#### **CALCULATION OF FIRM SALES COST OF GAS RATE**

#### Period Covered: November 1, 2018 - April 30, 2019

(Col 1)	(Col 2)	(Col 3)	
Total Anticipated Direct Cost of Gas Projected Prorated Sales (11/01/18 - 04/30/19) Direct Cost of Gas Rate	\$27,122,704 34,882,919	¢0.7775	nor thorm
Direct Cost of Gas Rate		\$0.7775	per therm
Demand Cost of Gas Rate	\$11,747,382	\$0.3368	per therm
Commodity Cost of Gas Rate	\$ <u>15,382,305</u>	\$ <u>0.4410</u>	per therm
Total Direct Cost of Gas Rate	\$27,128,686	\$0.7778	per therm
Total Anticipated Indirect Cost of Gas	\$1,719,515		
Projected Prorated Sales (11/01/18 - 04/30/19)	34,882,919		
Indirect Cost of Gas		\$0.0493	per therm
TOTAL PERIOD AVERAGE COST OF GAS		\$0.8271	per therm
Period endig under-collection to be recovered as determined on 11/20/2018	\$2,089,524		
Projected Sales (12/01/18 - 04/30/2019)	30,651,027		
Per unit change in Cost of Gas (12/01/18 - 04/30/19)	\$0.0682		
Period endig under-collection to be recovered as determined on 12/21/2018	(\$803,174)		
Projected Sales (01/01/19 - 04/30/2019)	24,024,712		
Per unit change in Cost of Gas (01/01/19 - 04/30/19)	(\$0.0334)		
Period endig under-collection to be recovered as determined on 2/22/2019	(\$894,495)		
Projected Sales (03/01/19 - 04/30/2019)	9,240,858		
Per unit change in Cost of Gas (03/01/19 - 04/30/19)	(\$0.0968)		

RESIDENTIAL COST OF GAS RATE -03/01/19	COGwr	\$0.7650	per therm
	Maximum (COG+25%)	\$1.0339	
RESIDENTIAL COST OF GAS RATES - 11/01/2018		\$0.8271	
CHANGE IN PER UNIT COST		\$0.0682	
RESIDENTIAL COST OF GAS RATES - 12/01/2018		\$0.8953	
CHANGE IN PER UNIT COST		(\$0.0334)	
RESIDENTIAL COST OF GAS RATES - 01/01/2019		\$0.8618	
CHANGE IN PER UNIT COST		(\$0.0968)	
RESIDENTIAL COST OF GAS RATES - 03/01/2019		\$0.7650 <sup>°</sup>	

COM/IND LOW WINTER USE COST OF GAS RATE - 03/01/19	COGwl	\$0.6633	per therm
	Maximum (COG+25%)	\$0.9068	
COM/IND LOW WINTER USE COST OF GAS RATES - 11/01/2018		\$0.7254	
CHANGE IN PER UNIT COST		\$0.0682	
COM/IND LOW WINTER USE COST OF GAS RATES - 12/01/2018		\$0.7936	
CHANGE IN PER UNIT COST		(\$0.0334)	
COM/IND LOW WINTER USE COST OF GAS RATES - 01/01/2019		\$0.7601	
CHANGE IN PER UNIT COST		(\$0.0968)	
COM/IND LOW WINTER USE COST OF GAS RATES - 03/01/2019		\$0.6633	

COM/IND HIGH WINTER USE COST OF GAS RATE - 03/01/19	COGwh	\$0.7803	per therm
	Maximum (COG+25%)	\$1.0530	
COM/IND HIGH WINTER USE COST OF GAS RATES - 11/01/2018		\$0.8424	
CHANGE IN PER UNIT COST		\$0.0682	
COM/IND HIGH WINTER USE COST OF GAS RATES - 12/01/2018		\$0.9106	
CHANGE IN PER UNIT COST		(\$0.0334)	
COM/IND HIGH WINTER USE COST OF GAS RATES - 01/01/2019		\$0.8771 <sup>°</sup>	
CHANGE IN PER UNIT COST		(\$0.0968)	
COM/IND HIGH WINTER USE COST OF GAS RATES - 03/01/2019		\$0.7803	

Issued: February 22, 2019

Effective Date: March 1, 2019

Issued By:

Christine Vaughan Title: Senior Vice President

# NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION WINTER SEASON RESIDENTIAL RATES

	Winter Season		Total	Total Billed R	ates
	November 2018 - April 2019	Tariff	Delivery Rates	Tariff Rates, LDAC	
		Rates	(Includes LDAC)	Plus Cost of	Gas
Residential Heating	Tariff Rate R 5:				
	Monthly Customer Charge	\$21.36	\$21.36		21.36
	First 50 therms	\$0.6660	\$0.7351	\$1.5001	
	All usage over 50 therms	\$0.6660	\$0.7351	\$1.5001	
	LDAC	\$0.0691			
	Gas Cost Adjustment:				
	Cost of Gas	\$0.7650			
	T : ((D ) D )		· · · · · · · · · · · · · · · · · · ·		
Residential Heating	Tariff Rate R 10:	1			
Low Income	Monthly Customer Charge	\$8.54	\$8.54	_	\$8.54
	First 50 therms	\$0.2664	\$0.3355	\$1.1005	
	All usage over 50 therms	\$0.2664	\$0.3355	\$1.1005	
	LDAC	\$0.0691			
	Gas Cost Adjustment:				
	Cost of Gas	\$0.7650			
Residential Non-Heating	Tariff Rate R 6:				
	Monthly Customer Charge	\$21.36	\$21.36		21.36
	First 10 therms	\$0.6227	\$0.6918	\$1.4568	
	All usage over 10 therms	\$0.6227	\$0.6918	\$1.4568	
	LDAC	\$0.0691			
	Gas Cost Adjustment:	, , , , , , ,			
	Cost of Gas	\$0.7650			

 Issued: February 22, 2019
 Issued by:
 Christine Vaughan

 Effective: With Service Rendered On and After March 1, 2019
 Title:
 Senior Vice President

Authorized by NHPUC Order No. 26,186 in Docket No. DG 18-143, dated October 31, 2018.

### NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION

### WINTER SEASON C&I RATES

	Winter Season		Total	Total Billed Rates
	November 2018 - April 2019	Tariff	Delivery Rates	Tariff Rates, LDAC
	November 2010 April 2010	Rates	(Includes LDAC)	Plus Cost of Gas
C&I Low Annual/High Winter	Tariff Rate G 40:	Rates	(Includes EDAO)	1 103 0031 01 003
Car Low Annualy riight Writter	Monthly Customer Charge	\$72.26	\$72.26	\$72.26
	First 75 therms	\$0.1795	\$0.2191	\$0.9994
	All usage over 75 therms	\$0.1795	\$0.2191	\$0.9994
	LDAC	\$0.0396	ψ0.2101	ψ0.0004
	Gas Cost Adjustment:	40.000		
	Cost of Gas	\$0.7803		
	Cost of das	\$0.7003		
C&I Low Annual/Low Winter	Tariff Rate G 50:			
	Monthly Customer Charge	\$72.26	\$72.26	\$72.26
	First 75 therms	\$0.1795	\$0.2191	\$0.8824
	All usage over 75 therms	\$0.1795	\$0.2191	\$0.8824
	LDAC	\$0.0396		
	Gas Cost Adjustment:			
	Cost of Gas	\$0.6633		
C&I Medium Annual/High Winter	Tariff Rate G 41:			
and the diameter of the second	Monthly Customer Charge	\$214.26	\$214.26	\$214.26
	All usage	\$0.2334	\$0.2730	\$1.0533
	LDAC	\$0.0396	ψ0.2730	Ψ1.0000
		ψ0.0000		
	Gas Cost Adjustment:	<b>€0.7000</b>		
	Cost of Gas	\$0.7803		
C&I Medium Annual/Low Winter	Tariff Rate G 51:			
	Monthly Customer Charge	\$214.26	\$214.26	\$214.26
	First 1,300 therms	\$0.1648	\$0.2044	\$0.8677
	All usage over 1,300 therms	\$0.1346	\$0.1742	\$0.8375
	LDAC	\$0.0396		
	Gas Cost Adjustment:	ψ0.0000		
	Cost of Gas	\$0.6633		
		ψ0.0033		
C&I High Annual/High Winter	Tariff Rate G 42:		_	
	Monthly Customer Charge	\$1,285.55	\$1,285.55	\$1,285.55
	All usage	\$0.1909	\$0.2305	\$1.0108
	LDAC	\$0.0396		
	Gas Cost Adjustment:			
	Cost of Gas	\$0.7803		
C&I High Annual/Low Winter	Tariff Rate G 52:			
	Monthly Customer Charge	\$1,285.55	\$1,285.55	\$1,285.55
	All usage	\$0.1655	\$0.2051	\$0.8684
	LDAC	\$0.0396		
	Gas Cost Adjustment:	\$0.000		
		\$0.6633		
	Cost of Gas	\$0.6633		

Issued: February 22, 2019

Effective: With Service Rendered On and After March 1, 2019

Issued by: Christine Vaughan

Title: Senior Vice President

Authorized by NHPUC Order No. 26,186 in Docket No. DG 18-143, dated October 31, 2018.

