

DG 15-362
Annual Report for Pelham Expansion

Original Pelham DCF Analysis (Settlement Agreement Appendix A)																
Capital Cost w/o Take Station - Phases IA & IB & Pike										Required Return (Liberty proposal)						
One time payment to TGP to build Take Station																
Required Return (pre tax) Rate Base & Take Station										10.15%						
Take Station Annual Amortization (10 years)										(\$204,708)						
Net Present Value (Delta yrs 1-10 & 10.15% discount rate)										<u>\$18,395</u>						
Year	IRS MACRS Rates	IRS MACRS Table	Book Depr	Delta Book less Tax	Tax Rate	Deferred Inc Tax	Accumulated Deferred Inc Tax	Rate Base	Required Return	Property Tax	Insurance	O&M	Take Station Amortization of Initial Payment	Revenue Requirement	Projected Revenues MEP Rates	Delta Rev Req less Revenue
1	5	70,012	35,006	(35,006)	34%	(11,902)	(11,902)	1,400,244								
2	9.5	133,023	35,006	(98,017)	34%	(33,326)	(45,228)	1,353,336	\$139,744	\$29,405	\$2,761	\$4,470	\$204,708	\$416,095	\$393,025	(\$23,070)
3	8.55	119,721	35,006	(84,715)	34%	(28,803)	(74,031)	1,285,004	\$133,896	\$28,420	\$2,761	\$4,582	\$204,708	\$409,373	\$393,025	(\$16,348)
4	7.7	107,819	35,006	(72,813)	34%	(24,756)	(98,787)	1,221,195	\$127,190	\$26,985	\$2,761	\$4,696	\$204,708	\$401,346	\$393,025	(\$8,321)
5	6.93	97,037	35,006	(62,031)	34%	(21,090)	(119,878)	1,161,432	\$120,918	\$25,645	\$2,761	\$4,814	\$204,708	\$393,852	\$393,025	(\$827)
6	6.23	87,235	35,006	(52,229)	34%	(17,758)	(137,636)	1,105,336	\$115,038	\$24,390	\$2,761	\$4,934	\$204,708	\$386,838	\$393,025	\$6,187
7	5.9	82,614	35,006	(47,608)	34%	(16,187)	(153,822)	1,052,572	\$109,514	\$23,212	\$2,761	\$5,057	\$204,708	\$380,259	\$393,025	\$12,766
8	5.9	82,614	35,006	(47,608)	34%	(16,187)	(170,009)	1,001,379	\$104,238	\$22,104	\$2,761	\$5,184	\$204,708	\$374,001	\$393,025	\$19,024
9	5.91	82,754	35,006	(47,748)	34%	(16,234)	(186,244)	950,186	\$99,042	\$21,029	\$2,761	\$5,313	\$204,708	\$367,860	\$393,025	\$25,165
10	5.9	82,614	35,006	(47,608)	34%	(16,187)	(202,430)	898,945	\$93,843	\$19,954	\$2,761	\$5,446	\$204,708	\$361,719	\$393,025	\$31,306
								847,753	\$88,645	\$18,878	\$2,761	\$5,582	\$204,708	\$355,581	\$393,025	\$37,444

