

SPECIAL FIRM TRANSPORTATION AGREEMENT

This Agreement is made and entered into as of this 28 day of Oct 1995 by and between Northern Utilities, Inc., a New Hampshire corporation, with headquarters at 300 Friberg Parkway, Westborough, MA 01581 (hereafter called "Northern" or "Company"), and Foss Manufacturing Company, Inc., with offices 380 Lafayette Road, Hampton, NH 03842 (hereafter called "Foss" or "Customer"), pursuant to the following recitals and representations:

RECITALS

Whereas, Customer desires Northern to transport on a firm basis such volumes of gas procured by Customer from a supplier (hereafter called "Customer's Supplier") for use at Customer's facility located at 380 Lafayette Road, Hampton, NH (hereafter called "Point of Delivery" or "Foss Facility"); and

Whereas Northern, subject to the Company's General Terms and Conditions, Transportation Terms and Conditions, and the conditions, limitations and provisions hereof, is willing to transport and deliver to Customer on a firm basis such volumes of third party gas delivered by Granite State Gas Transmission, Inc. (hereafter called "Customer's Transporting Pipeline") to Northern's distribution facilities located at Newington, NH (hereafter called "Point of Receipt") and

Whereas, the Company shall make available to Customer hereunder firm transportation service at a rate that is below its currently effective tariffed rate for such service, and in consideration and recognition thereof and the resources committed by Company to make such service available, Customer agrees to make minimum payments to Northern during the term of this Agreement; and

Whereas, the parties acknowledge that this Agreement is subject to the prior approval of the New Hampshire Public Utilities Commission ("PUC").

Whereas, the parties acknowledge that the Company shall complete distribution system upgrades in order to provide service hereunder and that such upgrades shall be undertaken solely in reliance upon Customer's request for service hereunder.

Now, Therefore, in consideration of the premises and mutual covenants contained herein the receipt and sufficiency of which is hereby acknowledged, Northern and Customer agree as follows:

ARTICLE 1: MAXIMUM DAILY TRANSPORTATION QUANTITY

Prior to May 1, 2000, Northern shall be obligated to transport and deliver to Customer from the Point of Receipt to the Point of Delivery during any Gas Day up to a Maximum Daily Transportation Quantity of 12,750 therms. Prior to May 1, 2000, Northern's obligation to transport and deliver to Customer from Point of Receipt to the Point of Delivery shall not exceed 650 therms per hour. On and after May 1, 2000, Northern shall be obligated to transport and

deliver to Customer from the Point of Receipt to the Point of Delivery during any Gas Day up to a Maximum Daily Transportation Quantity of 15,500 therms. On and after May 1, 2000, Northern's obligation to transport and deliver to Customer from Point of Receipt to the Point of Delivery shall not exceed 860 therms per hour.

ARTICLE 2 : DEMAND DELIVERY SERVICE

The Customer elects daily Demand Delivery Quantities of (*To be determined*) therms for the purpose of managing Daily Imbalances (indicate zero (0) if not electing such service). *PL*

ARTICLE 3: RATES AND CHARGES

A. The Special Transportation Rates and Charges for Northern's Firm Transportation Service provided hereunder are set out below. IN ADDITION TO SUCH RATES AND CHARGES, CUSTOMER SHALL BE SUBJECT TO ALL CHARGES AND FEES SET OUT IN THE COMPANY'S GENERAL TERMS AND CONDITIONS AND TRANSPORTATION TERMS AND CONDITIONS, AS SUCH TERMS AND CONDITIONS ARE IN EFFECT FROM TIME TO TIME, UNLESS OTHERWISE SPECIFIED IN ARTICLE 3. Customer's payment obligations hereunder shall commence as of the Service Commencement Date, as that term is defined in Article 5.

Special Transportation Rates and Charges

- Monthly Customer Charge: [REDACTED]
- Monthly Minimum Fixed Charge for First 200,000 Therms or less: [REDACTED]
- Volumetric Rates for volumes delivered to the Point of Delivery:
 - Quantities between 200,000 and 300,000 Therms: [REDACTED] per Therm
 - Quantities between 300,000 and 400,000 Therms: [REDACTED] per Therm
 - All quantities over 400,000 Therms: [REDACTED] per Therm

B. In each and every contract year during the Initial Term, as defined in Article 4 below, or any continuation period (or part thereof) of this Agreement, the Customer shall pay Northern for the right to transport a minimum of Two Million Four Hundred Thousand (2,400,000) therms of natural gas; the Customer shall pay Northern a Minimum Annual Payment Obligation of [REDACTED] which equals the sum of twelve Monthly Customer Charges [REDACTED] x 12) and twelve Monthly Minimum Fixed Charges [REDACTED] x 12).

C. The Customer acknowledges that its Minimum Annual Payment Obligation is (i) in consideration for paying a transportation rate hereunder that is below the Company's currently applicable tariff rate; and (ii) in lieu of a demand charge for the reservation of capacity on the Company's distribution system, which is required to service the Customer under this Agreement.

D. Either party shall have the right, at its own expense, upon reasonable notice and at reasonable times, to examine the books and records of the other party to the extent reasonably necessary to verify the accuracy of any representation, statement, charge, payment, or

computation made under this Agreement. This examination right shall not be available with respect to proprietary information not directly relevant to this Agreement.

E. The Parties agree that Northern may apply an annual inflation adjustment to the Special Transportation Rates and Charges set out above in Section A, each year beyond the Initial Term of this Agreement and any extension hereof. Such adjustment to the Special Transportation Rates and Charges shall be based upon changes in the "Consumer Price Index for Urban Consumers, U.S. City Average, All items, 1982-84 = 100" published monthly by the Bureau of Labor Statistics of the United States Department of Labor ("CPI-U"). For purposes of this Agreement, the CPI-U is the national index unadjusted for seasonal fluctuations.

