

**THE STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE SITE EVALUATION COMMITTEE
DOCKET NO. 2015 - 06**

**SUPPLEMENTAL PRE-FILED DIRECT TESTIMONY
OF
DR. LISA K. SHAPIRO**

**IN SUPPORT OF THE
APPLICATION OF NORTHERN PASS TRANSMISSION LLC
AND PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
D/B/A EVERSOURCE ENERGY
FOR A CERTIFICATE OF SITE AND FACILITY TO CONSTRUCT A NEW
HIGH VOLTAGE TRANSMISSION LINE AND RELATED FACILITIES IN
NEW HAMPSHIRE**

April 17, 2017

1 **Qualifications and Purpose of Testimony**

2 **Q. Please state your name, title and business address.**

3 A. My name is Lisa K. Shapiro and my business address is 214 North Main Street,
4 Concord, New Hampshire 03301. I am Chief Economist at Gallagher, Callahan & Gartrell, P.C.

5 **Q. What is the purpose of your supplemental testimony?**

6 A. The purpose of my testimony is to respond to certain estimates, statements, and
7 analyses put forward by Kavet, Rockler & Associates LLC (“KRA”) on behalf of the Counsel for
8 the Public (“CFP”), and George E. Sansoucy (“Sansoucy”) on behalf of certain municipalities
9 (“Towns”).

10 More specifically, the purpose of my testimony is to demonstrate that KRA’s estimate of
11 the benefits from taxes paid by the Northern Pass Transmission Project (“Northern Pass” or
12 “Project”) has errors in both the estimation of the taxes and the application of the REMI model,
13 so that KRA understates and mis-characterizes the tax benefits from the project. The purpose of
14 my testimony is also to respond to certain assertions made by the Towns about the Applicants’
15 tax analysis.

16 **First Year Tax Benefits**

17 **Q. What would be the new tax revenue in the first full year of operation to New
18 Hampshire as projected by the Towns, KRA, and the Applicants?**

19 A. Northern Pass would be subject to a number of different taxes at the state and
20 local level. At the state level, Northern Pass would be subject to the business profits tax and the
21 state utility education property tax. At the local level, it would pay municipal, education and
22 county taxes.

23 For NH state business profits taxes, the Towns estimated that the first year would be
24 \$13.2 million (Sansoucy Pre-filed Testimony, December 30, 2016, Exhibit 17, line 17). KRA did
25 not consider benefits from Northern Pass state business taxes in their analysis, although they did
26 request the data from the Applicants and it was provided, and the Applicants provided a 40-year
27 New Hampshire state business profits tax schedule to KRA. See Counsel for the Public Expert-
28 Assisted data request EXP 1-106 attached hereto as Attachment A.

29 For aggregate first year state and local property taxes, Towns estimated \$37.5 million.
30 See Sansoucy Pre-filed Testimony, December 30, 2016, Exhibit 17, line 20. KRA estimated

1 \$33.5 million. *See* KRA Report, December 30, 2016, pg. 51. The Applicants provided a range-
2 estimate of \$35 to \$40 million. *See* Shapiro Pre-filed Testimony, October 16, 2015, pg. 2, line 9.

3 **Q. Please explain the different methodologies the parties used to estimate the**
4 **first year total property taxes paid?**

5 A. The Towns provided an aggregate estimate by taking a generalized rate of 2.5
6 percent of value.

7 KRA created an “effective tax rate,” which it applies to the utility property value. The
8 effective tax rate is calculated from the New Hampshire Department of Revenue Administration
9 (“DRA”) gross property values and gross property taxes in New Hampshire.

10 The Applicants consider the aggregate estimate to be the same as the Towns estimated,
11 and also builds a town-by-town model using actual property values, tax rates, and a range of
12 assumptions about the Northern Pass property value and tax rates.

13 **Q. Is KRA’s method supported by the definition of property taxes in NH?**

14 A. No, it is not. In New Hampshire, utilities pay a different statewide education tax
15 rate than non-utility property (residential, commercial, and industrial). *See, e.g.*, RSA 72, 76, 82,
16 83-F.

