

Synapse
Energy Economics, Inc.

FERC's Transmission Pricing Policy: New England Cost Impacts

Prepared by:
**Paul Peterson, David White, Nick Doolittle, and
Amy Roschelle**
Synapse Energy Economics
22 Pearl Street, Cambridge, MA 02139
www.synapse-energy.com
617-661-3248

Prepared for:
Massachusetts Office of Attorney General
Connecticut Office of Consumer Counsel
Maine Office of the Public Advocate
New Hampshire Office of Consumer Advocate

September 29, 2003

Table of Contents

1. Overview 1

2. Background on FERC’s proposed transmission pricing policy 1

3. Analysis of transmission spending data 2

4. Results 5

5. Conclusions 7

Appendix 1 8

Appendix 2 11

Appendix 3 12

References 14

1. Overview

On September 12, 2003, ISO New England (ISO-NE) posted a series of documents that it intends to file with the Federal Energy Regulatory Commission (FERC) in October of this year. Through these documents, ISO-NE seeks a FERC Order that would designate ISO-NE as the regional transmission operator (RTO) for the New England control area. In addition, ISO-NE requests that FERC determine that the owners of transmission assets in New England are eligible for all FERC approved incentive pricing mechanisms and, in particular, the Transmission Pricing Policy that FERC noticed on January 15, 2003.¹

At the request of the Massachusetts Office of the Attorney General, the Connecticut Office of Consumer Counsel, the Maine Office of the Public Advocate, and the New Hampshire Office of Consumer Advocate, Synapse Energy Economics analyzed the impact that the FERC's incentive pricing policy would have on New England transmission costs. This report details the results of that analysis based on estimates of the value of New England's current transmission facilities, as well as the value of facilities proposed for construction over the next several years.

In summary, Synapse found that the cost to New England ratepayers for the incentive pricing policy alone, separate and distinct from the costs of the existing and new transmission facilities, would be over \$40 million dollars, and possibly as much as \$70 million, annually. Over a nineteen-year period, this would amount to \$850 to \$1,400 million in consumer costs. These costs represent bonus payments to monopoly service providers, who already have an obligation to build new facilities and already have an RTO-like organization. To date, no one has specifically quantified the incremental benefits to regional ratepayers that would come from these bonus payments.

2. Background on FERC's proposed transmission pricing policy

Under state law, an electric utility is granted the right to serve its customers as a monopoly service franchise. As such, an electric utility is traditionally obligated to undertake necessary and appropriate improvements to the transmission and distribution systems it owns or utilizes in order to serve customers. In return for accepting this obligation to build, the utility is provided an opportunity to recover the costs of building its facilities, including a reasonable return (profit) on its capital investment. For instance, transmission owners are allowed a certain return on equity in the form of a regional transmission tariff, as determined by the FERC. In some circumstances there is a state jurisdictional component of that tariff that is set by state regulatory commissions. In January 2003, FERC proposed a three-part Transmission Pricing Policy that would increase the allowable profit margin (return on equity, or ROE) that monopoly service transmission entities could receive for their transmission investments.² The pricing policy includes:

¹ See documents at www.rto-ne.com under heading of "Legal Filings".

² PL03-01-000, January 15, 2003.

-
- First, in return for joining a Regional Transmission Organization (RTO), an owner of transmission facilities would receive a 0.5% increase in ROE through 2012.
 - Second, for creating an Independent Transmission Company (ITC) that would manage its transmission assets, the transmission owner would receive an additional 1.5% increase in ROE through 2022.
 - Third, for system enhancements that are made pursuant to an RTO planning process, the transmission owner would receive a 1.0 % increase in its ROE for that project.³

Numerous comments from a broad and diverse group of stakeholders were filed in March in response to the FERC's proposal. Some strongly support the proposed policy as a necessary incentive that would encourage transmission owners to make needed investments in the transmission system. Others strongly oppose the policy as an unnecessary expense and a possible violation of the Federal Power Act. To date, the FERC has taken no action on the proposed policy, nor has the FERC responded to the comments submitted last March.

