The State of New Hampshire Before the Public Utilities Commission Direct Testimony of Stephen R. Hall Docket No. DE 10-XXX

| Later Section | DE 10-299 |
|---------------|-----------|
| Exhibit No. # | -3 |
| Witness Panal | / |
| DOA | |
| DO I | OM FILE |

- 1 Q. Please state your name, position and business address.
- 2 A. My name is Stephen R. Hall. My business address is PSNH Energy Park, 780 North
- 3 Commercial Street, Manchester, New Hampshire. I am Rate and Regulatory Services
- 4 Manager for Public Service Company of New Hampshire ("PSNH").
- 5 Q. Have you previously testified before the Commission?
- 6 A. Yes, I've testified on numerous occasions before the Commission over the past thirty
- years.
- 8 Q. What is the purpose of your testimony?
- 9 A. The purpose of my testimony is to provide the impact on PSNH's rates of PSNH's
- proposed refinancing of its Series D & E Pollution Control Revenue Bonds (PCRBs) and
- its Series A PCRBs.
- 12 Q. Have you performed a calculation of the impact of the refinancings on PSNH's
- proposed Energy Service (ES) rate?
- 14 A. Yes, we have. Attachment SRH-1 contains workpapers showing the impact of the effect
- of the refinancings on PSNH's proposed ES rate. The impact of each refinancing is
- minimal. In summary, the refinancing of the Series D & E PCRBs would result in no
- change to PSNH's proposed ES rate for effect on January 1, 2011. The refinancing of the
- Series A PCRBs would result in an increase of 0.02¢ per kilowatt-hour to PSNH's

1 proposed ES rate for effect on January 1, 2011. However, as described in Ms. Weber's 2 testimony, PSNH will probably not refinance the Series A PCRBs as of January 1, 2011. 3 Rather, that refinancing will be performed at a future date when it is anticipated that 4 interest rates on the Series A PCRBs are increasing and are likely to continue to increase. 5 Therefore, the impact on the ES rate described above is for illustrative purposes, and 6 assumes that the current interest rate on the bonds would remain the same. 8 Q. Please describe the assumptions that you used in making your calculations.

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A.

The calculations are shown in Attachment SRH-1. We started with the calculations supporting the proposed ES rate that was filed with the Commission on September 21, 2010 in Docket No. DE 10-257 (see pages 5 and 6 of Attachment SRH-1). We then modified the return component applied to rate base to account for the different anticipated cost of debt associated with the refinancing of the Series D & E PCRBs and the refinancing of the Series A PCRBs (see page 9 of Attachment SRH-1 for these calculations). The revised percent return calculation appears on page 7 of Attachment SRH-1 for the Series D & E PCRBs, and on page 8 for the Series A PCRBs. The revised percent return amounts for the Series D & E PCRBs, and for the Series A PCRBs were then used on pages 2 and 4, respectively, to recalculate the dollar amount associated with the returns, and those dollar amounts were substituted on pages 1 and 3 in lieu of the original dollar return amounts appearing on RAB-1, Page 1 of PSNH's September 21, 2010 filing in the ES docket (provided on page 5 of Attachment SRH-1).

As summarized above, these calculations show the proposed ES rate would not change as a result of the Series D & E refinancing, and would increase by about 0.02¢ per kWh due to the Series A refinancing, subject to the caveat discussed above.

| 1 | Q. | Have you performed a similar calculation for the proposed average SCRC rate | ? |
|---|----|---|----|
| | • | you performed a similar calculation for the proposed average SCRC rate | 34 |

- 2 A. Yes, we have. The results show that the proposed refinancings would have no effect on
- 3 the proposed SCRC rate.
- 4 Q. Will there be any impact on other rate components?
- 5 A. No. Distribution rates will not change because under the settlement in the rate case in
- 6 Docket No. DE 09-035, the capital structure, and the cost of capital, is fixed over the term
- 7 of the settlement. Accordingly, the weighted average cost of capital would not change as
- 8 a result of any refinancing or new financing. The Transmission Cost Adjustment
- 9 Mechanism rates would also remain unchanged by these refinancings as the return on the
- working capital is calculated using the same fixed weighted average cost of capital that is
- allowed in the distribution segment
- 12 Q. Does this complete your testimony?
- 13 A. Yes, it does.