The first annual CPI-U inflation adjustment may take place immediately following the fifth anniversary of the Service Commencement Date and annually thereafter. The Special Transportation Rates and Charges due and payable with respect to the next twelve (12) month period ("contract year") shall be recalculated by multiplying the then effective Special Transportation Rates and Charges by a fraction, the numerator of which shall be the CPI-U for the month of the Service Commencement Date for the then current year, and the denominator of which shall be the CPI-U for the month of the Service Commencement Date for the previous year. However, 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. The Special Transportation Rates and Charges will be recalculated and rounded to the fourth decimal point.

Example of CPI-U Adjustment Calculation:

(For illustrative purposes only- text of Agreement shall control actual calculation of CPI-U adjustment) (Assuming Service Commencement Date in December).

Then effective Special Transportation Rates And Charges	x	<u>CPI-U for December of Current Year</u> <u>CPI-U for December of previous contract year</u>
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If the CPI-U is no longer published, a comparable index mutually and reasonably agreeable to the parties shall be used or in the event such index ceases to use the 1982-84 average of 100 as the basis of calculation, or if a substantial change is made in the terms or number of items contained in such index, any CPI-U adjustment hereunder shall be modified in order to achieve the inflation adjustments originally intended by the parties hereunder.

F. CUSTOMER ACKNOWLEDGES THAT THE TERM AND PRICING PROVISIONS (SPECIAL TRANSPORTATION RATES AND CHARGES) OF THIS AGREEMENT CONSTITUTE PROPRIETARY AND CONFIDENTIAL COMPANY INFORMATION AND CUSTOMER HEREBY AGREES TO KEEP SUCH INFORMATION CONFIDENTIAL AND SHALL NOT DISCLOSE SUCH INFORMATION EXCEPT TO THOSE EMPLOYEES OR CUSTOMER REPRESENTATIVES (E.G. ACCOUNTANTS, ATTORNEYS, BANKERS) WHO NEED TO KNOW SUCH INFORMATION. CUSTOMER SHALL BE RESPONSIBLE FOR ANY BREACH OF THESE CONFIDENTIALITY AND NONDISCLOSURE

OBLIGATIONS BY PRESENT, FORMER OR FUTURE DIRECTORS, OFFICERS, EMPLOYEES OR REPRESENTATIVES. CUSTOMER SHALL USE SUCH INFORMATION ONLY FOR THE PURPOSE OF OBTAINING SERVICE FROM THE COMPANY. SUCH OBLIGATIONS OF CONFIDENTIALITY AND NONDISCLOSURE SHALL SURVIVE THE TERMINATION OR EXPIRATION HEREOF.

ARTICLE 4: TERM

This Agreement shall continue in full force and effect for an initial term of five (5) years ("Initial Term") from the Service Commencement Date. This Agreement shall further continue thereafter for successive one-year periods, unless terminated by the Customer or the Company with at least six (6) months written notice to the other party prior to end of the Initial Term or any applicable renewal period. Such written notice to terminate shall be addressed to (i) Northern at the address noted below, and (ii) the Customer at the Foss Facility, and mailed by U.S. certified mail, return receipt requested, first class postage pre-paid, or sent by nationally recognized delivery service (e.g. FedEx, UPS, etc.), and must be received by the other party no later than six (6) months prior to the end of the Initial Term or any applicable continuation period. Notices to the Company must be addressed to Northern Utilities, Inc., c/o Bay State Gas Company, 300 Friberg Parkway, Westborough, MA 01581, Attention: Director, Revenue Development with a copy to Northern Utilities, Inc., 325 West Road, Portsmouth, NH 03801 Attention: Industrial Sales Department.

ARTICLE 5: EFFECTIVE DATE/COMMENCEMENT OF SERVICE

This Agreement shall become effective on the date first written above; provided, however, that Northern shall be under no obligation to render service to Customer hereunder, and Customer shall have no payment obligations hereunder, until the PUC shall have issued a final and non-appealable order approving this Agreement in form and substance acceptable to Northern, in its sole discretion. Northern and the Customer agree to cooperate to obtain such an order as soon as practicable after the date hereof.

Service to be provided hereunder shall commence on a date agreeable to both parties which is within sixty (60) Calendar Days following the PUC's approval hereof and Northern's acceptance of same, as set out above (the "Service Commencement Date").

ARTICLE 6: MATERIAL DEFAULT

THE FOLLOWING CONSTITUTE EVENTS OF MATERIAL DEFAULT:

(a) Where Customer (i) files for or becomes subject to a proceeding under federal or state bankruptcy or insolvency law seeking liquidation or reorganization, or the readjustment of indebtedness (unless such proceeding shall be dismissed within sixty (60) days from the date it is instituted); (ii) makes an assignment for the benefit of creditors, becomes insolvent, or is unable to pay its debts generally as they become due; (iii) consents to the appointment of any receiver, administrator, liquidator or trustee or its property or any receiver, administrator, liquidator or trustee shall be appointed for all or any part of the property of Customer; or (iv) takes any action for the purpose of effecting any of the foregoing. (b) Where the Foss Facility is taken by

exercise of the right of eminent domain or its equivalent by any person or entity. In any proceeding to determine the condemnation award shall introduce this Agreement as evidence of Customer's damages. (c) Where Customer conveys, loses or relinquishes its right to own or operate or occupy the Foss Facility to any person. (d) Where Customer abandons ownership, occupancy or operation of the Foss Facility. (e) Where Customer fails to make all reasonable efforts to restore the Foss Facility to full or substantially full operating condition following any casualty loss or any other disturbance to operations and such failure continues for at least sixty (60) days. (f) ~~Where Customer transfers ownership, occupancy rights or operational control of the Foss Facility, to any person or entity.~~ (g) Where Customer fails to fulfill or advises Company in advance that it shall not fulfill any obligation under this Agreement including, but not limited to, pay any amount due hereunder.

The Customer shall provide written notice of the occurrence of any event of Material Default immediately upon its initiation or learning of the occurrence of such event; such notice shall be given even if the event of Material Default can be cured or mitigated as described herein.

