STATE OF NEW HAMPSHIRE

BEFORE THE

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DOCKET NO. DE 19-057

REQUEST FOR PERMANENT RATES

DIRECT TESTIMONY OF

Penelope McLean Conner

Customer Group

On behalf of Public Service Company of New Hampshire

d/b/a Eversource Energy

May 28, 2019

Table of Contents

Attachments

Attachment-PMC-1 (Perm)	Third-Party Payment Processing Agreement
Attachment-PMC-2 (Perm)	Request for Proposals (August 24, 2016)
Attachment-PMC-3 (Perm)	Request for Proposals (October 12, 2016)
Attachment-PMC-4 (a) and (b) (Perm)	Boston Globe, August 4, 2016 and March 14, 2019
Attachment-PMC-5 (Perm)	2017 TSYS Consumer Payments Study
Attachment-PMC-6 (Perm)	Social Security Administration Bulletin
Attachment-PMC-7 (Perm)	Customer Testimonial
Attachment-PMC-8 (Perm)	NCLC White Paper
Attachment-PMC-9 (Perm)	Electric Light and Power Articles on Arrearage Forgiveness

STATE OF NEW HAMPSHIRE

BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DIRECT TESTIMONY OF PENELOPE MCLEAN CONNER

PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE d/b/a EVERSOURCE ENERGY REQUEST FOR PERMANENT RATES

May 28, 2019

Docket No. DE 19-057

I. INTRODUCTION

Q. Please state your name, position and business address.

A. My name is Penelope McLean Conner. My business address is 247 Station Drive, Westwood, Massachusetts 02090. I am Chief Customer Officer and Senior Vice President of the Customer Group for Eversource Energy Service Company ("Eversource Service Company").

Q. What are your principal responsibilities in this position?

A. As Chief Customer Officer and Senior Vice President for Eversource Service Company, I am responsible for overseeing all aspects of customer services, including planning and directing all activities related to the processes of customer inquiries, billing, credit and collections, and field operations, and also for delivering a cost-effective portfolio of energy efficiency programs to customers of the gas and electric companies of Eversource Energy ("Eversource"), including Public Service

Company of New Hampshire d/b/a Eversource Energy ("PSNH" or the "Company"). I lead a team of 1,400 employees and manage a $120 million annual budget. In this proceeding, I am testifying on behalf of PSNH.

Q. Please describe your educational background and professional experience.

A. I hold a Bachelor of Science degree in industrial engineering from North Carolina State University and I am a registered Professional Engineer. From 1986 through 1998, I worked for Duke Power Company in Charlotte, North Carolina. I served in a variety of roles starting in engineering and progressing to management of dispatch and customer service functions and assistant to the president of Duke Power and culminating in a position as General Manager for Process Integration. From 1998 through 2002, I worked for Tampa Electric Company in Tampa, Florida, as a Director of Customer Service. I directed the customer service team of 350 employees with a $21 million annual budget.

In the four years that I was with Tampa Electric Company, I improved customer satisfaction while reducing overall customer service costs. For the years 1998 through 2011, I increased the Company's J.D. Power billing and payment rankings from 11th to 5th in the nation, and customer service rank from 20th to 1st nationally, while reducing bad-debt write-offs by 20 percent. In 2002, I was hired by NSTAR Electric and NSTAR Gas ("NSTAR") as Vice President of Customer Care, where I assured quality customer service for NSTAR's 1.3 million electric and gas customers. Areas under my management included meter reading, billing, call center, credit and collections, cash remittance, energy efficiency, and commercial and industrial account management. I was named Senior Vice President and Chief Customer Officer in 2012 following the NSTAR/Northeast Utilities merger.

For over a decade, I have been the featured customer service columnist for Electric Power and Light Magazine. I am the author of three books, *Customer Service: Utility Style*; *Energy Efficiency: Principles and Practices*; and *Profiles in Excellence: Utility Chief Customer Officers*. I am a member of the Edison Electric Institute Retail Services Committee; Chair of the Customer Service Week Board of Directors; and Chair of the American Council for an Energy Efficient Economy. I also serve on the City of Boston's Green Ribbon Commission, among other charitable and public-service organizations.

Q. Have you previously testified in formal hearings before a regulatory body?

A. Yes. I have sponsored testimony in several proceedings before the Massachusetts Department of Public Utilities, including: NSTAR Electric Company, D.T.E. 07-64 (2007) (NSTAR Green); Low Income Consumer Protection & Assistance, D.T.E. 08-4 (2008) (on behalf of NSTAR Electric); Three Year Energy Efficiency Plans, D.P.U. 09-120 (2010) (on behalf of NSTAR Electric); NSTAR Electric Company, D.P.U. 10-06 (2010) (revised energy efficiency surcharge tariffs); NSTAR Electric Company, D.P.U. 11-85-B/11-119-B (2012) (storm investigation); Electric Grid Modification, D.P.U. 12-76 (2014) (grid modernization); Service Quality Guidelines, D.P.U. 12-120 (2012) (on behalf of NSTAR Electric and WMECO); NSTAR Electric Company and Western Massachusetts Electric Company each d/b/a Eversource Energy, D.P.U. 15-122/123 (Grid Modernization Plan); and NSTAR Electric Company and Western Massachusetts Electric Company each d/b/a Eversource Energy, D.P.U. 17-05 (2017 NSTAR rate case). I have testified before the Public Utilities Regulatory Authority ("PURA" or the "Authority") in Docket 12-06-09 (PURA Establishment of Industry Performance Standards for Electric and Gas Companies); in the CT merger hearings in Docket No. 12-01-07; Application of The Connecticut Light and Power Company d/b/a Eversource Energy to Amend its Rate Schedules, Docket No. 17-10-46; PURA Review of Electric Companies' and Electric Distribution Companies' Plans for Maintenance of Transmission and Distribution Overhead and Underground Lines, Docket No. 16-12-37; and Application of Yankee Gas Services Company d/b/a Eversource Energy to Amend its Rate Schedules, Docket No. 18-05-10. I have not previously testified before the New Hampshire Public Utilities Commission (the "Commission").

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to first summarize the customer experience initiatives being undertaken by Eversource, then introduce two proposals that the Company views as meaningful and necessary steps forward to accommodate changing customer needs, expectations and preferences regarding their payment options for electric service. The first proposal is implementation of a "fee free" credit/debit card payment system that will allow residential customers to pay their bills electronically without a transaction fee. The second proposal is implementation of an arrearage forgiveness program for eligible residential limited-income customers. My testimony also provides a brief overview of the Company's project in 2013 to transition to an automated meter reading system from the prior, manual meter system.

Regarding the first proposal, the marketplace is transitioning quickly to "cashless" business transactions, with customers both expecting and preferring to use their credit/debit cards to pay their bills through mobile or on-line applications. Transaction fees for credit/debit transactions pose a substantial barrier to this practice and are not common for other purchases of goods and services by customers. Customer expectations are set outside of the electric distribution industry, and therefore, for our Company to meet the needs and preferences of customers, it is necessary to acknowledge that the cost of electronic payments is a cost of doing business in this digital age.

For this reason, the Company has developed a proposal for the Commission's consideration to make the transition to a payment structure that is better aligned with customers' needs and expectations for their utility service. The Company's proposal is to transition to a "fee free" payment system that will improve residential customer satisfaction and align electric-utility service with marketplace payment trends.

