW HAMF

780 N COMMERCIAL ST

PO BOX 330

MANCHESTER NH 03105-0330

OFFICE OF CONSUMER ADVOCATE

eatongm@nu.com

DONNA L MCFARLAND

OFFICE OF CONSUMER ADVOCATE

21 SOUTH FRUIT ST STE 18 CONCORD NH 03301

donna.l.mcfarland@oca.nh.gov

**OCA LITIGATION** 

**OCA LITIGATION** 

21 SOUTH FRUIT ST STE 18

CONCORD NH 03301

ocalitigation@oca.nh.gov

21 SOUTH FRUIT ST STE 18 CONCORD NH 03301

STEPHEN R ECKBERG

stephen.r.eckberg@oca.nh.gov

Docket #: 11-217-1

Printed: December 13, 2011

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EXECUTIVE DIRECTOR

**NHPUC** 

21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

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DISCOVERY NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

SUZANNE AMIDON NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

THOMAS FRANTZ NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

AL-AZAD IQBAL NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

STEVE MULLEN NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

RICK WHITE NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

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AMANDA NOONAN NHPUC 21 S. FRUIT ST, SUITE 10 CONCORD NH 03301-2429

Docket #: 11-217-1 Printed: December 13, 2011

# THE STATE OF NEW HAMPSHIRE BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

#### Public Service Company of New Hampshire Energy Service Rate – Revised

Docket No. DE 11-215

Technical Statement of ROBERT A. BAUMANN

**December 14, 2011** 

#### **Purpose of Technical Statement**

This Technical Statement summarizes the revised proposed Energy Service rate based on an effective date of January 1, 2012. The summary below includes rates with and without the costs associated with the Merrimack Scrubber to facilitate a full understanding of the issues before the Commission. We fully recognize the Commission's secretarial letter of November 15, 2011 which stated that the Commission would not consider the costs of the Scrubber Project in this docket. However, to fully present this revised ES rate, PSNH believes an understanding of the future ES rate path with and without Scrubber costs is essential to a final determination in this proceeding.

#### **Rate Summary**

#### Energy Service Rate (cents per kWh) - No Scrubber costs included

Current rate in effect 8.89 cents/kWh

Preliminary rate filed September 23, 2011 8.39

Revised rate filed December 14, 2011 7.90

Energy Service Rate (cents per kWh) – Including Scrubber costs of 1.18¢/kWh (based upon a January 1, 2012, scrubber temporary rate effective date)

Preliminary rate filed October 14, 2011 9.57

Revised rate filed December 14, 2011 9.08

#### **PSNH ES rate proposal for 2012**

As stated in its accompanying Motion, PSNH recommends that the current ES rate of 8.89 cents per kWh be continued in the short term until review and action occurs in Docket No. DE 11-250. We believe this maintains rate continuity and is the best alternative to avoiding a seesaw ES rate and future rate spikes. This will also give all parties the appropriate time to examine the facts surrounding our temporary rates request in Docket No. DE 11-250.

# THE STATE OF NEW HAMPSHIRE BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

#### Public Service Company of New Hampshire Energy Service Rate – Revised Estimate

Docket No. DE 11-215

#### Joint Technical Statement of Robert A. Baumann and Frederick B. White

#### December 14, 2011

#### A. Purpose of Technical Statement

This Technical Statement is being submitted to explain the major changes to Public Service Company's proposed Default Energy Service (ES) Rate effective January 1, 2012. This filing updates the Company's ES filing that was submitted on September 23, 2011.

#### B. Proposed Rate

On September 23, 2011, PSNH filed a preliminary 2012 ES rate of 8.39 cents/kWh to be effective for the 12 month period January 1 through December 31, 2012. In this filing, PSNH has calculated an ES rate of 7.90 cents/kWh for effect on January 1, 2012, which is a decrease of 0.99 cents/kWh from the currently effective ES rate of 8.89 cents/kWh. The rates above do not include costs associated with the wet flue desulfurization system ("Scrubber Project") at Merrimack Station which was placed in service on September 28, 2011.

The decrease in the ES rate from the September 23, 2011 filing to this December 14, 2011 filing is attributable to a net decrease in actual and forecasted costs of \$25.5 million [a decrease of \$43.0 million in expense, net of a revenue decrease of \$17.5 million] which is contained in Attachment RAB-1.

The 2012 forecasted cost changes are contained in Attachment RAB-2, page 3, and are specifically referenced below. The forecasted cost and revenue changes are attributable to a decrease in forward electricity prices as of November 30, 2011, lower load due to a lower sales forecast and increased customer migration, the planned sell-back of contracted coal, and other changes as noted below.

#### C. Changes to Attachment RAB-2, page 3 from September 23, 2011 Filing

For the forecast period January through December 2012, the impact of power supply variable cost updates is to lower ES costs by \$28.4 million. Following is a discussion of the major changes:

- 1. Lines 4 and 5 Projected coal generation decreased by 720 GWh to 2,014 GWh due to increased economic reserve shutdowns modeled during March, April, June, October, and November. Lower coal generation is offset in part by increased economic purchases as noted in item 3 below. Coal fuel expense decreased \$37.8 million reflecting lower generation, lower dispatch prices, and an estimated \$5 million of benefit from the planned sale of coal.
- 2. Lines 17 and 18 IPP Energy decreased by 111 GWh due to a revised forecast based on current IPPs on short term rates. IPP Energy Expense decreased by \$8.1 million reflecting lower energy amounts and lower forward electricity prices. A table showing forecasted forward electricity prices as of November 30, 2011 is provided below.

# Forward Electricity Prices for Delivery at Massachusetts Hub All Hours - \$/MWh Filing Dates

	September 23, 2011	December 14, 2011	<u>Cha</u>	inge	
<u>2012</u>	(8/31/11 Closing Prices)	(11/30/11 Closing Prices)	<u>\$/MWh</u>	<u>%</u>	
Jan	66.2	59.3	(6.8)	-10.3%	
Feb	66.5	56.0	(10.5)	-15.8%	
Mar	48.1	42.0	(6.1)	-12.7%	
Apr	45.0	38.2	(6.7)	-15.0%	
May	42.9	38.1	(4.8)	-11.2%	ĺ
Jun	44.2	39.2	(4.9)	-11.2%	
Jul	49.3	44.5	(4.9)	-9.9%	
Aug	49.6	44.8	(4.8)	-9.7%	
Sep	43.2	38.9	(4.3)	-9.9%	
Oct	45.6	40.8	(4.8)	-10.5%	ĺ
Nov	47.6	42.6	(5.0)	-10.5%	
Dec	56.5	52.6	(3.9)	-6.9%	
Total	50.3	44.7	(5.6)	-11.1%	

- 3. Lines 21 and 22, 27 and 28, and 30 & 31 Net purchases increased by 652 GWh increasing expenses by \$18.5 million. The net increase in net purchases is primarily due to lower coal generation and energy from IPPs, offset by lower loads.
- 4. Line 35 Total Energy decreased 145 GWh due to a lower sales forecast (approx. 1.7%) and an increase in migration from 33.4% to 34.0%. Total ES sales are lower by 137 GWh. The table below shows the forecasted sales and migration (Non-ES sales) as measured at the customer meter used for calculating the preliminary ES rate filed in September and for this filing. The amount of migration modeled in this update is as of November, 2011 and is 34.0% of forecasted total PSNH sales. Overall, 2012 ES sales are lower by 2.6% from the estimates used in the September, 2011 preliminary ES rate filing.

