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EXECUTIVE DIRECTOR
Debra A. Howland

STATE OF NEW HAMPSHIRE



PUBLIC UTILITIES COMMISSION
21 S. Fruit St., Suite 10
Concord, N.H. 03301-2429



FAX No. 271-3878

Website:
www.puc.nh.gov

April 27, 2016

Debra A. Howland, Executive Director
NH Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

Re: DE 15-137 Energy Efficiency Resource Standard
Settlement Agreement

Dear Ms. Howland:

I enclose for filing an original and six copies of a Settlement Agreement proposed by the Commission Staff and the following parties in the above-referenced proceeding: Liberty Utilities (Granite State Electric) Corp.; Unitil Energy Systems, Inc.; Public Service Company of New Hampshire d/b/a Eversource Energy; the New Hampshire Electric Cooperative, Inc.; Liberty Utilities (EnergyNorth Natural Gas) Corp.; Northern Utilities, Inc.; the Office of the Consumer Advocate; the Department of Environmental Services; the Office of Energy and Planning (OEP); New Hampshire Community Action Association; The Way Home; the Conservation Law Foundation; The Jordan Institute; Acadia Center; the New Hampshire Sustainable Energy Association; the New England Clean Energy Council; the NH Community Development Finance Authority; and TRC Energy Services (collectively, the "Settling Parties"). Based on information and belief, the Settlement Agreement is not contested.

The procedural schedule required the filing of a settlement agreement on April 25, 2016. That day, however, OEP, with the support of the Settling Parties, requested an extension of the filing deadline until April 26. By this letter, Staff, on behalf of the Settling Parties, asks the Commission to accept a late-filed settlement pursuant to N.H. Code of Admin. Rules Puc 203.20 (f), which provides:

Puc 203.20 Settlement and Stipulation of Facts.

...

(f) The commission shall accept late-filed stipulations and settlements when such acceptance:

- (1) Promotes the orderly and efficient conduct of the proceeding; and
- (2) Will not impair the rights of any party to the proceeding[.]

Staff asserts that its request satisfies that standard, because the late-filed Settlement Agreement represents a full, negotiated resolution of all the issues between the Staff and all but one party.

Page 2

Consequently, the late-filed Settlement will allow for an orderly and efficient hearing, to the benefit of the Staff, the parties, and the Commission. The Settlement represents a culmination of three weeks of intense, continuous, multi-party negotiations, and its late filing was not the result of inattentiveness or neglect. Also, I am unaware of any objection to the Settlement Agreement or to the Commission's acceptance of it beyond the April 25 deadline in the schedule.

Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script that reads "Rorie E. Patterson".

Rorie E. Patterson
Staff Attorney

Enclosure

cc: Service list (electronically)

STATE OF NEW HAMPSHIRE
before the
PUBLIC UTILITIES COMMISSION

ENERGY EFFICIENCY RESOURCE STANDARD

Docket No. DE 15-137

SETTLEMENT AGREEMENT

This Settlement Agreement relating to the implementation of an Energy Efficiency Resource Standard ("EERS") in New Hampshire is entered into this 26th day of April, 2016, by and among: Liberty Utilities (Granite State Electric) Corp. ("Granite State"); Unitil Energy Systems, Inc. ("UES"); Public Service Company of New Hampshire d/b/a Eversource Energy ("Eversource"); and the New Hampshire Electric Cooperative, Inc. ("NHEC") (collectively, the "Electric Utilities"); Liberty Utilities (EnergyNorth Natural Gas) Corp. ("EnergyNorth") and Northern Utilities, Inc. ("Northern") (collectively, the "Gas Utilities") (the Electric Utilities and Gas Utilities are collectively referred to as the "Utilities"¹); the Staff of the New Hampshire Public Utilities Commission ("Staff"); the Office of the Consumer Advocate ("OCA"); the Department of Environmental Services ("DES"); the Office of Energy and Planning ("OEP"); New Hampshire Community Action Association ("CAA"); The Way Home ("TWH"); the Conservation Law Foundation ("CLF"); The Jordan Institute ("Jordan"); Acadia Center ("Acadia"); the New Hampshire Sustainable Energy Association ("NHSEA"); Acadia Center; TRC Energy Services ("TRC"); the NH Community Development Finance Authority ("NHCDFA"); and the Northeast Clean Energy Council ("NECEC") (all collectively referred to as the "Settling Parties"), with the intent of resolving the issues discussed herein. This

¹ In recognition of the limited jurisdictional status of NHEC, references to the Utilities or the Electric Utilities will be deemed to include NHEC, except where noted.

Settlement Agreement constitutes the recommendation of the Settling Parties with respect to the Commission's approval of an EERS in New Hampshire.

I. INTRODUCTION AND PROCEDURAL HISTORY

In March 2015 the Commission opened an investigation, docketed as Docket No. IR 15-072, for the purpose of receiving stakeholder input on Commission Staff's February 2015 report: Energy Efficiency Resource Standard, A Straw Proposal. That report noted that the Staff had undertaken an investigation at the request of the Commission to advance discussions on the potential implementation of an EERS in New Hampshire. Following the receipt of comments of numerous parties in that investigation, the Commission issued an order of notice commencing the instant docket in recognition of the fact that the investigation revealed "unanimous support for the Commission's establishment of an EERS at this time, under existing statutory authority, to advance a policy of energy-efficiency as a least-cost-supply resource for electric and natural gas utilities." May 8, 2015 Order of Notice in Docket No. DE 15-137 at 3.

In the months following the commencement of this docket, many parties met regularly in well-attended stakeholder technical sessions to discuss the issues surrounding the creation of an EERS. Various parties, including the Utilities, made presentations at each technical session, engaged with the spectrum of stakeholders, and provided perspectives and input on the issues raised in the order of notice. These sessions and presentations offered information on numerous topics including how other states are administering their EERS programs, the Utilities' insights and experience with these programs through their affiliates, and ideas of how New Hampshire could successfully implement an EERS in light of that information to capture more cost effective energy efficiency savings.

In December 2015, testimony was filed proposing frameworks and general terms for the implementation of an EERS in New Hampshire. Reply testimony was submitted by various parties in March 2016. Following the submission of the initial testimony, and before and after the filing of reply testimony, numerous parties engaged in extensive settlement discussions that have culminated in this Settlement Agreement presented for the Commission's consideration. In reaching this Settlement Agreement, the Settling Parties view this agreement as a positive step toward the long-term goal and purpose of an EERS to achieve all cost effective energy efficiency in New Hampshire.

II. SETTLEMENT TERMS

The Settling Parties agree that the Settlement Agreement as described below should be approved by the Commission. These terms are intended to be included in a comprehensive settlement and, as such, all terms are interdependent, and each Settling Party's agreement to each individual term is dependent upon agreement with all of the terms.

A. Extension of Core Programs

The Settling Parties agree that the energy efficiency programs established and operated by the Utilities as the Core programs shall continue in 2017, and shall continue to be administered by the Utilities. To facilitate the continuation of the Core programs in 2017, the Utilities shall file, by September 23, 2016, a continuation plan covering calendar year 2017. That continuation plan will be similar in content and detail to the 2016 update filing submitted by the Utilities on September 30, 2015, in Docket No. DE 14-216. As part of the continuation plan, the Utilities shall include proposals and recommendations on programs and measures intended to achieve, in 2017, statewide goals of 0.60% for electric savings and 0.66% for gas savings, as a percent of 2014 delivered sales, subject to receiving System Benefits Charge ("SBC"), Local

Distribution Adjustment Charge (“LDAC”), and other available funding sufficient and necessary to achieve those statewide goals. The Utilities’ estimated costs to achieve the identified savings goals are shown in Electric Attachment A, Page 10 and Gas Attachment B, Page 7. In the continuation plan, the Utilities will provide updated estimated costs for achieving the identified savings levels, and final funding levels to be determined by the Commission prior to 2017. Should the Commission approve funding levels that differ materially from the estimates of the Utilities as provided in the continuation plan, the Utilities will be permitted to propose an adjustment to the goals to account for the approved level of funding.

B. Lost Revenue Adjustment Mechanism & Decoupling

For purposes of this Section II.B., all references to the Utilities or the Electric Utilities do not to include NHEC.² The Utilities shall implement a Lost Revenue Adjustment Mechanism (“LRAM”) to recover lost revenue due to the installation of energy efficiency measures beginning on January 1, 2017. The LRAM shall continue following the implementation of an EERS, until replaced as described in this section. The Settling Parties agree that lost revenues shall not be considered a cost of the Core programs for the purpose of the benefit/cost test, nor a cost of the EERS when implemented pursuant to Section II.C., below. The LRAM shall be designed and implemented consistent with the LRAM proposal in the Utilities’ December 9, 2015 testimony in Docket No. DE 15-137. More specifically, the LRAM will be calculated by dividing the projected cumulative lost distribution revenue associated with energy efficiency savings for a given period by the projected billed consumption for the period in which they would be recovered. Thus, the general calculation for a given period would be:

² LRAM is a non-jurisdictional issue with regard to NHEC. Also, the primary purpose of the LRAM is to address revenue recovery issues which are usually associated with distribution rate regulatory processes. NHEC, as a deregulated rural electric cooperative, is not subject to the same rate regulation processes as are the other electric utilities. Accordingly, NHEC does not propose a lost revenue adjustment mechanism.

Total Lost Revenues = Projected Cumulative Savings x Utility's Distribution Rate

Lost Revenue Rate = Total Lost Revenues / Projected Billed Consumption

In the calculation above, Projected Cumulative Savings and Projected Billed Consumption will be measured in kilowatt hours ("kWh") for the Electric Utilities and therms for the Gas Utilities. Beginning on January 1, 2017, Projected Cumulative Savings for the Utilities will be calculated by summing, on a monthly basis, the total annual energy efficiency savings, and savings shall be cumulative from year to year. Retirement adjustments will be made to savings achieved due to expired measures, and shall apply to measures installed on or after January 1, 2017. Savings associated with an expired measure will be removed from the lost revenues calculation on the ending date of the measure's estimated useful life. Adjustments to savings from evaluation, monitoring, and verification ("EM&V") studies shall be included in the calculation of lost revenues for measures installed in the following program year, and the Utility's Distribution Rate shall be an average distribution rate excluding customer charges.

The total lost revenues, as calculated consistent with the above, shall be recovered through an adjustment to the SBC for the Electric Utilities, and an adjustment to the LDAC for the Gas Utilities. For the Electric Utilities, the Lost Revenue Rate (or LRAM) will be the same for all rate classes, similar to the SBC, but shall vary by utility as necessary. For the Gas Utilities, the Lost Revenue Rate (or LRAM) will vary by utility and by sector consistent with the energy efficiency component of the LDAC. In each calendar year, for each utility, the savings for which lost revenue may be recovered will be capped at 110% of planned annual savings. Savings will be adjusted (i.e., reconciled) to account for the actual month the measures are installed within the year of installation. Representative calculations showing how the cap will be

applied, as well as estimated rate and bill impacts, are included in Electric Attachment A, Pages 3-5, and Gas Attachment B, Pages 5-6.