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

| 7 | |
|----|--------------------------------------|
| 8 | |
| 9 | |
| 10 | Summary of Forecasted Energy Service |
| | · · · · · · · · · · · · |

| 11 | Cost For January 2011 Through December 2011 | TO | TAL COST | (| Cents per KWH | Reference |
|----|--|-------------|-----------|----|---------------------------------------|--|
| 12 | | | | | · · · · · · · · · · · · · · · · · · · | |
| 13 | Fossil energy costs | \$ | 145,689 | \$ | 2.70 | Attachment RAB-2, page 2 |
| | F/H O&M, depreciation & taxes | * | 152,339 | • | 2.83 | Attachment RAB-2, page 2 |
| 15 | Return on rate base-adjusted for refinancing Ser D & E | | 42,974 | | 0.80 | Attachment RAB-2, page 2 |
| | ISO-NE ancillary | | 6,624 | | 0.12 | Attachment RAB-2, page 2 |
| 17 | Capacity | | 13,806 | | 0.26 | Attachment RAB-2, page 2 |
| 18 | NH RPS | | 10,808 | | 0.20 | Attachment RAB-2, page 2 |
| 19 | RGGI costs | | 3,707 | | 0.07 | Attachment RAB-2, page 2 |
| 20 | Vermont Yankee | | 7,602 | | 0.14 | Attachment RAB-2, page 2 |
| 21 | IPP costs (1) | | 28,836 | | 0.54 | Attachment RAB-2, page 2 |
| 22 | Purchases and sales | | 56,830 | | 1.05 | Attachment RAB-2, page 2 |
| 23 | Return on ES Deferral | | (44) | | (0.00) | Attachment RAB-2, page 2 |
| 24 | | | | • | • • | |
| 25 | Total Forecasted Energy Service Cost | \$ | 469,171 | \$ | 8.71 | |
| 26 | | | | | | |
| | 2009 ES Over/Under Recovery | | (1,482) | | (0.03) | Attachment RAB-3, page 1 |
| 28 | | | | | | |
| | Net Forecasted Energy Service Cost | \$ | 467,689 | | | |
| 30 | , | | | | | |
| 31 | Forecasted Retail MWH Sales | | 5,389,252 | | 8.68 | |
| 32 | | | | | | • |
| 33 | | | | | | |
| 34 | Forecasted Energy Service Rate - | | | | | |
| 35 | cents Per KWH (line 30 / Line 32) | \$ | 8.68 | | | <based 2010="" adjustments<="" capital="" forma="" on="" pro="" q3="" structure,="" td=""></based> |
| 36 | | | | = | | |
| 37 | Forecasted Energy Service Rate - | | | | | |
| 38 | cents Per KWH as filed | \$ | 8.68 | | | <based 2010="" capital="" on="" q2="" structure<="" td=""></based> |
| 39 | | | | = | | |
| | Difference (Decrease)/Increase | e | (0.00) | | | |
| 41 | | - | (0.00) | = | | |

41 42 (1) The IPP costs represent the forecasted market value of IPP generation.

