

**Northern Utilities, Inc. - New Hampshire Division  
Special Contract Rate vs Tariff Rates**

DG 16-855

Northern Utilities, Inc.  
Supplemental Attachment 2

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**Special Contract Rate  
Estimated Annual Charges**

Month	Monthly Usage (therms)	Special Contract Charges					Total Delivery Charges
		Monthly Customer Charge	Min Fixed Charge	200,000 to 300,000	300,000 to 400,000	Over 400,000	
Dec	453,862						
Nov	448,861						
Oct	457,121						
Sep	419,762						
Aug	443,869						
Jul	511,310						
Jun	353,426						
May	486,624						
Apr	449,781						
Mar	455,776						
Feb	419,502						
Jan	403,907						
5,303,802		Annual Charges on Special Contract					

**T/G-52 Tariff Rate  
Estimated Annual Charges**

Month	Monthly Usage (therms)	T/G-52 Tariff Charges			
		Monthly Customer Charge	Delivery Charges	LDAC Charges (current)	Total Charges
Dec	453,862	\$1,290.00	\$72,844.92	\$13,434.33	\$87,569.25
Nov	448,861	\$1,290.00	\$72,042.25	\$13,286.30	\$86,618.54
Oct	457,121	\$1,290.00	\$35,244.03	\$13,530.78	\$50,064.81
Sep	419,762	\$1,290.00	\$32,363.65	\$12,424.96	\$46,078.61
Aug	443,869	\$1,290.00	\$34,222.30	\$13,138.52	\$48,650.82
Jul	511,310	\$1,290.00	\$39,422.00	\$15,134.78	\$55,846.78
Jun	353,426	\$1,290.00	\$27,249.14	\$10,461.41	\$39,000.55
May	486,624	\$1,290.00	\$37,518.71	\$14,404.07	\$53,212.78
Apr	449,781	\$1,290.00	\$72,189.85	\$13,313.52	\$86,793.37
Mar	455,776	\$1,290.00	\$73,152.05	\$13,490.97	\$87,933.02
Feb	419,502	\$1,290.00	\$67,330.07	\$12,417.26	\$81,037.33
Jan	403,907	\$1,290.00	\$64,827.07	\$11,955.65	\$78,072.72

Annual Charges at Proposed DG17-070 Tariff Rate T/G52: **\$800,879**

Annual Charges at Proposed Special Contract Rate [REDACTED]  
Annual Savings [REDACTED]

**Foss Mfg. Special Contract**

Northern Utilities, Inc. Marginal Cost Estimate template

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Escalating Marginal Costs using GDPLEV from Bureau of Economic Analysis data:

- 1) Go to -> <http://www.bea.gov/national/index.htm#gdp> web page;
- 2) Click on the link for *Current-Dollar and "Real" Gross Domestic Product*;
- 3) Update annual GDP "current dollars" and "chained 2005 dollars" data in the table below;
- 4) Forward year GDP estimates use EIA Energy Outlook projections (1.9% in early release overview report, Table 20);  
Go to -> <http://www.eia.doe.gov/oiiaf/aeo/index.html> web page;
- 5) Update prior to start of each contract year.

**Adjustment escalators to Marginal Costs**

	GDP in billions of current dollars	GDP in billions of chained 2009 dollars (1.0000)	% of Chained 2009 (1.0000)	GDP-IPD	Marginal Cost Study Escalation Factor Calculation
1993	6,878.7	9,521.0			
1994	7,308.8	9,905.4	0.687	0.7379	
1995	7,664.1	10,174.8	0.7057	0.7532	
1996	8,100.2	10,561.0	0.7325	0.7670	
1997	8,608.5	11,034.9	0.7653	0.7801	
1998	9,089.2	11,525.9	0.7994	0.7886	
1999	9,660.6	12,065.9	0.8368	0.8007	
2000	10,284.8	12,559.7	0.8711	0.8189	
2001	10,621.8	12,682.2	0.8796	0.8375	
2002	10,977.5	12,908.8	0.8953	0.8504	
2003	11,510.7	13,271.1	0.9204	0.8674	
2004	12,274.9	13,773.5	0.9553	0.8912	
2005	13,093.7	14,234.2	0.9872	0.9199	
2006	13,855.9	14,613.8	1.0135	0.9481	
2007	14,477.6	14,873.7	1.0316	0.9734	
2008	14,718.6	14,830.4	1.0286	0.9925	
2009	14,418.7	14,418.7	1.0000	1.0000	
2010	14,964.4	14,783.8	1.0253	1.0122	
2011	15,517.9	15,020.6	1.0417	1.0331	
2012	16,155.3	15,354.6	1.0649	1.0521	
2013	16,691.5	15,612.2	1.0828	1.0691	
2014	17,393.1	15,982.3	1.1084	1.0883	1.0883
2015	18,036.6	16,397.2	1.1372	1.1000	
2016	18,535.9	16,612.4	1.1521	1.1158	Forecast
2017				1.1621	Contract ends 2/28/2018
2018				1.1865	
	Calculation of Escalation Factor ->				1.0902