17 KRA thus mistakenly includes \$363 million of non-utility state education tax revenues in
18 its gross liabilities numbers, but fails to include the substantial \$6.60 per thousand utility state
19 education property tax rate in its calculation of an “effective tax rate.” *See, e.g.*, RSA 76:3, 83-
20 F:2.

21 **Q. What is the impact of the KRA’s errors on their estimate of Northern Pass**
22 **aggregate property taxes?**

23 A. Adjusting the KRA tax rate changes the KRA estimate to \$40.2 million, \$6
24 million more than its deficient “effective tax rate.” See Attachment B.

25 **Q. Do you agree that the corrected KRA is the best estimate?**

26 A. No, I do not. Both the KRA as-filed estimate and the corrected estimate provided
27 above are outside of the Applicants’ range including the Towns’ point estimate.

1 **Estimating The Economic Benefits From Northern Pass Tax Payments**

2
3 **Q. How does KRA use a model to estimate the benefits from Northern Pass’s**
4 **payment of taxes?**

5 A. KRA uses a REMI model. For its inputs, KRA assumes that 50 percent of the
6 Northern Pass property tax revenue will be used for increased government spending and 50
7 percent for debt reduction.

8 **Q. Do you agree that the tax benefits from Northern Pass can be thought of**
9 **exclusively as either increased spending or debt reduction?**

10 A. No, I do not. I think it is reasonable to assume that half the new property tax
11 revenue would end up in increased spending. But to say that the other half would fully be used
12 for debt reduction does not take into account the embedded trends in local decision-making
13 regarding spending decisions.

14 **Q. Why is it neither reasonable nor standard for KRA to assume that the other**
15 **50 percent would be used for debt reduction?**

16 A. Because in New Hampshire, local budgets are set first and the tax rate is then
17 calculated depending on the taxable base in the community. With the addition of a large new
18 taxable property, the calculated tax rate will be reduced. Thus, existing property owners will pay
19 less than they would otherwise, all else being equal. *See* Shapiro Report, pg. 7, discussion of tax
20 suppression effect, Base Case 2. *See also Groton Wind, LLC*, SEC Docket No. 2010-01,
21 Application for Certificate of Site and Facility Appx. 36 at 18 (Report of Ross Gittell)
22 (concluding that new tax revenues “would have either 1) provided additional funds of over 40%
23 of existing tax revenues for town services, or 2) reduced the total tax burden”); *Merrimack*
24 *Valley Reliability Project*, SEC Docket No. 2015-05, Application for Certificate of Site and
25 Facility Appx. AJ at 8 (Report of Alfred Morrissey) (“These property tax revenues are entered
26 into REMI as an increase in local government spending [in] order to estimate their potential
27 economic impact.”)

28 **Q. Does KRA believe that debt reduction is a benefit?**

29 A. Yes. KRA refers to the “additional longer term positive effects from assumed
30 public debt retirement via property tax revenues from the project.” *See* KRA Report, pg. 75.

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Q. How does KRA model public debt reduction as an input into REMI, and does it lead to an increase in economic benefits accrued to the project?

A. Despite characterizing debt reduction as a benefit, KRA enters debt reduction as a negative number into the REMI input variable “local government spending.” This would appear likely to reduce their estimated benefits from Northern Pass property taxes. KRA then takes 50 percent of their deficient property tax payment estimate and enters it as increased dollars for local government spending. But then, it effectively reduces the first year input in local government spending by \$819,000 due to debt reduction (KRA, workbook Plymouth, Property Tax, NH Forward Estimates (122716) cell U157) which serves to reduce the overall benefit from taxes although it previously stated debt reduction was a benefit.

Q. Are there other deficiencies in the way KRA develops inputs into the REMI model for estimating the benefits from the Northern Pass tax payments?