#### <u>PSNH ES Sales Forecast</u> MWh

#### Filing Dates

	<u>Ser</u>	tember 23, 2	011	<u>Dec</u>	cember 14, 20	)11	1	Chan	<u>ige</u>	
<u>2012</u>	<u>Total</u>	Non-ES	ES	<u>Total</u>	Non-ES	<u>ES</u>	<u>Total</u>	Non-ES	<u>ES</u>	ES %
Jan	715,776	239,069	476,707	706,793	240,310	466,483	(8,983)	1,240	(10,223)	-2.1%
Feb	652,663	217,989	434,674	639,226	217,337	421,889	(13,437)	(653)	(12,784)	-2.9%
Mar	651,906	217,737	434,169	638,234	217,000	421,234	(13,672)	(737)	(12,935)	-3.0%
Apr	596,366	199,186	397,180	584,206	198,630	385,576	(12,160)	(556)	(11,604)	-2.9%
May	595,168	198,786	396,382	588,006	199,922	388,084	(7,162)	1,136	(8,298)	-2.1%
Jun	644,822	215,371	429,451	632,285	214,977	417,308	(12,537)	(394)	(12,143)	-2.8%
Jul	741,737	247,740	493,997	727,553	247,368	480,185	(14,184)	(372)	(13,812)	-2.8%
Aug	709,914	237,111	472,803	703,408	239,159	464,249	(6,506)	2,047	(8,553)	-1.8%
Sep	620,356	207,199	413,157	612,453	208,234	404,219	(7,903)	1,035	(8,938)	-2.2%
Oct	612,852	204,693	408,160	601,819	204,619	397,201	(11,033)	(74)	(10,959)	-2.7%
Nov	623,208	208,151	415,056	608,064	206,742	401,322	(15,144)	(1,410)	(13,734)	-3.3%
Dec	689,513	230,297	459,216	676,034	229,852	446,182	(13,479)	(446)	(13,033)	-2.8%
Total	7,854,281	2,623,330	5,230,951	7,718,081	2,624,148	5,093,934	(136,200)	818	(137,018)	-2.6%

5. Other forecasted changes totaling a net \$1.0 million cost decrease include updates to Schiller 5 and Newington generation, congestion & losses assumptions, ISO ancillaries and expenses, RPS and RGGI expenses, and capacity costs. Note that an error in the sales amount used to calculate REC obligations in the September filing has been corrected, and the sales amount used to calculate REC obligations in this filing agrees with the 5,094 GWh of forecasted retail sales in RAB-1, page 1.

#### D. Other Cost Changes (\$ 14.6 million costs decrease)

6. All other actual and forecasted costs decreased by \$ 14.6 million. The decrease in other actual and forecasted costs was primarily due to lower F/H O&M costs (\$4.6 million), lower depreciation expense (\$4.8 million) and lower return on Rate Base (\$2.1 million). The O&M decrease results from the removal of ammonia costs which are included in coal fuel expense (the September, 2011 filing had included ammonia costs twice, once in the coal fuel expense and again as part of the O&M). The decrease in depreciation is due to a periodic update of generation unit service lives. The latest actual return on rate base was used in the update resulting in lower return costs. The decrease of the forecasted expense changes noted in items 1-5 above totaled \$28.4 million plus the other cost changes of \$14.6 million resulted in a total expense decrease of \$43.0 million.

#### E. Revenue Changes (\$ 17.5 million decrease)

7. The updated ES revenues for 2011 and 2012 decreased by \$17.5 million due to lower sales caused by a lower sales forecast and additional customer migration. The updated 2011 sales are lower by 85 GWH and 2012 sales are lower by 137 GWH.

## PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION (Dollars in 000's)

1 2 3 4 5 6 7 8	PUBLIC SERVICE CO 2012 ENERGY SE (Do		ATE CALCUL			
9						
10	Summary of Forecasted Energy Service					
11	Cost For January 2012 Through December 2012	TO	TAL COST	Cents pe	r KWH	Reference
12				1001101111		
	Fossil energy costs	\$	94,637	\$		
	F/H O&M, depreciation & taxes		122,562		2.41	
	Return on rate base		40,552			Attachment RAB-2, page 2
	ISO-NE ancillary		3,805			Attachment RAB-2, page 2
	Capacity		10,552			Attachment RAB-2, page 2
	NH RPS		15,164			Attachment RAB-2, page 2
	RGGI costs		2,655			Attachment RAB-2, page 2
	Vermont Yankee		2,103			Attachment RAB-2, page 2
	IPP costs (1)		22,799			Attachment RAB-2, page 2
	Purchases and sales		85,864			Attachment RAB-2, page 2
23	Return on ES Deferral		(7)		(0.00)	Attachment RAB-2, page 2
	Total Forecasted Energy Service Cost	\$	400,687	\$	7.87	
28	<b>,</b>		2,155		0.04	Attachment RAB-3, page 1
29 30	Net Forecasted Energy Service Cost	\$	402,843			
31 32 33	Forecasted Retail MWH Sales		5,093,934		7.90	
	Forecasted Energy Service Rate -					
35	cents Per KWH (line 29 / Line 31)	\$	7.90			

 $<sup>36\,</sup>$  (1) The IPP costs represent the forecasted market value of IPP generation.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION (Dollars in 000's)