In terms of New England, ISO-NE has been engaged in discussions with members of the New England Power Pool (NEPOOL) for the past nine months to formalize its status as a FERC-approved RTO entity. As part of its proposed Filing Letter to FERC, ISO-NE asks FERC to "confirm that the public utilities [transmission owners] will be eligible for all of the entitlements and responsibilities of RTO participants, including equitable treatment on any incentives available for such participation under the Commission's policies". The Filing Letter includes a footnote that specifically references FERC's Transmission Pricing Policy Proposal.

In October, ISO-NE proposes to make its FERC filing seeking RTO status. It is this imminent filing that lead to the request by several state agencies to prepare this report.

3. Analysis of transmission spending data

In order to determine the impact that FERC's transmission pricing policy would have on the regional transmission tariff, we first examined current total transmission plant investments for New England Utilities from FERC 1 Forms (Page 206, line 53) "Total Transmission Plant". This shows investments totaling \$3,300 million as of the end of 2002. Since depreciation is not factored into these values, the depreciated book value is probably in the range of 60% of these values. The values represent the sum total of various transmission oriented investments, including land rights, poles and fixtures, station equipment, roads and trails, etc. The FERC 1 Forms show a net additional transmission investment of \$147.8 million in 2002.

³ Taken together, these increases would raise the current ROE of around 12% to close to 15%. While 3% may sound like a small increase, it is similar to raising mortgage rates by 3% for homeowners.

Table 1: Total Transmission Plant Investments for 2002 from FERC 1 Forms

Company	Balance at 1-Jan-02	Additions in 2002	End of 2002 total
Bangor Hydro-Electric Company	\$74,825,587	\$412,614	\$75,238,201
Cambridge Electric Light Company	\$25,906,760	(\$2,694,606)	\$23,212,154
Central Maine Power Company	\$254,462,626	\$9,099,652	\$263,562,278
Central Vermont Public Service Corp	\$48,675,171	\$1,720,493	\$50,395,664
Concord Electric Company	\$2,119,903		\$2,119,903
Connecticut Power & Light	\$542,796,179	\$14,301,961	\$557,098,140
Connecticut Valley Electric Company	\$178,264		\$178,264
Fitchburg Gas and Electric Light Company	\$5,934,257	\$56,219	\$5,990,476
Green Mountain Power	\$35,734,116	\$1,341,876	\$37,075,992
Holyoke Power & Electric Company	\$1,063,639		\$1,063,639
Maine Electric Power Company	\$24,327,801	\$62,006	\$24,389,807
Maine Public Service Company	\$16,055,996	\$1,444,673	\$17,500,669
Massachusetts Electric Company	\$18,784,949	\$4,652,858	\$23,437,807
New England Electric Transmission Corporation	\$90,490,946		\$90,490,946
New England Hydro Transmission Corporation	\$167,155,644		\$167,155,644
New England Hydro-trans Elec Co., Inc.,	\$218,953,823		\$218,953,823
New England Power Company	\$765,255,715	\$23,991,976	\$789,247,691
New Hampshire Electric Cooperative, Inc.	\$9,596		\$9,596
NSTAR Companies (2)	\$478,497,533	\$63,501,338	\$541,998,871
Public Service company of New Hampshire	\$191,107,446	\$11,922,839	\$203,030,285
Vermont Electric Power Company (VELCO)	\$106,405,995	\$14,485,722	\$120,891,717
Western Massachusetts Electric Company	\$102,287,422	\$3,498,614	\$105,786,036
New England Total	\$3,171,029,368	\$147,798,235	\$3,318,827,603

Next, we examined recent New England proposed transmission projects by both company and project type. (see Appendix 1) Numbers are based on the total investments approved by the New England Power Pool Reliability Committee for 2002 and 2003. Approved projects for the past two years have averaged \$195 million annually. Note that the total \$158 million in costs for these projects in 2002 million is slightly above the \$148 million reported on the FERC 1 Forms.