The LRAM shall be subject to annual reconciliation by each of the Utilities to account for lost revenue due to the installation of energy efficiency measures, as well as any under or over collection of such lost revenue in a prior year. For purposes of reconciliation, the Utilities will develop LRAM cost estimates based on agreed upon savings levels and, on an annual basis, will reconcile those estimates with actual savings achieved. The actual savings and costs shall be audited by an independent third party. Interest on monthly balances shall be calculated in the same manner and using the same interest rate as that used for the SBC and energy efficiency component of the LDAC. The Settling Parties agree that implementing the LRAM is reasonable and appropriate as proposed and described herein, and that it should not be otherwise adjusted, except as specifically provided herein. The savings used for calculating each utility's lost revenue will be reset at each utility's next rate case following implementation of LRAM.

The Settling Parties agree that the LRAM for each utility will cease when a new decoupling mechanism, or another mechanism as an alternative to the LRAM, is implemented. The Settling Parties further agree that each of the Utilities shall seek approval of a new decoupling mechanism, or another mechanism as an alternative to the LRAM, in its next distribution rate case following the first triennium of the EERS, 2018-2020. This provision does not, and is not intended to, prevent or preclude any of the Utilities from seeking approval of such mechanism prior to the end of the first triennium, but the Settling Parties acknowledge and agree that any utility seeking such approval shall do so in the context of a distribution rate case, consistent with the Commission's guidance in Order No. 24,934 (January 16, 2009). The Settling Parties agree that the Commission's approval of the Settlement Agreement does not in

any way restrict the Commission from investigating or implementing decoupling, or another mechanism as an alternative to the LRAM, at any time.

C. Energy Efficiency Resource Standard

The Settling Parties agree that the Utilities shall implement an EERS beginning on January 1, 2018, and that the Utilities shall be the ratepayer-funded efficiency program administrators for at least the first triennium, 2018-2020. To the extent any of the Settling Parties may seek to alter the administration of the EERS, the Settling Parties agree that they shall not make any such proposal to alter the administration prior to January 1, 2020, nor shall any proposal, if approved, be effective prior to January 1, 2021.

No later than September 1, 2017, the Utilities shall file for the Commission's review and approval a comprehensive plan for the implementation of an EERS on January 1, 2018. That comprehensive plan shall be developed in consultation and collaboration with the Settling Parties, the independent planning expert referred to in this Section II.C, the Energy Efficiency and Sustainable Energy ("EESE") Board and other stakeholders. In developing the comprehensive plan the Utilities shall incorporate the following statewide savings goals for the first 3-year EERS period, each as a percentage of 2014 statewide delivered sales:

YEAR	ELECTRIC	GAS
2018	0.80%	0.70%
2019	1.0%	0.75%
2020	1.3%	0.80%

The above savings goals are cumulative and are intended to reach overall savings of 3.1% of electric sales and 2.25% of gas sales, relative to the baseline year of 2014, by the end of 2020.

The Settling Parties acknowledge and agree that the described savings goals depend upon sufficient and necessary levels of funding through the SBC and LDAC and other sources if available, as approved by the Commission. The Settling Parties agree that the savings goals balance the goals of capturing more cost effective energy efficiency and benefits to ratepayers with the goal of gradually increasing funding for efficiency while minimizing the impacts on all ratepayers. The Utilities' estimated costs to achieve the identified savings goals are shown in Electric Attachment A, Page 10 and Gas Attachment B, Page 7. The Utilities will provide to the parties and the planning expert referred to in this Section II.C for review and comment updated estimated costs for achieving these savings levels as part of the comprehensive EERS plan, and shall propose adjustments to the Commission related to these savings goals should the authorized funding level differ materially from the estimated costs provided by the Utilities. Future goals will be determined in the planning process relating to the second and any subsequent 3-year periods, with the intent of attaining the goal of achieving all cost effective energy efficiency. Such future planning shall also include exploration of additional funding sources. During the first triennium, and for each 3-year period of the EERS thereafter, annual update filings shall be submitted for review by the Commission in an abbreviated process substantially similar to the mid-period submissions presently used in the Core dockets. Such annual update filings shall serve as an opportunity to adjust programs and targets and address any other issues that may arise from advancements, including but not limited to, evaluation results, state energy code changes, and/or federal standard improvements.

The Settling Parties also agree that a Settling Party may request to reopen matters covered by this Settlement Agreement in response to exogenous events, which are defined as

unforeseeable externally imposed legal or regulatory changes that affect a Utility's energy efficiency-related costs by at least 10% (positive or negative).

The Settling Parties agree that an independent planning expert shall be hired by the Commission, with a budget not to exceed \$95,000 annually and disbursed from the Core budget in 2017 or the EERS budget after 2017, to assist parties' participation in the planning process for the comprehensive plan described in this section and with the continuation planning described above in Section II.A. The independent planning expert shall provide advice and assistance to the EESE Board and other stakeholders as requested and appropriate, and shall be subject to the ultimate control of the Commission.

D. Performance Incentive

The Settling Parties agree that the Performance Incentive ("PI") levels shall be identical for the Electric Utilities and the Gas Utilities. The PI maximum is reduced to a cap of 6.875%, with a target of 5.5%, upon implementation of the LRAM in 2017. The cap and target shall remain at 6.875% and 5.5%, respectively, through at least the first triennium of the EERS.

The Settling Parties agree to review the existing PI formula prior to the filing of the 2018 EERS filing, and the Settling Parties, individually or in a group or groups, may make recommendations in that filing or during the Commission's review of that filing of modifications to the current formula. Such review shall include consideration of the achievements of energy efficiency savings for low income customers.

E. Low Income Program Activity

The Settling Parties agree that the low income share of the overall energy efficiency budget shall be increased to a minimum of 17% of the total budget. Such increase shall take

effect on January 1, 2017, and shall not be decreased from that level (but may be increased) through at least the first triennium of the EERS.

F. Evaluation, Monitoring, and Verification

The Settling Parties agree that evaluation, monitoring, and verification (“EM&V”) activities shall be conducted by independent third-parties supervised by the Commission with advice and participation from the Settling Parties and the EESE Board.

The Settling Parties agree that upon request, an independent expert, separate from the independent planning expert described above in Section II.C., will be hired and supervised by the Commission to assist Staff, the Settling Parties, the EESE Board or successor, and others as determined by the Commission, in participating in EM&V activities. That independent expert shall be paid from the EM&V budget in the Core programs and in the EM&V budget under the EERS. The independent expert shall provide advice on issues including, but not limited to, scope, methods, scheduling, how EM&V results inform program improvement, ISO-NE’s forward capacity market evaluation requirements, and standardization of EM&V recording and reporting. Among its deliverables, the independent expert shall assist the Settling Parties with developing by the end of the first triennium (2018-2020) a New Hampshire-specific technical resource manual. EM&V will be expanded to ensure programs are evaluated in an appropriate timeframe. The Settling Parties agree that the Utilities will facilitate and support the implementation of EM&V studies.

G. Reservation of Rights

The Settling Parties agree that the terms of this Settlement Agreement are not intended to limit or waive any rights associated with other Commission proceedings, except as to any

proceeding opened or continued by the Commission relative to the continuation plan or the comprehensive plan described in Sections II.A. and II.C., respectively.

H. General Provisions

The Settling Parties agree that all testimony and supporting documentation may be admitted as full exhibits for purposes of consideration of this Settlement Agreement. Agreement to admit all direct testimony without challenge does not constitute agreement by the Settling Parties that the content of the written testimony filed on behalf of the other Parties is accurate nor is it indicative of what weight, if any, should be given to the views of any witness. Furthermore, in light of the fact that they have entered into this Settlement Agreement, the Settling Parties agree to forego cross-examining witnesses regarding their pre-filed testimony and, therefore, the admission into evidence of any witness's testimony or supporting documentation shall not be deemed in any respect to constitute an admission by any party to this Settlement Agreement that any allegation or contention in this proceeding is true or false, except that the sworn testimony of any witness shall constitute an admission by such witness.

This Settlement Agreement is expressly conditioned upon the Commission's acceptance of all of its provisions without change or condition. All terms are interdependent, and each Settling Party's agreement to each individual term is dependent upon all Settling Parties' agreement with all of the terms. If such complete acceptance is not granted by the Commission, or if acceptance is conditioned in any way, the Settling Parties shall have the opportunity to amend or terminate this Settlement Agreement or to seek reconsideration of the Commission's decision or condition. If this Settlement Agreement is terminated, it shall be deemed to be withdrawn and shall be null and void and without effect, and shall not constitute any part of the record in this proceeding nor be used for any other purpose. The Settling Parties agree to support

approval of this Settlement Agreement before the Commission. The Settling Parties agree that they shall not oppose this Settlement Agreement before any regulatory agencies or courts before which this matter is brought, but shall take all such action as is necessary to secure approval and implementation of the provisions of this Settlement Agreement.

The Commission's acceptance of this Settlement Agreement does not constitute continuing approval of or precedent regarding any particular issue in this proceeding, but such acceptance does constitute a determination that, as the Settling Parties believe, the provisions set forth herein are just and reasonable. The discussions which have produced this Settlement Agreement have been conducted on the understanding that all offers of settlement and discussion relating thereto are and shall be privileged, and shall be without prejudice to the position of any party or participant representing any such offer or participating in any such discussion, and are not to be used in any manner in connection with this proceeding, any further proceeding or otherwise.

IN WITNESS WHEREOF, the Settling Parties have caused this Settlement Agreement to be duly executed in their respective names by their agents, each being fully authorized to do so on behalf of their principal.

LIBERTY UTILITIES (GRANITE STATE ELECTRIC) CORP.
D/B/A LIBERTY UTILITIES

By: Michael Sheehan
Michael Sheehan, Esq.
Senior Counsel

Date: 4-26-16

NEW HAMPSHIRE ELECTRIC COOPERATIVE

By: _____
Mark W. Dean, Esq.

Date: _____

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY

By: _____
Matthew Fossum, Esq.
Senior Counsel

Date: _____

UNITIL ENERGY SYSTEMS, INC.

By: _____
Orr & Reno, P.A.
Susan Geiger, Esq.

Date: _____

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES

By: Michael Sheehan
Michael Sheehan, Esq.
Senior Counsel

Date: 4-26-16

NORTHERN UTILITIES, INC.

By: _____
Orr & Reno, P.A.
Susan Geiger, Esq.

Date: _____

LIBERTY UTILITIES (GRANITE STATE ELECTRIC) CORP.
D/B/A LIBERTY UTILITIES

By: _____
Michael Sheehan, Esq.
Senior Counsel

Date: _____

NEW HAMPSHIRE ELECTRIC COOPERATIVE

By: _____
Mark W. Dean, Esq.

Date: 1/20/11

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY

By: _____
Matthew Fossum, Esq.
Senior Counsel

Date: _____

UNITIL ENERGY SYSTEMS, INC.

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Date: _____

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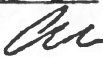
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NEW HAMPSHIRE ELECTRIC COOPERATIVE

By: _____
Mark W. Dean, Esq.

