

Foss Mfg. Special Contract

Northern Utilities, Inc. Marginal Cost Estimate template

Redacted

Updated Schedule NU-10

Page 1 of 2

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

- 1) Go to -> <http://www.bea.gov/national/index.htm> web page;
- 2) Click on the link for *Current-Dollar and "Real" Gross Domestic Product*;
- 3) Update annual "GDP in billions of current dollars" and "GDP in billions of chained 2012 dollars" data in the table below;
- 4) Forecast years GDP estimates use EIA Energy Outlook projections (Table 20 Macroeconomics Indicators);
Go to -> <http://www.eia.doe.gov/oiaf/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 2012 dollars	GDP Chain-type Price Index (2012=1.000)	Marginal Cost Study Escalation Factor Calculation
1998	9,062.8	12,038.3	0.7528	
1999	9,630.7	12,610.5	0.7637	
2000	10,252.3	13,131.0	0.7808	
2001	10,581.8	13,262.1	0.7979	
2002	10,936.4	13,493.1	0.8105	
2003	11,458.2	13,879.1	0.8256	
2004	12,213.7	14,406.4	0.8478	
2005	13,036.6	14,912.5	0.8742	
2006	13,814.6	15,338.3	0.9007	
2007	14,451.9	15,626.0	0.9249	
2008	14,712.8	15,604.7	0.9428	
2009	14,448.9	15,208.8	0.9500	
2010	14,992.1	15,598.8	0.9611	
2011	15,542.6	15,840.7	0.9812	
2012	16,197.0	16,197.0	1.0000	
2013	16,784.9	16,495.4	1.0176	
2014	17,527.3	16,912.0	1.0364	
2015	18,224.8	17,403.8	1.0472	
2016	18,715.0	17,688.9	1.0580	
2017	19,519.4	18,108.1	1.0779	
2018	20,580.2	18,638.2	1.1042	
2019	21,427.1	19,072.7	1.1234	1.1234
2020			1.1503	1.1503
			1.1786	1.1550
Calculation of Escalation Factor ->				1.0281

ANNUALIZED MARGINAL COST ESTIMATE

A	B	C	D	E	F	G	H	
			DG 17-070 Compliance Filing MCS (Tables 9 & 11)	DG 17-070 Compliance Filing MCS Adj. (Table 14)	Feb 2020 Est		Notes	
1 Escalation Factor					1.0281			
2 Marginal Cost Data			Begin Confidential					
3 Customer Charge			[REDACTED]				E3 x F1	
4 Pressure Support							E4 x F1	
5 Main Reinforcement (per Dth)							E5 x F1	
6 Main Extension (per Dth)							E6 x F1	
7 Adjusted MCS (Table 14)								
8								
9 Customer Data								
10 Annual Usage							Dth	3-2019 to 2-2020 Annual Usage
11 Design Day Usage							Dth	Customer MDTQ
12								Avg Dth per day
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	
End Confidential								

Note:
 All marginal costs adjusted for revenue constraints from Table 14 in Compliance Filing MCS
 Customer Charge from Table - 12, in Compliance Filing MCS
 Main Reinforcement Cost from Table - 9 in Compliance Filing MCS
 Main Extension Cost from Table - 9 in Compliance Filing MCS
 2018 thru 2021 GDP Chain-type Price Index from EIA Annual Energy Outlook 2020

Go to -> 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	248.991
2019	252.776
2020	258.678

Begin Confidential

Inflation Factor Template		Annual Special Contract Rate Adjustment Template			
CPI-U Year	CPI-U, NSA, 12 months, Feb. - Feb.	Inflation Factor	March 1 Contract Rate Year	Monthly Customer Charge	Notes
2005					
2006					
2007					
2008					
2009					
2010					
2011					
2012					
2013					
2004					
2015					
2016					
2017					
2018					
2019					
2020					

End Confidential

Note: Updated 2020 contract rates will be determined when February 2020 CPI-U data is available, approximately the end of March 2020.

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.

2020 ANNUALIZED MARGINAL REVENUE ESTIMATE Begin Confidential

End Confidential