Regarding the second proposal, Eversource is a pioneer in the field of arrearage forgiveness programs for residential limited-income customers struggling to pay their electric bill. The basic concept is that customers enrolled in an arrearage forgiveness program who make the required affordable monthly payments are rewarded by having their arrears forgiven. There is a clear benefit to the customer in that they gain protection against service disconnection while on the program as well as a fresh start once their arrearage is mitigated. There are also several benefits to arrearage forgiveness program implementation that are gained by utilities. The costs associated with collection activities on these accounts are diminished as field visits and disconnections are avoided. Additionally, participating customers learn consistent payment habits and take steps to reduce their arrearage with each budget payment made in the program.

By implementing an arrearage forgiveness program in New Hampshire, the Company, the Commission, and low-income advocates can partner together to offer a viable solution to the customer's arrearage needs. These programs, combined with discounted rates and energy efficiency programs, provide a holistic approach for financially-challenged customers.

Q. Are you sponsoring any attachments through your testimony?

A. Yes. The table below lists the attachments I am sponsoring through my testimony:

Attachment	Description
Attachment-PMC-1 (Perm)	Third-Party Payment Processing Agreement (Confidential and Redacted)
Attachment-PMC-2 (Perm)	Request for Proposals (August 24, 2016)
Attachment-PMC-3 (Perm)	Request for Proposals (October 12, 2016)
Attachment-PMC-4 (Perm)	Boston Globe, August 4, 2016 and March 14, 2019
Attachment-PMC-5 (Perm)	2017 TSYS Consumer Payments Study
Attachment-PMC-6 (Perm)	Social Security Administration Bulletin
Attachment-PMC-7 (Perm)	Customer Testimonial
Attachment-PMC-8 (Perm)	NCLC White Paper
Attachment-PMC-9 (Perm)	Electric Light and Power Articles on Arrearage Forgiveness

Q. How is your testimony organized?

A. Section I of this testimony is the introduction. Section II describes the Company's customer experience initiatives. Section III describes customer payment trends that are affecting customer expectations and preferences for more and better payment options. Section IV describes the Company's "fee free" proposal, including the process followed by the Company to identify a third-party vendor to provide the service and the ratemaking proposed by the Company at the lowest possible cost. Section IV also discusses the improvements in customer satisfaction that the Company anticipates will occur with approval of this proposal. Section V describes the Company's cost recovery proposal for providing a "fee free" credit/debit card payment option to all Company residential electric customers. Section VI discusses the "fee free" credit debit card conclusion. Section VII describes the Company's proposed arrearage forgiveness program, including customer eligibility requirements. Section VIII discusses program design and implementation. Section IX. describes the Company's outreach plans. Section X requests cost recovery for implementation. A rate recovery mechanism is described in the testimony of Company witnesses Eric Chung and Troy Dixon. Section XI discusses the Company's deployment of automated meter reading ("AMR") devices. Section XII is the conclusion.

II. CUSTOMER EXPERIENCE INITIATIVES

Q. Please describe Eversource's approach to customer service.

A. Eversource is always working to serve customers better, by delivering new customer service solutions and enhancing the ways our customers interact with us to make doing business quick and easy. The initiatives we have undertaken in the past few years have helped us do just that, improving the customer experience across a variety of touchpoints in the customer lifecycle, from the way a meter is read to how customers view and pay their bills. As a channel our customers most value, continuously enhancing digital tools and information at Eversource.com is also a key focus area. Eversource has taken major steps to improve the digital and self-service customer experience, implementing a dynamic and robust outage and billing and payment alert system, introducing a new outage map and just recently, launching its first mobile app.

For Eversource, the voice of the customer is and will continue to be a key driver of the customer experience transformation. Using surveys, enhanced digital analytics and the online customer community, Eversource is communicating directly with its customers, incorporating their feedback to strengthen customer interactions and create a top-tier customer experience.

Q. Why is it important to serve customers using their channel of choice?

A. In today's digital marketplace, customers have greater choice in the methods available for conducting business. To keep customers satisfied, Eversource must adapt to customer needs and expectations. Eversource envisions a future where customers will be able to quickly and easily transact business with Eversource using their channel of choice, e.g., receiving a text message indicating that their bill is ready, and when they click on the text they will be able to review and subsequently pay their bill. This type of personalization is beneficial to the customer because it is provided effortlessly and at the precise moment when the customer is engaged in the transaction, rather than consuming additional time and effort at a later date. Today, however, the Company's systems are not connected in a way that would allow for cross-feeding information.

Q. What are some of the Company's successful Customer Experience initiatives, since the Company's last rate case?

A. Since the Company's last rate case in 2009 in Docket No. DE-09-035, the Company has implemented several successful new customer-oriented initiatives including:

- Implementation of a computer software network for large power meter reads (2009).
- PSNH.com re-architecture project, adding several components and enhancements (2010 – 2012).
- Implementation of a new Meter Data Management system, including several components and enhancements (2011 – 2013).
- Consolidation of Legacy Northeast Utilities and Legacy NSTAR intranet and the enhancement of the WEB Content Manager (2014).
- A new one-company website (eversource.com), the Energy Savings Plan for residential and small commercial and industrial ("C&I") customers, the Energy Analysis Tool for large C&I customers, our Customer Engagement Platform to increase energy efficiency participation, implementation of business customer webinars, Enterprise Customer APP Integration and C2 Regulatory Enhancements (2015).
- A new 24/7 social care, full-color bill design and format, Live Call Conversation, Proactive Outage Alerts, mobile alerts notifications for bills and payments, installation of a new outage map which allows customers to see where crews are working in the area, digital/web enhancements, a Fieldnet computer software upgrade, and the Interval Collection System consolidation

(2016).

- To improve the timeliness of mailed payment processing and customer satisfaction, in September 2017, Eversource issued a Request for Proposals ("RFP") to solicit vendor proposals for mail payment processing services. On January 29, 2018, Eversource finalized a contract with Century Bank & Trust to process all Eversource customer payments made by mail from Century Bank's payment processing facility located in Medford, Massachusetts. Implementation for New Hampshire customers started on June 18, 2018.

- In May 2019, the Company launched its mobile app for Apple and Android users to give customers the ability to easily manage their accounts from their smart phones. The app gives customers the flexibility to make payments, view up to 12 months of past bills and payments, link and manage multiple service accounts, manage paperless billing settings, report or check the status of an outage, view the outage map and more, while on the go.

III. CUSTOMER PAYMENT TRENDS

Q. Why does the Company view the "fee free" credit/debit payment option as a benefit for customers and a necessary consideration in this case?

A. As noted previously, customer expectations are changing in large part due to the growing availability of digital technology and a proliferation of methods used to purchase and sell goods and services in an e-commerce environment. Customers now routinely make purchases and pay bills using these methods and, as a result, customers have higher expectations as to how business should be transacted with the Company. Providing a "fee free" credit/debit transaction meets that need and can be implemented in a relatively short timeframe. A "fee free" transition is a significant step in increasing customer satisfaction.

Q. Why would the elimination of the transaction fee for credit/debit card transactions be a priority in the context of other initiatives that must be undertaken to accomplish the digital transformation?

A. PSNH routinely conducts customer satisfaction surveys and an area of repeated customer complaint involves bill payment options. Customers want the convenience of paying their monthly bill with a credit/debit card without incurring a transaction fee. It is a service that customers want, and it is relatively easy to provide through a third party. Where there is a simple solution that can increase customer satisfaction, the Company places a priority on achieving the customer benefit associated with that solution.