Dated: 09/21/2010 Attachment RAB-2 Page 6

Attachment SRH-1 Page 2 of 10

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

| 8 9 10 11 12 13 | Return on Rate Base | January 2011 Estimate | | February 2011 Estimate | March 2011 Estimate | April 2011 Estimate | May 2011 Estimate | June 2011 Estimate | July 2011 Estimate | August 2011 Estimate | September 2011 Estimate | October 2011 Estimate | November 2011 Estimate | December 2011 Estimate | Total |
|--------------------------------|---|-----------------------------|------|------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-------------------------------|-----------------------------|------------------------------|------------------------------|-----------|
| 14 | Rate base | | | | | • | | | | | A 1 | | | | |
| 15 16 | Net Plant | 304,33 | 37 | 302,924 | 301,512 | 303,316 | 307,464 | 306,320 | 305,437 | 304,437 | 306,740 | 308,994 | 316,113 | 315,713 | |
| | Working Capital Allow. (45 days of O&M) Fossil Fuel Inventory | 14,30 | | 14,309 | 14,309 | 14,309 | 14,309 | 14,309 | 14,309 | 14,309 - | 14.309 | 14,309 | 14,309 | 14,309 | |
| | Mat'ls and Supplies | 55,32 | | 54,628 | 47,108 | 47,141 | 47,178 | 47,216 | 47,253 | 47,291 | 47.321 | 47,353 | 47,396 | 47,446 | |
| | Prepayments | 55,50 | | 55,552 | 55,677 | 55,823 | 56,037 | 56,427 | 56,520 | 56,635 | 56,927 | 57,029 | 57,355 | 58,198 | |
| | Deferred Taxes | 2,42 | | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | 2,428 | |
| | | (17,12 | • | (15,961) | (16,020) | (15,918) | (14,905) | (18,194) | (17,048) | (15,788) | (17,418) | (20,177) | (19,210) | (17,099) | |
| | Other Regulatory Obligations Total Rate Base (L15 thru L22) | (17,55 | | (18,844) | (20,337) | (21,549) | (22,778) | (12,567) | (14,034) | (15,487) | (17,158) | (18,411) | (19,653) | (20,936) | |
| 24 | rotal Rate base (L15 thru L22) | 397,22 | 26 | 395,035 | 384,676 | 385,549 | 389,732 | 395,938 | 394,865 | 393,824 | 393,148 | 391,524 | 398,736 | 400,058 | |
| 25 26 | Average Rate Base (prev + curr month) x Return | 397,22 0.9107 | % | 396,131 0.9107% | 389,856 0.9107% | 385,113 0.9107% | 387,641 0.9107% | 392,835 0.9107% | 395,401 0.9107% | 394,345 0.9107% | 393,486 0.9107% | 392,336 0.9107% | 395,130 0.9107% | 399,397 0.9107% | |
| 27 | Return (L25 x L26) | \$ 3,61 | 7 \$ | 3,608 \$ | 3,550 | 3,507 \$ | 3,530 | 3,577 \$ | 3,601 | 3,591 | \$ 3,583 \$ | 3,573 | \$ 3.598 | \$ 3,637 | \$ 42,974 |

Amounts shown above may not add due to rounding.

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

| 6 | |
|---|--|
| 7 | |
| 8 | |
| ^ | |

| 9 | | | | | | |
|----|--|--------------|-----------|-------|---------|--|
| 10 | Summary of Forecasted Energy Service | | | | | |
| | Cost For January 2011 Through December 2011 | TO | TAL COST | Cents | per KWH | Reference |
| 12 | | | | | | |
| | Fossil energy costs | \$ | 145,689 | \$ | 2.70 | Attachment RAB-2, page 2 |
| | F/H O&M, depreciation & taxes | | 152,339 | | 2.83 | Attachment RAB-2, page 2 |
| 15 | Return on rate base-adjusted for refinancing Ser A | | 44,220 | | 0.82 | Attachment RAB-2, page 2 |
| 18 | ISO-NE ancillary | | 6,624 | | 0.12 | Attachment RAB-2, page 2 |
| | Capacity | | 13,806 | | 0.26 | Attachment RAB-2, page 2 |
| | NH RPS | | 10,808 | | 0.20 | Attachment RAB-2, page 2 |
| | RGGI costs | | 3,707 | | 0.07 | Attachment RAB-2, page 2 |
| | Vermont Yankee | | 7,602 | | 0.14 | Attachment RAB-2, page 2 |
| 21 | IPP costs (1) | | 28,836 | | 0.54 | Attachment RAB-2, page 2 |
| 22 | Purchases and sales | | 56,830 | | 1.05 | Attachment RAB-2, page 2 |
| | Return on ES Deferral | | (44) | | (0.00) | Attachment RAB-2, page 2 |
| 24 | | | | | | • |
| 25 | Total Forecasted Energy Service Cost | \$ | 470,416 | \$ | 8.73 | |
| 26 | | | | | | |
| 27 | 2009 ES Over/Under Recovery | | (1,482) | | (0.03) | Attachment RAB-3, page 1 |
| 28 | | - | | | | |
| 29 | Net Forecasted Energy Service Cost | \$ | 468,934 | | | |
| 30 | | | | | | |
| 31 | Forecasted Retail MWH Sales | | 5,389,252 | | 8.70 | |
| 32 | | | | | | • |
| 33 | | | | | | |
| 34 | Forecasted Energy Service Rate - | | | | | |
| 35 | cents Per KWH (line 30 / Line 32) | \$ | 8.70 | | | <based 2010="" :<="" capital="" on="" q3="" td=""></based> |
| 36 | · | 2 | | : | | |
| 37 | Forecasted Energy Service Rate - | | | | | |
| 38 | cents Per KWH as filed | \$ | 8.68 | | | <based 2010="" :<="" capital="" on="" q2="" td=""></based> |
| 39 | | | | ; | | • |
| | Difference (Decrease)/Increase | | 0.00 | | | |
| 70 | emerence (peciease)micrease | \$ | 0.02 | | | |

