

**Appendix A****Educational and Professional Background****Al-Azad Iqbal**

I am employed by the New Hampshire Public Utilities Commission (PUC) as a Utility Analyst in the Gas & Water Division. My business address is 21 S. Fruit Street, Suite 10, Concord New Hampshire, 03301.

I received my Bachelor degree in Architecture (B. Arch) from Bangladesh University of Engineering and Technology. I received my Master's (MS) in Environmental Management from the Asian Institute of Technology and I also received Master's in City and Regional Planning (MCRP) from The Ohio State University. I was a Doctoral Candidate at the City and Regional Planning Department at The Ohio State University.

Since joining the PUC in 2007, I have participated in several utility-related training courses including: marginal cost training by National Economic Research Associates (NERA); Advanced Regulatory Studies at the Institute of Public Utilities, Michigan State University; and depreciation training through the Society of Depreciation Professionals. I am an active member of that society. I filed numerous testimonies on issues related to marginal cost, energy efficiency, revenue decoupling, cost of service, depreciation, rate design, and other matters during my tenure at PUC.

Prior to joining the PUC, I was involved in teaching and research activities in different academic and research organizations. Most of my research work was related to the quantitative analysis of regional and environmental issues.

**Attachment 1****Comparison of Program Designs**

**Northern Utilities**  
**Typical Heating Customer**  
**November 2019 to October 2020**  
 (732 therms: Winter 600, Summer 132)

No Discount				Existing 60% Discount on Base rate			Staff proposal 35% Discount			Settlement 45% Winter Discount		
	Winter	Summer	Total	Winter	Summer	Total	Winter	Summer	Total	Winter	Summer	Total
Base rate	\$548	\$214	\$762	\$219	\$86	\$305	\$356	\$139	\$495	\$302	\$214	\$515
CoG	\$352	\$31	\$383	\$352	\$31	\$383	\$229	\$20	\$249	\$193	\$31	\$225
LDAC	\$42	\$9	\$52	\$42	\$9	\$52	\$42	\$9	\$52	\$42	\$9	\$52
Total	\$942	\$255	\$1,197	\$613	\$126	\$740	\$627	\$169	\$796	\$537	\$255	\$792
Discount \$				\$329	\$128	\$457	\$315	\$86	\$401	\$405	\$0	\$405
Discount % Total				35%	50%	38%	33%	34%	33%	43%	0%	34%
Discount % wo LDAC				37%	52%	40%	35%	35%	35%	45%	0%	35%

Source: Staff 2-2

**EnergyNorth Utilities**  
**Typical Heating Customer**  
**May 2019 to April 2020**  
 (775 therms: Winter 622, Summer 153)

No Discount				Existing 60% Discount on Base rate			Staff proposal 35% Discount			Settlement 45% Winter Discount		
	Winter	Summer	Total	Winter	Summer	Total	Winter	Summer	Total	Winter	Summer	Total
Base rate	\$433	\$175	\$609	\$173	\$70	\$244	\$282	\$114	\$396	\$238	\$175	\$414
CoG	\$392	\$75	\$468	\$392	\$75	\$468	\$255	\$49	\$304	\$216	\$75	\$291
LDAC	\$36	\$10	\$46	\$36	\$10	\$46	\$36	\$10	\$46	\$36	\$10	\$46
Total	\$862	\$261	\$1,123	\$602	\$156	\$757	\$573	\$173	\$746	\$490	\$261	\$751
Discount \$				\$260	\$105	\$365	\$289	\$88	\$377	\$371	\$0	\$371
Discount % Total				30%	40%	33%	34%	34%	34%	43%	0%	33%
Discount % wo LDAC				32%	42%	34%	35%	35%	35%	45%	0%	35%

Source: Staff 2-2

**Attachment 2****Program Costs****EnergyNorth**

	Based on COG			from Annual report		Based on COG
	From Annual COG (Schedule 19) 776 therms usage					
Year	Program cost	Number of participants	Discount/ participant	Company Revenue	% rev	Low income charge as % of Typical Res Heating Bill
Actual**						
2018-19	\$1,864,087	5,056	369	\$157,495,294	1.18%	0.79%
2017-18	\$1,512,253	4,463	339	\$139,890,158	1.08%	0.64%
2016-17	\$1,584,540	5,003	317	\$120,053,649	1.32%	0.51%
Average					1.19%	0.65%

**Northern**

	Based on COG			from Annual report		Based on COG
	From Annual COG(Schedule 38-SED - RLIARA) 601 therms usage					
	Program cost	Number of participants	Discount/ participant	Company Revenue	% rev	Low income charge as % of Typical Res Heating Bill
Actual**						
2018-19	\$331,773	731	454	\$78,641,848	0.42%	0.23%
2017-18	\$336,093	848	396	\$69,058,923	0.49%	0.22%
2016-17	\$450,274	1,063	424	\$64,947,341	0.69%	0.58%
Average					0.53%	0.35%

\*\* Based on CoG filing, bill impact data for previous years' actuals