5 6

3

0									
7									
8	January	F	ebruary		March	April	May	June	
9	2012		2012		2012	2012	2012	2012	
10 Energy Service Cost	 Estimate		Estimate	į	Estimate	 Estimate	 Estimate	Estimate	Reference
11									
12 Fossil energy costs	\$ 16,975	\$	14,604	\$	8,472	\$ 138	\$ 647	\$ 1,059	RAB-2, P3
13 F/H O&M, depreciation & taxes	10,173		8,991		9,594	12,051	9,756	10,184	RAB-2, P5
14 Return on rate base	3,489		3,466		3,419	3,381	3,357	3,360	RAB-2, P6
15 ISO-NE ancillary (inc. Congestion and Loss Adj.)	666		563		331	125	99	102	RAB-2, P3
16 Capacity	953		953		953	1,017	1,017	836	RAB-2, P3
17 NH RPS	1,389		1,256		1,254	1,148	1,155	1,242	RAB-2, P3
18 RGGI costs	459		419		226	-	-	7	RAB-2, P3
19 Vermont Yankee	716		671		716	-	-	-	RAB-2, P3
20 IPP costs (1)	2,810		2,400		2,118	1,772	1,588	1,415	RAB-2, P4
21 Purchases and sales	77		698		5,849	12,598	12,095	14,110	RAB-2, P3
22 Return on ES Deferral	2		2		2	3	4	 2	_
23									
24 Total Energy Service Cost	\$ 37,708	\$	34,022	\$	32,933	\$ 32,233	\$ 29,720	\$ 32,317	
25									
26 Forecasted Retail MWH Sales	466,483		421,889		421,234	385,576	388,084	417,308	
27									
28 Energy Service Cost - cents per kwh	8.08		8.06		7.82	8.36	7.66	7.74	

<sup>(1)</sup> The IPP costs represent the forecasted market value of IPP generation.

#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION (Dollars in 000's)

5 6

1 2

3

7 8 9 10 <u>Energy Service Cost</u>	E	July 2012 stimate		August 2012 stimate		eptember 2012 Estimate		October 2012 Estimate		ovember 2012 Stimate		ecember 2012 Estimate		Total	Reference
11 12 Fossil energy costs	\$	10,023	\$	14,900	\$	589	\$	647	\$	10,989	\$	15,594	\$	94 637	RAB-2, P3
13 F/H O&M, depreciation & taxes	Ψ	10,458	Ψ	10,390	Ψ	11,510	Ψ	10,898	Ψ	9,297	Ψ	9,259	Ψ	•	RAB-2, P5
14 Return on rate base		3,358		3,348		3,344		3,341		3,343		3,346		•	RAB-2, P6
15 ISO-NE ancillary (inc. Congestion and Loss Adj.)		435		431		82		90		339		542		•	RAB-2, P3
16 Capacity		836		836		836		771		773		773		,	RAB-2, P3
17 NH RPS		1,429		1,382		1,203		1,182		1,195		1,328		15,164	RAB-2, P3
18 RGGI costs		400		400		-		-		307		439		2,655	RAB-2, P3
19 Vermont Yankee		-		-		-		-		-		-		2,103	RAB-2, P3
20 IPP costs (1)		1,716		1,691		1,352		1,695		1,865		2,378		22,799	RAB-2, P4
21 Purchases and sales		4,232		3,534		14,463		13,783		3,336		1,089		85,864	RAB-2, P3
22 Return on ES Deferral		(2)		(6)		(5)		(3)		(3)		(3)		(7)	_
23															
24 Total Energy Service Cost	\$	32,885	\$	36,905	\$	33,375	\$	32,405	\$	31,440	\$	34,745	\$	400,687	
25															
26 Forecasted Retail MWH Sales		480,185		464,249		404,219		397,201		401,322		446,182	,	5,093,934	
27															
28 Energy Service Cost - cents per kwh		6.85		7.95		8.26		8.16		7.83		7.79		7.87	

<sup>(1)</sup> The IPP costs represent the forecasted market value of IPP generation.

#### PUBLIC SERVICE RATE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION

## PSNH Generation (GWh) and Expense (\$000) IPP's Priced at Market Rate

1				Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Total
2	Hydro:	Energy		31.468	26.462	35.094	39.74	37.08	27.954	21.994	19.476	15.922	23.576	32.825	31,697	343.288
4	Coal:	Energy		341.851	321.213	189.606	0.000	0.000	0.000	287,103	286.630	0.000	0.000	251.098	336.348	2,013.848
5 6		Energy Expense	\$	14,178	13,325	7,824	-	-	-	7,053	12,000	-	-	10,363	13,939	78,682
7	Wood:	Energy		28.633	26.786	28.633	6.119	28.633	26.056	26.925	26.925	26.056	28.633	27.710	28.633	309.741
8		Energy Expense	\$	1,638	1,533	1,638	350	1,638	1,491	1,541	1,541	1,491	1,638	1,586	1,638	17,723
9		Revenue Credit	\$	(991)	(927)	(991)	(212)	(991)	(902)	(932)	(932)	(902)	(991)	(959)	(991)	(10,721)
10											_	_				45.000
	Nuclear:	Energy		15.349	14,379	15.334	0	0	0	0	0	0	0	0	0	45.062
12		Energy Expense	\$	716	671	716	-	-	•	-	-	-	-	-	-	2,103
13	Newington:	Energy		29.016	9.672	0,000	0.000	0.000	9.068	45,338	44,129	0.000	0.000	0.000	13.904	151,125
15		Energy Expense	\$	2,150	674	-	-	-	470	2,362	2,290	-	_	-	1,008	8,953
16			-	-,						•						
17	IPP's:	Energy		45.855	40.985	47.782	43.098	38.312	34.862	37.739	36.919	33.525	39.365	41.851	43.963	484.255
18		Energy Expense	\$	2,634	2,224	1,942	1,596	1,412	1,325	1,626	1,601	1,262	1,555	1,726	2,239	21,142
19		ICAP	\$	176	176	176	176	176	90	90	90	90	140	139	139	1,657
20																
21	Peak Purchase:	Energy		25.540	29.266	79.275	176.101	174.391	196.917	46.494	36.761	187.622	186.591	45.506	29.823	1,214.288
22		Expense	\$	1,589	1,791	3,833	7,534	7,483	8,837	2,380	1,856	8,476	8,413	2,231	1,705	56,129
23														5 077	7.005	62.193
24	Known Purchases	Energy		5.570	7.086	6.016	5.997	4.601	3.342	3.176	2.959	4.506	6.340	5.277 277	7.325 385	3,270
25		Expense	\$	297	372	316	315	242	175	167	155	237	333	2//	385	3,270
26		F		7.760	4,230	43,621	136,537	127,227	142,938	43.600	43,718	159.669	135,376	21,165	8.771	874,613
27		Energy	\$	497	278	1,703	4,749	4,371	5.097	1,856	1,808	5,751	5,037	869	508	32,525
28		Expense	φ	497	210	1,703	4,743	4,077	0,051	1,000	,,000	0,10	-,			·
29	Surplus Energy Sales	Energy		(37.922)	(34.100)	(0.073)	0.000	0.000	0.000	(4.765)	(6.759)	0.000	0.000	(1.193)	(28.803)	(113.616)
31		(Credit)	\$	(2,307)	(1,743)	(2)	0	0	0	(171)	(285)	0	0	(41)	(1,509)	(6,059)
32		(Groun)	•	(=,,	(-,,	,										
33			\$	441	362	109	(93)	(83)	(100)	198	203	(113)	(90)	157	335	1,327
34																
	Total Energy GWH			493,120	445.979	445.287	407.592	410.244	441.136	507.604	490.758	427,300	419.881	424,238	471.659	5,384.797
36	Total Energy Expense		\$	21,020	18,735	17,263	14,415	14,248	16,484	16,169	20,328	16,292	16,035	16,347	19,396	206,731
37	•															
38							242	400	202	236	227	195	180	183	207	2,477
	ISO-NE Ancillary		\$	225	201	221	218	182	202 1,242	1,429	1,382	1,203	1,182	1,195	1,328	15,164
	NHRPS		\$	1,389	1,256	1,254	1,148	1,155 0	1,242	400	400	1,203	1,102	307	439	2,655
	RGGI Costs		\$	459	419	226	0	U	1	400	400	Ü	·	•••		
42				265	265	265	283	283	283	283	283	283	261	262	262	3,277
	Capacity (sold)/bought MW-mo		\$	265 953	265 953	953	1,017	1,017	836	836	836	836	771	773	773	10,552
44	Capacity (sold)/bought Cost (\$000)		Þ	903	503	333	1,017	1,0 . /								