Updated Pelham DCF Analysis as of December 31, 2020																
Capital Cost w/o Take Station - Phases IA & IB & Pike										Required Return (Approved Cost of Capital)						
One time payment to TGP to build Take Station																
Required Return (pre tax) Rate Base & Take Station										8.50%						
Take Station Annual Amortization (10 years)										(\$183,807)						
Net Present Value (Delta yrs 1-10 & 8.5% discount rate)										<u>(\$840,051)</u>						
Year	IRS MACRS Rates	IRS MACRS Table	Book Depr	Delta Book less Tax	Tax Rate	Deferred Inc Tax	Accumulated Deferred Inc Tax	Rate Base	Required Return	Property Tax	Insurance	O&M	Take Station Amortization of Initial Payment	Revenue Requirement	Projected Revenues MEP Rates	Delta Rev Req less Revenue
1	5	80,635	40,317	(40,317)	27.08%	(10,918)	(10,918)	1,612,698								
2	9.5	153,206	40,317	(112,889)	27.08%	(30,570)	(41,488)	1,561,463	\$134,900	\$31,238	\$2,761	\$4,470	\$183,807	\$397,493	\$245,264	(\$152,229)
3	8.55	137,886	40,317	(97,568)	27.08%	(26,421)	(67,910)	1,490,575	\$129,709	\$30,246	\$2,761	\$4,582	\$183,807	\$391,422	\$245,264	(\$146,158)
4	7.7	124,178	40,317	(83,860)	27.08%	(22,709)	(90,619)	1,423,836	\$123,860	\$28,872	\$2,761	\$4,696	\$183,807	\$384,314	\$245,264	(\$139,050)
5	6.93	111,760	40,317	(71,443)	27.08%	(19,347)	(109,966)	1,360,809	\$118,345	\$27,580	\$2,761	\$4,814	\$183,807	\$377,624	\$245,264	(\$132,360)
6	6.23	100,471	40,317	(60,154)	27.08%	(16,290)	(126,255)	1,301,145	\$113,131	\$26,359	\$2,761	\$4,934	\$183,807	\$371,309	\$245,264	(\$126,045)
7	5.9	95,149	40,317	(54,832)	27.08%	(14,848)	(141,104)	1,244,538	\$108,190	\$25,203	\$2,761	\$5,057	\$183,807	\$365,336	\$245,264	(\$120,072)
8	5.9	95,149	40,317	(54,832)	27.08%	(14,848)	(155,952)	1,189,372	\$103,439	\$24,107	\$2,761	\$5,184	\$183,807	\$359,615	\$245,264	(\$114,351)
9	5.91	95,310	40,317	(54,993)	27.08%	(14,892)	(170,844)	1,134,206	\$98,750	\$23,038	\$2,761	\$5,313	\$183,807	\$353,987	\$245,264	(\$108,723)
10	5.9	95,149	40,317	(54,832)	27.08%	(14,848)	(185,693)	1,078,997	\$94,060	\$21,970	\$2,761	\$5,446	\$183,807	\$348,361	\$245,264	(\$103,097)
								1,023,831	\$89,369	\$20,900	\$2,761	\$5,582	\$183,807	\$342,737	\$245,264	(\$97,473)

Variance - Updated less Original																
Capital Cost w/o Take Station - Phases IA & IB & Pike										\$212,454						
One time payment to TGP to build Take Station										(\$43,751)						
Required Return (pre tax) Rate Base & Take Station										-1.65%						
Take Station Annual Amortization (10 years)										\$20,901						
Net Present Value (Delta yrs 1-10 & 10.15% discount rate)										<u>(\$858,446)</u>						
Year	IRS MACRS Rates	IRS MACRS Table	Book Depr	Delta Book less Tax	Tax Rate	Deferred Inc Tax	Accumulated Deferred Inc Tax	Rate Base	Required Return	Property Tax	Insurance	O&M	Take Station Amortization of Initial Payment	Revenue Requirement	Projected Revenues MEP Rates	Delta Rev Req less Revenue
1	0	10,623	5,311	(5,311)	-7%	984	984	212,454								
2	0	20,183	5,311	(14,872)	-7%	2,756	3,740	208,127	(\$4,845)	\$1,833	\$0	\$0	(\$20,901)	(\$18,602)	(\$147,761)	(\$129,519)
3	0	18,165	5,311	(12,853)	-7%	2,382	6,121	205,571	(\$4,186)	\$1,825	\$0	\$0	(\$20,901)	(\$17,951)	(\$147,761)	(\$129,810)
4	0	16,359	5,311	(11,048)	-7%	2,047	8,168	202,641	(\$3,329)	\$1,887	\$0	\$0	(\$20,901)	(\$17,032)	(\$147,761)	(\$130,729)
5	0	14,723	5,311	(9,412)	-7%	1,744	9,912	199,377	(\$2,573)	\$1,935	\$0	\$0	(\$20,901)	(\$16,228)	(\$147,761)	(\$131,533)
6	0	13,236	5,311	(7,925)	-7%	1,468	11,380	195,809	(\$1,907)	\$1,969	\$0	\$0	(\$20,901)	(\$15,529)	(\$147,761)	(\$132,232)
7	0	12,535	5,311	(7,223)	-7%	1,338	12,719	191,966	(\$1,324)	\$1,991	\$0	\$0	(\$20,901)	(\$14,923)	(\$147,761)	(\$132,838)
8	0	12,535	5,311	(7,223)	-7%	1,338	14,057	187,993	(\$799)	\$2,003	\$0	\$0	(\$20,901)	(\$14,386)	(\$147,761)	(\$133,375)
9	0	12,556	5,311	(7,245)	-7%	1,342	15,399	184,020	(\$291)	\$2,009	\$0	\$0	(\$20,901)	(\$13,872)	(\$147,761)	(\$133,889)
10	0	12,535	5,311	(7,223)	-7%	1,338	16,738	180,051	\$216	\$2,016	\$0	\$0	(\$20,901)	(\$13,358)	(\$147,761)	(\$134,403)
								176,078	\$724	\$2,022	\$0	\$0	(\$20,901)	(\$12,844)	(\$147,761)	(\$134,917)