Date: _____

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY

By: Matthew Fossum
Matthew Fossum, Esq.
Senior Counsel 

Date: 4/26/16

UNITIL ENERGY SYSTEMS, INC.

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Date: _____

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Senior Counsel

Date: _____

NEW HAMPSHIRE ELECTRIC COOPERATIVE

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Mark W. Dean, Esq.

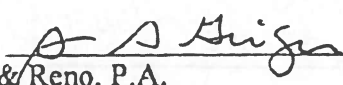
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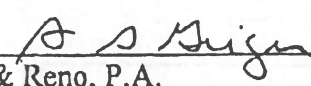
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By: _____
Michael Sheehan, Esq.
Senior Counsel

Date: _____

NORTHERN UTILITIES, INC.

By: 
Orr & Reno, P.A.
Susan Geiger, Esq.

Date: 4/26/16

STAFF OF THE NH PUBLIC UTILITIES COMMISSION

By: Rorie E. Patterson
Rorie E. Patterson, Esq.
Staff Attorney

Date: 4/26/16

THE OFFICE OF THE CONSUMER ADVOCATE

By: Donald M. Kreis
Donald M. Kreis, Esq.
Consumer Advocate

Date: 4/26/2016

NEW HAMPSHIRE COMMUNITY
ACTION ASSOCIATION

By: _____
Ryan Clouthier
Energy Director

Date: _____

OFFICE OF ENERGY AND PLANNING

By: Meredith A. Hatfield
Meredith A. Hatfield, Esq.
Director

Date: 4/26/16

DEPARTMENT OF ENVIRONMENTAL SERVICES

By: _____
Rebecca Ohler
Administrator, Technical Services Bureau

Date: _____

THE WAY HOME

By: _____
New Hampshire Legal Assistance
Dennis Labbe, Esq.

Date: _____

STAFF OF THE NH PUBLIC UTILITIES COMMISSION

By: _____
Rorie E. Patterson, Esq.
Staff Attorney

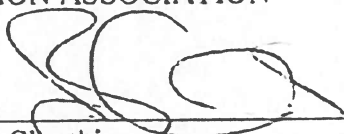
Date: _____

THE OFFICE OF THE CONSUMER ADVOCATE

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Donald M. Kreis, Esq.
Consumer Advocate

Date: _____

NEW HAMPSHIRE COMMUNITY
ACTION ASSOCIATION

By:  _____
Ryan Clouthier
Energy Director

Date: 4-26-16

OFFICE OF ENERGY AND PLANNING

By: _____
Meredith A. Hatfield, Esq.
Director

Date: _____

DEPARTMENT OF ENVIRONMENTAL SERVICES

By: _____
Rebecca Ohler
Administrator, Technical Services Bureau

Date: _____

THE WAY HOME

By: _____
New Hampshire Legal Assistance
Dennis Labbe, Esq.

Date: _____

DE 15-137 EERS
Settlement Agreement

STAFF OF THE NH PUBLIC UTILITIES COMMISSION

By: _____
Rorie E. Patterson, Esq.
Staff Attorney

Date: _____

THE OFFICE OF THE CONSUMER ADVOCATE

By: _____
Donald M. Kreis, Esq.
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NEW HAMPSHIRE COMMUNITY
ACTION ASSOCIATION

By: _____
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Energy Director

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OFFICE OF ENERGY AND PLANNING

By: _____
Meredith A. Hatfield, Esq.
Director

Date: _____

DEPARTMENT OF ENVIRONMENTAL SERVICES

By: Rebecca S Ohler
Rebecca Ohler
Administrator, Technical Services Bureau

Date: 4/26/16

THE WAY HOME

By: _____
New Hampshire Legal Assistance
Dennis Labbe, Esq.

Date: _____

STAFF OF THE NH PUBLIC UTILITIES COMMISSION

By: _____
Rorie E. Patterson, Esq.
Staff Attorney

Date: _____

THE OFFICE OF THE CONSUMER ADVOCATE

By: _____
Donald M. Kreis, Esq.
Consumer Advocate

Date: _____

NEW HAMPSHIRE COMMUNITY
ACTION ASSOCIATION

By: _____
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Energy Director

Date: _____

OFFICE OF ENERGY AND PLANNING

By: _____
Meredith A. Hatfield, Esq.
Director

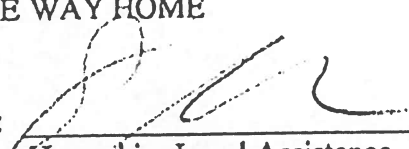
Date: _____

DEPARTMENT OF ENVIRONMENTAL SERVICES

By: _____
Rebecca Ohler
Administrator, Technical Services Bureau

Date: _____

THE WAY HOME

By:  _____
New Hampshire Legal Assistance
Dennis Labbe, Esq.

Date: April 26, 2016

CONSERVATION LAW FOUNDATION

By: *LEZ*
Melissa E. Birchard, Esq.

Date: 4/26/16

THE JORDAN INSTITUTE

By: _____
Laura Richardson
Executive Director

Date: _____

NEW HAMPSHIRE SUSTAINABLE ENERGY ASSOCIATION

By: _____
Kate Epsen
Executive Director

Date: _____

TRC ENERGY SERVICES

By: _____
Tom Rooney
Vice President

Date: _____

ACADIA CENTER

By: _____
Ellen Hawes
Senior Analyst, Energy Systems and Carbon Markets

Date: _____

NH COMMUNITY DEVELOPMENT FINANCE AUTHORITY

By: _____
Taylor Caswell
Executive Director

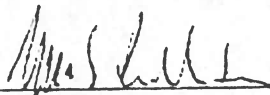
Date: _____

CONSERVATION LAW FOUNDATION

By: _____
Melissa E. Birchard, Esq.

Date: _____

THE JORDAN INSTITUTE

By:  _____
Laura Richardson
Executive Director

Date: 4/26/16

NEW HAMPSHIRE SUSTAINABLE ENERGY ASSOCIATION

By: _____
Kate Epsen
Executive Director

Date: _____

TRC ENERGY SERVICES

By: _____
Tom Rooney
Vice President

Date: _____

ACADIA CENTER

By: _____
Ellen Hawes
Senior Analyst, Energy Systems and Carbon Markets

Date: _____

NH COMMUNITY DEVELOPMENT FINANCE AUTHORITY

By: _____
Taylor Caswell
Executive Director

Date: _____

CONSERVATION LAW FOUNDATION

By: _____
Melissa E. Birchard, Esq.


Date: _____

THE JORDAN INSTITUTE

By: _____
Laura Richardson
Executive Director

Date: _____

NEW HAMPSHIRE SUSTAINABLE ENERGY ASSOCIATION

By: 
Kate Epsen
Executive Director

Date: ____ April 26, 2016 ____

TRC ENERGY SERVICES

By: _____
Tom Rooney
Vice President

Date: _____

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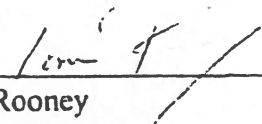
Date: _____

NEW HAMPSHIRE SUSTAINABLE ENERGY ASSOCIATION

By: _____
Kate Epsen
Executive Director

Date: _____

TRC ENERGY SERVICES,

By: 
Tom Rooney
Vice President

Date: 4/25/16

ACADIA CENTER

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Ellen Hawes
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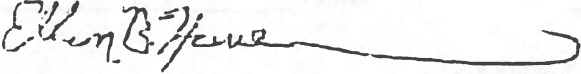
Date: _____

TRC ENERGY SERVICES

By: _____
Tom Rooney
Vice President

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ACADIA CENTER

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Ellen Hawes
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Date: 4/26/16 _____

NH COMMUNITY DEVELOPMENT FINANCE AUTHORITY

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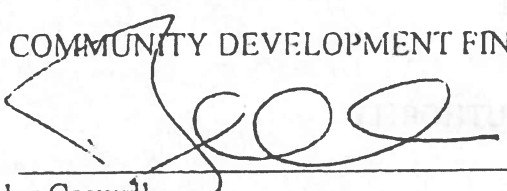
Date: _____

ACADIA CENTER

By: _____
Ellen Hawes
Senior Analyst, Energy Systems and Carbon Markets


Date: _____

NII COMMUNITY DEVELOPMENT FINANCE AUTHORITY

By:  _____
Taylor Caswell
Executive Director

Date: 26 APRIL 16

NORTHEAST CLEAN ENERGY COUNCIL

By: 
Peter Rothstein
President

Date: 4-26-16

Estimated Total SBC Rate and SBC Rate by Component
(\$ in Millions)

2017 Company	2014 Sales (MWh)	Company Savings	Savings to Statewide	Annual Savings (MWh)	Total Budget*	Current Funding			Incremental Funding**	LBR Funding	Total Add'l Funding	(cents/kWh)			
						RGGI Funding	SBC Funding	FCM Funding				EAP SBC	EE SBC	LBR SBC	Total SBC
Eversource	7,886,054	0.84%	0.47%	80,503	\$ 23.36	\$ 1.92	\$ 14.19	\$ 3.82	\$ 3.63	\$ 0.68	\$ 4.21	0.160	0.228	0.007	0.393
Unitil	1,225,254	0.51%	0.08%	8,251	3.54	0.30	2.21	0.48	0.58	0.10	0.68	0.150	0.228	0.008	0.384
Liberty	910,825	0.46%	0.04%	4,220	2.62	0.22	1.64	0.34	0.42	0.05	0.47	0.160	0.228	0.005	0.381
NHEC	760,840	0.42%	0.03%	3,222	1.99	0.19	1.37	0.09	0.35	-	0.35	0.150	0.228	0.000	0.378
Total	10,782,973		0.80%	94,197	\$ 31.51	\$ 2.82	\$ 18.41	\$ 4.52	\$ 4.96	\$ 0.73	\$ 5.69				

2018 Company	2014 Sales (MWh)	Company Savings	Savings to Statewide	Annual Savings (MWh)	Total Budget*	Current Funding			Incremental Funding**	LBR Funding	Total Add'l Funding	(cents/kWh)			
						RGGI Funding	SBC Funding	FCM Funding				EAP SBC	EE SBC	LBR SBC	Total SBC
Eversource	7,886,054	0.86%	0.43%	87,734	\$ 32.11	\$ 1.92	\$ 14.19	\$ 5.82	\$ 10.17	\$ 2.25	\$ 12.42	0.160	0.309	0.029	0.488
Unitil	1,225,254	0.67%	0.08%	8,241	4.79	0.30	2.21	0.70	1.58	0.33	1.91	0.160	0.309	0.027	0.488
Liberty	910,825	0.82%	0.05%	5,830	3.68	0.22	1.84	0.54	1.17	0.19	1.36	0.160	0.308	0.021	0.480
NHEC	760,840	0.56%	0.04%	4,225	2.68	0.19	1.37	0.14	0.98	-	0.98	0.160	0.309	0.000	0.459
Total	10,782,973		0.80%	105,820	\$ 43.16	\$ 2.82	\$ 18.41	\$ 7.21	\$ 13.91	\$ 2.77	\$ 16.68				