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## PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION

### 1 Forecasted PSNH IPP Market Value - January - December 2012

2								
3		1	PP Energy at					
4		IPP	Mkt Value	Capacity	ICAP Value	ICAP	Total	Total
5	Month	GWh	(\$000)	MW	\$/kw-mo	(\$000)	(\$000)	\$/MWh
6	January	45.855	2,634	48.8	3.60	176	2,810	61.28
7	February	40.985	2,224	48.8	3.60	176	2,400	58.55
8	March	47.782	1,942	48.8	3.60	176	2,118	44.32
9	April	43.098	1,596	48.8	3.60	176	1,772	41.12
10	May	38.312	1,412	48.8	3.60	176	1,588	41.45
11	June	34.862	1,325	30.5	2.95	90	1,415	40.59
12	July	37.739	1,626	30.5	2.95	90	1,716	45.46
13	August	36.919	1,601	30.5	2.95	90	1,691	45.80
14	September	33.525	1,262	30.5	2.95	90	1,352	40.33
15	October	39.365	1,555	47.6	2.95	140	1,695	43.06
16	November	41.851	1,726	47.1	2.95	139	1,865	44.57
17	December	43.963	2,239	47.1	2.95	139	2,378	54.08
18	Total	484.255	21,142			1,657	22,799	47.08

PUBLIC SERVICE COMPANY OF NEW HAMPSHIF	RE
2012 ENERGY SERVICE RATE CALCULATION	ı
Fossil / Hydro O&M, Depreciation & Taxes Detai	il
(Dollars in 000's)	

6

2

8																									
9	J	anuary	Fe	ebruary	M	1arch		April		May		June		July		August	Se	eptember		October	No	vember	De	ecember	
10		2012		2012	2	2012		2012		2012		2012		2012		2012		2012		2012		2012		2012	Total
11 Fossil / Hydro O&M, Depr. & Taxes	E	stimate	E	stimate	Es	timate	E	stimate	E	stimate	E	stimate	E	stimate	Е	stimate	E	stimate	Ε	stimate	Ε	stimate	Ε	stimate	
12																									
13 F/H Operation & Maintenance Cost	\$	7,609	\$	6,448	\$	6,989	\$	9,343	\$	7,042	\$	7,469	\$	7,741	\$	7,673	\$	8,716	\$	8,194	\$	6,579	\$	6,553	\$ 90,356
14 F/H Depreciation Cost		1,477		1,477		1,477		1,478		1,479		1,479		1,480		1,482		1,489		1,490		1,499		1,501	17,807
15 F/H Property Taxes		818		818		818		1,015		1,015		1,015		1,015		1,015		1,015		1,015		1,015		1,015	11,587
16 F/H Payroll Taxes		217		196		258		162		167		168		168		166		236		144		148		135	2,165
17 Amort. of Asset Retirement Obligation		52		52		52		53		53		53		54		54		54		55		55		55	647
18																									
10 Total F/H O&M, Depr. and Tayes	S.	10 173	\$	8 991	\$	9 594	\$	12 051	\$	9 756	\$	10 184	\$	10 458	.\$	10.390	\$	11 510	\$	10 898	\$	9 297	\$	9.259	\$ 122.562

#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION FOSSIL/HYDRO RETURN ON RATE BASE (Dollars in 000's)

7														
8														
9		January	February	March	April	May	June	July	August	September	October	November	December	
10		2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	Total
11	Return on Rate Base	Estimate	Estimate	Estimate	Estimate									
12														
13														
14	Rate base													
15	Net Plant	303,842	302,176	300,642	299,221	297,607	296,527	295,988	297,276	296,516	298,402	297,401	296,614	
16														
17	Working Capital Allow. (45 days of O&M)	11,140	11,140	11,140	11,140	11,140	11,140	11,140	11,140	11,140	11,140	11,140	11,140	
18	Fossil Fuel Inventory	60,698	57,571	54,289	54,310	54,331	52,595	50,868	50,905	50,982	51,097	51,212	51,375	
19	Mat'ls and Supplies	54,826	54.957	55,278	55,654	56,202	57,203	57,443	57,739	58,488	58,751	59,588	61,751	
20	Prepayments	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	2,575	
21	Deferred Taxes	(29,707)	(29,666)	(29,228)	(30,874)	(31,277)	(35,427)	(35,623)	(36,006)	(35,994)	(36,793)	(36,715)	(35,571)	
22	Other Regulatory Obligations	(10,377)	(10,948)	(12,279)	(12,853)	(13,431)	(4,901)	(5,565)	(6,193)	(7,865)	(8,378)	(8,895)	(10,389)	
23	Total Rate Base (L15 thru L22)	392,997	387,805	382,416	379,172	377,146	379,712	376,826	377,436	375,841	376,794	376,306	377,496	
24														
25	Average Rate Base ( prev + curr month)	392,997	390,401	385,110	380,794	378,159	378,429	378,269	377,131	376,638	376,317	376,550	376,901	
26	x Return	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	
27	Return (L25 x L26)	\$ 3,489	\$ 3,466	\$ 3,419	\$ 3,381	\$ 3,357	\$ 3,360	\$ 3,358	\$ 3,348	\$ 3,344	\$ 3,341	\$ 3,343	\$ 3,346	\$ 40,552

Amounts shown above may not add due to rounding.