Other solutions take more time to implement. To personalize services for customers, PSNH is investing in the technological tools to support an ever-increasing personalized connection with customers, including establishing a new digital team dedicated to providing customers with their preferred digital experience. The team is in the process of re-architecting its entire information system infrastructure to support the volume and types of transactions demanded by customers in a digital marketplace. PSNH's digital systems strategy includes upgrades to the Company webpage to better accommodate web-based transactions. The Company is also moving to a "social care" model to respond to the increasing customer trend toward use of social media to share their experiences, frustrations, and requests for service. To be serious about serving customers in ways that are meaningful to them, the Company must make significant, innovative changes in the way it is currently serving customers.

Q. Has customer-payment technology evolved over the years?

A. Yes. In years past, mailed and in-person payments were the norm. As customer payment preferences have changed, so have utility practices, expanding to include more convenient payment options like auto draft, check-by-phone, and numerous other options to meet customer needs. As our customers rely increasingly on digital tools, payments are also being made electronically more and more. Accordingly, the costs of providing electronic and digital service options, including "fee free" credit and debit card acceptance, should be part of the cost of doing business for today's utilities. Customers are moving toward electronic payments and increasingly using credit/debit cards. This is the number one touchpoint - customers are connecting with the Company on the order of 12 or more times a year to make payments to the Company and to obtain help with other customer service needs. Approximately 65 percent of customer payment transactions are completed electronically e.g., auto payment, electronic check or credit and/or debit card. In

2018, 70 percent of PSNH's customers completed their payments electronically. As customers become more accustomed to paying electronically, adoption rates are expected to increase, particularly with customer use of systems like Apple Pay, where the customer has designated a credit card for charges incurred. If the Company is going to support Apple Pay or PayPal or other similar techniques for payment (and the Company's business partner, KUBRA, is already developing the systems and codes to support that functionality), then the Company will need to be positioned to meet customers' needs without requiring a transaction fee.

Q. What insight can you provide as to current payment trends and customer expectations?

A. As exemplified in the August 4, 2016 Boston Globe article included in Attachment PMC-4 (Perm), the current trend is to digitize customer payment for goods, services and merchandise, with some businesses restricting payment to only electronic means, e.g., no cash allowed. A later Boston Globe article published on March 14, 2019 and also included in Attachment PMC-4 (Perm) further noted increasing customer preference for cashless transactions. More recently, Mercedes Benz Stadium in Atlanta announced a move to cashless transactions.[1] According to a "2017 Consumer Payments Study" performed by TSYS (Total System Services), customers overwhelmingly prefer to pay via a debit or credit card (77 percent). A

---

[1] Mercedes Benz Stadium cashless transactions available at https://www.ajc.com/sports/mercedes-benz-stadium-will-convert-cashless-operation/7GdA0UNpqYUrB5b4dpdNZI/

copy of this study is presented in Attachment PMC-5 (Perm). A 2017 study by the Federal Reserve found that credit card payments registered the highest growth rate (10.2 percent) among core payment types from 2015 to 2016, up from a growth rate of 8.1 percent from 2012 to 2015.[2]

Like other major utilities, the Company utilizes proprietary J.D. Power survey results to gain insight into customer behavior. J.D. Power's research analysis identified a generational trend of customer bill payment behavior. Generation X,[3] Millennials,[4] and later generations pay their utility bills by credit card at a rate of *three to four times* that of earlier generations. The Millennial generation have surpassed Baby Boomers[5] as the nation's largest living generation and are expected to peak by 2036. Demographically, the Company's customer base is increasingly comprised of customers who expect to be served electronically using the payment channel of their choice.

J.D. Power's customer satisfaction research shows that customers are not required to pay transaction fees for the use of credit cards in *almost all industries*. As more customers come to prefer and rely on payment by debit/credit card, they are

2 The Federal Reserve Payments Study: 2017 Annual Supplement, available at https://www.federalreserve.gov/paymentsystems/2017-December-The-Federal-Reserve-Payments-Study.htm

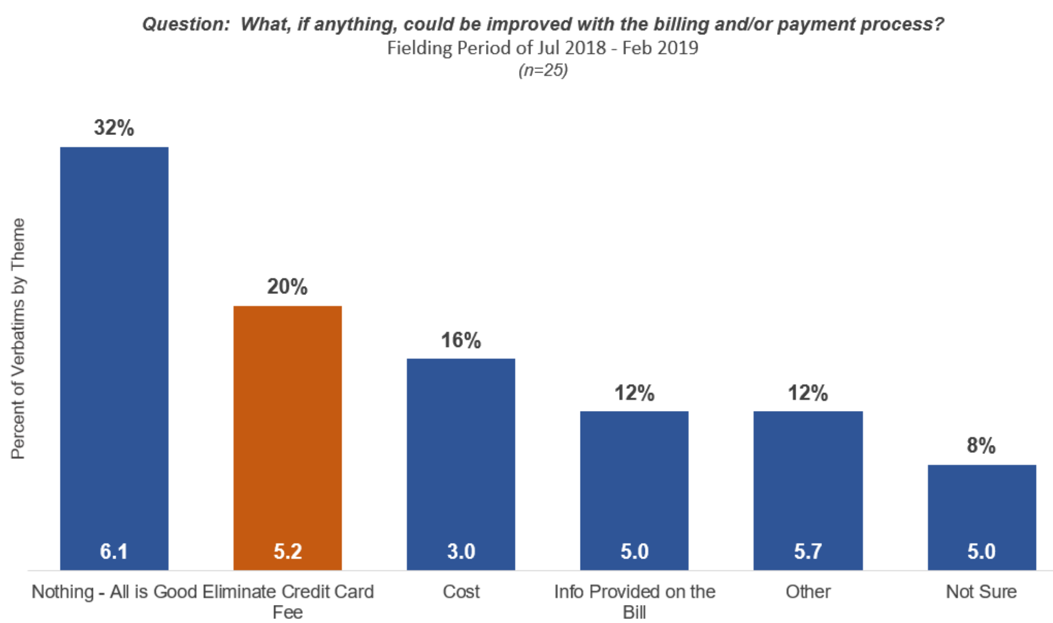
3 For purposes of the J.D. Power study Generation X refers to the population ages 35 to 50 as of 2015.

4 For purposes of the J.D. Power study the Millennial Generation refers to the population ages 18 to 34 as of 2015.

5 For purposes of the J.D. Power study the Baby Boomer Generation refers to the population ages 51 to 69 as of 2015.

dissatisfied with paying transaction fees for the "convenience" of using these electronic payment methods. Table PMC-1 below shows that 20 percent of New Hampshire utility customers polled by J.D. Power were dissatisfied with the levying of a fee for the "convenience" of using a credit card or debit card to pay their utility bill.

<u>Table 1: J.D. Power Electric Residential Study (NH)</u>



As noted previously, customer service expectations are being set outside of the electric utility industry. As a result, customers are turning to the Company with similar expectations for managing and paying for their electric distribution service. As of March 11, 2019, 166,923 (or 33 percent) of PSNH customers elected to receive e-bills, further providing evidence of our customers' increased desire for channels of choice.

Q. Will vulnerable customers be excluded from any benefit involved with a "fee free" credit/debit card option?

A. No, to the contrary. As with other parts of the economy, there is a trend of increased use – even by federal agencies and other consumer organizations – to serve vulnerable constituencies, including low-income, with debit cards.