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

Dated: 09/21/2010 Attachment RAB-2 Page 6

> Attachment SRH-1 Page 4 of 10

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

| 9 10 11 12 13 | Return on Rate Base | January 2011 Estimate | February 2011 Estimate | March 2011 Estimate | April 2011 Estimate | May 2011 Estimate | June 2011 Estimate | July 2011 Estimate | August 2011 Estimate | September 2011 Estimate | October 2011 Estimate | November 2011 Estimate | December 2011 Estimate | Total |
|---------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------|
| 14 15 16 | Net Plant | 304,337 | 302,924 | 301,512 | 303,316 | 307,464 | 306,320 | 305,437 | 304,437 | 306,740 | 308,994 | 316,113 | 315,713 | |
| 19 20 21 22 | Working Capital Allow. (45 days of O&M) Fossil Fuel Inventory Mat'ls and Supplies Prepayments Deferred Taxes Other Regulatory Obligations Total Rate Base (L15 thru L22) | 14,309 55,326 55,501 2,428 (17,123) (17,551) 397,226 | 14,309 54,628 55,552 2,428 (15,961) (18,844) 395,035 | 14,309 47,108 55,677 2,428 (16,020) (20,337) 384,676 | 14,309 47,141 55,823 2,428 (15,918) (21,549) 385,549 | 14,309 47,178 56,037 2,428 (14,905) (22,778) 389,732 | 14,309 47,216 56,427 2,428 (18,194) (12,567) 395,938 | 14,309 47,253 56,520 2,428 (17,048) (14,034) 394,865 | 14,309 47,291 56,635 2,428 (15,788) (15,487) 393,824 | 14,309 47,321 56,927 2,428 (17,418) (17,158) 393,148 | 14,309 47,353 57,029 2,428 (20,177) (18,411) 391,524 | 14,309 47,396 57,355 2,428 (19,210) (19,653) 398,736 | 14,309 47,446 58,198 2,428 (17,099) (20,936) 400,058 | |
| 25 26 | Average Rate Base (prev + curr month) x Return Return (L25 x L26) | 397,226 0.9371% \$ 3,722 \$ | 396,131 0.9371% 3,712 \$ | 389,856 0.9371% 3,653 | 385,113 0.9371% \$ 3,609 \$ | 387,641 0,9371% 3,632 \$ | 392,835 0.9371% 3,681 \$ | 395,401 0.9371% 3,705 \$ | 394,345 0.9371% 3,695 | 393,486 0.9371% 3,687 \$ | 392,336 0.9371% 3,676 \$ | 395,130 0.9371% | 399,397 0.9371% | \$ 44,220 |

Amounts shown above may not add due to rounding.

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

| 9 | | | | | | |
|----|--------------------------------------|---|--|---------|--------|--------------------------|
| 10 | Summary of Forecasted Energy Service | | | | | |
| 11 | | TO | TAL COST | Cents p | er KWH | Reference |
| 12 | | | | | | |
| 13 | Fossil energy costs | \$ | 145,689 | \$ | 2.70 | Attachment RAB-2, page 2 |
| 14 | F/H O&M, depreciation & taxes | • | 152,339 | • | 2.83 | Attachment RAB-2, page 2 |
| 15 | Return on rate base | | 43,187 | | 0.80 | Attachment RAB-2, page 2 |
| 16 | ISO-NE ancillary | | 6,624 | | 0.12 | Attachment RAB-2, page 2 |
| 17 | Capacity | | 13,806 | | 0.26 | Attachment RAB-2, page 2 |
| 18 | NH RPS | | 10,808 | | 0.20 | Attachment RAB-2, page 2 |
| 19 | RGGI costs | | 3,707 | | 0.07 | Attachment RAB-2, page 2 |
| 20 | Vermont Yankee | | 7,602 | | 0.14 | Attachment RAB-2, page 2 |
| | IPP costs (1) | | 28,836 | | 0.54 | Attachment RAB-2, page 2 |
| 22 | Purchases and sales | | 56,830 | | 1.05 | Attachment RAB-2, page 2 |
| 23 | Return on ES Deferral | | (44) | | (0.00) | Attachment RAB-2, page 2 |
| 24 | | *************************************** | ······································ | • | ` ′ | , |
| 25 | Total Forecasted Energy Service Cost | \$ | 469,384 | \$ | 8.71 | |
| 26 | | | | | | |
| 27 | 2009 ES Over/Under Recovery | | (1,482) | | (0.03) | Attachment RAB-3, page 1 |
| 28 | * | | | , | | |
| 29 | Net Forecasted Energy Service Cost | \$ | 467,902 | | | |
| 30 | | | | | | |
| 31 | Forecasted Retail MWH Sales | | 5,389,252 | | 8.68 | |
| 32 | | | | | | • |
| 33 | | | | | | |
| 34 | Forecasted Energy Service Rate - | | | | | |
| 35 | cents Per KWH (line 30 / Line 32) | \$ | 8.68 | | | |
| | (| | 0.00 | | | |
| | | | | | | |