#### CALCULATION OF FIRM SALES COST OF GAS RATE

Period Covered: November 1, 2018 - April 30, 2019

(Col 1)	(Col 2)	(C	Col 3)	
Total Anticipated Direct Cost of Gas	\$27,122,704			
Projected Prorated Sales (11/01/18 - 04/30/19)  Direct Cost of Gas Rate	34,882,919		\$0.7775	per therm
Demand Cost of Gas Rate	\$11,747,382		\$0.3368	per therm
Commodity Cost of Gas Rate	\$15,382,305		\$0.3300	per therm
Total Direct Cost of Gas Rate	\$27,128,686		\$0.7778	per therm
Total Anticipated Indirect Cost of Gas	\$1,719,515			
Projected Prorated Sales (11/01/18 - 04/30/19)	34,882,919			
Indirect Cost of Gas			\$0.0493	per therm
TOTAL PERIOD AVERAGE COST OF GAS			\$0.8271	per therm
Period endig under-collection to be recovered as determined on 11/20/2018	\$2,089,524			
Projected Sales (12/01/18 - 04/30/2019)	30,651,027			
Per unit change in Cost of Gas (12/01/18 - 04/30/18)	\$0.0682			
Period endig under-collection to be recovered as determined on 12/21/2018	(\$803,174)			
Projected Sales (01/01/19 - 04/30/2019)	24,024,712			
Per unit change in Cost of Gas (01/01/19 - 04/30/19)	(\$0.0334)			
Period endig under-collection to be recovered as determined on 2/22/2019	(\$894,495)			
Projected Sales (03/01/19 - 04/30/2019)	9,240,858			
Per unit change in Cost of Gas (03/01/19 - 04/30/19)	(\$0.0968)			
RESIDENTIAL COST OF GAS RATE -01/01/19-03/01/19	COGwr	\$0.8618	\$0.7650	per therm

RESIDENTIAL COST OF GAS RATE -01/01/19-03/01/19	COGwr	\$ <del>0.8618</del>	<u>\$0.7650</u>	per therm
	Maximum (COG+25%)		\$1.0339	
RESIDENTIAL COST OF GAS RATES - 11/01/2018 CHANGE IN PER UNIT COST RESIDENTIAL COST OF GAS RATES - 12/01/2018 CHANGE IN PER UNIT COST RESIDENTIAL COST OF GAS RATES - 01/01/2019 CHANGE IN PER UNIT COST RESIDENTIAL COST OF GAS RATES - 03/01/2019			\$0.8271 \$0.0682 \$0.8953 (\$0.0334) \$0.8618 (\$0.0968) \$0.7650	

COM/IND LOW WINTER USE COST OF GAS RATE - 01/01/19 03/01/19	COGwl	\$ <del>0.7601</del> \$0.6633	per therm
	Maximum (COG+25%)	\$0.9068	
COM/IND LOW WINTER USE COST OF GAS RATES - 11/01/2018		\$0.7254	
CHANGE IN PER UNIT COST		\$0.0682	
COM/IND LOW WINTER USE COST OF GAS RATES - 12/01/2018		\$0.7936	
CHANGE IN PER UNIT COST		(\$0.0334)	
COM/IND LOW WINTER USE COST OF GAS RATES - 01/01/2019		\$0.7601	
CHANGE IN PER UNIT COST		(\$0.0968)	
COM/IND LOW WINTER USE COST OF GAS RATES - 03/01/2019		\$0.6633	

COM/IND HIGH WINTER USE COST OF GAS RATE - 01/01/19 03/01/19	COGwh	\$0.8771 <u>\$0.7803</u>	per therm
	Maximum (COG+25%)	\$1.0530	
COMIND HIGH WINTER USE COST OF GAS RATES - 11/01/2018 CHANGE IN PER UNIT COST COMIND HIGH WINTER USE COST OF GAS RATES - 12/01/2018 CHANGE IN PER UNIT COST COMIND HIGH WINTER USE COST OF GAS RATES - 01/01/2019 CHANGE IN PER UNIT COST COMIND HIGH WINTER USE COST OF GAS RATES - 03/01/2019		\$0.8424 \$0.0682 \$0.9106 (\$0.0334) \$0.8771 (\$0.0968) \$0.7803	