The American Association of Retired Persons ("AARP") estimates that one in five New Hampshire residents receive Social Security benefits. These benefits are only received electronically, either via direct deposit or through a debit card. This statistic does not include other benefit payments that may be received electronically via other agencies such as the Veteran's Administration or Office of Personnel Management.[6] Also, in New Hampshire the Electronic Benefits Transfer ("EBT") card may be used to pay utility bills. The EBT card looks and works much like a credit card, but unlike a customer credit card it does not accrue interest. By offering "fee free" credit and debit card payments, we are opening a channel that is already

---

[6] https://www.aarp.org/content/dam/aarp/research/surveys_statistics/general/2014/ssqf/Social-Security-2014-New-Hampshire-Quick-Facts-AARP-res-gen.pdf

available to the many customers who are receiving government benefits via a debit card.

According to the 2015 FDIC National Survey of Unbanked and Underbanked Households,[7] 1.8 percent of New Hampshire households were unbanked (meaning that no one in the household had a checking or savings account) and 18.2 percent were underbanked (meaning that the household had an account at an insured institution but also obtained financial services and products outside of the banking system). Some of the most commonly cited reasons for not having a bank account were the inability to maintain a minimum balance and high bank account fees. These households may solely rely on credit/debit cards to pay their bills and charging this vulnerable population additional transaction fees to use those cards is problematic.

Q. How do PSNH customers currently pay their bills?

A. During 2018, PSNH customers made only 5.2 percent of their utility payments by credit/debit card, with transaction costs for those customers totaling approximately $389,239. PSNH residential customers who currently elect to pay via credit/debit card are assessed a per-transaction charge of $2.25 per each $600 increment paid by a third-party payment processor. This transaction charge was higher at $3.50 for the first eight months of 2016, with assessed transaction fees totaling $306,324.

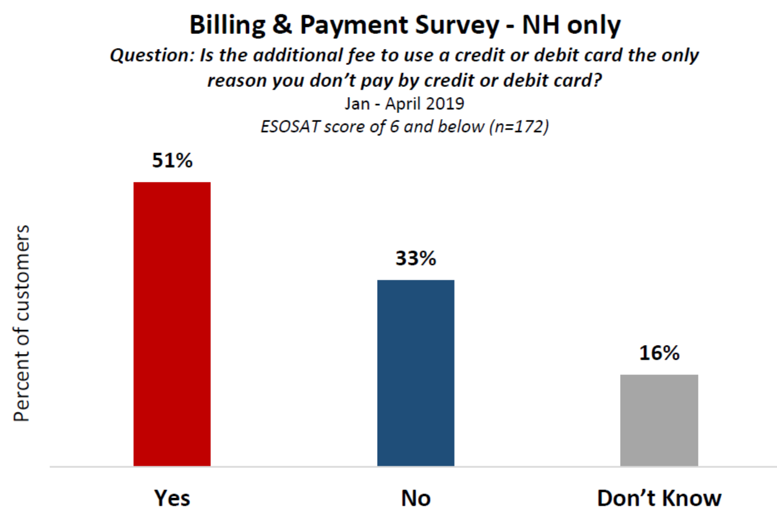
[7] https://www.fdic.gov/householdsurvey/2015/2015report.pdf.

PSNH's customer adoption rate increased as the fee was reduced, affirming that credit/debit cards are a popular payment option that customers increasingly choose as the cost is reduced. When the Company instituted a lower per-transaction charge from $3.50 to $2.25 per $600 increment paid, the residential customer response was instantaneous and significant with an increase in usage of 6.1 percent, as compared to the same time period in 2015. This response occurred without any advertisement or promotion to customers. As noted previously, approximately 65 percent of customer payments are made electronically. The remaining 35 percent of payments are made via are checks mailed to the Company. The Company's expectation is that as additional electronic payment options are introduced to PSNH customers, the ratio of customers using paper checks will decline substantially and ultimately will be eliminated in favor of electronic payments.

Q. Are customers dissatisfied when paying a fee to complete a credit/debit card transaction?

A. Yes. In today's economy, customers are very rarely required to pay a separate transaction fee to use a credit/debit card to make payment. Consequently, requiring a transaction fee for utility payments causes a high level of dissatisfaction for our customers. As Table PMC-2 indicates, 51 percent of PSNH customers surveyed stated that the only reason they do not pay their utility bill by debit or credit card is because of the convenience fee. In addition, nearly 18 percent of customer comments in the Billing & Payment area of the Company's customer satisfaction surveys relate to customer dissatisfaction with credit/debit card "convenience" fees. It is clear the "convenience" fee is a deterrent, limiting customer payment options in an economy where "fee free" transactions are the norm.

<u>Table PMC-2: Convenience Fees</u>



Bolstering this position are the results of J.D. Power's 2017 midpoint Electric Utility Residential Customer Satisfaction Study where customers indicated they are most satisfied with their payment options when they can pay by credit card -- either through automatic deduction or as a one-time payment through the utility website.

The number of customers who receive social security (and other) benefits electronically and enjoy the convenience of paying with debit and credit cards for other goods and services is increasing, as is customer dissatisfaction with the Company's current payment options. Offering "fee free" payment options will reverse that trend, increasing PSNH customer satisfaction.

IV. PROPOSAL FOR CUSTOMER PAYMENT OPTION

Q. What is the Company's proposal in relation to "fee free" credit/debit transactions?

A. The Company cannot offer or conduct credit/debit card payment options without a third-party vendor to handle the actual transaction. Therefore, in this proceeding, the Company is proposing that the Commission review a proposed agreement between Eversource Service Company, as agent for PSNH, and SpeedPay Inc. ("SPI"), which is a subsidiary of Western Union, and allow recovery of the cost of this agreement through distribution rates. The agreement is presented in Attachment PMC-1 (Perm) ("Amendment No. 1 to the Speedpay Master Services Agreement") (the "SpeedPay Agreement").

Under the SpeedPay Agreement, SPI will provide the services necessary to offer credit/debit card transactions to the Company's residential customers on a "fee free" basis. The cost of the service will be charged to the Company and the Company proposes to recover the cost of this residential service from all residential customers through distribution rates. As indicated previously, for the first eight months of 2016, customers opting for payment by credit/debit card paid a transaction fee of $3.50, which was reduced in September 2016 to $2.25 per $600 increment due to implementation of the customer-payment option on an enterprise-wide basis. The lower transaction fee resulted from the purchasing power associated with instituting the service on an enterprise-wide basis. With the

Commission's approval of the "fee free" proposal, this transaction fee for individual residential customers would be eliminated and the service would be available to all residential customers on a "fee free" basis without having to pay a transaction fee each time they use their credit or debit card. At the outset of the arrangement, the Company's cost would be lower than the current transaction fee, subject to modification in limited circumstances during the term of the SpeedPay Agreement.

Q. Why has the Company decided to limit "fee free" to residential customers?

A. Residential customers are the largest customer segment and in aggregate constitute the largest number of payments made. The Company believes offering "fee free" to the residential customer segment makes the most economic sense and will enhance overall customer satisfaction. Further, non-residential customers are more accustomed to credit card fees and are better able to bear the cost of those fees than residential customers.

Q. Why is the agreement entitled "Amendment 1 to the SpeedPay Master Services Agreement"?

A. Eversource Service Company has a Master Services Agreement currently in place with SPI for the payment service that is provided to customers today (at their cost). Western Union is one of the largest providers in the U.S. of payment transactions and Eversource Service Company has had good experience with Western Union in terms of obtaining reliable, reputable, and cooperative service. SPI participated in the competitive solicitation for the "fee free" service and was the successful bidder, providing the least-cost option for Eversource Service Company. In addition, by remaining with Western Union as the third-party service provider, Eversource Service Company will avoid costs and time associated with switching to a new third-party vendor for the "fee free" service.