We then reviewed the transmission projects identified in ISO New England's 2003 Regional Transmission Expansion Plan (RTEP). (see Appendix 2) Those projects total almost \$1,400 million of new transmission investment, with the biggest project being \$700 million for a Connecticut 345kV loop. The RTEP time horizon for these investments extends to 2012, but projects are only specifically identified through 2008. The average cost per year for these identified projects in the 2004-2008 period is \$267 million annually. ISO-NE cautions that its RTEP cost estimates are probably conservative, and that for some of the projects, it is unable to provide a cost estimate at this time.

Taking all of this into account, we then made the following assumptions, as seen in Table 2. We assume an RTO time period of 2004-2012 and an independent transmission company and new transmission time period of 2004-2022. Because of the uncertainty regarding the costs of

the anticipated new investments and the likelihood that additional system upgrades (investments) will be implemented over this time period, we used a range of annual investment values of \$200m, \$300m and \$400m.

Table 2: Assumptions used to calculate impacts of FERC proposed ROE adders

Assumptions Used to Calculate Impacts of FERC ROE Adders	
Investor-owned TO's Qualifying for Adders	100%
Common Equity Ratio	45%
Combined federal/state income tax rate	40%
RTO time period	2004 -2012
ITC/new transmission time period	2004-2022
Annual post 2003 transmission investment	200-400
New transmission depreciation rate	2.50%
RTO rate adder	0.50%
ITC divestment rate adder	1.50%
New transmission rate adder	1.00%
Total Transmission Plant Investment	\$3,319,000,000
Net/Total Investment ratio	61%
Net Transmission Plant Investment	\$2,037,000,000
Existing transmission depreciation rate	2.50%
Inflation Rate	2.50%

Note that existing transmission investments qualify for a total ROE adder of 2.0%, while new projects qualify for a 3.0% adder.

The annual post 2003 transmission investment is based on current projects as identified by ISO-NE and is subject to change.

A number of these assumptions (e.g. common/equity ratio, income tax rate, net/total investment ratio) are based on national averages and can be revised when more specific information is available for New England.

4. Results

As seen below, on average, FERC's 2003 transmission pricing policy will increase profit payments to transmission owners (and costs to consumers) by \$45 million annually based on annual transmission investments of \$200 million.⁴ If annual transmission investments average \$300 million, the cost to consumers is about \$60 million each year; if annual transmission investments average \$400 million, the cost to consumers is over \$70 million annually. While this is not a huge cost in the context of the whole electricity market, it is a recurring annual cost that has a significant cumulative impact.

Table 3: Transmission access charge impacts for New England investor-owned utilities from proposed ROE adders assuming annual transmission investments of \$200M in 2004.

	Annual Average Profit Increase (million 2004 \$)	Cumulative (million 2004 \$)
1. RTO Participation	9.1	82
2. ITC divestiture	29.1	553
3. New Transmission	11.2	213
Total *	44.7	849

* Total Average is based on cumulative total divided by ITC period.