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## PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION (Dollars in 000s)

1 2 3	PUBLIC SERVICE CO 2011 ENERGY SER (Dol		ATE CALCUL		
4	·		•		
5					
6					
7					
8					
9					
10	Summary of Forecasted and Actual Energy Service				
11	Cost For January 2011 Through December 2011	TOT	AL COST	Cents per KWH	Reference
12	er 1	_			
	Fossil energy costs	\$	117,637	2.30	Attachment RAB-4, page 2
	F/H O&M, depreciation & taxes		136,472	2.67	Attachment RAB-4, page 2
	Return on rate base		42,326	0.83	Attachment RAB-4, page 2
	ISO-NE ancillary		1,220	0.02	Attachment RAB-4, page 2
17	Capacity		10,521	0.21	Attachment RAB-4, page 2
18	NH RPS		12,309	0.24	Attachment RAB-4, page 2
19	RGGI costs		5,729	0.11	Attachment RAB-4, page 2
20	Vermont Yankee		7,189	0.14	Attachment RAB-4, page 2
21	IPP costs (1)		25,824	0.51	Attachment RAB-4, page 2
22	Purchases and sales		85,343	1.67	Attachment RAB-4, page 2
23	Return on ES Deferral		225	0.00	Attachment RAB-4, page 2
24	Merrimack projected RPC insurance proceeds		(4,400)	(0.09)	Attachment RAB-4, page 2
	2010 Actual ES underrecovery		10,366		Attachment RAB-4, page 2
26				0.20	
27	Total Updated Energy Service Cost	\$	450,760	8.82	
28		•	448,605	0.02	
	2011 ES (Over)/Under Recovery		2,155		
			2,.50		

(1) The IPP costs represent the forecasted market value of IPP generation.

Dated: 12/14/2011 Attachment RAB-4 Page 1

1 PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2 2011 ENERGY SERVICE RATE CALCULATION 3 (Dollars in 000s) 5 7 January February March April May June 2011 2011 2011 2011 2011 2011 10 Energy Service Cost Actual Actual Actual Actual Actual Actual Reference 12 Fossil energy costs (1) 19.112 \$ 14.554 \$ 13,178 \$ 7,744 \$ 5.087 \$ 9,294 RAB-4, P3 13 F/H O&M, depreciation & taxes 9,386 8,886 10,811 14,989 10,049 RAB-4, P5 13,338 14 Return on rate base 3,627 3,627 3,468 3,564 3,599 RAB-4, P6 3,564 15 ISO-NE ancillary (inc. Congestion and Loss Adj.) (561)184 (798)165 245 245 RAB-4, P3 16 Capacity 1,200 1,085 257 962 RAB-4, P3 1,049 601 17 NH RPS 873 864 869 869 869 901 RAB-4, P3 18 RGGI costs 720 267 431 354 1,360 373 RAB-4, P3 19 Vermont Yankee 688 623 648 668 642 RAB-4, P3 655 1,581 RAB-4, P4 20 IPP costs (2) 4,115 2.090 2,341 2,638 2,232 21 Purchases and sales (3) 495 2.505 3.655 5,670 11,938 6,981 RAB-4, P3 22 Return on ES Deferral 27 22 18 13 15 24 23 Merrimack projected RPC insurance proceeds 24 2010 Actual ES underrecovery 10,366 50.043 \$ 34,703 \$ 35,666 \$ 36,933 \$ 39,913 \$ 34,654 26 Total Energy Service Cost 28 Total Energy Service Revenue 43,283 37,414 38,054 32,084 32,551 36,407 7,362 (1,753)6.760 (2,711)(2,388)4,849

499,353

431,507

438,899

370,023

375,429

419,953

30 ES Under/(Over) Recovery

32 Retail MWH Sales

31

<sup>(1)</sup> February includes a credit of \$1.4M for resale of 30,000 tons of coal.

<sup>(2)</sup> The IPP costs represent the forecasted market value of IPP generation.

<sup>(3)</sup> June includes credit of \$150.4 for Seabrook related activity.

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION (Dollars in 000s)

5

1 2

3

b												
7												
8	July		August	Se	eptember	October	N	lovember	D	ecember		
9	2011		2011		2011	2011		2011		2011		
10 Energy Service Cost	 Actual		Actual		Actual	 Actual		Actual		Estimate	 Total	Reference
11		_										
12 Fossil energy costs (1)	\$ 9,379	\$	8,674	\$	1,565	\$ 5,252	\$	8,970	\$	14,828	\$ •	RAB-4, P3
13 F/H O&M, depreciation & taxes	10,506		9,633		9,777	13,613		14,444		11,041	•	RAB-4, P5
14 Return on rate base	3,553		3,553		3,549	3,380		3,389		3,451	•	RAB-4, Pe
15 ISO-NE ancillary (inc. Congestion and Loss Adj.)	41		(88)		178	181		897		531	•	RAB-4, P3
16 Capacity	795		886		917	965		851		953	•	•
17 NH RPS	1,048		901		2,081	1,032		1,032		970		RAB-4, P3
18 RGGI costs	441		339		228	389		471		356		RAB-4, P3
19 Vermont Yankee	643		639		555	149		586		693	•	RAB-4, P3
20 IPP costs (2)	1,597		1,061		1,804	2,077		1,983		2,305		RAB-4, P4
21 Purchases and sales (3)	9,147		11,937		13,333	11,010		7,472		1,200	•	RAB-4, P3
22 Return on ES Deferral	19		10		7	14		28		28	225	
23 Merrimack projected RPC insurance proceeds	-		-		-	-		-		(4,400)	(4,400)	ı
24 2010 Actual ES underrecovery	-		-		-	 				-	 10,366	_
25												
26 Total Energy Service Cost	\$ 37,169	\$	37,545	\$	33,993	\$ 38,062	\$	40,123	\$	31,956	\$ 450,760	
27												
28 Total Energy Service Revenue	44,709		41,525		35,188	32,387		35,091		39,912	448,605	
29												
30 ES Under/(Over) Recovery	(7,540)		(3,980)		(1,195)	5,675		5,032		(7,956)	2,155	
31												
32 Retail MWH Sales	503,355		467,473		396,045	364,170		394,705		448,956	5,109,868	

<sup>(1)</sup> July includes a credit of \$5.2M for resale of 120,000 tons of coal.(2) The IPP costs represent the forecasted market value of IPP generation.