Q. What is the term of the SpeedPay Agreement?

A. The existing Master Services Agreement has a three-year initial term, with the option of automatic renewals on an annual basis. The proposed SpeedPay Agreement presented to the Commission for its consideration in this proceeding has a five-year term commencing with the date of the Commission's approval, if it is granted. Eversource Service Company sought a five-year term to provide certainty for the vendor, which would help to lower transaction costs, while at the same time providing Eversource Service Company with the option to put the arrangement out for re-bid to the marketplace on a periodic basis to confirm least-cost service. Eversource Service Company has the option of terminating either agreement prior to the end of the term for enumerated reasons. The five-year contract covers all Eversource operating territories, including PSNH.

Q. Please describe the cost structure for credit/debit transactions that would be handled by SPI.

A. As indicated in the SpeedPay Agreement, SPI has agreed to a sliding-scale cost structure whereby the per-transaction charge is aligned with: (1) the total payment amounts by customers; and (2) the total number of Company customer payment transactions conducted through the service. SPI will charge the Company monthly for the actual transaction fees incurred. The per-transaction fee is subject to change on a quarterly basis to reflect customer participation and payment amounts actually experienced. Under this structure, the transaction fee that would be incurred by the Company will start at a particular rate but could increase or decrease depending upon the total value and number of credit/debit card transactions that actually occur in a respective quarterly period.

During the term of the SpeedPay Agreement, the per-transaction fees are subject to modification in the event that either the "average customer payment amount" increases beyond specified tiered thresholds (this is defined as the average dollar amount of all customer payments conducted for a quarterly period), or the "pure credit card percentage" increases beyond specified tiered thresholds (this is defined as the number of customer payments made using only credit cards divided by the total customer payments made for a quarterly period). If either of these circumstances occur, the Company has the option to re-negotiate the terms of the SpeedPay Agreement or ultimately to terminate the agreement and solicit new competitive bids from vendors in the marketplace. This option would not likely be triggered unless it is the Company's judgment that less expensive options may be available in the marketplace.

Q. Why is it necessary and appropriate to institute a sliding scale cost structure within the SpeedPay Agreement?

A. The sliding scale cost structure is necessary because the experience and expertise of both the Company and SPI indicates that a substantial portion of residential customers will migrate to this service within the first few years of its offering. As a result, the pricing structure must account for this dynamic. As discussed in more detail below, the anticipated trending in customer participation is also the main reason that the Company cannot undertake this transition on its own without the Commission's ratemaking support.

Q. How has the Company determined that the per-transaction cost agreed to by SPI is reasonable and "least cost"?

A. To identify the third-party vendor willing and able to handle the Company's credit/debit card transactions at the least cost and on a reputable, reliable basis, Eversource Service Company conducted a competitive RFP process. This process occurred in two rounds, with a second round arising from the substantial learning that Eversource Service Company obtained through the first round. Based on these sequential processes, the per-transaction cost offered by SPI is the lowest cost available from market participants electing to participate in the RFP. In addition, SPI is a reputable, reliable vendor that has familiarity with Eversource Service Company's processes and procedures. As a result, Eversource Service Company determined that SPI was the best choice for a third-party vendor to handle its credit/debit card transactions.

Q. Please explain the reason Eversource Service Company issued two RFPs and the results achieved through each solicitation.

A. As noted above, the experience and expertise of both Eversource Service Company and Western Union indicates that the per-transaction charge is inversely related to customer participation rates, e g, the lower the transaction charge, the greater rate of customer participation. This inverse relationship makes it very hard for the Company to approach the "fee free" concept from a traditional ratemaking perspective because, even if the Commission were to allow the test-year cost associated with "fee free" credit/debit transactions in rates, customer participation is anticipated to ramp-up substantially with the offering of a "fee free" credit/debit card payment option. As a result, if the Company were to implement the "fee free" option in the test year (or even in the year or two prior), the test-year cost would never approximate nor in any way be representative of the post-test year actual expense.

Based on this recognition, Eversource Service Company issued an RFP on August 24, 2016, soliciting bids from third-party vendors to handle "fee free" credit/debit card transaction for Company customers. This RFP accompanies my testimony as Attachment PMC-2 (Perm). Eversource Service Company asked prospective bidders to offer a single, fixed-annual payment for the opportunity to provide the service to the Company's customers, rather than charging the Company on a per-transaction basis. The Company did not provide estimates of an expected customeradoptions rate to potential bidders, nor did the Company indicate a willingness to "cap" customer participation.

Through this structure, the Company sought to achieve three objectives: (1) to meet customer expectations and preferences through the offering of a "fee free" credit/debit card payment option; (2) to obtain an annual, least-cost fixed price from the third-party vendor that could be incorporated into distribution rates in the Company's approaching base-rate case; and (3) to transfer the risk of costs associated with robust customer adoption rates to the vendor.

Q. What penetration or migration rate did you use to calculate the cost of the program?

A. The Company used a more gradual and conservative customer migration rate (as shown in Table PMC-3 below), which is based on recent research on customer adoption rates at other utilities and input from J.D. Power.

Table PMC-3: Customer Migration Rate

Year	Penetration Rate
Year 1	5%
Year 2	9%
Year 3	12%
Year 4	14%

Q. Are there off-setting cost savings from the transition to a "fee free" credit/debit card payment option?

A. Yes. The Company estimates that the proposed "fee free" initiative could save $124,000 over the four-year period proposed in this rate proceeding from reductions to payment processing expenses. The Company's off-setting savings calculation assumes that two groups of customers will likely shift to pay their bill using the "fee free" credit/debit card option. The first group will be a subset of customers who currently pay electronically (via direct debit where the funds are directly deducted from the customer's bank account). The second group will be a subset of customers who currently pay by mail/check.

Q. What is the Company's proposal for recovery of the cost associated with offering a "fee free" credit/debit card payment option?

A. As discussed above, Eversource Service Company has conducted an RFP process designed to obtain the least-cost transaction fee for credit/debit card transactions to be handled by SPI over a five-year period for all Eversource service territories. Based on reasonable assumptions regarding customer migration to the "fee free" credit/debit payment option, the average annual cost is estimated to be approximately $738,000 for the Four-Year Rate Plan in this rate case of 2020-2023.[8] The Company is proposing to include this annual amount in the revenue requirement, as discussed in the pre-filed testimony of Company witnesses Mr. Chung and Mr. Dixon. However, the amount paid to SPI by the Company will vary from year to year from this amount and will be a function of actual customer migration and the value of the credit/debit transactions.

[8] The direct testimony of Mr. Chung and Mr. Dixon explains that the net projected cost to implement this program is $353,000, $636,000, $848,000 and $990,000 for 2020, 2021, 2022 and 2023, respectively; which is shown in Attachment EHC/TMD-1 (Perm), Schedule EHC/TMD-9 (Perm), Page 1-2 and which constitutes $707,000 annually *on average* over this four-year period. This projected net expense reflects the anticipated savings resulting from the implementation of this proposal.

As Mr. Chung and Mr. Dixon explain in their testimony, the Company is proposing to create a reserve fund that would be funded through the annual contribution collected through rates ($738,000 annually on average over the Four-Year Rate Plan) and charged for the annual payments to SPI.