Issued By: Mark CollinChristine Vaughan
Senior Vice President

## NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION WINTER SEASON RESIDENTIAL RATES

	Winter Season November 2018 - April 2019	Tariff Rates		To Deliver (Include	y Rates	Tariff Ra	illed Rates ates, LDAC ost of Gas
Residential Heating	Tariff Rate R 5:  Monthly Customer Charge First 50 therms All usage over 50 therms LDAC Gas Cost Adjustment: Cost of Gas	\$21.3 \$0.6660 \$0.6660 \$0.0691 <b>\$0.8618</b>	6 <b>\$0.7650</b>	\$0.7351 \$0.7351	\$21.36	\$ <del>1.5969</del> \$ <del>1.5969</del>	\$21.36 <u>\$1.5001</u> <u>\$1.5001</u>
Residential Heating	Tariff Rate R 10:	1					
Low income	Monthly Customer Charge First 50 therms All usage over 50 therms LDAC Gas Cost Adjustment: Cost of Gas	\$8.5 \$0.2664 \$0.2664 \$0.0691 \$0.8618	\$0.765 <u>0</u>	\$0.3355 \$0.3355	\$8.54	\$1.1973 \$1.1973	\$8.54 <u>\$1.1005</u> <u>\$1.1005</u>
Decide with the Heading	Tariff Rate R 6:	1					
Residential Non-Heating	Monthly Customer Charge First 10 therms All usage over 10 therms LDAC Gas Cost Adjustment: Cost of Gas	\$21.3 \$0.6227 \$0.6227 \$0.0691	\$ <b>0.7650</b>	\$0.6918 \$0.6918	\$21.36	\$1.5536 \$1.5536	\$21.36 <u>\$1.4568</u> <u>\$1.4568</u>

Issued: December 21, 2018 February 22, 2019

Effective: With Service Rendered On and After January March 1, 2019
Authorized by NHPUC Order No. 26,186 in Docket No. DG 18-143, dated October 31, 2018.

Issued by: Title:

Mark CollinChristine Vaughan

Senior Vice President

# NORTHERN UTILITIES - NEW HAMPSHIRE DIVISION WINTER SEASON C&I RATES

	Winter Season November 2018 - April 2019	Tariff Rates		Total Delivery Rates (Includes LDAC)	<u>Total Bille</u> Tariff Rate Plus Cos	es, LDAC
C&I Low Annual/High Winter	Tariff Rate G 40:  Monthly Customer Charge First 75 therms All usage over 75 therms LDAC Gas Cost Adjustment: Cost of Gas	\$72.26 \$0.1795 \$0.1795 \$0.0396	5 <u>0.7803</u>	<b>\$72.26</b> \$0.2191 \$0.2191	\$72.26 \$1.0962 \$1.0962	\$0.9994 \$0.9994
C&I Low Annual/Low Winter	Tariff Rate G 50:  Monthly Customer Charge First 75 therms All usage over 75 therms  LDAC Gas Cost Adjustment: Cost of Gas	\$72.26 \$0.1795 \$0.1795 \$0.0396 \$0.7601	<u>60.6633</u>	<b>\$72.26</b> \$0.2191 \$0.2191	\$72.26 \$0.9792 \$0.9792	\$0.8824 \$0.8824
C&I Medium Annual/High Winter	Tariff Rate G 41:  Monthly Customer Charge All usage LDAC Gas Cost Adjustment: Cost of Gas	\$214.26 \$0.2334 \$0.0396 <b>\$0.8771</b>	5 <u>0.7803</u>	<b>\$214.26</b> \$0.2730	\$214.26 \$1.1501	<u>\$1.0533</u>
C&I Medium Annual/Low Winter	Tariff Rate G 51:  Monthly Customer Charge First 1,300 therms All usage over 1,300 therms  LDAC  Gas Cost Adjustment: Cost of Gas	\$214.26 \$0.1648 \$0.1346 \$0.0396	<u> 60.6633</u>	<b>\$214.26</b> \$0.2044 \$0.1742	\$214.26 \$0.9645 \$0.9343	\$0.8677 \$0.8375
C&I High Annual/High Winter	Tariff Rate G 42:  Monthly Customer Charge All usage LDAC Gas Cost Adjustment: Cost of Gas	\$1,285.55 \$0.1909 \$0.0396 <b>\$0.8771</b>	50.7803	<b>\$1,285.55</b> \$0.2305	\$1,285.55 \$1.1076	<u>\$1.0108</u>
C&I High Annual/Low Winter	Tariff Rate G 52:  Monthly Customer Charge All usage LDAC Gas Cost Adjustment: Cost of Gas	\$1,285.55 \$0.1655 \$0.0396 <b>\$0.7601</b>	60.663 <u>3</u>	<b>\$1,285.55</b> \$0.2051	\$1,285.55 \$0.9652	<u>\$0.8684</u>

Issued: December 21, 2018 February 22, 2019

Effective: With Service Rendered On and After January March 1, 2019

Authorized by NHPUC Order No. 26,186 in Docket No. DG 18-143, dated October 31, 2018.

Issued by:

Mark Collin Christine Vaughan

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