ARTICLE 7: TERMINATION/ACCELERATION

In addition to, and independent of, the parties' rights specifically provided for elsewhere in this Agreement, in the event of the occurrence of a Material Default, the Company shall have the right, but not the obligation, to terminate this Agreement upon prior written notice to the Customer. Further, in the event of Customer's Material Default as a result of which Northern terminates this Agreement, all amounts (past, current and future) due hereunder including, but not limited to, the Minimum Annual Payment Obligation, which would have been due during the remaining term of this Agreement, shall become immediately due and payable to Northern. When this Agreement is so terminated during its Initial Term, Customer shall be obligated to pay to the Company the difference between five times the Minimum Annual Payment Obligation and the actual payments made by Customer to date under this Agreement. When this Agreement is so terminated subsequent to the Initial Term, Customer shall be obligated to pay to the Company the difference between the Minimum Annual Payment Obligation and the actual payments made by the Customer in the then current contract year. Any termination of this Agreement and/or acceleration of amounts due hereunder by Northern pursuant to this Article 7 shall not limit Northern's rights or ability to claim or obtain any other remedies it may have under this Agreement or at law or in equity including without limitation, injunctive relief and specific performance.

ARTICLE 8: LIMITATION OF LIABILITY

The Company shall be excused from performing and shall not be liable in damages or otherwise if and to the extent that it shall be unable to do so or prevented from doing so: by law or regulation or tariff or by action or inaction or restraint of any court or public authority having or purporting to have jurisdiction; or by loss, diminution or impairment of gas supply from its suppliers or the systems of others with which it is interconnected; or by a break or fault in its distribution system; or failure or improper operation of equipment necessary for gas distribution; or failure of any supplier to perform; or by reason of storm, flood, fire, earthquake, unusual and severe weather condition, explosion, civil disturbance, labor dispute, act of God or public enemy; or any other cause, whether or not similar thereto; except, to the extent that any such failure to

perform or cause is the result of the Company's willful default. The Company's failure to settle or prevent labor disputes shall not constitute willful default.

In no event shall the Company be liable to Customer or any third party for any consequential, indirect, punitive or special damages or lost profits, whether arising in tort, contract or otherwise, by reason of any services performed, or undertaken to be performed, under this Agreement or in accordance with or required by tariff, law or regulation.

ARTICLE 9: PUBLIC REGULATION

This Agreement and Foss and the Company shall be subject to Northern's General Terms and Conditions and Transportation Terms and Conditions as same are in effect from time to time and on file with the New Hampshire Public Utilities Commission. Such terms and conditions are made a part of this Agreement to the extent those terms and conditions are not inconsistent with the provisions of this Agreement; in the event of a conflict, the provisions of this Agreement shall govern. Upon Customer's request, Northern shall provide the Customer with copies of Northern's complete filed tariff and terms and conditions.

ARTICLE 10: AGREEMENT IN ITS ENTIRETY/ASSIGNMENT

This Agreement and the materials referenced herein constitute the entire agreement of the parties for transportation service at Special Transportation Rates and Charges to the Customer's Facility, and there are no oral or written understandings or agreements between Northern and Customer relating to the subject matter hereof. This Agreement supercedes any preexisting contract between Customer and Company. Notwithstanding the foregoing and the execution hereof, the Customer shall completely fulfill all of its obligations including, but not limited to, payment of all amounts due, under the Standard Firm Transportation Service Agreement entered into by the parties concerning the Foss Facility, dated May 1, 1999.

Either party may, without relieving itself of its obligations under this Agreement, assign any of its rights hereunder to an entity with which it is affiliated, but otherwise no assignment of this Agreement or any of the rights and obligations hereunder shall be made unless there first shall have been obtained the written consent of the other party.

ARTICLE 11: OTHER IMPORTANT PROVISIONS

If any provision of this Agreement is found to be invalid, all of the remaining provisions of this Agreement shall nonetheless remain in full force and effect. This Agreement shall not be interpreted either more or less favorably toward any party by virtue of the fact that such party or its counsel was responsible or principally responsible for the drafting of all or a portion hereof. Captions and headings are for convenience only and shall not effect the interpretation hereof. Language contained in Recitals shall have the same contractual significance as any other language in this Agreement. This Agreement is entered into and shall be construed in accordance with the laws of the State of New Hampshire. All claims, suits or actions with respect to this Agreement shall be brought and heard in a state or federal court located in the State of New Hampshire or brought before the PUC, as appropriate.

Provisions of this Agreement shall be modified, waived, discharged or terminated only by a written instrument signed by the authorized officers of both parties. Waiver by the Company or the Customer, in any one or more instances, of any term, condition, or provision of this Agreement shall not be considered a waiver of such provisions in the future or any other term, condition, or provision.

This Agreement is entered into solely for the benefit of the parties and is not intended to confer third party beneficiary status on any other entity or person. This Agreement may be executed in counterparts, each of which shall be deemed an original, but which together shall constitute one and the same instrument. This Agreement may be executed by facsimile signatures which the Company and Customer agree shall be as binding as original signatures.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement by their duly authorized officers:

Northern Utilities, Inc.

By: [Signature]
Name: Jeffrey W. Yundt

Title: President

10/30/99

Foss Manufacturing Company, Inc.

By: [Signature]
Name: Stephen W. Foss

Title: President

10/28/99

CORPORATE ACKNOWLEDGEMENT

STATE OF NEW HAMPSHIRE

County of Rockingham ss:

I CERTIFY that on October 28, 1999, Stephen W. Foss personally came before me and acknowledged under oath that he or she:

- (a) is the President of Foss Manufacturing Company, Inc., the corporation named in the attached instrument,
- (b) was authorized to execute this instrument on behalf of the corporation and
- (c) executed the instrument as the act of the corporation.

[Signature]
Notary Public
My Commission Expires



Amendment of Agreement

This Amendment is made and entered into as of the 11 day of January, 2000 by and between Northern Utilities, Inc. ("Northern") and Foss Manufacturing Company, Inc. ("Customer"), individually a "party" and collectively the "parties".