Based on a comparison of actual total "fee free" credit/debit card program costs incurred by the Company to the amount allowed in rates, any over-collection would be credited to residential customers and any over or under-collection would be deferred for recovery in rates at the time of the next rate case. Eventually, the annual cost of the "fee free" credit/debit card payment option should become more routinely incorporated into rates as a representative annual expense.

Q. Is it appropriate to maintain a policy of charging transaction fees only to those customers utilizing the credit/debit card payment option?

A. No. All areas of the economy are moving to a cashless platform, with use of credit/debit cards as the currency of choice. The Company's expectation is that a substantial portion, if not all of the customer base will eventually make payments electronically, with a credit/debit card option as a primary choice.

Although the Company's current practice is to have each customer that elects to use a credit card pay for the associated convenience fee (instead of socializing that cost onto all customers), this practice is outdated. Times have changed, customer expectations have increased, and customers have expressed a desire for more convenient bill payment options. By comparison, it was common in the 1980s and early 1990s for utility companies to operate customer payment centers interspersed within a company's service territory. The costs of these payment centers were relatively substantial, including capital costs associated with establishing a physical business office and operating and maintenance expense to run and maintain these offices. These costs were recovered from all customers through distribution rates, regardless of how many customers actually visited those payment centers. Similarly, when the business offices were closed in the late 1990s and early 2000s, the Company offered the convenience of making payments through an authorized payment agency for Company customers, which all customers paid for regardless of the number of customers accessing the service.

In New Hampshire in 2018, one significant authorized third-party payment agency stopped taking utility payments. The decision of these entities can be disruptive to PSNH and its customers. Allowing more customers to easily use "fee free" credit and debit electronic card payments could avoid the cost, inconvenience and/or disruption caused by a third-party payment agency discontinuing service.

Social Security offers the Direct Express® card, which is a debit card that can be used to access benefits. The Social Security Administration highlights that consumers do not need a bank account with the Direct Express® card program because federal benefit payments can be directly deposited into a card account. According to the Social Security Administration, benefits of this approach include the fact that monthly benefits will be available on time, every time. And importantly, social security recipients can use the card to make purchases, pay bills, or get cash at thousands of locations.[9]

AARP highlights that, on March 1, 2013, the U.S. Treasury Department formally took the system fully into the new age by decreeing that all benefit payments issued by the Social Security Administration and other federal agencies had to be delivered in electronic form. As of March 2015, approximately 98.6 percent of Social Security beneficiaries were receiving benefits through this mechanism.[10]

For low-income customers whose options for paying utility bills are limited to credit/debit card or going to a walk-in payment center, even a few extra dollars in transaction fees could be a barrier to credit/debit card payment.

Q. Are there other considerations on socializing the cost of the fee free program?

A. PSNH offers its customers a variety of payment options and supports offering options that are used by a small portion of customers. Customers have the option to pay their PSNH bill either through an authorized third-party walk-in payment center or through a Customer Service Representative ("CSR") over the phone to process a check. In 2018, there were 159 authorized third-party walk-in payment centers that were used by 21,230 customers and, as part of the contract with PSNH,

---

9 https://www.ssa.gov/deposit/howtosign.htm. November 14, 2016.

10 http://www.aarp.org/work/social-security/info-2015/direct-deposit-social-security-benefits.html. November 14, 2016.

fees are absorbed by the Company. Customers may also pay at non-authorized third-party walk-in payment centers and those centers' fees may be as high as $2 per payment which are based on the competitive market for the service.

V. REQUEST FOR RATE RECOVERY OF THE FEE FREE EXPENSE

Q. What is the amount the Company seeks to recover in rates for 2020, 2021, 2022 and 2023?

A. The Company seeks to recover $353,000, $636,000, $848,000 and $990,000 for 2020, 2021, 2022 and 2023, respectively, which is described in the testimony of Mr. Chung and Mr. Dixon. The amounts presented in their testimony and the associated workpapers represent the costs referenced above, less associated savings which, as described previously, total approximately $124,000 over the four rate years proposed in this proceeding.

As indicated previously, this amounts to $738,000 annually on average in rates over the next four years, or $707,000 annually on average net of offsetting savings. The Company estimates a penetration rate of 5 percent in the first year. In year two the Company estimates a penetration rate of 9 percent. In year three, the Company expects a penetration rate of 12 percent and in year four, the Company expects a penetration rate of 14 percent. Table PMC-4 shows the projected costs and offsetting savings at these penetration levels.

Table PMC-4: Projected Costs

NH Net Cost Savings Calculation (Residential Only)				
Year	Fee Free Penetration Rate %	Price	Total Offsetting Savings	Net Cost
1	5.0%	$ 368,826	$ 15,443	$ 353,382
2	9.0%	$ 663,886	$ 27,798	$ 636,088
3	12.0%	$ 885,181	$ 37,064	$ 848,117
4	14.0%	$ 1,032,711	$ 43,241	$ 989,470
Total		**$ 2,950,604**	**$ 123,546**	**$ 2,827,058**

VI. "FEE FREE" CREDIT/DEBIT CARD CONCLUSION

Q. Would you please summarize the Company's "fee free" Credit/Debit Card request in relation to this testimony?

A. The Company is requesting authorization to enter into a five-year contract with SPI to enable the transition to a "fee free" payment option and to recover $707,000, through residential distribution rates to fund the transition plan. The transition plan will place no threshold or cap on residential customer participation in the "fee free" payment option and the Company will pay the actual costs of the transition, to SPI pursuant to the terms of the SpeedPay Agreement. The Company is further requesting that, in the Company's next base-rate proceeding, based on a comparison of actual total "fee free" credit/debit card program costs incurred by the Company to the amount allowed in rates, any over-collection shall be credited to residential customers and any under-collection shall be deferred for recovery in rates at the time of the next rate case. The Commission's authorization for this transition plan will be a significant decision for residential customers and will improve their satisfaction with utility service on the PSNH system as it will align their service options with their experience in the broader marketplace.

Q. Will the Company move ahead with the SpeedPay Agreement without the Commission's approval of the Company's proposed ratemaking treatment?

A. No. The Company will not undertake this endeavor without the Commission's support.

VII. NEW START ARREARAGE FORGIVENESS PROGRAM

Q. What is New Start and how does it benefit the customer and the utility?

A. New Start is an arrearage forgiveness program that provides payment assistance for qualifying residential customers struggling with past due utility bills. Eversource currently offers New Start to customers of its Massachusetts and Connecticut companies. The concept of New Start is simple - for every on-time monthly payment an enrolled customer makes to the Company, a portion of their past due balance will be forgiven.

The customer benefits from the New Start program in three ways: (1) it enables the customer to develop consistent bill payment habits; (2) it protects the customer from service disconnection while participating in the program; and (3) it enables the customer to get a fresh start as the arrears are forgiven with each payment made.

The ultimate goal of New Start is to enable the customer to successfully manage and pay for their energy usage, and thereby break the vicious cycle of building arrears, being disconnected and carrying debt. Participating customers can also improve their overall credit rating and better manage other bills. The relationship with the utility changes from one that is threatening (e.g., disconnection) to working with the customer as a partner in solving their arrearage problem. For the utility, the costs associated with collection activities on these accounts are diminished as field visits and disconnections/reconnections are avoided.