Table 4: Impacts with different levels of annual new investments

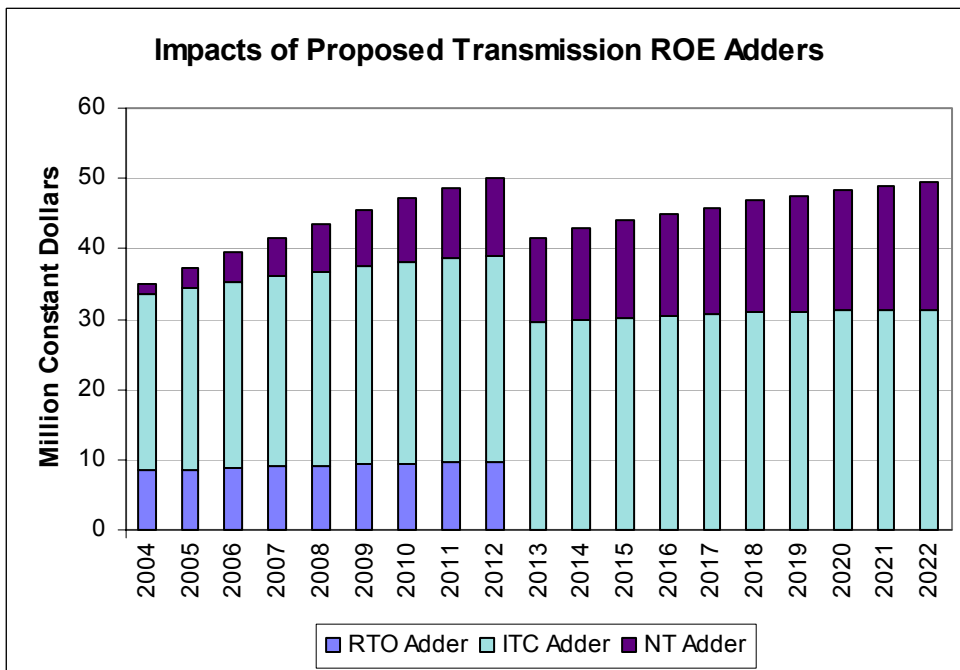
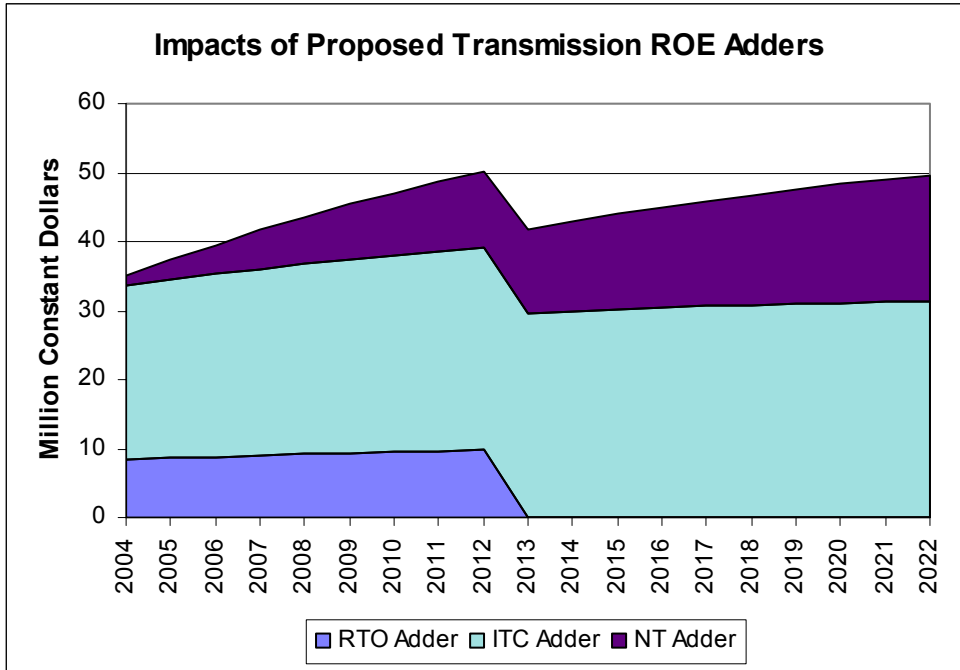
Annual Investment	Average Annual Profit Increase	Cumulative Profit Increase thru 2022
\$ 200 m	45	849
\$ 300 m	59	1,130
\$ 400 m	74	1,412

All amounts are represented in millions of year 2004 dollars.

⁴ Appendix 3 shows the calculations of the annual and cumulative impacts for a \$200 million annual investment.

Figure 1 shows the annual impacts of the proposed policy. Note that the RTO adder phases out after 2012. Also the return on existing investments decline as they are depreciated, but the returns from new investments (with an additional 1% ROE adder) dominate by about 2010.