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Sample Annual Report for Pelham Expansion
Customer Conversions

Original Pelham Customer Conversions (Settlement Agreement Appendix A)														
	Number	Gross Profit Margin	Annual Revenue	60% of Annual Revenue										
Residential Premises Along Main Extension	66	\$714	\$47,124	\$28,274										
Commercial & Industrial Premises Along Main Extension	56	\$7,548	\$422,688	\$253,613										
Total Premises Along Main Extension	122		\$469,812	\$281,887										
Residential Commitments prior to Constuction	0	\$0	\$0											
Commercial & Industrial Commitments prior to Constuction	4	\$28,212	\$112,848											
Total Commitments prior to Construction	4		\$112,848											

Year	Residential Oil Customers	Residential Propane Customers	Total Residential Customers	Annual Therm Usage	Annual Gross Profit Margin	Residential Annual Revenue	C&I Oil Customers	C&I Propane Customers	Total C&I Customers	Annual Therm Usage	Annual Gross Profit Margin	C&I Annual Revenue	Total Customer Conversions	Total Annual Revenue
1	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
2	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
3	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
4	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
5	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
6	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
7	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
8	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
9	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812
10	33	33	66	700	\$714	\$47,124	0	56	56	2,000	\$7,548	\$422,688	122	\$469,812

Updated Pelham Customer Conversions as of December 31, 2020														
	Number													
Residential Premises Along Main Extension	22													
Commercial & Industrial Premises Along Main Extension	30													
Total Premises Along Main Extension	52													

Year	Residential Oil Customers	Residential Propane Customers	Total Residential Customers	Annual Therm Usage	Annual Gross Profit Margin	Residential Annual Revenue	C&I Oil Customers	C&I Propane Customers	Total C&I Customers	Annual Therm Usage	Annual Gross Profit Margin	C&I Annual Revenue	Total Customer Conversions	Total Annual Revenue
1	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
2	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
3	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
4	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
5	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
6	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
7	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
8	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
9	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907
10	2	20	22	811	\$840	\$18,480	0	30	30	Varies	Varies	\$226,427	52	\$244,907

Variance - Updated less Original														
	Number													
Residential Premises Along Main Extension	(44)													
Commercial & Industrial Premises Along Main Extension	(26)													
Total Premises Along Main Extension	(70)													

Year	Residential Oil Customers	Residential Propane Customers	Total Residential Customers	Annual Therm Usage	Annual Gross Profit Margin	Residential Annual Revenue	C&I Oil Customers	C&I Propane Customers	Total C&I Customers	Annual Therm Usage	Annual Gross Profit Margin	C&I Annual Revenue	Total Customer Conversions	Total Annual Revenue
1	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
2	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
3	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
4	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
5	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
6	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
7	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
8	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
9	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)
10	(31)	(13)	(44)	700	\$126	(\$28,644)	0	30	30	Varies	Varies	(\$196,261)	(14)	(\$224,905.00)

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Liberty Price of Gas MEP Rates versus Oil and Propane for Average Residential Heat Customer

Liberty Utilities (EnergyNorth Natural Gas) Corp.