As noted in Attachment-PMC-7 (Perm) Customer Testimonial, one New Start participant shared her appreciation of the program by writing, "*Thank you so much for allowing me to be placed in the New Start program. In 2013 when my husband separated himself from our marriage of almost 23 years—everything fell to pieces. It's been a long hard trip; I will be done with college in a year – but I am doing much better than before. So much good will always come your way!*"

Attachment-PMC-8 (Perm) – NCLC White Paper contains a publication written by Charles Harak, senior attorney for the National Consumer Law Center and a renowned low-income advocate. The publication is entitled, "*Helping Low-Income Utility Customers Manage Overdue Bills through Arrears Management Programs.*" In the Executive Summary, Harak states, "The AMP program is an important tool to respond to spiraling energy costs and the increasing numbers of utility customers who cannot afford to pay their bills, particularly when the customer gets behind and is asked to pay off both current charges and the arrears." With regard to the benefits of the AMP program, Harak notes, "Customers avoid utility termination and can obtain a fresh start by making payments during the plan. Just as importantly, the customer enters into a cooperative relationship with the utility, increasing the likelihood that the customer makes whatever payments she can afford to make rather than ceasing to make payments altogether." Harak also addresses the benefits to regulators, "It is in the state's interest to have fewer utility terminations. Beside the direct benefit of avoiding disconnection for some of its citizens, an AMP also helps the state avoid the indirect costs of utility terminations, increased fires as residents turn to other forms of heat, increased Medicaid expenses as disconnected customers become ill, and increased costs due to higher numbers of homeless and decreased school attendance."

In addition, in December of 2015 and February of 2016, I authored a two-part series article in Electric Light and Power magazine on the benefits of arrearage forgiveness programs. These articles, included in Attachment-PMC-7 (Perm) - Electric Light and Power Articles on Arrearage Forgiveness, provide a roadmap to successful arrearage forgiveness program implementation.

Q. What is the Company's proposed eligibility criteria for the New Start Program?

A. The Company proposes the following eligibility criteria for New Start in New Hampshire:

(1) Must be an active residential customer;

(2) The account balance is >$300 and at least 60 days overdue; and

(3) The household income meets the eligibility criteria for New Hampshire Low Income Home Energy Assistance Program (LIHEAP) assistance (established at 60% of the State Median Income (SMI).[11]

The customer would follow the Company's current process for hardship protection certification to meet the requirements of item 3 above. The eligibility criteria above are similar to the Company's New Start Programs in the service territories of its affiliates.

VIII. NEW START PROGRAM DESIGN

Q. Please describe how the New Start Program would work.

A. The New Start program has a standard design. The Company reviews a customer's account history and sets a monthly budget payment based on the average of the customer's regular monthly bill over the prior 12 months. This monthly budget amount replaces the customer's regular monthly bill and participants are obligated to pay the monthly budget amount on-time each month over the 12-month term of the program. When a monthly budget payment is made, one-twelfth of the customer's past due balance is eliminated, or forgiven. The amount forgiven each month is calculated by taking the total account balance at the time of enrollment and dividing it by 12. If the customer continues to make their New Start payments, their utility service will not be disconnected for non-payment of the arrearage. A

[11] https://www.nh.gov/osi/energy/programs/fuel-assistance/eligibility.htm

customer will be removed from the program after missing two consecutive monthly budget payments. Participants removed from the program once are required to make up two missed monthly budget payments to re-enroll in the program. For example, if the customer missed their February and March payments, they would need to make those two payments up to re-enroll in the program. Customers removed from the program a second time are required to make up all missed monthly budget payments to be re-enrolled in the New Start program. For example, if the customer missed four monthly payments of $100, they would need to pay $400 to re-enroll on the program. The Company also proposes a 12 month "stay out" period for customers that complete the New Start program. In other words, if they complete the program in December of 2019, the customer will not be able to participate in the program again until 13 months later, or January of 2021.

Q. What procedures will the Company use to verify a participant's income or medical illness to allow the customer to qualify for the New Start program?

A. As noted previously, the Company will follow its existing process for certifying customers with financial hardship. This process involves the customer showing proof of their income to a third party, usually a local community action agency.

Q. How many customers does the Company anticipate will participate in the New Start program should it be approved and implemented?

A. Due to their comparable size, the Company believes that participation rates will be akin those in its western Massachusetts affiliate's service territory. In 2018, 3,153 customers participated in the program and $1.6 million in delinquent balances were forgiven. Without New Start, these customers would have experienced possible disconnection and mounting arrearage balances, including the levying of reconnection fees.

Q. How does the New Start Program help eligible residential customers?

A. The Company has only offered the New Start program to customers demonstrating a clear financial need. Customers that do not meet financial hardship qualification for the program are able to enroll in budget billing or an affordable payment plan. Benefits for hardship customers include: protection from disconnection during program participation; learning consistent payment habits; and access to other financial assistance resources and programs that the customer may not otherwise be aware. New Start can serve as a second chance for our most vulnerable population of customers.

Q. What are completion rates for the New Start program in other Eversource service territories?

A. Historic completion rates for New Start in Connecticut and Massachusetts are approximately 20 percent. One major factor that inhibits growth in the program completion rate is the imposition of state-mandated winter moratorium periods, where eligible residential customers are protected from disconnection regardless of whether they participate in New Start. For Connecticut, that period is November 1 to May 1. For Massachusetts it is November 15 to April 1. In New Hampshire, it is November 15 to March 31. The New Start program is a 12-month program.

Since no payment is required in Connecticut and Massachusetts for customers protected during the Winter Moratorium Period, customer participation in New Start tends to fall off during that time.

Q. In light of the impact of the Winter Protection Period, why does the Company believe that the New Start Program is still worth pursuing?

A. New Start provides customers who are struggling financially with an alternative to disconnection. The Company contends that any payment made by the customer in the program helps the customer meet their goal of reducing their past due balance. Absent the mandated winter moratorium period, the Company believes that completion rates for the New Start program would be much higher. Nevertheless, by participating, even if they do not complete the program, the customer is learning better payment habits while maintaining their service.

Q. How does the New Start program help the Company?

The New Start program provides the Company with an alternative to disconnecting hardship customers. The regulations allow the Company to disconnect hardship customers outside of the winter protection period, but with New Start the customer can take steps toward reducing their arrearage while keeping their power on. The New Start program will not be a substitute for any current consumer rules and regulations, but rather another tool to assist our most vulnerable customers. In addition, if, as the Company estimates, 3,000 customers participated in the program, reconnect fees between $96,000 (normal business hours) and $210,000 (after hours) could be avoided.

Q. Does the New Start program obviate the Company's obligation to collect from its delinquent customers?

A. No. The Company has an obligation to collect on delinquent customer balances. The New Start program provides an alternative to disconnection and is targeted to customers who have a demonstrated financial need and are struggling to pay their bills. The program also teaches customers how to make consistent payments based on their limited income by incentivizing the customer to pay their bill. Similar to how the tiered discount rate for limited income customers is a socialized cost, implementing New Start will provide another tool in the toolbox to assist customers in need. Without New Start, the Company will continue to disconnect limited income customers outside of the Winter Protection Period.

IX. NEW START OUTREACH AND EDUCATION

Q. How will the Company promote the New Start Program?

A. The Company proposes to: (1) include an annual insert in residential customers' bills on the New Start program; (2) offer New Start to eligible residential customers who contact the Company about their past due balance; and (3) allow customer self-service enrollment in New Start via our recently launched online Payment Plan Portal. In addition, the Company would seek to partner with Community Action Agencies throughout the State to promote the program in the community and in particular to customers on the low-income discount rate and who receive energy assistance. The Company proposes to seek recovery of the annual New Start insert mailed to residential customers, which is estimated to be approximately $10,000 annually.