^{36 (1)} The IPP costs represent the forecasted market value of IPP generation.

2 3 PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE 2011 ENERGY SERVICE RATE CALCULATION FOSSIL/HYDRO RETURN ON RATE BASE (Dollars in 000's) Dated: 09/21/2010 Attachment RAB-2 Page 6

Attachment SRH-1 Page 6 of 10

| 9 10 11 12 13 | Return on Rate Base | Janua 2011 Estima | - | February 2011 Estimate | March 2011 Estimate | April 2011 Estimate | May 2011 Estimate | June 2011 Estimate | July 2011 Estimate | August 2011 Estimate | September 2011 Estimate | October 2011 Estimate | November 2011 Estimate | December 2011 Estimate | . Total |
|----------------------------|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|---|---|-----------|
| 14 15 16 | Rate base Net Plant | 304, | 337 | 302,924 | 301,512 | 303,316 | 307,464 | 306,320 | 305,437 | 304,437 | 306,740 | 308,994 | 316,113 | 315,713 | |
| 19 20 21 22 23 | Working Capital Allow. (45 days of O&M) Fossil Fuel Inventory Mat'ls and Supplies Prepayments Deferred Taxes Other Regulatory Obligations Total Rate Base (L15 thru L22) | 14,5 55,5 55,5 2,4 (17,1 (17,5 397,2 | 326 501 28 23) 51) | 14,309 54,628 55,552 2,428 (15,961) (18,844) 395,035 | 14,309 47,108 55,677 2,428 (16,020) (20,337) 384,676 | 14,309 47,141 55,823 2,428 (15,918) (21,549) 385,549 | 14,309 47,178 56,037 2,428 (14,905) (22,778) 389,732 | 14,309 47,216 56,427 2,428 (18,194) (12,567) 395,938 | 14,309 47,253 56,520 2,428 (17,048) (14,034) 394,865 | 14,309 47,291 56,635 2,428 (15,788) (15,487) 393,824 | 14,309 47,321 56,927 2,428 (17,418) (17,158) 393,148 | 14,309 47,353 57,029 2,428 (20,177) (18,411) 391,524 | 14,309 47,396 57,355 2,428 (19,210) (19,653) | 14,309 47,446 58,198 2,428 (17,099) (20,936) | |
| 26 | The second of the second secon | 397,2 0.915 \$ 3,6 | | 396,131 0,9152% 3,625 | 389,856 0.9152% 3,568 | 385,113 0.9152% \$ 3,525 | 387,641 0.9152% \$ 3,548 \$ | 392,835 0.9152% | 395,401 0.9152% 3,619 | 394,345 0.9152% | 393,486 0.9152% | 392,336 0.9152% | 398,736 395,130 0.9152% \$ 3,616 | 399,397 0.9152% \$ 3,655 | \$ 43,187 |

Amounts shown above may not add due to rounding.