**ANNUALIZED MARGINAL COST ESTIMATE**

A	B	C	D	E	F	G	H
			DG 17-070 Rate Case MCS Tables 9&11	DG 17-070 Rate Case MCS Table 14	Feb 2018 Estimate		Notes
1	Escalation Factor				1.0902		
2	Marginal Cost Data						
3	Customer Charge				\$314.05		E3 x F1
4	Pressure Support				\$0.00		E4 x F1
5	Main Reinforcement				\$100.69		E5 x F1
6	Main Extension				\$210.28		E6 x F1
7	Adjusted MCS (Table 14)			(Col. D x D7)			
8							
9	Customer Data						
10	Annual Usage				530,380 Dth		Annual Usage
11	Design Day Usage				1,550 Dth		Customer MDTQ
12							
13	Marginal Revenue Requirement						
14	Customer Charge						F3 x 12
15	Pressure Support						F4 x F11
16	Main Reinforcement						F5 x F11
17	Main Extension						F6 x F11
18	Total						Sum(F14..F17)
19							
20	Marginal Cost Floor - All Components						
21	Revenue Requirement						F18
22	Customer Charge						F3 x 12
23	Remaining Revenue						F21 - F22
24	Volumetric Charge						F23 / F10

**Note:**

All marginal costs adjusted for revenue constraints from Table 14 in Rate Case Filing MCS  
 Customer Charge from Table - 11 in Rate Case Filing MCS  
 Main Reinforcement Cost from Table - 9 in Rate Case Filing MCS  
 Main Extension Cost from Table - 9 in Rate Case Filing MCS  
 2018 GDP Chain-type Price Index from EIA Annual Energy Outlook

Northern Utilities, Inc.  
Foss Special Contract - Sixth Amendment Marginal Revenue Estimate template

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Go to -> [http://data.bls.gov/PDO/servlet/SurveyOutputServlet?data\\_tool=latest\\_numbers&series\\_id=CUUR0000SA0&output\\_view=pct\\_1mth](http://data.bls.gov/PDO/servlet/SurveyOutputServlet?data_tool=latest_numbers&series_id=CUUR0000SA0&output_view=pct_1mth)

Filter formatting options - 12 month, February to February, html format, comma delimited

CPI Table Paste Area

**Consumer Price Index - All Urban Consumers**

12-Month Percent Change  
Series Id: CUUR0000SA0  
  
Not Seasonally Adjusted  
Area: U.S. city average  
Item: All items  
Base Period: 1982-84=100

Year	Feb
2000	169.800
2001	175.800
2002	177.800
2003	183.100
2004	186.200
2005	191.800
2006	198.700
2007	203.499
2008	211.693
2009	212.193
2010	216.741
2011	221.309
2012	227.663
2013	232.166
2014	234.781
2015	234.722
2016	237.111
2017	243.603
2018	249.116 Extrapolated 2/28/18

Inflation Factor Template			Annual Special Contract Rate Adjustment Template						Notes
CPI-U Year	CPI-U, NSA, 12 months, Feb. - Feb.	Inflation Factor	March 1 Contract Rate Year	Monthly Customer Charge	First 200,000 Therms	Delivery Rate 200,001-300,000	Delivery Rate 300,001-400,000	Delivery Rate Over 400,001	
2005	191.800		2005						Actual billed rates
2006	198.700	3.60%	2006						Actual billed rates
2007	203.499	2.42%	2007						Actual billed rates
2008	211.693	4.03%	2008						Actual billed rates
2009	212.193	0.24%	2009						Actual billed rates
2010	216.741	2.14%	2010						Actual billed rates
2011	221.309	2.11%	2011						Actual billed rates
2012	227.663	2.87%	2012						Actual billed rates
2013	232.166	1.98%	2013						Actual billed rates
2014	234.781	1.13%	2014						Actual billed rates
2015	234.722	-0.03%	2015						Actual billed rates
2016	237.111	1.02%	2016						Actual billed rates
2017	243.603	2.74%	2017						Actual billed rates
2018	249.116	2.26%	2018						Estimated billed rates

Note: Updated 2018 contract rates will be determined when February 2018 CPI-U data is available, approximately the end of March 2018.  
Forecast billed rates use the most recent month of September 2017 of actual CPI data extrapolated to February 2018.

Pursuant to the contract: In no event shall fluctuations in the CPI-U reduce the Special Transportation Rates or Charges below the then current Special Transportation Rates and Charges.

**2018 ANNUALIZED MARGINAL REVENUE ESTIMATE**

USAGE:	OVER 400,000	Customer Charge	1st 200,000	Next 100,000	Next 100,000	Remainder
455,776.00	55,776.00	Mar-18				
449,781.00	49,781.00	Apr-18				
486,624.00	86,624.00	May-18				
353,426.00	0.00	Jun-18				
511,310.00	111,310.00	Jul-18				
443,869.00	43,869.00	Aug-18				
419,762.00	19,762.00	Sep-18				
457,121.00	57,121.00	Oct-18				
448,861.00	48,861.00	Nov-18				
453,862.00	53,862.00	Dec-18				
403,907.00	3,907.00	Jan-19				
419,502.00	19,502.00	Feb-18				
5,303,801	Total					
TOTAL:						

Note: USAGE is based on 12-month period Oct 2016 - Sep 2017 actual usage