A. Yes. KRA does not include any potential increased government spending due to the increase in state business taxes, and its 50 percent of property tax estimate is based on a too-low estimate. Furthermore, it only considers one scenario for modeling future tax rate changes; it assumes that the tax rate will be constant for the next 40 years by relying upon aggregate long term trends, and ignoring the wide variation in local fiscal conditions across the 31 host communities. *See for example* Shapiro Report, October 16, 2015, pg. 12, Figure 6.

Q. Did KRA consider the local community benefits of lower taxes for other property owners as a result of Northern Pass?

A. KRA considered in its REMI modeling the allocation of Northern Pass tax revenue as 1/3 of total amount for local government spending, 1/3 of total amount for reduced tax payment, and 1/3 for Debt Relief. In that specification of REMI inputs, it considered entering an approximate \$11 million reduction in personal tax payments. *See* KRA, workbook Plymouth, Property Tax, NH Forward Estimates (122716) cells S152 to U157.

Q. How does KRA measure the property tax benefits from Northern Pass from this tax relief?

A. KRA ignored that benefit and chose not to include that scenario in its Report. KRA only considered one specification and one set of inputs into the REMI model for estimating

1 property tax benefits: it modeled the entire property tax benefit as a 50 percent increase
2 (approximately \$16 million increase in the REMI input variable local government spending) and
3 50 percent debt reduction (approximately \$819,000 reduction in the REMI input variable local
4 government spending). Reducing the tax burden for property tax payers is not considered
5 outside of this narrow and incorrect consideration of debt reduction in the analysis or the results.

6 **Q. Did the Applicants consider the benefit from tax relief in its modeling of the**
7 **tax benefits?**

8 A. Yes.

9 **Q. How does your analysis handle that?**

10 A. A range of scenarios were considered in estimating the first year property tax
11 benefit. As reported in Figure 4 in the Shapiro Report, Base Case 1 is a simulation derived from
12 a straight-forward tax-rate-times-value. Base Case 2 assumes a similar level of spending; thus,
13 all the new tax revenue from Northern Pass is used to lower the tax rate rather than increase
14 spending.

15 Detailed town by town estimates of the savings to tax payers from the addition of
16 Northern Pass tax payments locally were also provided in Appendix A in the Shapiro Report and
17 in the work papers turned over to KRA.

18 **Q. Please explain how an assumption that 50 percent of the new tax revenue**
19 **from Northern Pass be used for tax relief for other tax payers can be derived from your**
20 **analysis?**

21 A. Please see Attachment C. The Applicants provide an estimate of the tax benefits
22 stated as savings per \$100,000 of taxable value under the scenario where 100 percent of the new
23 revenue is used for tax relief. The third column provides an estimate of half that benefit,
24 consistent with the analysis of 50 percent of the Northern Pass tax revenue is used for increased
25 spending, and 50 percent for tax relief.

1 McNamara, J.), the Court rejected Mr. Sansoucy’s application of the reproduction cost less
2 depreciation method in favor of the utility’s appraiser’s methodology, which considered the net
3 book, income approach, and reproduction costs.

4 The Court found that “Kelly (utility appraiser) used original cost less depreciation . . .”
5 and “he could not determine a market-based reason why any purchaser would pay a price in
6 excess of PSNH’s original cost less depreciation for these assets.” *Order* at 16. The Court further
7 found that “Sansoucy valued the transmission and distribution assets and related equipment
8 solely on the basis of reproduction cost less physical depreciation with no allowance for any
9 economic obsolescence. . . . He assumed without any data to support his conclusion that a
10 nontaxable entity would pay more for the assets than a regulated utility.” *Order* at 17. The
11 Court concluded that “Kelly effectively rebutted [Sansoucy’s] testimony Kelly explained
12 that . . . in accordance with accepted principles of utility regulation, the property would have
13 value of 1.0 times net book, not 1.52 times net book. Sansoucy also erred in two other ways.
14 First, he showed an additional valuation metric for land, but failed to account for the investment
15 in his initial book value, used for Revenue Requirement purposes. Thus, he assumed a benefit
16 with no cost associated with it. Second, he failed to reduce the rate base by accumulated taxes,
17 which is required by the National Association of Regulated Utility Commissions. The Court
18 finds Sansoucy’s conclusion to be unpersuasive.” *Public Service Co. of N.H. d/b/a Eversource*
19 *Energy v. Town of Bow*, Merrimack County Super. Ct., Nos. 2013-CV-501 and 2014-CV-490, at
20 16–18 (Oct. 7, 2016) (*Order*, McNamara, J.)