Whereas, the parties entered into a Special Firm Transportation Agreement dated, October 28, 1999 (the "Agreement"); and

Whereas, the parties desire in compliance with PUC Order No. 23, 384-DG99-171 dated January 6, 2000 (the "Order") to amend their Agreement.

Now Therefore, pursuant to the Order and Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Amendment and for other good and valuable consideration the receipt and sufficiency is hereby acknowledged, the parties agree as follows:

Article 4: Term

Article four is stricken and replaced with the following:

"This Agreement shall continue in full force and effect for an initial term of five (5) years from the Service Commencement Date. The Customer and Company agree and acknowledge that any extension of this Agreement beyond the initial term shall require PUC approval. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion."

All undefined capitalized terms included in this Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Amendment and shall have the same contractual significance as any other language.

This Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Amendment shall be effective upon its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Rate to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto.

IN WITNESS WHEREOF, Northern and the Customer have caused this Amendment to be executed by their duly authorized officers as of the day and year first written above.

FOSS MANUFACTURING COMPANY, INC.

NORTHERN UTILITIES, INC.

By: [Signature]

Name: James W. Foss

Title: President

By: [Signature]

Name: James D. Simpson

Title: SR VP



Northern Utilities

A NISource Company

325 West Road
PO Box 508
Portsmouth, NH 03802-0508

March 8, 2005

Mr. Stephen W. Foss
Foss Manufacturing Company, Inc.
380 Lafayette Road
Hampton, NH 03842

Re: Firm Transportation Service

Dear Steve:

This letter is to further our discussions regarding the amendment of our Special Firm Transportation Agreement dated October 28, 1999, as amended January 11, 2000.

In particular, Foss Manufacturing and Northern Utilities for good and valuable consideration, through this Letter Agreement, agree that if the above-referenced amendment is not approved by the New Hampshire Public Utilities Commission ("Commission") in form and substance acceptable to Northern Utilities and Foss Manufacturing each, in its sole discretion, the rate for transportation service rendered from March 1, 2005 forward, is and shall be Northern Utilities' applicable rate schedule, Commercial and Industrial Firm Delivery Service -- High Annual Use, Low Winter Use, Rate T-52. In the event the Commission does not approve such amendment, Northern Utilities shall recalculate the charges for transportation services rendered since March 1, 2005 and Foss Manufacturing shall be responsible for such charges.

Foss Manufacturing and Northern Utilities intend this Letter Agreement to be legally binding. This Letter Agreement may be executed by facsimile signatures, which both parties agree shall be as binding as original signatures.

If the foregoing is acceptable, please indicate Foss Manufacturing's acceptance and agreement by signing in the space provided below and returning to my attention.

Sincerely,

Michael Smith
Northern Utilities

Agreed and Accepted:
Foss Manufacturing Company, Inc.

By:
Title:
Date: 3/12/05

cc: J. Ferro

Second Amendment of Agreement

This Second Amendment is made and entered into as of the 1st day of March, 2005 by and between Northern Utilities, Inc. ("Northern") and Foss Manufacturing Company, Inc. ("Customer"), individually a "party" and collectively the "parties".

Whereas, the parties entered into a Special Firm Transportation Agreement dated, October 28, 1999 and amended such agreement effective January 11, 2000 (such agreement, including the effect of the first amendment, referred to herein as the "Agreement");

Whereas, the parties desire to further amend their Agreement in order to extend its term.

Now Therefore, pursuant to Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Second Amendment and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Article 4: Term

Article four is amended by adding the following paragraph:

"This Agreement shall continue in full force and effect through February 29, 2010. Any further extension of the Agreement beyond February 29, 2010 shall require PUC approval, and such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion. Northern and Customer acknowledge that the Special Transportation Rates and Charges charged under this Agreement may be adjusted for inflation as provided in Article 3, for the contract year commencing March 1, 2005 and each contract year thereafter."

The Customer and Company agree and acknowledge that this Second Amendment extending the term of the Agreement beyond the Initial Term is subject to PUC approval. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion, before either party will be bound by the terms of this Second Amendment.

All undefined terms included in this Second Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Second Amendment and shall have the same contractual significance as any other language.

This Second Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Second Amendment shall be effective in its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Transportation Rates and Charges to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto.

IN WITNESS WHEREOF, Northern and the Customer have caused this Second Amendment to be executed by their duly authorized officers intending it to be effective as of the day and year first written above.

FOSS MANUFACTURING COMPANY, INC.

By: [Signature]

Name: Steven W. Foss

Title: President

Date: 3/17/05

NORTHERN UTILITIES, INC.

By: [Signature]

Name: STEVEN H. BARNETT

Title: PRESIDENT

Date: 3/24/05

Third Amendment of Agreement

This Third Amendment is made and entered into as of the 1st day of March, 2005 by and between Northern Utilities, Inc. ("Northern") and Foss Manufacturing Company, Inc. ("Customer"), individually a "party" and collectively the "parties".

Whereas, the parties entered into a Special Firm Transportation Agreement dated, October 28, 1999 and amended such agreement effective January 11, 2000 and March 1, 2005 (such agreement, including the effect of the first and second amendments, referred to herein as the "Agreement").

Whereas, the parties desire to further amend their Agreement.

Now, Therefore, pursuant to Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Third Amendment and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Article 3: Rates and Charges is amended as follows:

Article 3A, regarding the Monthly Minimum Fixed Charge for the First 200,000 Therms or less, strike the dollar amount [REDACTED] and replace it with the dollar amount [REDACTED]

Article 3B, regarding Minimum Annual Payment Obligation, delete remainder of Article 3B following the semicolon, and replace with the following:

"the Customer shall pay Northern a Minimum Annual Payment Obligation of [REDACTED] which equals the sum of twelve Monthly Customer Charges [REDACTED] x 12) and twelve Monthly Minimum Fixed Charge [REDACTED]"

Article 3E, add the following paragraph at end:

"Northern and Customer acknowledge that the Special Transportation Rates and Charges charged under the Agreement may be adjusted for inflation for the contract year commencing March 1, 2005 and each contract year thereafter."