Public Service Company of New Har e and Subsidiaries Capitalization @ 9/30/10 - Pro Forma—Refin of Series D PCRBs and Series E PCRBs—for FH Purposes Onl

| 2. | Capitalization @ 9/30/10 - P | 'ro Forma–Refin o | f Series D PCRBs ar | d Series E PCRBs-f | or FH Pu | rooses Only | | | |
|--|--|--|--|--|--|--|--|--|----------------------------------|
| 3 4 5 6 7 | [A] | [B] Unamor Issuance Expense | [C] Net Balance [A] + [B] | [D] Annualized Amor, Expense | [E] Int Rate | [F] Ann. Int. Exp. | [G] Total Ann, Exp. [D] + [F] | [H] Eff. Int. Rate [G]/[C] | Attachment SRH-1 Page 7 of 10 |
| 8 PCRB Series A Tax-Exempt 9 PCRB Series B Tax-Exempt-FR 10 PCRB Series C Tax-Exempt 11 PCRB Series D Tax-Exempt-REFIN 12 PCRB Series E Tax-Exempt-REFIN 13 FMB Series L - 2004 14 FMB Series M - 2005 15 FMB Series N - 2007 16 FMB Series O - 2008 17 FMB Series P - 2009 18 Total Debt 19 | 89,250,000 89,250,000 108,985,000 75,000,000 44,800,000 50,000,000 70,000,000 110,000,000 150,000,000 837,285,000 | (3,255,479) (4,190,122) (4,522,270) (2,398,511) (1,501,174) (243,402) (578,996) (627,993) (1,563,058) (1,609,830) (20,490,834) | 85,994,521 85,059,878 104,462,730 72,601,489 43,298,826 49,756,598 49,421,004 69,372,007 108,436,942 148,390,170 816,794,166 | 413,404 501,744 427,301 230,507 144,387 63,496 23,160 89,211 206,117 175,651 2,274,978 | 0.40% 4.75% 5.45% 3.65% 3.65% 5.25% 5.60% 6.15% 6.00% 4.50% | 357,000 4,239,375 5,939,683 2,737,500 1,635,200 2,625,000 2,800,000 4,305,000 6,600,000 6,750,000 37,988,758 | 770,404 4,741,119 6,366,984 2,968,007 1,779,587 2,688,496 2,823,160 4,394,211 6,806,117 6,925,651 40,263,736 | | Pro forma |
| 20 21 22 23 24 25 26 | [A] Balance-LTD | [B] Capitalization Percentage | [C] Embedded Cost/Return | Pro forma [D] Weighted Avg. [B] * [C] | | [E] Tax Gross-up [D]/ [1-TR] | Pro forma [F] Tax-Adjusted Return | 5.2290% Pro forma [G] Return By Month | Actual Q3 2010 |
| 27 Capitalization— 28 LTD—use net of issuance exp-above 29 Total OCI Adj Equity 30 Total 31 32 33 34 | 816,794,166 880,285,981 1,697,080,147 | 48.1294% 51.8706% 100.0000% | 4.9295% 9.8100% (Decrease) | 2.3725% 5.0885% 7.4610% 7.6017% | | N/A 8.5557% | 2.3725% 8.5557% 10.9282% 11.0639% (Decrease) | 0.910687% | Actual Q3 2010 |

| 2 | Capitalization | olic Service Compai @ 9/30/10 - Pro Form | ny of New H na–Refin of Serves A | ire and Subsidiaries A PCRBs—for FH Pur | poses On | Jy | | | |
|---|---|--|--|--|--|---|---|--|----------------------------------|
| 5 6 7 | [A] Balance-LTD | [B] Unamor Issuance Expense | [C] Net Balance [A] + [B] | [D] Annualized Amor. Expense | [E] Int Rate | [F] Ann. Int. Exp. [A] X [E] | [G] Total Ann. Exp. | | Attachment SRH-1 Page 8 of 10 |
| 8 PCRB Series A Tax-Exempt REFIN 9 PCRB Series B Tax-Exempt-FR 10 PCRB Series C Tax-Exempt 11 PCRB Series D Tax-Exempt 12 PCRB Series E Tax-Exempt 13 FMB Series L - 2004 14 FMB Series M - 2005 15 FMB Series N - 2007 16 FMB Series O - 2008 17 FMB Series P - 2009 18 Total Debt | 89,250,000 89,250,000 108,985,000 75,000,000 44,800,000 50,000,000 70,000,000 110,000,000 150,000,000 837,285,000 | (4,094,804) (4,190,122) (4,522,270) (907,511) (522,554) (243,402) (578,996) (627,993) (1,563,058) (1,609,830) | 85,155,196 85,059,878 104,462,730 74,092,489 44,277,446 49,756,598 49,421,004 69,372,007 108,436,942 148,390,170 818,424,461 | 494,892 501,744 427,301 85,749 | 3.65% 4.75% 5.45% 6.00% 6.00% 5.25% 5.60% 6.15% 6.00% 4.50% | 3,257,625 4,239,375 5,939,683 4,500,000 2,688,000 2,625,000 2,800,000 4,305,000 6,600,000 | 4,741,119 6,366,984 4,585,749 2,737,375 2,688,496 2,823,160 4,394,211 6,806,117 6,925,651 | | |
| 20 21 22 23 | | | - | 2,110,077 | | 43,704,683 | 45,821,380 | | Pro forma Actual Q3 2010 |
| 24 25 26 27 Capitalization— | [A] Balance-LTD | [B] Capitalization Percentage | [C] Embedded Cost/Return | Pro forma [D] Weighted Avg. [B] * [C] | | [E] Tax Gross-up [D]/ [1-TR] | Pro forma [F] Tax-Adjusted Return | Pro forma [G] Return By Month | |
| 28 LTDuse net of issuance exp-above 29 Total OCI Adj Equity 30 Total 31 | 818,424,461 880,285,981 1,698,710,442 | 48.1792% 51.8208% 100.0000% | 5.5987% 9.8100% | 2.6974% 5.0836% 7.7810% | | N/A 8.5475% | 2.6974% 8.5475% 11.2449% | 0.937077% | |
| 32 33 34 | · | I | ncrease | 7.6017% 0.1793% | | | 11.0639% Increase | 0.921992% <i>1</i> | Actual Q3 2 <u>0</u> 10 |