X. NEW START IMPLEMENTATION COSTS

Q. Will the Company need to make changes to its computer systems to implement the New Start program?

A. Yes. Changes to the Company's C2 system will be required to implement the program. The Company estimates that it will cost approximately $1.7 million to implement the program for New Hampshire customers, including reprogramming and testing our C2 System, and its back-office processes and web interfaces (e.g., Payment Plan Portal). The Company proposes to seek recovery of programming costs related to system design, testing and implementation of the New Start program.

Q. Does the Company propose a rate recovery mechanism for the New Start program?

A. Yes. The revenue requirement impact and the corresponding rate recovery mechanism is described in the joint testimony of Mr. Chung and Mr. Dixon.

XI. AMR DEPLOYMENT

Q. Has the Company deployed new metering technology since the last distribution rate case in 2009?

A. Yes. At the time of the last rate case in 2009 and through the merger in 2012, PSNH was utilizing a metering technology that required manual processes to read and interact with the meter. The meters recorded only the total energy consumption at the customer's location. The data recorded for total energy consumption could only be obtained by a meter reader physically dispatched to read the meter at each location. The meter reader would record consumption data at each customer location and then would enter collected readings into the Company's data-management system. By 2013, PSNH's meter readers were manually reading over 500,000 meters each month. PSNH employed 86 full-time equivalents, plus 15 working supervisors to conduct these operations. In addition to meter reading, these employees would perform collections, meter change-outs, field meter tests, off-cycle meter orders and other various activities.

In 2012, the Company began to analyze options to transition away from this outdated technology to improve efficiency and reduce operating cost. To inform the decision, the Company developed a comprehensive business case analysis, considering the costs and benefits, as well as qualitative factors, associated with the available technologies. In 2012, the available technologies included an AMR system or full deployment of an automated meter information ("AMI") system. Specifically, the options reviewed were: (1) AMR with a drive-by data-collection system; (2) an AMR to AMI "bridge" meter system and (3) a full deployment of AMI with a two-way communications network to all customer meters.

Q. What was the conclusion of the Company's business-case analysis?

A. The Company's business-case analysis identified the first option, i.e., AMR with a drive-by data-collection system, as the best option based on information available at the time regarding cost, functionality and ease of integration with existing systems. The Company's guiding principle in making these types of investments is to adopt technologies that enable the Company to perform work more efficiently, more accurately and at the lowest cost balanced with safety and reliability.

The business-case analysis indicated that, once completed, PSNH would realize operational efficiencies and associated reductions in operating and maintenance ("O&M"), estimated at approximately $6 million per year, constituting a substantial upgrade in service for customers. At the time, the Company had 24 vacant meter-reading positions filled with temporary personnel. As a result, there was a unique opportunity to implement the operational change and achieve savings without negative impact to employees. Elimination of the physical meter reading operations also would improve employee safety by reducing exposure to accidents occurring from time to time in the field. Lastly, customers would experience constant or improved service at lower cost, making this decision a very important opportunity to benefit customers.

In the final analysis, the Company's analysis showed that the AMR solution had the potential to deliver the highest level of O&M savings of the options under consideration. Accordingly, the Company decided to adopt the AMR technology.

Q. How does the AMR solution work from an operational perspective?

A. AMR technology captures electric usage every month remotely, safely and accurately via wireless radio signals. AMR meters use low-energy wireless signals to capture monthly electricity usage information, forwarding the data electronically to internal computer systems to develop a monthly bill. Meters are read remotely via specially equipped vehicles or handheld devices. The AMR meter provides the same way one-way communication of a customer's data as a traditional electric meter. The energy usage information transmitted wirelessly from the AMR meter to PSNH's collection devices employ technology standards that comply with federal data privacy guidelines and regulations. AMR meters operate at energy levels that are 1/10th of the "Maximum Permissible Exposure Levels" as defined by the Federal Communications Commission. The brief wireless signals emitted from AMR meters have a much lower power density than the RF emissions that come from the home or cell phone, as well as many everyday appliances, including microwave ovens.

Q. What was the basis for the Company's decision to reject the AMI option?

A. The Company's business-case analysis and business judgment showed that AMI was not a good choice for customers for several reasons. In short, AMI is a two-way communication system that requires the design, development and deployment of the complex communications networks and upgrades to the billing, data management and other system interfaces necessary to deploy this technology.

Moreover, implementing AMI requires significant investment to relating to the conversion and build-out of large-scale information systems that are needed to securely store and utilize vast magnitude of customer data points collected by the system. As a result, AMI represented a far more expensive option relative to AMR.

In this regard, the Company considered that the New Hampshire legislature passed a law in 2012 requiring utilities that install "Smart Meters" to first obtain the customer's permission before installing such meters.[12] This law presented a significant barrier to AMI deployment because the high costs of this technology scale exponentially as the number of installed AMI meters is reduced. Unless a significant number of PSNH customers are included in the population of customers using AMI, a large-scale scale AMI deployment becomes even less cost effective.

The AMI option also raised customer data privacy and cyber-security concerns. For some customers, AMI may be viewed as an invasive data capture of customer behavior. Therefore, it was incumbent upon the Company to consider customer concerns about how the collected data could be used. Also, the Company considered the potential cyber-security risks associated with additional access points to Company systems created by AMI meters and the attendant communications infrastructure.

[12] RSA 374:62.

On the whole, the AMI alternative available in 2013 was less practical, less proven and much more expensive than AMR. An AMI investment in New Hampshire would be appreciably more expensive compared to other regions due to the terrain being mountainous, rural and consisting of granite ledge. Thus, in order for AMI to work in New Hampshire, PSNH will need to build out a communication system that will be relatively higher cost than in other jurisdictions given the need to also implement other related systems. Conversely, the AMR option deployed by the Company in 2013 was a solution that was fully and substantially cost justified as a basis for transitioning away from manual meter reading.

Q. What was the economic basis for the selection of AMR?

A. Implementation of the AMR system involved quantifiable costs and benefits. Specifically, the Company estimated a total capital cost of approximately $40 million covering the cost of the meters, meter installation, testing and project management among other costs. In terms of reduced operating expense, the Company anticipated that costs would be eliminated for manual meter-reading salaries, benefits and overheads—including vehicles. The estimated O&M savings associated with the AMR deployment were approximately $6 million annually, indicating a program payback of just over six years.

Q. What was the impact to employees that were performing the manual functions associated with the legacy meter system?

A. The transition to the improved technology approach involved the repositioning of 49 existing employees. All of these employees were reassigned within the Company or voluntarily exited the Company through transfers, retirements, and other options. Several New Hampshire meter readers and foremen transferred within the Company to other positions even before the transition was complete. Accordingly, the Company was able to minimize employee impacts.

Q. Is the Company requesting special ratemaking treatment of the unamortized plant balance of the meters that were replaced with AMR in the cost of service in this case?

A. No. Mr. Chung and Mr. Dixon are responsible for matters relating to the cost of service. However, the Company is not requesting that the Commission take any special steps to provide for recovery of the remaining meter cost. The old meter system was retired following generally accepted accounting principles for the retirement of group assets, as is the practice with other devices and equipment with relatively low cost (poles, transformers and meters).

XII. CONCLUSION

Q. Does this conclude your testimony?

A. Yes, it does.