<sup>(3)</sup> September includes credit of \$86.6 for Seabrook related activity.

### PUBLIC SERVICE RATE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION

#### PSNH Generation (GWh) and Expense (\$000) IPP's Priced at Market Rate

									Actual						Estimate	
1			1	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Total
2	Hydro:	Energy	-	31.741	24.119	40.788	42.160	43,359	28.186	13.543	20.186	25.868	32.744	29,266	31,697	363.657
4	Coal:	Energy		331.457	326,273	280.045	185.219	76,663	209,390	264,146	155,851	54,428	45,128	153,546	344.472	2,426.618
5 6		Energy Expense	\$	14,253	12,069	12,267	7,898	4,584	8,526	6,054	7,157	671	2,830	8,011	13,237	97,557
7	Wood:	Energy		30.013	26,223	26.449	0.859	12.252	29,138	30.985	30.698	29,647	30,564	20.904	27.951	295,683
8		Energy Expense	\$	1,546	1,294	1,350.0	49	390	1,358	1,380	1,398	1,380	1,482	1,013	1,599	14,239
9		Revenue Credit	\$	(749)	(694)	(698)	(327)	50	(737)	(763)	(759)	(744)	(757)	(617)	(957)	(7,752)
10 11	Nuclear:	Energy		15,523	13.875	15.487	14.959	14.980	14,600	14.687	14.579	12.684	3,146	13,195	15.349	163,064
12		Energy Expense	\$	688	623	648	668	655	642	643	639	555	149	586	693	7,189
13	IC/Jets	Energy		0.174	0.033	(0.056)	0.080	0,042	(0.047)	0.200	0.041	(0,013)	(0,027)	(0.059)	0.000	0,368
12		Energy Expense	\$	55	16	5	29	11	1	60	23	10	10	(1)	-	219
13	Newington:	Energy		43.646	14.348	1,433	0.000	0.000	0.781	25.890	8.731	3,596	21.517	7.415	13.904	141.261
15		Energy Expense	\$	4,007	1,869	254	95	52	146	2,648	855	248	1,687	564	949	13,374
16		-		50.050	25 222	E4 000	FF F0F	40.404	05 474	05.047	04.400	40 707	47.000	49,769	43.963	512,406
	IPP's:	Energy		53.858	35.862	51.296	55.585	48.494	35.174	25.947	24.469	40.727	47.262		2,129	23,831
18		Energy Expense	\$	3,853	1,885	2,136	2,432	2,026	1,487	1,502	961	1,700	1,907	1,813		
19 20		ICAP	\$	262	205	205	206	206	94	95	100	104	170	170	176	1,993
21		Energy		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.288	5.288
22 23		Expense	\$	-	-	-	•	-	•	•	-	•	-	-	332	332
	Known Purchases	Energy		55,906	43.997	51.050	86.658	184.299	52,734	41.575	74.549	137.013	127.517	83.257	40.925	979.480
25		Expense	\$	3,964	4,009	4,466	4,645	10,839	3,732	3,073	4,992	7,350	7,174	5,815	3,291	63,350
26 27		Energy		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.514	5.514
28		Expense	\$	0.000	0.000	0.000	0	0	0	0	0	0	0	0	308	308
29		_					25.422	04.050	70.040	000 070	405.000	155,346	95.894	68.925	(54,471)	704,415
30		Energy	_	(42,994)	(28,000)	(9.809)	25,133	31.859	76.918	220.376	165.238		3,836	1,657	(2,731)	21,353
31 32		(Credit)	\$	(3,469)	(1,504)	(811)	1,025	1,099	3,249	6,074	6,945	5,983	3,030	1,007	(2,751)	21,000
33			\$	0	0	0	0	0	0	0	0	0	0	0	316	316
34										007.040	101.010	459,296	403,745	426,218	474,592	5,597,754
35				519.324	456,730	456,683	410.653 16,720	411.948 19,912	446,874 18,498	637.349 20.766	494.342 22,311	17,257	18,488	19,011	19,342	236,308
36 37			\$	24,410	19,772	19,822	16,720	19,912	10,490	20,760	22,311	17,207	10,400	10,011	10,042	200,000
38									• • •		(0.0)	470	181	897	215	904
39	ISO-NE Ancillary		\$	(561)	184	(798)	165	245	245	41	(88)	178			970	12,309
40	NH RPS		\$	873	864	869	869	869	901	1,048	901	2,081	1,032	1,032	356	5,729
	RGGI Costs		\$	720	267	431	354	1,360	373	441	339	228	389	471	330	
42 43				262	262	174	174	174	268	268	268	285	262	257	265	2,919 10.521
	Capacity (sold)/bought Cost (\$000)		\$	1,200	1,085	1,049	257	601	962	795	886	917	965	851	953	10,527

<sup>(1)</sup> Congestion and Loss Adjustment actuals are included in ISO-NE Ancilliary.

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#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION

#### 1 Forecasted PSNH IPP Market Value - December 2011

2								
3		1	PP Energy at	t				
4		IPP	Mkt Value	Capacity	ICAP Value	ICAP	Total	Total
5	Month	GWh	(\$000)	MW	\$/kw-mo	(\$000)	(\$000)	\$/MWh
9	December	43.963	2,129	48.8	3.60	176	2,305	52.44
10	Total	43.963	2,129			176	2,305	52.44

Dated: 12/14/2011 Attachment RAB-4 Page 5

#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION Fossil / Hydro O&M, Depreciation & Taxes Detail (Dollars in 000s)

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8 9 10 11 <u>Fossil / Hydro O&amp;M, Depr, &amp; Taxes</u>	January 2011 Actual			ebruary 2011 Actual		March 2011 Actual		April 2011 Actual		May 2011 Actual		June 2011 Actual		July 2011 Actual		August 2011 Actual		eptember 2011 Actual		October 2011 Actual		ovember 2011 Actual		cember 2011 stimate		Total
12 13 F/H Operation & Maintenance Cost	æ	6,646	¢	6.098	¢	8.025	œ	12.102	œ	10.426	æ	7.022	¢	7.593	¢	6.730	æ	6.871	æ	10.678	e	11,493	\$	8.051	\$	101,734
14 F/H Depreciation Cost	φ	1,812	φ	1,814	Ψ	1,841	φ	1,839	φ	1,851	Ψ	1,851	φ	1,851	٩	1,852	Ψ	1,851	φ	1,889	φ	1,900	Ψ	1,891	Ψ	22,242
15 F/H Property Taxes		666		744		661		862		847		884		847		847		847		863		830		915		9,813
16 F/H Payroll Taxes		213		182		236		137		165		243		165		154		158		132		170		133		2,088
17 Amort, of Asset Retirement Obligation		48		48		48		49		49		49		50		50		50		51		51		51		594
18 19 Total F/H O&M, Depr. and Taxes	\$	9,386	\$	8,886	\$	10,811	\$	14,989	\$	13,338	\$	10,049	\$	10,506	\$	9,633	\$	9,777	\$	13,613	\$	14,444	\$	11,041	\$	136,472