The Customer and Northern agree and acknowledge that this Third Amendment is subject to the approval of the New Hampshire Public Utilities Commission. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion, before either party will be bound by the terms of this Third Amendment.

All undefined terms included in this Third Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Third Amendment and shall have the same contractual significance as any other language.

This Third Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Third Amendment shall be effective upon its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Transportation Rates and Charges to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto, other than their March 8, 2005 Letter Agreement.

IN WITNESS WHEREOF, Northern and the Customer have caused this Third Amendment to be executed by their duly authorized officers intending it to be effective as of the day and year first written above.

FOSS MANUFACTURING COMPANY, INC.

By: [Signature]

Name: Steph W. [REDACTED]

Title: [REDACTED]

Date: 6/1/05

NORTHERN UTILITIES, INC.

By: [Signature]

Name: Stephen H. Bryant

Title: President

Date: June 6, 2005

Fourth Amendment of Agreement

This Fourth Amendment is made and entered into as of the 1st day of March, 2010 by and between Northern Utilities, Inc. ("Northern") and Foss Manufacturing Company, LLC ("Customer"), individually a "party" and collectively the "parties".

Whereas, the parties entered into a Special Firm Transportation Agreement dated, October 28, 1999 and amended such agreement effective January 11, 2000, March 1, 2005 and March 1, 2005 (such agreement, including the effect of the first, second and third amendments, is referred to herein as the "Agreement").

Whereas, the parties desire to further amend their Agreement in order to extend its term.

Now Therefore, pursuant to Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Fourth Amendment and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Article 4: Term

Article 4 is amended to read as follows:

"This Agreement shall continue in full force and effect through February 29, 2012. Any further extension of the Agreement beyond February 29, 2012 shall require FUC approval, and such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion. Northern and Customer acknowledge that the Special Transportation Rates and Charges charged under this Agreement may be adjusted for inflation as provided in Article 3 as amended by Third Amendment of Agreement, for the contract year commencing March 1, 2005 and each contract year thereafter."

The Customer and Company agree and acknowledge that this Fourth Amendment extending the term of the Agreement is subject to FUC approval. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion, before either party will be bound by the terms of this Fourth Amendment.

All undefined terms included in this Fourth Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Fourth Amendment and shall have the same contractual significance as any other language.

This Fourth Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Fourth Amendment shall be effective upon its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Transportation Rates and Charges to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto, other than their March 8, 2005 Letter Agreement and their February 4, 2010 Letter Agreement.

IN WITNESS WHEREOF, Northern and the Customer have caused this Fourth Amendment to be executed by their duly authorized officers intending it to be effective as of the day and year first written above.

FOSS MANUFACTURING COMPANY, LLC.

By: Paul Kosaki

Name: Paul Kosaki

Title: CEO

Date: 2-9-2010

NORTHERN UTILITIES, INC.

By: Mark H. Collins

Name: MARK H. COLLINS

Title: TREASURER

Date: 2/9/2010

Fifth Amendment of Agreement

This Fifth Amendment is made and entered into as of the 1st of March, 2012 by and between Northern Utilities, Inc. ("Northern") and Foss Manufacturing Company, Inc. ("Customer"), individually a "party" and collectively the "parties".

Whereas, the parties entered into a Special Firm Transportation Agreement dated, October 28, 1999 and amended such agreement effective January 11, 2000, March 1, 2005, March 1, 2005, and March 1, 2010 (such agreement, including the effect of the first, second, third, and fourth amendments, is referred to herein as the "Agreement").

Whereas, the parties desire to further amend their Agreement in order to extend its term.

Now Therefore, pursuant to Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Fifth Amendment and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Article 4: Term

Article 4 is amended to read as follows:

"This Agreement shall continue in full force and effect through February 28, 2017. Any further extension of the Agreement beyond February 28, 2017 shall require PUC approval, and such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion. Northern and Customer acknowledge that the Special Transportation Rates and Charges charged under this Agreement may be adjusted for inflation as provided in Article 3 as amended by Third Amendment of Agreement, for the contract year commencing March 1, 2005 and each contract year thereafter."

The Customer and Company agree and acknowledge that this Fifth Amendment extending the term of the Agreement is subject to PUC approval. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion, before either party will be bound by the terms of this Fifth Amendment.

All undefined terms included in this Fifth Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Fifth Amendment and shall have the same contractual significance as any other language.

This Fifth Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Fifth Amendment shall be effective upon its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Transportation Rates and Charges to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto, other than their March 8, 2005 Letter Agreement and their February 4, 2010 Letter Agreement.

IN WITNESS WHEREOF, Northern and the Customer have caused this Fifth Amendment to be executed by their duly authorized officers intending it to be effective as of the day and year first written above.

FOSS MANUFACTURING COMPANY, INC.

By: Poul Koroski

Name: Poul Koroski

Title: CFO

Date: 1-18-12

NORTHERN UTILITIES, INC.

By: Mark H. Collins

Name: MARK H COLLINS

Title: TREASURER

Date: 1-23-2012

Sixth Amendment of Agreement

This Sixth Amendment is made and entered into as of the 1st of March, 2017 by and between Northern Utilities, Inc. ("Northern") and Foss Manufacturing Company, LLC ("Customer"), individually a "party" and collectively the "parties."

Whereas, the parties entered into a Special Firm Transportation Agreement dated October 28, 1999 and amended such agreement effective January 11, 2000 (the First Amendment), March 1, 2005 (the Second Amendment), March 1, 2005 (the Third Amendment), March 1, 2010 (the Fourth Amendment), and March 1, 2012 (the Fifth Amendment) (such Agreement, including the effect of the First, Second, Third, Fourth, and Fifth Amendments, is referred to herein as the "Agreement").

Whereas, the parties desire to further amend their Agreement in order to extend its term.