| 4 | 1 | | | | | | | Page |
|----------|--|------------------|------------------------|--------------------|-----------------------------|-------------|-----------------------------|------------------------------|
| 6 | 5 <u>1Series D and Series E</u> | [A] | [B] Unamor Issuance | [C] Net Balance | [D] | [E] | [F] | [G] |
| 8 | 3 | Balance-LTD | Expense | [A] + [B] | Annualized Amor, Expense | Int Rate | Ann. Int, Exp. [A] X [E] | Total Ann. Exp. [D] + [F] |
| 10 | DCDD Carries D. True Francisco | | | | | | [12] 77 [2] | [6] . [1] |
| | PCRB Series D Tax-Exemptupdated 3rd qtr | 75,000,000 | (907,511) | 74,071,051 | 85,749 | 6.00% | 4,500,000 | 4,585,749 |
| 11 | Refinancing costs and call premiums (1) | | (1,491,000) | | | | | |
| 12 | 2 Amortization of refin/call premium over 10.3 yrs (124 mths) 3 Recalculated interest costs /new int rate | | | | 144,757 | | | |
| | I (Incr) / Decr in int costs-Ser D | 75,000,000 | (2,398,511) | 72,601,489 | 230,507 | 3.65% | 2,737,500 | 2,968,007 |
| 15 | | | | | | | | 1,617,743 |
| 16 | | | | | | | | |
| 17 | PCRB Series E Tax-Exempt—updated 3rd qtr | 44,800,000 | (522,554) | 44,265,102 | 49,375 | 6.00% | 2,688,000 | 2,737,375 |
| | Refinancing costs and call premiums (2) | - | (978,620) | | | | | |
| 19 | Amortization of refin/call premium over 10.3 yrs (124 mths) | | | | 95,012 | | | |
| | Recalculated interest costs / new int rate | 44,800,000 | (1,501,174) | 43,298,826 | 144,387 | 3.65% | 1,635,200 | 1,779,587 |
| | (Incr) / Decr in int costs-Ser E | | | | | | _ | 957 ,7 88 |
| 22 | | | | | | | _ | |
| 23 | 3 Total annual (Incr) / Decr in int costs | | | | | | - | 2,575,531 |
| 24 | Į. | | | | | | _ | |
| 25 26 | 5 (1) Series D fees of \$741,000 and a call premium of \$750,000, totalling \$1, | 491,000. Amor pe | riod between 1/1/20 | 11 and the matu | rity date of 5/1/2 | 2021 is 124 | months | |

27 (2) Series E fees of \$530,620 and a call premium of \$448,000, totalling \$978,620. Amor period between 1/1/2011 and the maturity date of 5/1/2021 is 124 months 28