2019 Company	2014 Sales (MWh)	Company Savings	Savings to Statewide	Annual Savings (MWh)	Total Budget*	Current Funding			Incremental Funding**	LBR Funding	Total Add'l Funding	(cents/kWh)			
						RGGI Funding	SBC Funding	FCM Funding				EAP SBC	EE SBC	LBR SBC	Total SBC
Eversource	7,886,054	1.07%	0.78%	84,417	\$ 41.02	\$ 1.92	\$ 14.19	\$ 6.59	\$ 19.32	\$ 4.41	\$ 23.73	0.160	0.425	0.058	0.631
Unitil	1,225,254	0.85%	0.10%	10,471	8.24	0.30	2.21	0.73	3.00	0.82	3.83	0.160	0.425	0.051	0.628
Liberty	910,825	0.78%	0.07%	7,080	4.81	0.22	1.84	0.52	2.23	0.37	2.60	0.160	0.425	0.040	0.615
NHEC	760,840	0.72%	0.05%	6,471	3.58	0.19	1.37	0.14	1.88	-	1.88	0.160	0.425	0.000	0.676
Total	10,782,973		1.00%	107,439	\$ 55.42	\$ 2.82	\$ 18.41	\$ 8.97	\$ 26.42	\$ 5.41	\$ 31.82				

2020 Company	2014 Sales (MWh)	Company Savings	Savings to Statewide	Annual Savings (MWh)	Total Budget*	Current Funding			Incremental Funding**	LBR Funding	Total Add'l Funding	(cents/kWh)			
						RGGI Funding	SBC Funding	FCM Funding				EAP SBC	EE SBC	LBR SBC	Total SBC
Eversource	7,886,054	1.38%	1.01%	109,389	\$ 54.47	\$ 1.92	\$ 14.19	\$ 4.53	\$ 33.63	\$ 7.18	\$ 40.89	0.160	0.608	0.091	0.850
Unitil	1,225,254	1.11%	0.13%	13,828	8.32	0.30	2.21	0.58	8.28	1.01	8.28	0.160	0.608	0.082	0.841
Liberty	910,825	1.02%	0.08%	9,270	6.19	0.22	1.84	0.42	3.91	0.80	4.51	0.160	0.608	0.066	0.825
NHEC	760,840	0.97%	0.07%	7,400	4.93	0.19	1.37	0.11	3.28	-	3.28	0.160	0.608	0.000	0.768
Total	10,782,973		1.30%	139,885	\$ 73.91	\$ 2.82	\$ 18.41	\$ 5.82	\$ 46.28	\$ 8.76	\$ 55.02				

*Excluding Lost Base Revenue

**Funding over Current Levels

PSNH d/b/a Eversource Energy					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2017					
Line	Company	2017 (MWh) Savings	LBR (\$/MWh)*	2017 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
1	Residential	4,807,898	0.04043	\$ 194,364	Page 3, Line 9 Col. H
2	CAJ	15,225,046	0.02561	388,739	Page 3, Line 9 Col. H
3	Total	20,032,944		\$ 583,103	

PSNH d/b/a Eversource Energy					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2018					
Line	Sector	2018 (MWh) Savings	LBR (\$/MWh)*	2018 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
4	Residential	16,698,048	0.04043	\$ 675,747	Page 3, Line 12 Col. H
5	CAJ	59,801,384	0.02566	1,488,451	Page 3, Line 12 Col. H
6	Total	76,499,432		\$ 2,164,197	

PSNH d/b/a Eversource Energy					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2019					
Line	Sector	2019 (MWh) Savings	LBR (\$/MWh)*	2019 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
7	Residential	38,412,404	0.04043	\$ 1,553,184	Page 3, Line 15 Col. H
8	CAJ	115,308,112	0.02590	2,945,312	Page 3, Line 15 Col. H
9	Total	153,720,516		\$ 4,498,496	

PSNH d/b/a Eversource Energy					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2020					
Line	Sector	2020 (MWh) Savings	LBR (\$/MWh)*	2020 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
10	Residential	89,048,943	0.04043	\$ 3,581,348	Page 3, Line 18 Col. H
11	CAJ	186,899,318	0.02590	4,799,202	Page 3, Line 18 Col. H
12	Total	275,948,261		\$ 8,380,550	

*Adjusted to include revenue associated with the customer's charge

Liberty Utilities					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2017					
Line	Company	2017 (MWh) Savings	LBR (\$/MWh)*	2017 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
1	Residential	483,438	0.04151	\$ 20,062	Page 4, Line 9 Col. H
2	CAJ	1,189,851	0.02287	27,218	Page 4, Line 9 Col. H
3	Total	1,673,289		\$ 47,280	

Liberty Utilities					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2018					
Line	Sector	2018 (MWh) Savings	LBR (\$/MWh)*	2018 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
4	Residential	1,827,434	0.04151	\$ 75,958	Page 4, Line 12 Col. H
5	CAJ	4,487,345	0.02287	102,323	Page 4, Line 12 Col. H
6	Total	6,314,779		\$ 178,281	

Liberty Utilities					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2019					
Line	Sector	2019 (MWh) Savings	LBR (\$/MWh)*	2019 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
7	Residential	3,788,734	0.04151	\$ 157,167	Page 4, Line 15 Col. H
8	CAJ	9,835,889	0.02287	223,808	Page 4, Line 15 Col. H
9	Total	13,624,623		\$ 380,975	

Liberty Utilities					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2020					
Line	Sector	2020 (MWh) Savings	LBR (\$/MWh)*	2020 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
10	Residential	8,188,041	0.04151	\$ 339,835	Page 4, Line 18 Col. H
11	CAJ	14,302,085	0.02287	325,538	Page 4, Line 18 Col. H
12	Total	22,490,126		\$ 665,373	

Unitil					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2017					
Line	Company	2017 (MWh) Savings	LBR (\$/MWh)*	2017 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
1	Residential	787,632	0.03728	\$ 29,368	Page 5, Line 6 Col. H
2	CAJ	2,383,785	0.02870	70,305	Page 5, Line 6 Col. H
3	Total	3,171,417		\$ 99,673	

Unitil					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2018					
Line	Sector	2018 (MWh) Savings	LBR (\$/MWh)*	2018 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
4	Residential	2,801,487	0.03728	\$ 104,832	Page 5, Line 12 Col. H
5	CAJ	7,804,680	0.02870	223,793	Page 5, Line 12 Col. H
6	Total	10,606,167		\$ 328,625	

Unitil					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2019					
Line	Sector	2019 (MWh) Savings	LBR (\$/MWh)*	2019 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
7	Residential	4,842,804	0.03728	\$ 181,170	Page 5, Line 15 Col. H
8	CAJ	14,828,472	0.02870	425,408	Page 5, Line 15 Col. H
9	Total	19,671,276		\$ 606,578	

Unitil					
Calculation of Last Base Revenue (LBR)					
Estimated Last Base Revenue for 2020					
Line	Sector	2020 (MWh) Savings	LBR (\$/MWh)*	2020 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
10	Residential	7,856,389	0.03728	\$ 293,538	Page 5, Line 18 Col. H
11	CAJ	23,874,886	0.02870	708,084	Page 5, Line 18 Col. H
12	Total	31,731,275		\$ 1,001,622	

PSNH d/b/a Eversource Energy
Estimated Monthly Savings and Cumulative Savings (kWh)
(2017 - 2020)

		Col A	Col B	Col C	Col D	Col E	Col F	Col G	Col H	Col I	Col J	Col K	Col L	Col M	Col N
														2017	
Line	Sector	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Annual Savings	Cumulative Savings
1	Residential	444,429	444,429	444,429	608,052	608,052	608,052	787,848	787,848	787,848	2,020,130	2,020,130	2,020,130	12,120,779	12,120,779
2	C&I	1,407,357	1,407,357	1,407,357	2,568,831	2,568,831	2,568,831	2,430,890	2,430,890	2,430,890	9,397,078	9,397,078	9,397,078	58,582,488	58,582,488
3	Total	1,851,786	1,851,786	1,851,786	3,366,883	3,366,883	3,366,883	3,188,538	3,188,538	3,188,538	8,417,208	8,417,208	8,417,208	60,603,249	60,603,249
4	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
Line	Sector	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	2017 LBR Savings	2017 Cumulative Savings
5	Residential	444,429	407,353	370,357	608,052	608,052	608,052	471,354	363,828	310,854	258,853	208,032	188,344	4,807,908	4,807,908
6	C&I	1,407,357	1,200,877	1,173,789	1,819,123	1,703,987	1,492,692	1,219,446	1,072,871	910,297	1,099,180	1,099,180	533,080	18,228,048	18,228,048
7	Total	1,851,786	1,608,230	1,544,146	2,627,175	2,312,039	2,100,744	1,690,799	1,436,725	1,221,151	1,358,033	1,358,033	791,424	23,056,056	23,056,056
8	Residential	598,058	598,058	598,058	1,083,743	1,083,743	1,083,743	1,028,558	1,028,558	1,028,558	2,708,138	2,708,138	2,708,138	18,258,138	18,258,138
9	C&I	1,887,818	1,887,818	1,887,818	3,431,881	3,431,881	3,431,881	3,268,288	3,268,288	3,268,288	8,579,829	8,579,829	8,579,829	51,477,771	51,477,771
10	Total	2,485,877	2,485,877	2,485,877	4,515,624	4,515,624	4,515,624	4,296,846	4,296,846	4,296,846	11,288,000	11,288,000	11,288,000	69,735,909	69,735,909
11	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
Line	Sector	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	2018 LBR Savings	2018 Cumulative Savings
12	Residential	598,058	546,347	498,716	812,807	722,488	632,163	514,778	428,881	343,165	277,338	228,780	188,344	8,448,288	18,558,048
13	C&I	1,887,818	1,730,228	1,673,859	2,873,888	2,687,881	2,491,913	1,638,128	1,388,441	1,088,753	1,144,807	1,428,838	714,888	20,418,818	38,976,866
14	Total	2,485,877	2,276,575	2,172,575	3,686,695	3,410,369	3,124,076	2,152,906	1,817,322	1,431,918	1,422,145	1,611,626	903,232	28,877,106	67,393,982
15	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
Line	Sector	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	2019 LBR Savings	2019 Cumulative Savings
16	Residential	742,888	742,888	742,888	1,380,870	1,380,870	1,380,870	1,283,138	1,283,138	1,283,138	3,378,878	3,378,878	3,378,878	28,280,048	46,838,096
17	C&I	2,382,417	2,382,417	2,382,417	4,277,122	4,277,122	4,277,122	4,083,388	4,083,388	4,083,388	10,889,804	10,889,804	10,889,804	64,168,823	111,006,919
18	Total	3,065,305	3,065,305	3,065,305	5,657,992	5,657,992	5,657,992	5,366,526	5,366,526	5,366,526	14,268,682	14,268,682	14,268,682	92,448,871	157,855,815
19	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
Line	Sector	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 LBR Savings	2020 Cumulative Savings
20	Residential	742,888	692,843	642,807	1,013,022	908,447	787,881	641,568	534,846	427,712	344,188	282,779	231,380	8,038,488	38,413,404
21	C&I	2,382,417	2,186,382	2,089,347	3,297,841	2,861,414	2,494,988	2,031,633	1,693,027	1,394,422	2,073,201	1,782,134	1,472,467	25,448,873	110,208,112
22	Total	3,065,305	2,879,225	2,732,154	4,310,863	3,769,861	3,282,869	2,673,201	2,227,875	1,822,134	3,017,370	2,544,913	1,723,847	33,487,361	148,695,524
23	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
Line	Sector	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 LBR Savings	2020 Cumulative Savings
23	Residential	982,482	982,482	982,482	1,748,912	1,748,912	1,748,912	1,682,418	1,682,418	1,682,418	4,374,780	4,374,780	4,374,780	28,248,878	74,888,446
24	C&I	3,047,783	3,047,783	3,047,783	5,641,388	5,641,388	5,641,388	5,296,318	5,296,318	5,296,318	13,853,488	13,853,488	13,853,488	63,128,818	138,017,264
25	Total	4,030,265	4,030,265	4,030,265	7,390,300	7,390,300	7,390,300	6,978,736	6,978,736	6,978,736	18,228,248	18,228,248	18,228,248	91,377,266	212,905,710
26	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
Line	Sector	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 LBR Savings	2020 Cumulative Savings
26	Residential	982,482	882,247	802,043	1,312,434	1,188,608	1,028,782	831,208	692,873	564,138	458,898	388,130	324,588	10,411,878	58,048,943
27	C&I	3,047,783	2,783,783	2,528,802	4,188,041	3,894,258	3,232,478	2,632,188	2,183,448	1,784,773	3,483,247	2,308,812	1,184,488	32,871,267	188,920,210
28	Total	4,030,265	3,666,030	3,310,845	5,490,475	4,982,866	4,261,260	3,463,396	2,876,326	2,348,911	4,937,535	3,693,042	1,509,076	43,283,145	246,969,153