21 **Q. Do any towns in New Hampshire currently rely on a valuation of utility**
22 **property using the net book method?**

23 A. Yes. Mr. Sansoucy responded at a technical session on February 14, 2017 that
24 about 40 towns in New Hampshire use a valuation methodology that takes into account the net
25 book method. It is also my general understanding that perhaps one-third of all communities’
26 utility property values utilize the state DRA method, which tends to produce values (depending
27 on actual earnings) closer to what the net book method produces.

28 **Q. Does Mr. Sansoucy’s method, for which he expresses a preference in his Pre-**
29 **filed Testimony, appear to be one of the five recognized methods?**

30 A. Yes.

1 **Q. If Mr. Sansoucy’s valuation of Northern Pass is ultimately used and upheld,**
2 **would the property tax benefits from Northern Pass be different from the Applicants’**
3 **estimates?**

4 A. Yes. The tax benefits would be higher than what the Applicants conservatively
5 estimated for the purposes of SEC proceeding.

6 **Q. Mr. Sansoucy asserts that the Applicants’ testimony is misleading because**
7 **“she merely hides behind the magnitude of the gross number she estimated over 20 years in**
8 **an attempt to obscure the real impact of her valuation methodology.” Is this so?**

9 A. No. On page 4, line 16 of my Pre-filed Testimony, it states “Tax payments and the
10 local tax relief a project provides may be largest in the early years and gradually decline over the
11 life of the project.”

12 Moreover, my Report states “Over the life of the project, once operational, if the net book
13 value of Northern Pass approximates the fair market value for tax purposes, then the taxable
14 value will slowly decline over the life of the project. Northern Pass tax payments and the local
15 tax relief it will provide could be the largest in the early years and gradually decline over the life
16 of the project.” See Appendix 44, Shapiro Report, Executive Summary, point #6.

17 Further, my Report specifically spells out the year-by-year decline in aggregate net book
18 value over the first 20 years of the Project’s life.

19 Moreover, the declining value examples were widely provided by the project team in
20 public information sessions on September 2, 3, 8, 9, and 10, 2015, and was provided in the
21 workbook made available to KRA. See October 13, 2015 SEC Workbook provided
22 confidentially in response to Counsel for the Public Expert-Assisted Data Request No. 110. Also,
23 the Project Director sent letters to all the municipalities in March 2017, which provided 20 year
24 depreciation schedules. See for example Attachment F(1) of the Supplemental Pre-filed
25 Testimony of William J. Quinlan, March 24, 2017.

26 **Q. Did KRA and Mr. Sansoucy opine on what happens to the taxable value of**
27 **the utility assets after 20 years under the net book method for purposes of the SEC**
28 **evaluating the tax benefits of the project?**

29 A. Yes. They both stated the value would go to zero in 40 years.

1 **Q. Do you agree with the assertion that the SEC should accept that the value**
2 **should go to zero in 40 years or otherwise set the values in these proceedings?**

3 A. No. The purpose of the SEC proceeding in this context is to take into account the
4 substantial property tax benefits both in the aggregate and to local communities. It is difficult to
5 predict what that value would be over time, because there is no one defined calculation. This is
6 even more pronounced beyond 20 years, where the uncertainties regarding items such as
7 additional investment, residual values, energy markets, or changes in tax law, are even greater.