Figure 1: Access charge impacts for annual investments of \$200 million



5. Conclusions

FERC's proposed transmission pricing policy will have a significant impact on the transmission tariff and, ultimately, consumer costs. The increase in transmission owner profits will rise to at least a \$40 million annual level and could exceed \$70 million dollars annually depending on the amount of new transmission investment. The cost to consumers to provide a bonus return on investment will be in addition to the \$200-\$400 million in new annual transmission costs directly incurred for the new facilities.

What has not been demonstrated is how the additional \$40-70 million dollars will produce any additional benefits to consumers. ISO-NE currently meets most of the FERC specified functions and characteristics to qualify as an RTO. The transmission utilities have not specified how changing ISO-NE's name to RTO, or creating an ITC to manage their assets, increases their investment risk. Transmission utilities are already obligated to build new transmission facilities pursuant to their state authorized certificates of public good. Traditional ratemaking practices at the state and Federal levels provide an opportunity to earn a return on investment that is calculated to accommodate the risks that the transmission owners face. Providing an automatic "bonus" payment for existing utility arrangements and obligations should be balanced against some requirement to show specific benefits that are unlikely to be achieved without the bonus payment.

Appendix 1

Recent New England Transmission Projects for 2002 by Company

Company	Investment	Year	Type
NEPOOL	\$60,000	2002	study
New England Power Company	\$1,300,000	2002	capacitor bank addition
New England Power Company	\$1,100,000	2002	capacitor bank addition
New England Power Company	\$690,000	2002	circuit breaker addition
New England Power Company	\$846,694	2002	generator interconnection upgrades
New England Power Company	\$2,527,911	2002	generator interconnection upgrades
New England Power Company	\$1,902,500	2002	generator interconnection upgrades
New England Power Company	\$7,885,000	2002	generator interconnection upgrades
New England Power Company	\$1,653,000	2002	line reconductoring
New England Power Company	\$3,127,000	2002	line reconductoring
New England Power Company	\$132,169	2002	power plant interconnection
New England Power Company	\$1,900,000	2002	reconductoring a line
New England Power Company	\$2,850,000	2002	substation rebuilding
Northeast Utilities Systems	\$7,000,000	2002	autotransformer addition
Northeast Utilities Systems	\$2,000,000	2002	capacitor bank addition
Northeast Utilities Systems	\$1,800,000	2002	capacitor bank addition
Northeast Utilities Systems	\$2,500,000	2002	capacitor bank addition
Northeast Utilities Systems	\$1,600,000	2002	capacitor bank addition
Northeast Utilities Systems	\$4,800,000	2002	circuit breaker replacement
Northeast Utilities Systems	\$2,200,000	2002	circuit breaker replacement
Northeast Utilities Systems	\$8,500,000	2002	line rebuilding
Northeast Utilities Systems	\$1,864,000	2002	line tapping
Northeast Utilities Systems	\$14,200,000	2002	STATCOM addition
Northeast Utilities Systems	\$1,985,000	2002	substation addition
Northeast Utilities Systems	\$9,500,000	2002	substation reconfiguration
Northeast Utilities Systems	\$75,000	2002	terminal wave trap replacement
Norwood Municipal Light	\$11,439,961	2002	substation addition
NSTAR	\$888,152	2002	equipment replacement
NSTAR	\$8,292,644	2002	generator interconnection upgrades
Vermont Electric Power	\$606,000	2002	phase angle regulator repair
Vermont Electric Power	\$30,624,502	2002	transmission system upgrades
Vermont Electric Power	\$22,600,000	2002	transmission system upgrades
2002 Total	\$158,449,533		

Recent New England Transmission Projects for 2003 by Company

Company	Investment	Year	Type
Bangor Hydro Electric	\$30,000	2003	substation reconfiguration
New England Power Company	\$15,200,000	2003	substation replacement
Northeast Utilities Systems	\$577,573	2003	breaker addition
Northeast Utilities Systems	\$25,915,000	2003	STATCOM addition
NSTAR	\$2,500,000	2003	breaker replacement
NSTAR	\$1,162,306	2003	generator interconnection upgrades
NSTAR	\$19,322,881	2003	generator interconnection upgrades
NSTAR	\$8,325,540	2003	generator interconnection upgrades
Vermont Electric Power	\$1,644,000	2003	substation addition
Vermont Electric Power	\$156,300,000	2003	transmission system upgrades
2003 Total	\$230,977,300		