*LBR cap of 110% of annual savings would apply to Columns M, Lines 2, 16, 17, and 24. If actual annual savings achieved are greater than 110% of the actual planned savings values, the savings greater than 110% will be excluded from the LBR calculation.

Inputs				
Savings Achieved by Quarter ¹				
Q1	Q2	Q3	Q4	
11%	20%	19%	50%	
Year	Savings	Residential	C&I	
2017	58,603,248	24%	76%	
2018	67,733,808	24%	76%	
2019	84,418,873	24%	76%	
2020	108,388,485	24%	76%	

(1) Eversource 2018 Savings by Quarter

Liberty Utilities
Estimated Monthly Savings and Cumulative Savings (kWh)
(2017 - 2020)

Line	Sector	Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N
		Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Annual Savings	Cumulative Savings
1	Residential	42,188	42,188	42,188	84,388	84,388	84,388	84,388	84,388	84,388	210,984	210,984	210,984	1,265,934	1,265,934
2	CAI	98,484	98,484	98,484	196,968	196,968	196,968	196,968	196,968	196,968	492,318	492,318	492,318	2,953,917	2,953,917
3	Total	140,663	140,663	140,663	281,328	281,328	281,328	281,328	281,328	281,328	703,313	703,313	703,313	4,219,851	4,219,851
4	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	2017 LBR Savings	Cumulative LBR Savings
5	Residential	42,188	38,662	35,136	63,288	58,288	48,232	42,188	38,188	28,132	52,748	38,188	17,883	488,838	488,838
6	CAI	98,484	90,238	82,052	147,888	131,288	114,872	98,484	82,083	65,643	123,088	82,083	41,027	1,198,951	1,198,951
7	Total	140,663	128,901	117,219	210,984	189,588	164,108	140,663	117,219	93,775	175,838	117,219	58,908	1,687,787	1,687,787
Line	Sector	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	2018 Annual Savings	Cumulative Savings
8	Residential	58,288	58,288	58,288	112,591	112,591	112,591	112,591	112,591	112,591	281,478	281,478	281,478	1,888,658	2,888,658
9	CAI	131,388	131,388	131,388	262,711	262,711	262,711	262,711	262,711	262,711	656,778	656,778	656,778	3,945,888	6,834,546
10	Total	187,661	187,661	187,661	378,302	378,302	378,302	378,302	378,302	378,302	938,256	938,256	938,256	5,834,546	9,680,108
11	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	2018 LBR Savings	Cumulative LBR Savings
12	Residential	58,288	51,604	48,913	84,443	78,088	68,678	58,288	48,913	37,530	70,388	48,913	23,458	581,488	1,927,434
13	CAI	131,388	120,488	109,483	197,033	178,141	163,248	131,388	109,483	87,870	195,198	109,483	54,732	1,843,438	4,647,346
14	Total	187,661	172,013	158,378	281,478	256,231	231,928	187,661	158,378	125,401	265,586	158,378	78,198	2,204,928	6,434,778
Line	Sector	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	2019 Annual Savings	Cumulative Savings
15	Residential	70,800	70,800	70,800	141,600	141,600	141,600	141,600	141,600	141,600	354,000	354,000	354,000	2,124,000	6,078,838
16	CAI	188,200	188,200	188,200	376,400	376,400	376,400	376,400	376,400	376,400	938,000	938,000	938,000	5,992,000	11,860,838
17	Total	258,000	258,000	258,000	518,000	518,000	518,000	518,000	518,000	518,000	1,292,000	1,292,000	1,292,000	8,116,000	18,920,838
18	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	2019 LBR Savings	Cumulative LBR Savings
19	Residential	70,800	64,000	58,000	108,200	94,400	82,800	70,800	58,000	47,200	88,600	58,000	28,800	431,800	3,788,724
20	CAI	188,200	181,434	172,887	347,800	322,287	287,734	188,200	172,887	141,133	308,800	172,887	88,833	1,841,133	6,629,858
21	Total	258,000	245,434	230,887	456,000	416,687	370,534	258,000	230,887	188,333	417,400	230,887	117,633	2,272,937	12,418,682
Line	Sector	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 Annual Savings	Cumulative Savings
22	Residential	82,898	82,898	82,898	165,788	165,788	165,788	165,788	165,788	165,788	414,488	414,488	414,488	2,785,978	7,254,801
23	CAI	218,288	218,288	218,288	436,588	436,588	436,588	436,588	436,588	436,588	1,091,488	1,091,488	1,091,488	6,465,943	13,720,744
24	Total	301,186	301,186	301,186	602,376	602,376	602,376	602,376	602,376	602,376	1,505,976	1,505,976	1,505,976	9,251,921	20,972,685
25	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 LBR Savings	Cumulative LBR Savings
26	Residential	82,898	84,374	77,248	138,948	123,888	108,148	82,898	77,248	61,788	118,874	77,248	38,828	1,588,318	6,186,641
27	CAI	218,288	198,473	180,248	324,447	288,387	253,348	218,288	198,248	144,188	379,373	198,248	80,124	2,841,893	14,328,534
28	Total	301,186	282,847	257,496	463,395	412,275	361,496	301,186	265,496	205,976	398,247	265,496	118,952	3,430,211	20,857,165

*LRAM cap of 110% of annual savings would apply to Column M, Lines 3, 16, 17, and 24. If actual annual savings achieved are greater than 110% of the actual planned savings values, the savings greater than 110% will be excluded from the LRAM calculation.

Inputs				
Savings Achieved by Quarter				
Q1	Q2	Q3	Q4	
10%	20%	20%	50%	
Year	Savings	Residential	CAI	
2017	4,219,851	30%	70%	
2018	6,834,546	30%	70%	
2019	7,080,008	30%	70%	
2020	9,251,921	30%	70%	

Unitl Energy Systems
Estimated Monthly Savings and Cumulative Savings (kWh)
(2017 - 2020)

Line	Sector	Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N
		Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Annual Savings	Cumulative Savings
1	Residential	63,770	63,770	63,770	161,074	161,074	161,074	118,818	118,818	118,818	168,284	168,284	168,284	1,562,838	1,562,838
2	CAJ	281,311	281,311	281,311	483,223	483,223	483,223	368,453	368,453	368,453	488,882	488,882	488,882	4,888,818	4,888,818
3	Total	378,081	378,081	378,081	604,298	604,298	604,298	478,271	478,271	478,271	625,138	625,138	625,138	6,251,388	6,251,388
4	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	2017 LBR Savings	Cumulative LBR Savings
5	Residential	63,770	63,770	78,142	113,308	108,718	58,127	68,928	48,524	38,838	38,838	28,047	13,224	787,882	787,882
6	CAJ	281,311	281,311	224,428	338,918	308,148	284,382	178,727	148,772	118,818	117,213	78,142	38,838	2,383,798	2,383,798
7	Total	378,081	345,081	312,570	452,226	408,866	342,509	238,655	198,698	158,757	158,284	104,189	52,062	3,181,728	3,181,728
		Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	2018 Annual Savings	Cumulative Savings
8	Residential	123,888	123,888	123,888	188,147	188,147	188,147	167,848	167,848	167,848	208,018	208,018	208,018	2,080,148	3,222,388
9	CAJ	378,828	378,828	378,828	587,442	587,442	587,442	473,834	473,834	473,834	618,044	618,044	618,044	6,180,438	9,362,826
10	Total	494,435	494,435	494,435	788,588	788,588	788,588	631,778	631,778	631,778	824,058	824,058	824,058	8,240,586	14,401,943
11	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	2018 LBR Savings	Cumulative LBR Savings
12	Residential	123,888	113,308	103,007	148,381	132,788	118,188	78,972	68,818	52,848	81,804	34,338	17,168	1,038,887	2,801,487
13	CAJ	378,828	338,924	308,022	448,088	398,258	348,898	238,817	197,431	157,848	188,818	103,007	51,804	3,118,871	7,704,400
14	Total	494,438	452,232	412,029	597,442	531,046	467,086	318,689	266,249	210,696	248,818	137,343	68,972	4,158,828	10,408,888
		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	2019 Annual Savings	Cumulative Savings
15	Residential	157,872	157,872	157,872	233,088	233,088	233,088	208,703	208,703	208,703	281,788	281,788	281,788	2,817,881	6,240,847
16	CAJ	471,218	471,218	471,218	788,188	788,188	788,188	602,108	602,108	602,108	788,388	788,388	788,388	7,883,888	14,124,735
17	Total	628,287	628,287	628,287	1,021,240	1,021,240	1,021,240	810,811	810,811	810,811	1,047,144	1,047,144	1,047,144	10,471,444	24,603,387
18	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	2019 LBR Savings	Cumulative LBR Savings
19	Residential	157,872	143,882	133,883	188,783	168,787	147,818	100,381	83,828	68,801	63,447	43,831	21,818	1,318,838	4,942,824
20	CAJ	471,218	431,947	382,878	588,388	508,128	442,858	301,884	280,878	200,703	198,348	138,893	68,447	3,988,818	14,828,472
21	Total	628,287	578,828	516,761	788,188	676,915	590,676	402,265	384,804	269,404	261,796	174,824	87,282	6,278,383	19,771,388
		Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 Annual Savings	Cumulative Savings
22	Residential	204,381	204,381	204,381	328,287	328,287	328,287	281,188	281,188	281,188	348,832	348,832	348,832	3,488,818	8,847,343
23	CAJ	813,173	813,173	813,173	987,888	987,888	987,888	783,488	783,488	783,488	1,021,888	1,021,888	1,021,888	10,218,818	29,042,888
24	Total	1,017,884	1,017,884	1,017,884	1,316,175	1,316,175	1,316,175	1,064,676	1,064,676	1,064,676	1,370,720	1,370,720	1,370,720	13,707,636	38,898,422
25	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 LBR Savings	Cumulative LBR Savings
26	Residential	204,381	187,388	178,328	248,872	218,831	182,888	138,883	108,818	87,856	88,183	68,778	28,388	1,717,482	7,958,288
27	CAJ	813,173	782,878	618,877	748,817	638,548	578,288	381,748	328,488	281,188	288,488	178,328	83,183	3,182,388	11,140,676
28	Total	1,017,884	970,266	797,205	997,689	857,429	761,176	520,631	437,306	369,074	376,671	247,106	111,571	4,900,870	18,891,364

*LRAM cap of 116% of annual savings would apply to Column M, Lines 3, 10, 17, and 24. If actual annual savings achieved are greater than 116% of the actual planned savings values, the savings greater than 116% will be excluded from the LRAM calculation.