Now Therefore, pursuant to Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Sixth Amendment and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Article 4: Term

Article 4 is amended to read as follows:

"This Agreement shall continue in full force and effect through February 28, 2022. The Agreement shall further continue thereafter for successive one-year periods (each a "Renewal Term") unless terminated by the Customer or Northern with at least six (6) months written notice to the other party prior to February 28, 2022 or any applicable Renewal Term. There shall be no more than five (5) Renewal Terms, and the Agreement shall terminate no later than February 28, 2027. Any further extension of the Agreement beyond February 28, 2027 shall require PUC approval, and such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion. Northern and Customer acknowledge that the Special Transportation Rates and Charges charged under this Agreement may be adjusted for inflation as provided in Article 3 as amended by the Third Amendment of Agreement, for the contract year commencing March 1, 2005 and each contract year thereafter.

Written notice of termination as described above shall be mailed by U.S. certified mail, return receipt requested, first class postage pre-paid, or sent by a nationally recognized delivery service (e.g., FedEx or UPS), and shall be addressed to (i) Northern at 6 Liberty Lane, Hampton, NH 03842, ATTN: Director, Customer Energy Solutions, or (ii) Customer at 11 Merrill Industrial Drive, Hampton, NH 03843, ATTN: Executive Vice President and Treasurer.

The Customer and Northern agree that this Sixth Amendment extending the term of the Agreement is subject to PUC approval. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion, before either party will be bound by the terms of this Sixth Amendment.

All undefined terms included in this Sixth Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Sixth Amendment and shall have the same contractual significance as any other language.

This Sixth Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Sixth Amendment shall be effective upon its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Transportation Rates and Charges to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto, other than their March 8, 2005 Letter Agreement and their February 4, 2010 Letter Agreement.

IN WITNESS HEREOF, Northern and the customer have caused this Sixth Amendment to be executed by their duly authorized officer intending it to be effective as of the day and year first written above.

FOSS MANUFACTURING COMPANY, LLC.

By: Paul Koneski

Name: Paul Koneski

Title: FVP - Treasurer

Date: 11-16-16

NORTHERN UTILITIES, INC.

By: M. H. Colin

Name: MARK H. COLIN

Title: SENIOR VICE PRESIDENT

Date: 11/16/16

REDACTED VERSION

Redacted
Northern Utilities, Inc.
Extension of Special Contract
with Foss Manufacturing
Company
Schedule NU-9
Page 1 of 3



December 20, 2021

Mr. Michael Smith
Manager, Business Services
Unitil Service Corp.
1075 Forest Avenue
Portland, ME 04104

Re: Special Contract with Foss Performance Materials, LLC

Dear Mr. Smith:

As you are aware, Northern Utilities, Inc. ("Northern") has a special contract with Foss Performance Materials, LLC ("Foss") for the delivery of natural gas, which the New Hampshire Public Utilities Commission approved in Docket No. DG 16-855 by Order No. 26,107 (February 28, 2018). That special contract, designated the Sixth Amendment, expires on February 28, 2022. Foss seeks to extend the special contract for an additional period of two years, until February 29, 2024, with the option to extend on a month-to-month basis for a period of one year.

Foss has undergone a significant corporate change and pursued a number of initiatives in recent years in a continuing effort to remain competitive in manufacturing for the automotive and other industries. Foss' predecessor, Foss Manufacturing Company, LLC, ("FMC") was a pioneer in the use of needle punch technology for nonwoven fabrics and specialty synthetic fibers. Foss, which is a subsidiary of AstenJohnson Holdings, Ltd, was created through an acquisition of FMC assets in New Hampshire in July 2017, and it remains a leading provider in automotive, technical, fiber, and felt markets globally. Among other things, Foss invested [REDACTED] in a new state-of-the-art needle punch line in 2019 that substantially increased production capacity, enhancing its position as a provider of automotive interior upholstery, carpeting and linings.

Although Foss has a long history of service and innovation, it operates in a high cost environment and over the last two years Foss has lost bids to customers on cost plus basis quotes. Despite pricing with reasonable margins, customers are telling us that Foss is not competitive, which is because our production costs are out of line with the market. This has resulted in a loss of over [REDACTED] in annual sales base and a reduction in jobs from a previous level of 435 jobs in 2017. Foss is committed to doing everything possible to reverse this position and plans to increase its current labor force of 301 by approximately [REDACTED] to a target labor force of [REDACTED].

The overarching challenge for Foss is that the cost of doing business in the Northeast, is high relative to other parts of the country and other countries, and the labor market is much tighter. Foss' competition in the U.S. comes mainly from Georgia and the Carolinas, which benefit from significantly lower energy costs and lower freight costs, as well as a lower tax

burden and lower labor costs. For example, the firm delivery charge for natural gas can range from \$0.25 to \$0.40 per DTH in those states, which is [REDACTED] Foss' existing special contract rate. As a further example, the unemployment rate in New Hampshire is below 3%, while it is nearly 6% in Texas, which led in part to the recent decision to identify sites in east Texas to expand operations in 2022. In addition, major competition comes from Mexico and China, which have similar cost advantages as well as lower regulatory costs. Foss, however, does not compete with other New Hampshire companies in its market sector, therefore the discounted rate under the special contract would not create material adverse competitive consequences.

Foss' efforts to be cost competitive and increase jobs and production in New Hampshire are also challenged by the premium Foss pays on both inbound and outbound freight. Freight charges are up over 10% for inbound loads. For instance, many raw material suppliers are based in, or ship through, southeastern locations. In addition, a number of automotive customers have relocated to Mexico, which is a disadvantage for Foss due to the long supply chain.

From an energy perspective, gas costs alone represented [REDACTED] of the non-labor total operating costs for the facility in 2020 and [REDACTED] in 2021. As a consequence, over the past several years Foss has focused a significant effort on transitioning away from relying primarily on natural gas to fuel its manufacturing operations. In particular, in 2017, Foss worked with Unitil to install a new transformer at a cost of [REDACTED] that would put Foss in a position to use electricity to conduct its operation, but that effort addressed only [REDACTED] of Foss' manufacturing capacity. As a result, in order to achieve full redundancy in case of a supply disruption and greater flexibility to react to natural gas price volatility, Foss is currently working with Unitil to install a second transformer.