Recently Approved and Implemented New England Transmission Projects by Year and Type

Project Type	2002	2003
autotransformer addition	\$7,000,000	\$0
breaker addition	\$0	\$577,573
breaker replacement	\$0	\$2,500,000
capacitor bank addition	\$10,300,000	\$0
circuit breaker addition	\$690,000	\$0
circuit breaker replacement	\$7,000,000	\$0
equipment replacement	\$888,152	\$0
generator interconnection upgrades	\$21,454,749	\$28,810,727
line rebuilding	\$8,500,000	\$0
line reconductoring	\$4,780,000	\$0
line tapping	\$1,864,000	\$0
phase angle regulator repair	\$606,000	\$0
power plant interconnection	\$132,169	\$0
reconductoring a line	\$1,900,000	\$0
STATCOM addition	\$14,200,000	\$25,915,000
study	\$60,000	\$0
substation addition	\$13,424,961	\$1,644,000
substation rebuilding	\$2,850,000	\$0
substation reconfiguration	\$9,500,000	\$30,000
substation replacement	\$0	\$15,200,000
terminal wave trap replacement	\$75,000	\$0
transmission system upgrades	\$53,224,502	\$156,300,000
Grand Total	\$158,449,532	\$230,977,300

Appendix 2

Proposed Transmission Projects Listed in ISO-NE 2003 RTEP

Year	Status	Est Cost (\$M)	Plan	RefNo	Project Description
2003	Planned	4	RTEP02	6.3.1	New Hampshire Voltage Enhancements
2003	In Service	5	RTEP02	6.3.2	Rebuild Deerfield to Garvins G146 line
2003	Planned	5	RTEP02	7.1.6	Cape Cod Short Term (2 nd Canal to Bourne)
2003	Planned	26	RTEP02	7.4.2	Glenbrook STATCOM
2003	Proposed	TBD	RTEP03	6.1.8	Maine Voltage Performance (Crowleys and OP17 capacitors)
2003	In Service	3	RTEP03	7.4.2	SWCT Voltage Enhancement (Stony Hill 115 kV Capacitors a/w DVAR Installations)
2004	Planned	7	RTEP02	6.3.2	Installation of 2 nd 345-115 kV Autotransformer at Scobie
2004	Planned	17	RTEP02	6.4.2	Vermont Northern Loop Project
2004	Proposed	TBD	RTEP03	6.3.1	Rochester Alternate 115 kV Feed
2004	Proposed	35	RTEP03	7.1.4	Central Massachusetts Reinforcement (Wachusets 345 kV)
2004-07	Planned	156	RTEP02	6.4.1	Northwest Vermont Reliability Projects
2005	Proposed	TBD	RTEP02	6.1.3	BHE Down East Reliability Improvement
2005	Proposed	7	RTEP02	6.2 and 6.3.4	Closing 115 kV line Y138 between Saco Valley and White Lake
2005	Proposed	TBD	RTEP02	6.3.2	New Huse Rd - Reeds Ferry 115 kV line
2005	Proposed	200	RTEP02	7.4.2	SWCT 345 kV Loop (Phase I)
2005	Planned	55	RTEP02	7.4.2	Norwalk Harbor – Northport 138 kV line 1385 replacement
2005	Proposed	18	RTEP02	7.4.3	Haddam/Middletown Reliability Project
2005	Planned	11	RTEP03	7.1.5	Rebuild Brayton Point 345 kV GIS Substation
2006	Proposed	TBD	RTEP02	6.3.1	Upgrade both 115 kV lines between Scobie and Schiller: R193, H141, E194, U181
2006	Planned	10	RTEP02	6.3.2	Rebuild Scobie 115 kV Substation
2006	Proposed	100	RTEP02	7.1.1	Boston Import – Long Term Alternatives
2006	Proposed	TBD	RTEP03	6.1.4	Ellsworth Area Improvement
2006	Proposed	TBD	RTEP03	6.1.5	Chester Area Improvement
2006	Concept	TBD	RTEP03	6.5	Monadnock Area Reliability (Fitzwilliam 345 kV)
2006-2008	Proposed	50	RTEP02	7.1.2	North Shore–Long Term Alternatives (Part I–Part II)
2007	Concept	TBD	RTEP02	7.1.6	Cape Cod Long Term
2007	Concept	TBD	RTEP02	7.2	Rhode Island Additional Autotransformer Capacity
2007	Proposed	500	RTEP02	7.4.2	SWCT 345 kV Loop (Phase II)
2008	Proposed	125	RTEP02	7.3 & 7.4.1	SEMA/RI Export; East-West & Connecticut Import Reliability Enhancements
2009	Concept	TBD	RTEP02	7.1.7	Western Massachusetts Reliability Upgrades
TBD	Concept	TBD	RTEP02	5.2	New Brunswick-New England Tie Enhancement
TBD	Concept	TBD	RTEP02	6.1.2	MEPCO Special Protection Systems Alternative
TBD	Concept	TBD	RTEP02	6.1.6	CMP Autotransformer Reliability Improvement
TBD	Proposed	6	RTEP02	6.2	Maine Voltage Enhancements (Maxcy and Western ME capacitors)
TBD	Proposed	TBD	RTEP02	6.2	Maine-NH Short Term Reliability Improvements
TBD	Concept	TBD	RTEP02	7.1.3	Boston Area 115 kV and Downtown Boston Enhancements
TBD	Concept	TBD	RTEP02	7.1.5	Improve SEMA/RI Local Stability Issues (Upgrade Select Canal & Brayton Point Breakers to IPT)
TBD	Concept	TBD	RTEP03	6.1.7	Western Maine Protection Improvements
TBD	Proposed	36	RTEP03	6.2	Maine-NH Voltage Improvement (Deerfield SVC & 391 Loop)