Inputs				Notes
Q1	Q2	Q3	Q4	
18%	28%	23%	10%	(1)
Year	Savings	Residential	CAJ	
2017	6,251,388	25%	78%	(3)
2018	8,240,588	25%	78%	(2)
2019	10,471,444	25%	78%	(2)
2020	13,707,636	22%	78%	(2)

Notes:

- (1) Savings Achieved by Quarter: The savings allocation by quarter was estimated based on the allocation of budgeted program costs through out a year (budget models).
- (2) Sector Savings Allocation was estimated from the weighted average of 5 years of actual annual savings results, 2011 through 2015.

Bill Impacts of Changes in System Benefits Charge - PSNH d/b/a Eversource Energy

	01/01/2016	2017	2018	2019	2020	Cumulative Change
System Benefits Charge (\$/kWh)	\$ 0.00330	\$ 0.00383	\$ 0.00488	\$ 0.00631	\$ 0.00850	
<u>Bill per month, including PSNH default energy service</u>						
Residential Rate R (625 kWh/month)	\$ 115.79	\$ 116.12	\$ 116.77	\$ 117.67	\$ 119.04	
General Service Rate G, three-phase service (40 kW, 10,000 kWh/month)	\$ 1,702.62	\$ 1,707.96	\$ 1,718.37	\$ 1,732.72	\$ 1,754.59	
<u>Change from previous rate level - \$ per month</u>						
Residential Rate R (625 kWh/month)		\$ 0.33	\$ 0.65	\$ 0.90	\$ 1.37	\$ 3.25
General Service Rate G, three-phase service (40 kW, 10,000 kWh/month)		\$ 5.34	\$ 10.41	\$ 14.34	\$ 21.88	\$ 51.97
<u>Change from previous rate level - %</u>						
Residential Rate R (625 kWh/month)		0.3%	0.6%	0.8%	1.2%	2.8%
General Service Rate G, three-phase service (40 kW, 10,000 kWh/month)		0.3%	0.6%	0.8%	1.3%	3.1%

Bill Impacts of Changes in System Benefits Charge - Liberty

	01/01/2016	2017	2018	2019	2020	Cumulative Change
System Benefits Charge (\$/kWh)	\$ 0.00330	\$ 0.00381	\$ 0.00480	\$ 0.00815	\$ 0.00825	
<u>Bill per month, including PSNH default energy service</u>						
Residential Rate D (625 kWh/month)	\$ 119.17	\$ 119.84	\$ 120.19	\$ 121.02	\$ 122.24	
General Service Rate G-2, three-phase service (40 kW, 10,000 kWh/month)	\$ 1,917.55	\$ 1,922.88	\$ 1,932.51	\$ 1,948.09	\$ 1,967.03	
<u>Change from previous rate level - \$ per month</u>						
Residential Rate D (625 kWh/month)		\$ 0.67	\$ 0.35	\$ 0.83	\$ 1.22	\$ 3.07
General Service Rate G-2, three-phase service (40 kW, 10,000 kWh/month)		\$ 5.13	\$ 9.83	\$ 13.58	\$ 20.94	\$ 49.48
<u>Change from previous rate level - %</u>						
Residential Rate D (625 kWh/month)		0.6%	0.3%	0.7%	1.0%	2.6%
General Service Rate G-2, three-phase service (40 kW, 10,000 kWh/month)		0.3%	0.5%	0.7%	1.1%	2.6%

Bill Impacts of Changes in System Benefits Charge - Unitil Energy Systems, Inc. ("UES")

	01/01/2016	2017	2018	2019	2020	Cumulative Change
System Benefits Charge (\$/kWh)	\$ 0.00330	\$ 0.00384	\$ 0.00486	\$ 0.00626	\$ 0.00841	
<u>Bill per month, including Unitil default energy service</u>						
Residential Rate D (625 kWh/month)	\$ 109.10	\$ 109.44	\$ 110.07	\$ 110.95	\$ 112.29	
General Service Rate G2 (40 kW, 10,000 kWh/month)	\$ 1,614.11	\$ 1,619.52	\$ 1,629.89	\$ 1,643.71	\$ 1,665.22	
<u>Change from previous rate level - \$ per month</u>						
Residential Rate D (625 kWh/month)		\$ 0.34	\$ 0.64	\$ 0.88	\$ 1.34	\$ 3.19
General Service Rate G2 (40 kW, 10,000 kWh/month)		\$ 5.41	\$ 10.17	\$ 14.01	\$ 21.51	\$ 51.11
<u>Change from previous rate level - %</u>						
Residential Rate D (625 kWh/month)		0.3%	0.6%	0.8%	1.2%	2.9%
General Service Rate G2 (40 kW, 10,000 kWh/month)		0.3%	0.6%	0.9%	1.3%	3.2%

Bill Impacts of Changes in System Benefits Charge - NHEC

	01/01/2016	2017	2018	2019	2020	Cumulative Change
System Benefits Charge (\$/kWh)	\$ 0.00330	\$ 0.00378	\$ 0.00458	\$ 0.00575	\$ 0.00758	
<u>Bill per month, including NHEC default energy service</u>						
Residential Rate Basic (625 kWh/month)	\$ 101.49	\$ 101.78	\$ 102.30	\$ 103.02	\$ 104.17	
Commercial B3, three-phase service (<50 kW, 10,000 kWh/month)	\$ 1,809.50	\$ 1,814.10	\$ 1,822.40	\$ 1,834.00	\$ 1,852.40	
<u>Change from previous rate level - \$ per month</u>						
Residential Rate Basic (625 kWh/month)		\$ 0.29	\$ 0.52	\$ 0.72	\$ 1.15	\$ 2.68
Commercial B3, three-phase service (<50 kW, 10,000 kWh/month)		\$ 4.60	\$ 8.30	\$ 11.60	\$ 18.40	\$ 42.90
<u>Change from previous rate level - %</u>						
Residential Rate Basic (625 kWh/month)		0.3%	0.6%	0.7%	1.1%	2.6%
Commercial B3, three-phase service (<50 kW, 10,000 kWh/month)		0.3%	0.5%	0.6%	1.0%	2.4%

2016 Plan Budget

2016 Plan Budget	\$ 17,488.8	\$ 7,837.6	\$ 2,133.7	\$ 1,646.5
2016 Planned EWH Savings	40,882.6	5,653.1	3,715.6	2,853.3
2016 Cost To Address - No PI	\$0.48	\$0.52	\$0.57	\$0.57

Cost To Address

	PERM	UE3	Library	NHEC	PI	Incremental	SBC Rate	Savings Target
2017	\$0.48	\$0.57	\$0.53	\$0.52	3.50%	2.50%	0.338	0.67%
2018	\$0.47	\$0.58	\$0.54	\$0.53	3.50%	2.50%	0.338	0.67%
2019	\$0.49	\$0.55	\$0.55	\$0.55	5.50%	2.50%	0.428	1.00%
2020	\$0.50	\$0.61	\$0.57	\$0.57	5.50%	2.50%	0.508	1.20%

Company	2014 (MWh)	2014 Savings Percent	2017 Company Savings	2017 Savings %	2017 Savings (MWh)	Incremental Funding	2018 Company Savings	2018 Savings %	2018 Savings (MWh)	Incremental Funding	2019 Company Savings	2019 Savings %	2019 Savings (MWh)	Incremental Funding	2020 Company Savings	2020 Savings %	2020 Savings (MWh)	Incremental Funding
PERM	7,688,054	73.1%	0.64%	0.47%	88,503	3.63	0.86%	0.80%	87,754	10.17	1.07%	0.78%	64,417	18.32	1.35%	1.01%	158,388	23.43
UE3	1,225,354	11.4%	0.51%	0.38%	6,251	0.88	0.67%	0.60%	8,341	1.58	0.83%	0.10%	10,471	3.00	1.11%	0.12%	13,638	8.38
Library	810,825	8.4%	0.48%	0.34%	4,238	0.42	0.62%	0.60%	5,858	1.17	0.78%	0.07%	7,080	2.23	1.62%	0.09%	8,270	3.91
NHEC	700,645	7.1%	0.42%	0.33%	3,323	0.34	0.54%	0.54%	4,215	0.88	0.72%	0.05%	5,471	1.88	0.67%	0.07%	7,400	3.16
Total	10,762,773	100.0%		0.89%	94,187	4.88		0.60%	65,828	13.81		1.80%	107,438	26.43		1.30%	134,695	44.38

PERM	2017	2018	2019	2020
ROG	1,916,376	1,918,376	1,918,376	1,918,376
SBC - Current	14,104,887	14,104,887	14,104,887	14,104,887
SBC - New	2,627,666	10,173,815	10,238,833	39,831,173
FCM	1,817,191	6,824,108	6,665,823	4,639,817
Total PERM	23,557,888	33,116,389	31,818,796	64,472,381

UE3	2017	2018	2019	2020
ROG	238,057	238,057	238,057	238,057
SBC - Current	2,355,457	2,355,457	2,355,457	2,355,457
SBC - New	853,617	1,580,376	3,051,878	8,366,348
FCM	475,817	755,858	729,723	566,462
Total UE3	3,642,888	4,789,888	6,204,110	11,166,346

Library	2017	2018	2019	2020
ROG	221,888	221,888	221,888	221,888
SBC - Current	1,438,445	1,438,445	1,438,445	1,438,445
SBC - New	618,888	1,174,884	2,291,521	3,897,498
FCM	326,548	641,888	619,724	421,277
Total Library	2,616,381	3,577,213	4,512,379	6,164,879

NHEC	2017	2018	2019	2020
ROG	185,083	185,083	185,083	185,083
SBC - Current	1,389,512	1,389,512	1,389,512	1,389,512
SBC - New	349,888	881,884	1,884,938	3,664,784
FCM	89,854	143,876	127,212	111,251
Total NHEC	1,904,437	2,610,455	3,600,008	5,350,690