8 Moreover, disputes regarding valuation of utility property have been playing out in the
9 legislature and the courts for more than 30 years. For example, Eversource has appealed a
10 decision of the BTLA to the New Hampshire Supreme Court, which involved individual tax
11 abatement appeals involving property located in 31 municipalities (for tax year 2011) and 55
12 municipalities (for tax year 2012) and for which Sansoucy characterizes in his testimony as
13 striking down the use of the net book method. *See Appeal of Public Service Co. of N.H. d/b/a*
14 *Eversource Energy*, No. 2015-0626 (N.H. Sup. Ct.) Similarly, the New Hampshire Electric
15 Cooperative Inc. has appealed a decision of the BTLA involving individual tax abatement
16 appeals involving property located in 11 municipalities (for tax year 2011) and 12 municipalities
17 (for tax year 2012). *See Appeal of New Hampshire Electric Coop. Inc.*, No. 2015-0625 (N.H.
18 Sup. Ct.). In both of these dockets, the New Hampshire Supreme Court has not yet issued a
19 decision. The Town of Bow has appealed the superior court decision previously discussed and
20 that appeal awaits briefing by the parties.

21 There is also a retained bill in the legislature (HB 324, relative to the valuation of utility
22 property) regarding who should appraise utility property and what method should be used. In
23 addition, the legislature recently enacted a law that specifically set the methodology for valuing
24 telecommunication polls and wires.

25 The Applicants' estimate is a transparent, reasonable, and conservative estimate of the
26 benefits for the purposes of the SEC proceeding, and is consistent with past practices.

Overall Economic Benefits from the Tax Effects

1
2 **Q. How did KRA take into account the benefits from taxes in the overall**
3 **analysis of the economic benefits from the project?**

4 A. KRA stated that they presented ranges of impacts for the various components
5 assessed, and reports those results in terms of Gross State Product and Employment Impacts.
6 See pg. 11 of their pre-filed testimony which were reprinted from Tables 24 and 25 in the KRA
7 Report.

8 **Q. Did KRA actually consider a range of possible impacts from the Northern**
9 **Pass taxes paid?**

10 A. No. KRA only provided one tax benefit simulation in their report — one based
11 on the assumption of 50 percent of the property tax revenue is used for increased local
12 government spending, and the other 50 percent is modeled as a reduction in local government
13 spending due to a reduction in debt. The property tax estimate the model utilizes is based on an
14 incorrect specification of effective property taxes for utilities, does not consider any increased
15 spending that might be associated with increased state business taxes, and only considers one
16 scenario where the property taxes go to \$0 after 40 years. KRA also took the most extreme
17 assumption of future property tax rates over the next 40 years will stay constant, and did not run
18 any scenarios that considered even a small or modest growth in property taxes. KRA's
19 specification of the benefits from debt reduction is inconsistent with its own statements that it is
20 a benefit, and the whole analysis ignores any possible scenarios with benefits from the reduction
21 on property tax burdens due to the addition of the Northern Pass property tax revenue.

22 **Q. Have you made any adjustments to the KRA estimates to take into account**
23 **the error and adjustments you describe previously?**

24 A. Yes. The results of the adjustments are shown in Attachment E to this testimony.
25 To make the necessary adjustments I provided the property tax estimate developed in the Shapiro
26 Report, the business tax estimates, utilized the 50 percent increase in local government spending
27 assumed by KRA, and used a range of 50 – 100 percent for the business taxes toward increased
28 state spending. I provided the above information to the Applicants' economics expert, Julia
29 Frayer of London Economics International LLC ("LEI"). LEI then ran the REMI model and
30 provided the adjusted results. Please see Attachment E.

1 **Q. If Mr. Sansoucy’s appraisal approach over time is used and upheld, what is**
2 **the impact on the benefits from Northern Pass tax payments?**

3 A. The benefits would be substantially higher than estimated by KRA, and maybe
4 higher than the top range adjustment provided in Attachment E.

5 **Q. Does KRA provide these tables as a forecast of the likely impacts of Northern**
6 **Pass?**

7 A. No. KRA clearly state that Tables 24 and 25 “[are] not meant to be a forecast of
8 likely impacts, but show[] how the interaction of various elements in the economy that may be
9 affected by the Project could respond over various time horizons. Such tables could be generated
10 for any number of economic metrics and assumptions.”