The overall goal is to increase energy reliability and optionality in an economically efficient manner, to manage the cost of doing business in a practical way, and to maintain (and where and when possible to expand) production in New Hampshire to the greatest extent possible. It is because of the focus on effectively becoming dual-fuel capable once again, that Foss is seeking a two to three year extension instead of a five-year extension. Foss believes that it will be able to better manage its annual usage of natural gas once the new transformer is installed and that it will be better able to assess its energy options going forward in light of actual data and operational experience.

Along those lines, Foss is engaged in a comprehensive effort to improve the efficiency of its manufacturing infrastructure. The factors under consideration include: [REDACTED]

Pursuant to its special contract with Northern, Foss does not qualify for any demand-side management programs because it does not pay the Local Delivery Adjustment Clause ("LDAC") charge. However, Foss has conducted an energy audit in compliance with the Public

Utilities Commission's February 28, 2018 Order. Foss summarized the energy audit in a filing with the Public Utilities Commission on September 7, 2021, and noted that it had replaced an inefficient steam chiller, replaced high bay lighting fixtures, replaced fluorescent lighting fixtures, added a properly sized compressor, and replaced DC motors with more efficient AC motors. Foss is separately filing a report with the Commission on its energy audit as required by the Public Utilities Commission's September 23, 2021 Order.

Foss is committed to continuous improvement of its energy usage and a rigorous pursuit of capital cost investments that are justified by reasonable payback periods. Accordingly, Foss has committed [REDACTED] in capital expenditures for energy-related projects in 2022, with [REDACTED] devoted to energy efficiency measures. The projects include: [REDACTED]

Foss has also pursued other appropriate forms of assistance. In 2019, Foss worked with the Town of Hampton to reassess its property valuation for local tax purposes, which resulted in a reduced assessment yielding savings totaling [REDACTED] over the last three years, and which will continue through 2024. Foss also approached the State of New Hampshire and in March 2021 spoke with the Department of Business and Economic Affairs about a number of issues, including assistance with hiring new employees. To date, those discussions have not yielded results. Finally, Foss investigated assistance that might be available for COVID-19 relief under the Paycheck Protection Program but it was determined that Foss was not eligible for such assistance.

Foss competes in an increasingly global market and has a fiduciary responsibility to continually weigh and consider other alternatives as they present themselves, such as the recent decision to pursue construction of a new plant in Texas and the potential to expand operations at Foss' St. Louis, Missouri affiliate, Eagle Nonwovens. It is because of the many competitive pressures that Foss seeks a continuation of the discounted rate for natural gas delivery, which will help Foss regain competitive market share. At the same time, Foss is committed to pursuing all reasonable efforts to retain jobs as well as create jobs in New Hampshire, and the special contract may materially enhance its ability to create such future jobs, as contemplated by the Public Utilities Commission's generic policy regarding discounted rates.

Sincerely,



Dean Landry

Foss Performance Materials

VP Operations

Seventh Amendment of Agreement

This Seventh Amendment is made and entered into as of the 1st of March, 2022 by and between Northern Utilities, Inc. ("Northern") and Foss Performance Materials, LLC ("Customer"), individually a "party" and collectively the "parties".

Whereas, the Northern and Customer's predecessor, Foss Manufacturing Company, Inc., entered into a Special Firm Transportation Agreement dated October 28, 1999, and amended such agreement effective January 11, 2000 (the First Amendment), March 1, 2005 (the Second Amendment), March 1, 2005 (the Third Amendment), March 1, 2010 (the Fourth Amendment), March 1, 2012 (the Fifth Amendment), and March 1, 2017 (the Sixth Amendment) (such agreement, including the effect of the First, Second, Third, Fourth, Fifth and Sixth Amendments, is referred to herein as the "Agreement").

Whereas, the parties desire to further amend their Agreement in order to extend its term.

Now Therefore, pursuant to Article 11 of the Agreement, and in consideration of the exchange of mutual promises and mutual benefits to be derived from this Seventh Amendment and for other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

Article 4: Term

Article 4 is amended to read as follows:

This Agreement shall continue in full force and effect through February 29, 2024. The Agreement shall further continue thereafter on a month-to-month basis, for up to one (1) year until February 28, 2025 ("Renewal Term") unless terminated by the Customer or Northern upon written notice to the other party at least thirty (30) days prior to the intended termination date. Any further extension of the Agreement beyond February 28, 2025 shall require PUC approval, and such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion. Northern and Customer acknowledge that the Special Transportation Rates and Charges charged under this Agreement may be adjusted for inflation as provided in Article 3 as amended by the Third Amendment of Agreement, for the contract year commencing March 1, 2005 and each contract year thereafter.

Written notice of termination as described above shall be mailed by U.S. certified mail, return receipt requested, first class postage pre-paid, or sent by a nationally recognized delivery service (e.g. FedEx or UPS), and shall be addressed to (i) Northern at 6 Liberty Lane, Hampton, NH 03842, ATTN: Vice President, Customer Energy Solutions, or (ii) Customer at 11 Merrill Industrial Drive, Hampton, NH 03843, ATTN: Vice President, Operations.

The Customer and Company agree and acknowledge that this Seventh Amendment extending the term of the Agreement is subject to PUC approval. Such approval must be in form and substance acceptable to Northern and Customer, each in its sole discretion, before either party will be bound by the terms of this Seventh Amendment.

All undefined terms included in this Seventh Amendment have the same meaning as assigned to them in the Agreement. The recitals set forth above are an integral part of this Seventh Amendment and shall have the same contractual significance as any other language.

This Seventh Amendment may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one instrument. This Seventh Amendment shall be effective upon its execution by both Northern and the Customer and shall continue in effect throughout the term of the Agreement as amended.