Gas Utilities Funding & Bill Impacts

Incremental Funding

Residential¹

	Year	Funding	LDAC Rate ²	EBR Rate	Total LDAC Rate ²	LDAC Annual Bill	Annual Impact	Average Monthly Impact
Liberty	2016	\$ -	\$ 0.0386	\$ -	\$ 0.0386	\$ 45.81	\$ -	\$ -
	2017	\$ 268,713	\$ 0.0428	\$ 0.0014	\$ 0.0443	\$ 50.36	\$ 4.55	\$ 0.38
	2018	\$ 294,837	\$ 0.0478	\$ 0.0046	\$ 0.0524	\$ 58.89	\$ 8.34	\$ 0.63
	2019	\$ 351,441	\$ 0.0738	\$ 0.0080	\$ 0.0817	\$ 63.94	\$ 7.25	\$ 0.60
	2020	\$ 321,670	\$ 0.0780	\$ 0.0117	\$ 0.0897	\$ 70.88	\$ 7.04	\$ 0.58
Northern	2016	\$ -	\$ 0.0297	\$ -	\$ 0.0297	\$ 23.28	\$ -	\$ -
	2017	\$ 73,417	\$ 0.0338	\$ 0.0011	\$ 0.0347	\$ 27.18	\$ 3.92	\$ 0.33
	2018	\$ 81,848	\$ 0.0368	\$ 0.0036	\$ 0.0405	\$ 31.74	\$ 4.58	\$ 0.38
	2019	\$ 84,409	\$ 0.0404	\$ 0.0062	\$ 0.0466	\$ 38.50	\$ 4.78	\$ 0.40
	2020	\$ 162,312	\$ 0.0485	\$ 0.0081	\$ 0.0578	\$ 45.11	\$ 8.61	\$ 0.72

¹Based on Average Liberty Annual Residential Usage 783 Therms

²LDAC rate is only the energy efficiency portion

CAF²

	Year	Funding	LDAC Rate	EBR Rate	Total LDAC Rate	LDAC Annual Bill	Annual Impact	Average Monthly Impact
	2016	\$ -	\$0.0258	\$ -	\$ 0.0258	\$224.59	\$ -	\$ -
	2017	\$248,844	\$0.0280	\$ 0.0008	\$ 0.0288	\$251.18	\$ 26.58	\$ 2.22
	2018	\$272,861	\$0.0307	\$ 0.0020	\$ 0.0327	\$288.89	\$ 35.72	\$ 2.98
	2019	\$325,455	\$0.0339	\$ 0.0035	\$ 0.0374	\$327.88	\$ 41.09	\$ 3.42
	2020	\$287,886	\$0.0388	\$ 0.0051	\$ 0.0418	\$367.58	\$ 38.59	\$ 3.30
	2016	\$ -	\$0.0148	\$ -	\$ 0.0148	\$128.08	\$ -	\$ -
	2017	\$ 53,818	\$0.0158	\$ 0.0003	\$ 0.0159	\$139.85	\$ 11.56	\$ 0.98
	2018	\$ 45,338	\$0.0165	\$ 0.0010	\$ 0.0175	\$163.18	\$ 13.52	\$ 1.13
	2019	\$ 47,215	\$0.0174	\$ 0.0017	\$ 0.0181	\$167.28	\$ 14.10	\$ 1.18
	2020	\$111,852	\$0.0195	\$ 0.0024	\$ 0.0220	\$182.64	\$ 25.42	\$ 2.12

²Based on Average Liberty Annual CAF Usage 8773 Therms

Funding Summary Gas Utilities

Historical Results												
Sector			Residential			C&I			Total			
Utility	Actual vs. Plan	Period	Program	Savings MMBTUs	Expense per Unit of Savings	Program	Savings MMBTUs	Expense per Unit of Savings	Total	Savings MMBTUs	Expense per Unit of Savings	vs. CY2014 Sales
Liberty	Actual	2013	\$2,413,874	40,509	\$ 59.58	\$2,175,369	74,831	\$ 29.07	\$4,589,063	115,340	\$ 39.70	0.71%
	Actual	2014	\$2,788,568	34,401	\$ 80.48	\$2,545,412	82,545	\$ 30.84	\$5,313,980	116,946	\$ 45.44	0.72%
	Actual	2015	\$2,822,937	63,695	\$ 44.33	\$2,354,308	85,068	\$ 29.40	\$5,177,245	143,754	\$ 36.01	0.88%
	Plan	2016	\$2,918,815	57,228	\$ 51.01	\$2,703,000	65,118	\$ 41.51	\$5,621,815	122,344	\$ 45.95	0.75%
	Average	13-16	\$2,730,999	48,655	\$ 55.79	\$2,444,527	75,641	\$ 32.32	\$5,175,526	124,598	\$ 41.54	0.77%
Northern	Actual	2013	\$ 669,087	5,878	\$ 113.88	\$ 454,817	20,338	\$ 22.38	\$1,123,884	26,212	\$ 42.87	0.37%
	Actual	2014	\$ 697,314	8,207	\$ 84.97	\$ 489,495	23,205	\$ 20.23	\$1,186,809	31,412	\$ 37.15	0.44%
	Actual	2015	\$ 812,888	7,479	\$ 108.69	\$ 528,570	25,230	\$ 20.95	\$1,341,468	32,709	\$ 41.01	0.48%
	Plan	2016	\$ 777,617	8,225	\$ 94.54	\$ 570,030	21,923	\$ 26.00	\$1,347,647	30,148	\$ 44.70	0.42%
	Average	13-16	\$ 739,224	7,447	\$ 99.27	\$ 505,678	22,674	\$ 22.30	\$1,244,902	30,120	\$ 41.33	0.42%

CY2014 Utility Sales

Liberty	18,256,975	69.62%	MMBtu
Northern	7,095,897	30.38%	MMBtu
Total	23,352,872	100.00%	MMBtu

Res MMBtu	8,045,954	C&I MMBtu	10,211,021
Res MMBtu	1,868,315	C&I MMBtu	5,227,363

NU - Removed Special Contracts

Proposed Savings Targets

Sector			Residential			C&I			Total			
Utility	Year	% Sales Reduction	Program	Savings MMBTUs	Expense per Unit of Savings	Program	Savings MMBTUs	Expense per Unit of Savings	Program	Savings MMBTUs	Expense per Unit of Savings	
Liberty	2017	0.76%	\$3,187,528	57,791	\$55.18	\$2,951,844	85,762	\$44.89	\$6,139,372	123,553	\$49.89	
	2018	0.81%	\$3,482,164	61,594	\$56.53	\$3,224,898	70,088	\$46.01	\$6,708,060	131,681	\$50.93	
	2019	0.87%	\$3,833,605	66,158	\$57.95	\$3,550,151	75,280	\$47.18	\$7,383,756	141,438	\$52.21	
	2020	0.92%	\$4,155,275	69,955	\$59.40	\$3,848,037	78,608	\$48.34	\$8,003,313	149,564	\$53.51	
Northern	2017	0.43%	\$ 851,034	8,324	\$102.24	\$ 623,848	22,187	\$28.12	\$1,474,883	30,511	\$48.34	
	2018	0.45%	\$ 912,883	8,711	\$104.78	\$ 669,167	23,219	\$28.82	\$1,582,070	31,931	\$56.53	
	2019	0.47%	\$ 977,292	9,099	\$107.41	\$ 716,401	24,251	\$29.54	\$1,693,693	33,350	\$57.95	
	2020	0.53%	\$1,128,604	10,280	\$110.10	\$ 828,053	27,347	\$30.28	\$1,957,657	37,607	\$60.40	

Incremental Funding							
Year		Funding	\$/therm Rate	% Increase	Year		Funding
Liberty	2016	\$ -	0.0585	0%	2016	\$ -	0.0258
	2017	\$288,713	0.0628	8%	2017	\$ 248,844	0.0280
	2018	\$284,637	0.0678	8%	2018	\$ 272,851	0.0307
	2019	\$351,441	0.0738	9%	2019	\$ 325,455	0.0338
	2020	\$321,670	0.0790	7%	2020	\$ 297,866	0.0368
Northern	2016	\$ -	0.0297	0%	2016	\$ -	0.0148
	2017	\$ 73,417	0.0338	13%	2017	\$ 53,818	0.0158
	2018	\$ 61,848	0.0389	10%	2018	\$ 45,338	0.0165
	2019	\$ 84,408	0.0404	6%	2019	\$ 47,215	0.0174
	2020	\$152,312	0.0465	20%	2020	\$ 111,652	0.0195

Savings Summary
Gas Utilities

	Sales 2014 MMBtu	Sales Percent	2017 Company Savings	2017 Savings %	2017 Savings (MMBtu)	2018 Company Savings	2018 Savings %	2018 Savings (MMBtu)	2019 Company Savings	2019 Savings %	2019 Savings (MMBtu)	2020 Company Savings	2020 Savings %	2020 Savings (MMBtu)
Liberty	16,256,976	69.82%	0.78%	0.63%	123,563	0.81%	0.56%	131,881	0.57%	0.81%	141,438	0.82%	0.64%	149,584
Northern	7,095,897	30.38%	0.43%	0.13%	30,911	0.45%	0.14%	31,931	0.47%	0.14%	33,350	0.53%	0.16%	37,807
Total	23,352,872	100%		0.66%	154,085		0.70%	163,612		0.75%	174,785		0.80%	187,171

Liberty Utilities					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2017					
Line	Company	2017 (therm) Savings	LBR (\$/therm)	2017 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
1	Residential	252,356	0.32746	\$ 82,837	Page x, Line 5 Col. N
2	C&I	287,169	0.21116	60,837	Page x, Line 8 Col. N
3	Total	539,516		\$ 143,274	

Northern					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2017					
Line	Company	2017 (therm) Savings	LBR (\$/therm)	2017 Total LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
1	Residential	36,349	0.5536	\$ 20,123	Page x, Line 5 Col. N
2	C&I	96,685	0.1555	15,068	Page x, Line 8 Col. N
3	Total	133,234		\$ 35,189	

Liberty Utilities					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2018					
Line	Sector	2018 (therm) Savings	LBR (\$/therm)	2018 LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
4	Residential	848,873	0.32746	\$ 277,319	Page x, Line 12 Col. N
5	C&I	983,667	0.21116	203,490	Page x, Line 13 Col. N
6	Total	1,810,539		\$ 480,808	

Northern					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2018					
Line	Sector	2018 (therm) Savings	LBR (\$/therm)	2018 LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
4	Residential	121,281	0.5536	\$ 67,141	Page x, Line 12 Col. N
5	C&I	323,264	0.1555	50,268	Page x, Line 13 Col. N
6	Total	444,545		\$ 117,409	

Liberty Utilities					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2019					
Line	Sector	2019 (therm) Savings	LBR (\$/therm)	2019 LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
7	Residential	1,482,731	0.32746	\$ 485,538	Page x, Line 19 Col. N
8	C&I	1,887,217	0.21116	399,276	Page x, Line 20 Col. N
9	Total	3,169,948		\$ 884,813	