#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION FOSSIL/HYDRO RETURN ON RATE BASE (Dollars in 000s)

- 1														
8														
9		January	February	March	April	May	June	July	August	September	October	November	December	
10		2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011	Total
11	Return on Rate Base	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate	
12														
13														
14	Rate base													
15	Net Plant	301,381	301,381	310,157	310,157	310,157	312,102	312,102	312,102	307,249	308,249	309,249	313,311	
16														
17	Working Capital Allow. (45 days of O&M)	12,543	12,543	12,543	12,543	12,543	12,543	12,543	12,543	12,543	12,543	12,543	12,543	
18	Fossil Fuel Inventory	57,962	57,962	41,641	41,641	41,641	48,402	48,402	48,402	48,421	48,421	48,421	59,442	
19	Materials and Supplies	51,799	51,799	53,325	53,325	53,325	49,058	49,058	49,058	49,575	49,575	49,575	54,589	
20	Prepayments	2,563	2,563	2,235	2,235	2,235	1,893	1,893	1,893	1,034	1,034	1,034	2,575	
21	Deferred Taxes	(25,536)	(25,536)	(26,090)	(26,090)	(26,090)	(34,619)	(34,619)	(34,619)	(25,054)	(25,054)	(25,054)	(35,401)	
22	Other Regulatory Obligations	(12,303)	(12,303)	(15,050)	(15,050)	(15,050)	(8,223)	(8,223)	(8,223)	(13,524)	(13,524)	(13,524)	(11,792)	
23	Total Rate Base (L15 thru L22)	388,409	388,409	378,761	378,761	378,761	381,156	381,156	381,156	380,244	381,244	382,244	395,267	
24	·													
25	Average Rate Base ( prev + curr month)	388,342	388,409	383,585	378,761	378,761	379,958	381,156	381,156	380,700	380,744	381,744	388,755	
26	x Return	0,9339%	0.9339%	0.9339%	0.9411%	0.9411%	0.9411%	0.9322%	0.9322%	0.9322%	0.8878%	0.8878%	0.8878%	
27	Return (L25 x L26) (1)	\$ 3,627	\$ 3,627 5	3,468	3,564	\$ 3,564 \$	3,599	\$ 3,553	\$ 3,553	\$ 3,549	\$ 3,380	\$ 3,389	\$ 3,451	\$ 42,326

(1) Line 27 includes quarterly true-up adjustments.

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#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION MERRIMACK SCRUBBER IMPACT (Dollars in 000's)

10				
11	Summary of Forecasted Energy Service	Merrimaci	k Scrubber	
12	Cost For January 2012 Through December 2012	1	Total cost	Reference
13				
	Merrimack Scrubber O&M, Fuel and Avoided SO2 cost	\$	6,671	Attachment RAB-5, page 2
	Merrimack Scrubber Depreciation Expense		13,761	Attachment RAB-5, page 2
	Merrimack Scrubber Property Tax Expense		267	Attachment RAB-5, page 2
	Merrimack Scrubber Return on Rate Base		34,801	Attachment RAB-5, page 3
18				
19		\$	55,500	
20 21			4.007	Line 44 below
22	Amortization of 2011 Merrimack Scrubber Under Recovery		4,367	Line 44 below
23	Net Forecasted Merrimack Scrubber Cost	s	59,867	
24	Not i prepasted Merrimack Scrubber Cost	Ψ	33,007	
25	Forecasted Retail MWH Sales		5,093,934	
26	To the state of th		0,000,001	
27				
28	Forecasted Energy Service Merrimack Scrubber Rate Impact			
29	cents Per KWH (line 23 / Line 25)		1.18	
30	,			
31	Energy Service Rate as filed on 12/14/11 without MK Scrubber		7.90	
32				
33	Total Forecasted Energy Service Rate (line 29 + Line 31)		9.08	
34				
35				
36	Proposed three year recovery and amortization of the			
37	2011 Merrimack Scrubber Underrecovery			
38				
	2011 Merrimack Scrubber Under Recovery	\$	13,101	Attachment RAB-6, page 1
40				
	Amortized over 3 years 2012 - 2014		3_	
42	2042 American of Managing at Compatibility			
	2012 Amortization of Merrimack Scrubber	•	4 207	
44	under recovery from 2011 (Line 39 / Line 41)	\$	4,367	

Amounts shown above may not add due to rounding.

#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION MERRIMACK SCRUBBER O&M, DEPRECIATION AND PROPERTY TAXES (Dollars in 000's)

7 8 9 10		anuary 2012		ebruary 2012		March 2012	2	April 2012	May 2012	June 2012		July 2012	August 2012	;	September 2012	_	october 2012		vember 2012		cember 2012	Т	otal
11 Merrimack Scrubber O&M, Depr. & Taxes	E	stimate	Ε	stimate	E	stimate	Es	timate	Estimate	 Estimate	E:	stimate	Estimate		Estimate	E	stimate	Es	timate	Es	timate		
12																							
13 Merrimack Scrubber Operation & Maintenance Cost	\$	342	\$	342	\$	342	\$	342	\$ 342	\$ 342	\$	342	\$ 342	\$	342	\$	342	\$	340	S	340	\$	4,100
14 Merrimack Scrubber Fuel related Cost		928		844		512		-	-	-		749	742		-		-		709		877		5,361
15 Merrimack Scrubber Avoided SO2 Cost		(461)		(432)		(252)		-	-	-		(407)	(402)	)	-		-		(378)		(458)		(2,790)
16 Merrimack Scrubber Depreciation Cost		1,070		1,070		1,070		1,099	1,099	1,099		1,203	1,203		1,203		1,215		1,215		1,215		13,761
17 Merrimack Scrubber Property Taxes (1)		. 17		17		17		24	24	24		24	24		24		24		24		24		267
18																							
19 Total Merrimack Scrubber O&M, Fuel, SO2, Depr. and Taxes	\$	1,896	\$	1,841	\$	1,689	\$	1,465	\$ 1,465	\$ 1,465	\$	1,911	\$ 1,909	\$	1,569	\$	1,581	\$	1,910	\$	1,998	\$	20,699