Note that about half of the projects have no costs assigned as yet.

The table below shows the annual investments associated with the above projects.

Annual Transmission Investments identified in RTEP03 (million \$)								
Year	2003	2004	2005	2006	2007	2008	TBD	Total
Investment \$M	43	98	330	166	556	142	42	\$1,376 M

Appendix 3

Calculation of Annual and Cumulative ROE Impacts – for a \$200 million annual investment level.

Annual Calculations based on input data specified in Table 1										
	Existing Transmission			New Transmission				Net Rate Factors		
		Net Rate Factors					Net Rate Factors			
		0.38%	1.13%				0.38%	1.13%	0.75%	
Year	Net Trans Pla	RTO Adder	ITC Adder	Investment	Deprec	Net New Trans	RTO Adder	ITC Adder	NT Adder	
2004	2,037	7.64	22.92	200	0	200	0.75	2.25	1.50	
2005	1,954	7.33	21.98	205	5	400	1.50	4.50	3.00	
2006	1,871	7.02	21.05	210	10	600	2.25	6.75	4.50	
2007	1,788	6.71	20.12	215	15	800	3.00	9.00	6.00	
2008	1,705	6.39	19.18	221	21	1,000	3.75	11.25	7.50	
2009	1,622	6.08	18.25	226	26	1,200	4.50	13.50	9.00	
2010	1,539	5.77	17.32	232	32	1,400	5.25	15.75	10.50	
2011	1,456	5.46	16.38	238	38	1,600	6.00	18.00	12.00	
2012	1,373	5.15	15.45	244	44	1,800	6.75	20.25	13.50	
2013	1,290	0.00	14.52	250	50	2,000	0.00	22.50	15.00	
2014	1,207	0.00	13.58	256	56	2,200	0.00	24.75	16.50	
2015	1,124	0.00	12.65	262	62	2,400	0.00	27.00	18.00	
2016	1,041	0.00	11.71	269	69	2,600	0.00	29.25	19.50	
2017	958	0.00	10.78	276	76	2,800	0.00	31.50	21.00	
2018	875	0.00	9.85	283	83	3,000	0.00	33.75	22.50	
2019	792	0.00	8.91	290	90	3,200	0.00	36.00	24.00	
2020	709	0.00	7.98	297	97	3,400	0.00	38.25	25.50	
2021	626	0.00	7.05	304	104	3,600	0.00	40.50	27.00	
2022	543	0.00	6.11	312	112	3,800	0.00	42.75	28.50	
Totals		57.55	275.79				33.75	427.50	285.00	