1 **d/b/a Liberty**

2 **Rates as of January 31, 2021**

3 **Annual Bill Comparisons**

4

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6 **November 1, 2020 - April 30, 2021**

7 **Residential Heating (R6)**

8 **ACTUAL/PROPOSED**

			Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Winter Nov-Apr
9			62	110	123	148	132	92	667
10	Average Usage (Therms)								
11									
12	Winter:	<u>7/1/2020</u>							
13	Cust. Chg	\$20.15	\$20.15	\$20.15	\$20.15	\$20.15	\$20.15	\$20.15	\$120.90
14	All Therms	\$0.7381	\$45.76	\$81.19	\$90.79	\$109.24	\$97.43	\$67.91	\$492.31
15									
16	Summer:	<u>7/1/2019</u>	<u>7/1/2020</u>						
17	Cust. Chg	\$19.76	\$20.15						
18	All Therms	\$0.7240	\$0.7381						
19									
20	Total Base Rate Amount		\$65.91	\$101.34	\$110.94	\$129.39	\$117.58	\$88.06	\$613.21
21									
22	COG Rate - (Seasonal)		\$0.5571	\$0.5571	\$0.4664	\$0.4276	\$0.4276	\$0.4276	\$0.4681
23	COG amount		\$34.54	\$61.28	\$57.37	\$63.28	\$56.44	\$39.34	\$312.26
24									
25	LDAC		\$0.0589	\$0.0589	\$0.0589	\$0.0589	\$0.0589	\$0.0589	0.0589
26	LDAC amount		\$3.65	\$6.48	\$7.24	\$8.72	\$7.77	\$5.42	\$39.29
27									
28	Total Bill		\$104.10	\$169.10	\$175.55	\$201.39	\$181.80	\$132.81	\$964.75
29									

May 1, 2020 - October 31, 2020

May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer May-Oct	Total Nov-Oct
51	28	16	14	14	21	144	811
\$19.76	\$19.76	\$20.15	\$20.15	\$20.15	\$20.15	\$120.12	\$241.02
\$36.92	\$20.27	\$11.81	\$10.33	\$10.33	\$15.50	\$105.17	\$597.49
\$56.68	\$40.03	\$31.96	\$30.48	\$30.48	\$35.65	\$225.29	\$838.51
\$0.4520	\$0.2550	\$0.3715	\$0.4757	\$0.4914	\$0.5650	\$0.4274	\$0.4609
\$23.05	\$7.14	\$5.94	\$6.66	\$6.88	\$11.87	\$61.54	\$373.80
\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0539
\$1.58	\$0.87	\$0.50	\$0.43	\$0.43	\$0.65	\$4.46	\$43.75
\$81.32	\$48.04	\$38.40	\$37.58	\$37.80	\$48.17	\$291.30	\$1,256.05

	Average Residential Annual Usage	Price Per Therm *	Yearly Total	Yearly Natural Gas	Natural Gas Savings/ (Cost)	Savings Percent
Oil	811	\$2.03	\$1,644	\$1,256	(\$388)	-24%
Propane	811	\$4.01	\$3,256	\$1,256	(\$2,000)	-61%
Natural Gas	811	\$1.55	\$1,256			

Oil & Propane Prices as Reported by the New Hampshire Office of Energy Planning - January 27, 2021
<https://www.nh.gov/oep/energy/energy-nh/fuel-prices/index.htm>

Equivalent per therm price calculated using NHPUC conversion table
<http://www.puc.nh.gov/Gas-Steam/naturalgasvsalternativefuels.htm>

	Price per Gallon	Heat Content Per Unit (Btu)	Per Therm Price	Efficiency Per Therm Price *
Fuel Oil (#2)	\$2.53	138,690	\$1.82	\$2.03
Propane	\$3.30	91,333	\$3.61	\$4.01

* Efficiency Per Therm Price based on average efficiency of oil and propane furnaces