<sup>21 (1)</sup> Merrimack Scrubber related property tax impact represents the projection of the non-exempt portion of the project

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#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2012 ENERGY SERVICE RATE CALCULATION MERRIMACK SCRUBBER RETURN ON RATE BASE (Dollars in 000's)

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8															
9		January	February	March	April	May	June	July	August	September	October	November	December		
10	Merrimack Scrubber	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	Total	
11	Return on Rate Base	Estimate													
12															
13															
14	Rate base														
15	Net Plant	\$ 349,288	\$ 348,218	\$ 356,348	\$ 355,249	\$ 354,150	\$ 385,351	\$ 384,148	\$ 382,945	\$ 383,742	\$ 382,527	\$ 381,312	\$ 383,097		
16															
17	Working Capital Allow. (45 days of O&M)	505	505	505	505	505	505	505	505	505	505	505	505		
18	Deferred Taxes	(22,499)	(27,622)	(32,129)	(35,044)	(39,544)	(45,117)	(49,632)	(55,874)	(56,029)	(54,224)	(57,333)	(61,906)	_	
19	Total Rate Base (L15 thru L18)	327,294	321,101	324,724	320,710	315,111	340,739	335,021	327,576	328,218	328,808	324,484	321,696	_	
20															
21	Average Rate Base ( prev + curr month)	328,944	324,198	322,913	322,717	317,911	327,925	337,880	331,299	327,897	328,513	326,646	323,090		
22	x Return	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%	0.8878%		
23	Merrimack Scrubber Return (L21 x L22)	\$ 2,920	\$ 2,878	\$ 2.867	\$ 2.865	\$ 2.822	\$ 2.911	\$ 3,000	\$ 2,941	\$ 2.911	\$ 2.917	\$ 2,900	\$ 2,868	\$ 34,801	

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION MERRIMACK SCRUBBER IMPACT (Dollars in 000s)

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10				
11	Summary of Forecasted and Actual Energy Service	Merrima	ck Scrubber	
12	Cost For January 2011 Through December 2011	To	tal cost	Reference
13				
14	Merrimack Scrubber O&M, Fuel and Avoided SO2 cost	\$	1,369	Attachment RAB-6, page 2
15	Merrimack Scrubber Depreciation Expense		3,100	Attachment RAB-6, page 2
	Merimack scrubber Property Tax Expense		51	Attachment RAB-6, page 2
17	Merrimack Scrubber Return on Rate Base		8,581	Attachment RAB-6, page 3
18				
19	2011 Merrimack Scrubber Under recovery	\$	13,101	

## PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION MERRIMACK SCRUBBER O&M, DEPRECIATION AND TAXES (Dollars in 000s)

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8 9 10 11 <u>Merrimack Scrubber O&amp;M, Depr. &amp; Taxes</u>	2	nuary 011 ctual	2	bruary 2011 Actual		March 2011 Actual		April 2011 Actual		May 2011 Actual		June 2011 Actual		July 2011 Actual		August 2011 Actual		eptember 2011 Actual (1)	2	ctober 2011 stimate	2	vember 2011 timate	 ecember 2011 Stimate	т	Γotal
12	_				_		_				_										_				
13 Merrimack Scrubber Operation & Maintenance Cost	5	-	S	-	\$	-	5	-	5	-	\$	-	\$	-	5	-	S	-	Ş	150	S	150	\$ 300	ذ	600
14 Merrimack Scrubber Fuel Related Cost		-		-		-		-		-		-		-		-		-		230		400	864		1,494
15 Merrimack Scrubber Avoided SO2 cost		-		-		-		-		-		-		-		-		-		(140)		(140)	(445)		(725)
16 Merrimack Scrubber Depreciation Cost		-					-	-			-				•	-		100		1,000		1,000	1,000		3,100
17 Merrimack Scrubber Property Taxes (2)											_				-		-			17		17	 17		51
18 19 Total Merrimack Scrubber O&M, Fuel, SO2, Depr. and Taxes	\$	_	\$		. \$		- \$	-	\$		- \$		. \$		- \$	_	- \$	100	\$	1,257	\$	1,427	\$ 1,736	\$	4,520

20 21 22

<sup>23 (1)</sup> Reflect September 28, 29, & 30, 2011.
24 (2) Merrimack Scrubber related property tax impact represents the projection of the non-exempt portion of the project.

#### PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION MERRIMACK SCRUBBER RETURN ON RATE BASE (Dollars in 000s)

(																													
9		Ja	inuary	Fe	bruary		March		Api	ril		May		Jun	9		July	A	August	s	eptember	0	ctober	Nove	mber	Dece	ember		
10	Merrimack Scrubber	2	2011		2011		2011		201	11	- 2	2011		201	1	2	2011		2011		2011	:	2011	20	11	20	011	Т	otal
11	Return on Rate Base	A	Actual		Actual		Actual		Actual		Α	Actual		Actual		Α	Actual		Actual E		Estimate (1)		Estimate		Estimate		Estimate		
12																													
13																													
14	Rate base																												
15	Net Plant	\$	-	\$	-	\$	-	\$	;	-	\$	-	\$	3	-	\$	-	\$	-	\$	324,516	\$	323,516	\$ 32	2,516	\$ 35	50,352		
16																													
17	Working Capital Allow. (45 days of O&M)		-			-		-		-			-		-		-			-	74		74		74		74		
18	Deferred Taxes		-			-		_		-							-			-	(15,843)		(15,843)		5,843)		19,833)		
19	Total Rate Base (L15 thru L18)		-			-		-		-			-		-		-			-	308,747		307,747	30	6,747	33	30,593		
20																													
21	Average Rate Base ( prev + curr month)		-			-		-		-			-		-		-			-	308,747		308,247		7,247		18,670		
22	x Return		0.9339%		0.93399	%	0.933	9%	0,9	411%		0.9411	%	0.9	11%		0.9322%		0.9322	%	0.9322%		0.8878%		3878%	0.	8878%		
23	Merrimack Scrubber Return (L21 x L22)	\$		\$	-	\$		\$	<u> </u>	-	\$		\$	<u> </u>	-	\$	-	\$	-	\$	288	\$	2,737	\$	2,728	\$	2,829	\$	8,581

26 (1) The Merrimack Scrubber was declared in service effective on September 28, 2011, therefore, the September return was prorated to represent 3/30 for the month or 10% of the monthly return.

Amounts shown above may not add due to rounding.

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