Aggregate Impact Calculations													
All ROE Adders (million nominal dollars)							All ROE Adders (million constant 2004 dollars)						
Year	Existing	New	RTO Adder	ITC Adder	NT Adder	Total	Year	Existing	New	RTO Adder	ITC Adder	NT Adder	Total
2004	30.6	4.5	8.4	25.2	1.5	35.1	2004	30.6	4.5	8.4	25.2	1.5	35.1
2005	29.3	9.0	8.8	26.5	3.0	38.3	2005	28.6	8.8	8.6	25.8	2.9	37.4
2006	28.1	13.5	9.3	27.8	4.5	41.6	2006	26.7	12.8	8.8	26.5	4.3	39.6
2007	26.8	18.0	9.7	29.1	6.0	44.8	2007	24.9	16.7	9.0	27.0	5.6	41.6
2008	25.6	22.5	10.1	30.4	7.5	48.1	2008	23.2	20.4	9.2	27.6	6.8	43.6
2009	24.3	27.0	10.6	31.7	9.0	51.3	2009	21.5	23.9	9.4	28.1	8.0	45.4
2010	23.1	31.5	11.0	33.1	10.5	54.6	2010	19.9	27.2	9.5	28.5	9.1	47.1
2011	21.8	36.0	11.5	34.4	12.0	57.8	2011	18.4	30.3	9.6	28.9	10.1	48.7
2012	20.6	40.5	11.9	35.7	13.5	61.1	2012	16.9	33.2	9.8	29.3	11.1	50.1
2013	14.5	37.5	0.0	37.0	15.0	52.0	2013	11.6	30.0	0.0	29.6	12.0	41.6
2014	13.6	41.3	0.0	38.3	16.5	54.8	2014	10.6	32.2	0.0	29.9	12.9	42.8
2015	12.6	45.0	0.0	39.6	18.0	57.6	2015	9.6	34.3	0.0	30.2	13.7	43.9
2016	11.7	48.8	0.0	41.0	19.5	60.5	2016	8.7	36.2	0.0	30.5	14.5	45.0
2017	10.8	52.5	0.0	42.3	21.0	63.3	2017	7.8	38.1	0.0	30.7	15.2	45.9
2018	9.8	56.3	0.0	43.6	22.5	66.1	2018	7.0	39.8	0.0	30.9	15.9	46.8
2019	8.9	60.0	0.0	44.9	24.0	68.9	2019	6.2	41.4	0.0	31.0	16.6	47.6
2020	8.0	63.8	0.0	46.2	25.5	71.7	2020	5.4	42.9	0.0	31.1	17.2	48.3
2021	7.0	67.5	0.0	47.5	27.0	74.5	2021	4.6	44.4	0.0	31.2	17.7	49.0
2022	6.1	71.2	0.0	48.9	28.5	77.4	2022	3.9	45.7	0.0	31.3	18.3	49.6
Totals	333	746	91	703	285	1,080	Totals	286	563	82	553	213	849

References

FERC Transmission Pricing Policy Proposal, PL03-01-000, January 15, 2003.

FERC Order, Docket No. RT01-86-000, July 15, 2001.

ISO-NE Regional Transmission Expansion Plan, 2003.

Draft RTO-NE Filing Letter, September 12, 2003.

NASUCA Comments on Proposed Policy Statement, FERC Docket PL03-1-000, March 11, 2003.