11 **Q. Do you have any corrections to Appendix 44, Shapiro Pre-filed Testimony,**
12 **October 16, 2015?**

13 A. Yes. Please note that the Net Book Value column on pg. 6, Figure 9, should have
14 included in the label in thousands (000s) of dollars.

15 **Q. Does this conclude your testimony?**

16 A. Yes, it does.

Attachment A.
Response to Counsel for the Public Expert-Assisted Data Request EXP-1-2-30

NPT Income Tax Expense (Millions)

	Federal	State	Total
1	\$50.27	\$13.34	\$63.6
2	\$47.30	\$12.55	\$59.8
3	\$44.38	\$11.78	\$56.2
4	\$40.64	\$10.79	\$51.4
5	\$38.67	\$10.26	\$48.9
6	\$36.82	\$9.77	\$46.6
7	\$35.04	\$9.30	\$44.3
8	\$33.27	\$8.83	\$42.1
9	\$31.49	\$8.36	\$39.9
10	\$29.72	\$7.89	\$37.6
11	\$27.95	\$7.42	\$35.4
12	\$26.17	\$6.95	\$33.1
13	\$24.40	\$6.48	\$30.9
14	\$22.63	\$6.01	\$28.6
15	\$20.86	\$5.54	\$26.4
16	\$19.55	\$5.19	\$24.7
17	\$18.78	\$4.98	\$23.8
18	\$18.07	\$4.80	\$22.9
19	\$17.37	\$4.61	\$22.0
20	\$16.66	\$4.42	\$21.1
21	\$15.96	\$4.24	\$20.2
22	\$15.25	\$4.05	\$19.3
23	\$14.55	\$3.86	\$18.4
24	\$13.84	\$3.67	\$17.5
25	\$13.14	\$3.49	\$16.6
26	\$12.43	\$3.30	\$15.7
27	\$11.73	\$3.11	\$14.8
28	\$11.02	\$2.93	\$13.9
29	\$10.32	\$2.74	\$13.1
30	\$9.62	\$2.55	\$12.2
31	\$8.91	\$2.37	\$11.3
32	\$8.21	\$2.18	\$10.4
33	\$7.50	\$1.99	\$9.5
34	\$6.80	\$1.81	\$8.6
35	\$6.10	\$1.62	\$7.7
36	\$5.40	\$1.43	\$6.8
37	\$4.69	\$1.25	\$5.9
38	\$3.99	\$1.06	\$5.1
39	\$3.29	\$0.87	\$4.2
40	\$2.59	\$0.69	\$3.3

Total	\$785	\$208	\$994
Average	\$20	\$5	\$25

Yr 1 Tax Payment Expense Example

ROE	11.67% (Project Blended of 11.74% and 10.57% for AC Upgrade Components)
ROE with Tax Gross-up	19.6% (ROE divided by 1 minus 40%)
Tax Portion of ROE	8.0% (19.6%-11.67%)
Yr 1 Ratebase (millions)	\$1,507
Equity Portion Ratebase (millions)	\$754 50% of Ratebase
Income Tax	\$60 Tax Portion of ROE (8%) times Equity Ratebase

Attachment B.

Corrected KRA First Year Northern Pass Transmission Property Tax Estimates

KRA Assumptions	
Gross Property Valuations Including Utilities	\$158,545,799,258
Gross Property Taxes (Includes Non-Utility State Education Tax Revenues)	\$3,482,690,332
KRA Created and Calculated "Effective Tax Rate"	\$21.97

Corrections to KRA Assumptions	
Reduction in Gross Property Taxes to Remove the Non-Utility State Education Tax Revenues ¹	\$363,000,000
Recalculate Effective Tax Rate Without State Education Property Taxes Included	\$19.68
Utility State Education Tax Rate	\$6.60
Corrected Effective Utility Tax Rate	\$26.28