31 32 33

29 30

| 32 33 34 35 | <u>2Series A</u> | [A] Balance-LTD | [B] Unamor Issuance Expense | [C] Net Balance [A] + [B] | [D] Annualized Amor, Expense | [E] Int Rate | [F] Ann. Int. Exp. [A] X [E] | [G] Total Ann. Exp. [D] + [F] |
|----------------------|--|-----------------|-----------------------------------|---------------------------------|------------------------------------|-----------------|------------------------------------|-------------------------------------|
| | ries A Tax-Exemptupdated 3rd qtr | 89,250,000 | (3,255,479) (839,325) | 85,994,521 | 413,404 | 0.40% | 357,000 | 770,404 |
| 39 Amortiza | ing costs and call premiums (1) ation of refin/call premium over 10.3 yrs (124 mths) | 89,250,000 | (4,094,804) | 85,155,196 | 81,488 494,892 | 3.65% | 3,257,625 | 3,752,517 |
| 40 Recalcula 41 | ated interest costs /new int rate | 07,230,000 | (1001) | 00/20/20 | | | | (2,982,113) |

42 Total annual (Incr) / Decr in int costs

44 (1) Includes Series A fees of \$839,325. There are no MBIA insurance termination costs or call premium. Amortization period between 1/1/2011 and the maturity date of

45 5/1/2021 is 124 months

Public Service Co____iy of New Hampshire and Subsidiaries Capitalization @ 9/30/10 - for FH Purposes Only

| | | , , | Poses Offix | | | | • |
|--|--|---|---|--|--|--|-------------------------|
| [A] | [B] | [C] | [D] | Tiri | | Attachment SF Page 10 c | |
| Balance-LTD | Unamor Issuance Expense | Net Balance [A] + [B] | Annualized Amor. Expense | [E] Int Rate* | [F] Ann. Int. Exp. [A] X [E] | [G] Total Ann. Exp. [D] + [F] | [H] Eff. Int. Ri |
| 89,250,000 89,250,000 108,985,000 75,000,000 44,800,000 50,000,000 70,000,000 110,000,000 150,000,000 837,285,000 | (3,255,479) (4,190,122) (4,522,270) (907,511) (522,554) (243,402) (578,996) (627,993) (1,563,058) (1,609,830) | 85,994,521 85,059,878 104,462,730 74,092,489 44,277,446 49,756,598 49,421,004 69,372,007 108,436,942 148,390,170 | 413,404 501,744 427,301 85,749 49,375 63,496 23,160 89,211 206,117 175,651 | 0.40% 4.75% 5.45% 6.00% 6.00% 5.25% 5.60% 6.15% 6.00% 4.50% | 357,000 4,239,375 5,939,683 4,500,000 2,688,000 2,625,000 2,800,000 4,305,000 6,600,000 6,750,000 | 770,404 4,741,119 6,366,984 4,585,749 2,737,375 2,688,496 2,823,160 4,394,211 6,806,117 6,925,651 | <u>[G]/[C]</u> |
| 837,285,000 | (18,021,214) | 819,263,786 | 2,035,209 | ±.50% _ | 40,804,058 | | 6,925,651 42,839,267 |

2.5206%

8.5433%

11.0639%

[G]

By Month

0.9219

Return

| [A] | [B] | [C] | [D] | [E] | [F] | |
|---------------|------------------------------|-------------------------|-------------------------|-----------------------------|------------------------|--|
| Balance-LTD | Capitalization Percentage | Embedded Cost/Return | Weighted Avg. [B] * [C] | Tax Gross-up [D]/ [1-TR] | Tax-Adjusted Return | |
| 819,263,786 | 40.00400/ | | | | | |
| 880,285,981 | 48.2048% 51.7952% | 5.2290% 9.8100% | 2.5206% 5.0811% | N/A 8.5433% | 2.520 8.543 | |
| 1,699,549,767 | 100.0000% | 3.010070 | 7.6017% | 6.3433 % | 11.063 | |

8 PCRB Series A Tax-Exempt 9 PCRB Series B Tax-Exempt-FR 10 PCRB Series C Tax-Exempt 11 PCRB Series D Tax-Exempt 12 PCRB Series E Tax-Exempt 13 FMB Series L - 2004 14 FMB Series M - 2005 15 FMB Series N - 2007 16 FMB Series O - 2008 17 FMB Series P - 2009 18 Total Debt

26

31

30 Total

27 Capitalization---

29 Total OCI Adj Equity

28 LTD--use net of issuance exp-above

32 *--Series A is variable rate debt