All other provisions of the Agreement shall remain in full force and effect. The Agreement, as hereby amended, constitutes the entire agreement of the parties with respect to transportation service at the Special Transportation Rates and Charges to the Customer's Facility, and there are no other oral or written understandings or agreements between the parties relating thereto, other than their March 8, 2005 Letter Agreement and their February 4, 2010 Letter Agreement.

IN WITNESS WHEREOF, Northern and the Customer have caused this Seventh Amendment to be executed by their duly authorized officers intending it to be effective as of the day and year first written above.

FOSS PERFORMANCE MATERIALS, LLC

By: [Signature]
Name: Dean Landry
Title: VP OPERATIONS
Date: 12/21/21

NORTHERN UTILITIES, INC.

By: [Signature]
Name: Robert Hever
Title: Senior Vice President
Date: 12/22/21

Foss Mfg. Special Contract

Northern Utilities, Inc. Marginal Cost Estimate template

Redacted

Northern Utilities, Inc.
 Extension of Special Contract
 with Foss Manufacturing Company
 Schedule NU-11
 Page 1 of 3

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	18,238.3	17,432.2	1.0462	
2016	18,745.1	17,730.5	1.0572	1.0572
2017	19,543.0	18,144.1	1.0771	
2018	20,611.9	18,687.8	1.1030	
2019	21,433.2	19,091.7	1.1226	
2020	20,934.9	18,423.4	1.1363	
2021			1.1453	
2022			1.1587	
Calculation of Escalation Factor ->				1.0960

ANNUALIZED MARGINAL COST ESTIMATE

A	B	C	D	E	F	G
			DG 17-070 Compliance Filing MCS (Tables 9 & 11)	Feb 2022 Est		Notes
1	Escalation Factor			1.0960		
2	Marginal Cost Data					
3	Customer Charge		\$248.05	\$271.86		D3 x E1
4	Pressure Support		\$0.00	\$0.00		D4 x E1
5	Main Reinforcement (per Dth)		\$79.24	\$86.85		D5 x E1
6	Main Extension (per Dth)		\$165.37	\$181.24		D6 x E1
7						
8	Customer Data					
9	Annual Usage					
10	Design Day Usage					
11						
12	Marginal Revenue Requirement					
13	Customer Charge					
14	Pressure Support					
15	Main Reinforcement					
16	Main Extension					
17	Total					
18						
19	Marginal Cost Floor - All Components					
20	Revenue Requirement					
21	Customer Charge					
22	Remaing Revenue					
23	Volumetric Charge					

Note:

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
 2019 thru 2022 GDP Chain-type Price Index from EIA Annual Energy Outlook 2020

Foss Mfg. Special Contract

Northern Utilities, Inc. Marginal Cost Estimate template

Redacted

Northern Utilities, Inc.
 Extension of Special Contract
 with Foss Manufacturing Company
 Schedule NU-11
 Page 2 of 3

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	18,238.3	17,432.2	1.0462	
2016	18,745.1	17,730.5	1.0572	
2017	19,543.0	18,144.1	1.0771	
2018	20,611.9	18,687.8	1.1030	
2019	21,433.2	19,091.7	1.1226	
2020	20,934.9	18,423.4	1.1363	1.1363
2021			1.1453	
2022			1.1587	1.1475
Calculation of Escalation Factor ->				1.0197

ANNUALIZED MARGINAL COST ESTIMATE

A	B	C	D	E	F	G
			DG 21-104 Atrium MCS RAJT 10 Page 2	Feb 2022 Est 1.0197		Notes
1	Escalation Factor					
2	Marginal Cost Data					
3	Customer Charge		\$728.61	\$742.96		D3 x E1
4	Pressure Support		\$0.00	\$0.00		D4 x E1
5	Main Reinforcement (per Dth)		\$150.57	\$153.54		D5 x E1
6	Main Extension (per Dth)		\$117.45	\$119.76		D6 x E1
7	O&M (per Dth)		\$32.36	\$33.00		D7 x E1
8						
9	Customer Data					
10	Annual Usage					
11	Design Day Usage					
12						
13	Marginal Revenue Requirement					
14	Customer Charge					
15	Pressure Support					
16	Main Reinforcement					
17	Main Extension					
18	O&M					
19	Total					
20						
21	Marginal Cost Floor - All Components					
22	Revenue Requirement					
23	Customer Charge					
24	Remaining Revenue					
25	Volumetric Charge					

Note:

Customer Charge from Schedule RAJT-10, Table - 12, Page 2, Line 52.
 Main Reinforcement Cost from Schedule RAJT-10, Table - 12, Page 2, Line 31.

Main Extension Cost from Schedule RAJT-10, Table - 12, Page 2, Line 32 .
O&M Cost from Schedule RAJT-10, Table - 12, Page 2, Line 35.
2019 thru 2022 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

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

CPI Table Paste Area	
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
2021	263.014
2022*	274.310

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	248.991	2.21%	2018						Actual billed rates
2019	252.776	1.52%	2019						Actual billed rates
2020	258.678	2.33%	2020						Actual billed rates
2021	263.014	1.68%	2021						Actual billed rates
2022*	274.310	4.29%	2022						Actual billed rates

*: 2022 CPI data is through September 2021

Note: Updated 2022 contract rates will be determined when February 2022 CPI-U data is available, approximately the end of March 2022.

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.

2021 ANNUALIZED MARGINAL REVENUE ESTIMATE

USAGE:	OVER 400,000	Customer Charge	1st 200,000	Next 100,000	Next 100,000	Remainder
		Mar-22				
		Apr-22				
		May-22				
		Jun-22				
		Jul-22				
		Aug-22				
		Sep-22				
		Oct-22				
		Nov-22				
		Dec-22				
		Jan-23				
		Feb-23				
	Total					
	TOTAL:					

Note: USAGE is based on 12-month period March 2020 - Feb. 2021 actual usage