Corrected Estimated KRA First Year NPT Property Tax Payments	
KRA Estimated First Year Payments (Using Tax Rate of \$21.97 and Value of \$1.525862 Billion)	\$33,517,790
Corrected KRA Estimated First Year Payments (Using Corrected Tax Rate of \$26.28, Same Value)	\$40,094,928
Change in First Year Estimate with Corrections to Effective Tax Rate	\$6,577,138
Factor Adjustment for Corrections to Effective Tax Rate	1.20

Notes

¹RSA 76:3 Education Tax. - Beginning July 1, 2005, and every fiscal year thereafter, the commissioner of the department of revenue administration shall set the education tax rate at a level sufficient to generate revenue of \$363,000,000 when imposed on all persons and property taxable pursuant to RSA 76:8, except property subject to tax under RSA 82 and RSA 83-F.

**Attachment C.
 Tax Relief from the Addition of Northern Pass Transmission Property Tax Payments**

Municipality	Assuming 100 Percent of New Northern Pass Transmission Tax Payments are Used for Property Tax Reduction	Assuming 50 Percent of New Northern Pass Transmission Tax Payments are Used for Property Tax Reduction
	Estimated Reduction in Property Taxes Per Hundred Thousand Dollars of Assessed Value Under Simulation 3, Appendix A, Shapiro Report	Estimated Reduction in Property Taxes Per Hundred Thousand of Assessed Value
Allenstown	\$220	\$110
Ashland	\$30	\$15
Bethlehem	\$270	\$135
Bridgewater	\$15	\$7
Bristol	\$35	\$17
Campton	\$160	\$80
Canterbury	\$175	\$88
Clarksville	\$320	\$160
Concord	\$20	\$10
Dalton	\$85	\$43
Deerfield	\$370	\$185
Dummer	\$380	\$190
Easton	\$260	\$130
Franconia	\$120	\$60
Franklin	\$750	\$375
Hill	\$210	\$105
Lancaster	\$100	\$50
New Hampton	\$135	\$68
Northfield	\$35	\$18
Northumberland	\$570	\$285
Pembroke	\$135	\$68
Pittsburg	\$45	\$22
Plymouth	\$140	\$70
Stark	\$350	\$175
Stewartstown	\$830	\$415
Sugar Hill	\$135	\$68
Thornton	\$155	\$78
Whitefield	\$250	\$125
Woodstock	\$400	\$200

Attachment D.
Adjustments to KRA REMI Inputs

KRA Assumed Increase in Spending	\$16,758,895
Adjustment by 50 Percent of Increase in Estimated Tax Payment Corrected for KRA Errors in Treatment of State Education Property Taxes	\$3,288,569
Adjustment to Include Tax Benefits from Business Income Taxes	\$13,250,429
Total Adjustments in Year 1	\$16,538,998
Corrected First Year Tax Effects	\$33,297,893
Increase	\$16,538,998
Factor Increase	2.0

**Attachment E.
 Corrections to KRA Aggregate Model Impacts from Taxes**

Aggregate Model Impacts: Selected Project Components (Annual Averages - Numbers of Jobs)		
Employment Impacts	Near-Term¹ Operational Period 2020-2030	Mid-Term² Operational Period 2030-2040
<u>From KRA Pre-filed Testimony, pg. 11:</u>		
Property Tax Effects	249	122
<u>Corrections and Adjustments Dr. Shapiro/LEI</u>		
Low Tax Benefit Case	382	175
High Tax Benefit Case	477	203

Aggregate Model Impacts: Selected Project Components (Annual Averages - Millions of 2016 Dollars)		
Gross State Product	Near-Term¹ Operational Period 2020-2030	Mid-Term² Operational Period 2030-2040
<u>From KRA Pre-filed Testimony, pg. 11:</u>		
Property Tax Effects	\$19	\$10
<u>Corrections and Adjustments Dr. Shapiro/LEI</u>		
Low Tax Benefit Case	\$29	\$14
High Tax Benefit Case	\$36	\$17

Notes

Corrections and Adjustments Dr. Shapiro/LEI for Near-Term Operational Period is 2019 - 2029
 Corrections and Adjustments Dr. Shapiro/LEI for Mid-Term Operational Period is 2030 - 2040