Northern					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2019					
Line	Sector	2019 (therm) Savings	LBR (\$/therm)	2019 LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
7	Residential	210,085	0.5536	\$ 116,303	Page x, Line 19 Col. N
8	C&I	559,863	0.1555	87,074	Page x, Line 20 Col. N
9	Total	770,448		\$ 203,378	

Liberty Utilities					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2020					
Line	Sector	2020 (therm) Savings	LBR (\$/therm)	2020 LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
10	Residential	2,160,893	0.32746	\$ 707,610	Page x, Line 26 Col. N
11	C&I	2,488,906	0.21116	519,227	Page x, Line 27 Col. N
12	Total	4,619,799		\$ 1,226,837	

Northern					
Calculation of Lost Base Revenue (LBR)					
Estimated Lost Base Revenues for 2020					
Line	Sector	2020 (therm) Savings	LBR (\$/therm)	2020 LBR	Comment
	Col. A	Col. B	Col. C	Col. D	Col. E
10	Residential	308,142	0.5536	\$ 169,480	Page x, Line 26 Col. N
11	C&I	815,895	0.1555	128,887	Page x, Line 27 Col. N
12	Total	1,122,137		\$ 298,368	

Liberty Utilities
Monthly Savings and Cumulative Savings (therms)
(2017 - 2020)

		Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N
Line	Sector	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Total Savings	Cumulative Savings
1	Residential	28,898	28,898	28,898	34,528	34,528	34,528	44,307	44,307	44,307	80,908	80,908	80,908	577,814	577,814
2	CAJ	32,881	32,881	32,881	43,841	43,841	43,841	60,417	60,417	60,417	82,068	82,068	82,068	657,818	657,818
3	Total	61,777	61,777	61,777	82,369	82,369	82,369	94,724	94,724	94,724	172,974	172,974	172,974	1,235,630	1,235,630
4	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	2017 LBR Savings	Cumulative LBR Savings
5	Residential	28,898	28,488	24,080	24,888	25,885	23,474	22,153	18,461	14,768	21,227	13,463	8,742	252,358	252,358
6	CAJ	32,881	30,141	27,401	32,681	29,227	26,574	25,209	21,037	18,808	23,017	15,344	7,672	287,128	287,128
7	Total	61,777	58,628	51,480	61,777	54,912	48,048	47,362	39,498	31,575	43,244	28,807	14,415	539,515	539,515

		Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Total Savings	Cumulative Savings
8	Residential	30,797	30,797	30,797	41,062	41,062	41,062	47,222	47,222	47,222	88,231	88,231	88,231	615,898	1,168,860
9	CAJ	35,044	35,044	35,044	48,725	48,725	48,725	53,734	53,734	53,734	88,123	88,123	88,123	700,880	1,358,495
10	Total	65,841	65,841	65,841	87,788	87,788	87,788	100,956	100,956	100,956	184,354	184,354	184,354	1,316,815	2,682,345
11	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	2018 LBR Savings	Cumulative LBR Savings
12	Residential	30,797	28,230	25,884	30,797	27,375	23,653	23,611	18,976	15,741	21,558	14,372	7,188	288,958	848,873
13	CAJ	35,044	32,124	29,203	33,044	31,130	27,258	28,887	22,389	17,911	24,531	16,354	8,177	305,051	853,897
14	Total	65,841	60,354	54,887	66,841	58,525	51,209	50,478	42,065	33,652	46,089	30,726	15,363	578,008	1,610,538

		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Total Savings	Cumulative Savings
15	Residential	33,078	33,078	33,078	44,104	44,104	44,104	50,720	50,720	50,720	82,618	82,618	82,618	641,580	1,654,410
16	CAJ	37,640	37,640	37,640	50,188	50,188	50,188	57,714	57,714	57,714	108,382	108,382	108,382	782,787	2,111,202
17	Total	70,718	70,718	70,718	94,290	94,290	94,290	108,434	108,434	108,434	190,910	190,910	190,910	1,414,357	2,868,702
18	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	2019 LBR Savings	Cumulative LBR Savings
19	Residential	33,078	30,321	27,565	33,078	29,403	25,727	25,360	21,135	18,667	23,155	15,436	7,718	288,881	1,482,731
20	CAJ	37,640	34,903	31,367	37,640	33,458	29,378	28,857	24,048	19,238	28,348	17,688	8,783	328,721	1,897,217
21	Total	70,718	64,826	58,932	70,718	62,860	55,003	54,217	45,181	38,146	48,502	33,002	16,501	617,602	2,168,948

		Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Total Savings	Cumulative Savings
22	Residential	34,979	34,979	34,979	48,538	48,538	48,538	53,635	53,635	53,635	97,841	97,841	97,841	688,581	2,654,860
23	CAJ	38,803	38,803	38,803	53,071	53,071	53,071	61,031	61,031	61,031	111,448	111,448	111,448	799,081	2,007,363
24	Total	74,782	74,782	74,782	98,708	98,708	98,708	114,666	114,666	114,666	209,389	209,389	209,389	1,485,642	5,482,344
25	Months in Service	12	11	10	9	8	7	6	5	4	3	2	1		
		Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	2020 LBR Savings	Cumulative LBR Savings
26	Residential	34,979	32,084	29,148	34,979	31,082	27,208	26,817	22,348	17,878	24,465	16,324	8,162	305,484	2,190,863
27	CAJ	38,803	36,488	33,168	39,803	35,380	30,858	30,515	25,430	20,344	27,862	18,575	9,267	347,813	2,458,008
28	Total	74,782	68,569	62,316	74,782	66,473	58,184	57,333	47,777	38,222	52,347	34,898	17,449	653,097	4,618,789

Northern Utilities
Monthly Savings and Cumulative Savings (therms)
(2017 - 2020)

		Col. A	Col. B	Col. C	Col. D	Col. E	Col. F	Col. G	Col. H	Col. I	Col. J	Col. K	Col. L	Col. M	Col. N
Line	Sector	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	2017 Total Savings	Cumulative Savings
1	Residential	4,162	4,162	4,162	5,548	5,548	5,548	8,362	8,362	8,362	11,824	11,824	11,824	83,342	83,342
2	C&I	11,094	11,094	11,094	14,792	14,792	14,792	17,010	17,010	17,010	31,052	31,052	31,052	221,873	221,873
3	Total	15,256	15,256	15,256	20,341	20,341	20,341	23,382	23,382	23,382	42,716	42,716	42,716	305,115	305,115
4	Months in Service	12	11	10	8	8	7	6	6	4	3	2	1		
5	Residential	4,162	3,815	3,468	4,162	3,700	3,237	2,191	2,659	2,127	2,813	1,842	871	38,349	38,349
6	C&I	11,094	10,169	9,245	11,094	9,891	8,626	8,605	7,088	5,870	7,789	5,177	2,389	86,895	86,895
7	Total	15,256	13,984	12,713	15,256	13,591	11,863	11,886	9,747	7,787	10,579	7,119	3,560	133,234	133,234
8	Residential	4,356	4,356	4,356	5,808	5,808	5,808	8,679	8,679	8,679	12,198	12,198	12,198	87,113	170,355
9	C&I	11,010	11,010	11,010	15,480	15,480	15,480	17,801	17,801	17,801	32,507	32,507	32,507	232,183	434,098
10	Total	15,965	15,965	15,965	21,287	21,287	21,287	24,480	24,480	24,480	44,703	44,703	44,703	319,306	624,421
11	Months in Service	12	11	10	8	8	7	6	5	4	3	2	1		
12	Residential	4,356	3,993	3,630	4,356	3,972	3,368	2,783	2,226	3,049	2,033	1,018		38,040	121,261
13	C&I	11,610	10,642	9,675	11,610	10,320	9,030	8,901	7,417	5,824	8,127	5,418	2,708	101,891	323,264
14	Total	15,965	14,635	13,304	15,965	14,191	12,417	12,240	10,200	8,160	11,178	7,450	3,725	139,930	444,545
15	Residential	4,549	4,549	4,549	6,088	6,088	6,088	8,978	8,978	8,978	12,738	12,738	12,738	90,985	281,340
16	C&I	12,126	12,126	12,126	16,168	16,168	16,168	18,683	18,683	18,683	33,852	33,852	33,852	242,513	563,578
17	Total	16,675	16,675	16,675	22,233	22,233	22,233	25,568	25,568	25,568	46,690	46,690	46,690	333,498	857,918
18	Months in Service	12	11	10	8	8	7	6	6	4	3	2	1		
19	Residential	4,549	4,170	3,791	4,549	4,044	3,536	3,488	2,908	2,325	3,184	2,123	1,081	38,730	210,083
20	C&I	12,126	11,115	10,105	12,126	10,778	9,431	8,786	7,747	6,188	8,688	5,858	2,829	105,897	656,983
21	Total	16,675	15,285	13,896	16,675	14,822	12,968	12,794	10,653	8,523	11,872	7,982	3,891	144,627	770,049
22	Residential	5,130	5,130	5,130	6,840	6,840	6,840	7,666	7,666	7,666	14,364	14,364	14,364	102,800	363,840
23	C&I	13,674	13,674	13,674	18,231	18,231	18,231	20,868	20,868	20,868	39,286	39,286	39,286	273,472	970,051
24	Total	18,804	18,804	18,804	25,071	25,071	25,071	28,632	28,632	28,632	62,650	62,650	62,650	376,072	1,333,901
25	Months in Service	12	11	10	8	8	7	6	6	4	3	2	1		
26	Residential	5,130	4,703	4,275	5,130	4,580	3,990	3,933	3,278	2,622	3,591	2,394	1,197	44,882	308,142
27	C&I	13,674	12,534	11,395	13,674	12,154	10,635	10,483	8,786	6,958	9,572	6,361	3,191	119,416	815,935
28	Total	18,804	17,237	15,670	18,804	16,714	14,625	14,418	12,013	9,611	13,163	8,755	4,388	164,298	1,122,137

Calculations - Cost to Achieve

	Res	C&I		Res	C&I	
2016 Plan Budget	\$ 777,617	\$ 570,030	\$ 1,347,647	\$ 2,918,815	\$ 2,703,000	\$ 5,621,815
2016 Planned MWH Savings	8,225	21,923	30,148	57,228	65,118	122,344
2016 Cost To Achieve - No PI	\$ 94.54	\$ 26.00	\$ 44.70	\$ 51.01	\$ 41.51	\$ 45.95
Cost To Achieve	Northern		Overall	Liberty		Overall
2017	\$102.24	\$28.12	\$48.34	\$55.16	\$44.89	\$49.89
2018	\$104.79	\$28.82	\$49.55	\$56.53	\$46.01	\$50.93
2019	\$107.41	\$29.54	\$50.79	\$57.85	\$47.18	\$52.21
2020	\$110.10	\$30.28	\$52.08	\$59.40	\$48.34	\$53.51
	PI	Inflation	Savings Targets			
	5.50%	2.50%	2017	0.66%		
	5.50%	2.50%	2018	0.70%		
	5.50%	2.50%	2019	0.75%		
	5.50%	2.50%	2020	0.80%		

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Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

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