

Direct Testimony and Schedules  
Steven V. Huso

Before the Minnesota Public Utilities Commission  
State of Minnesota

In the Matter of the Application of Northern States Power Company  
for Authority to Increase Rates for Electric Service in Minnesota

Docket No. E002/GR-15-826  
Exhibit\_\_\_\_(SVH-1)

**Rate Design**

November 2, 2015

## **Table of Contents**

I.	Introduction and Qualifications	1
II.	Revenue Determination	2
III.	Rate Design	7
A.	Pricing Objectives	7
B.	Class Revenue Apportionment	8
C.	Low Income Discount	11
D.	Rate Design Proposals	14
1.	Residential and Small Commercial Customer Charges	14
2.	Residential Service	19
3.	Residential TOD Service	19
4.	Residential Electric Vehicle Service	20
5.	C&I Demand Class Rate Design	20
6.	Street Lighting	24
7.	Fuel Clause Rider	25
E.	Development of 2017 and 2018 Rates	25
IV.	Conclusion	26

## **Schedules**

Qualifications	Schedule 1
Summary of Tariff Changes	Schedule 2
C&I Demand Class Margin Adjustment	Schedule 3
Sales and Revenues by Rate Schedule	Schedule 4
Revenue by Major Rate Class	Schedule 5
Base Rate Revenue Comparison	Schedule 6
Monthly Bill Comparison	Schedule 7
Voltage Discount Analysis	Schedule 8
Proposed Fuel Clause Rider	Schedule 9
Prefiled Discovery	Appendix A

## I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Steven V. Huso. I am employed as a Pricing Consultant in Regulatory Administration for Northern States Power Company Minnesota (NSPM or the Company).

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I have 36 years of electric pricing experience with the Company. I provide rate design, rate-revenue determinations, cost allocations and other pricing functions for the utility operating subsidiaries of Xcel Energy Inc. My qualifications and experience are further described in Exhibit\_\_\_(SVH-1), Schedule 1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My Direct Testimony presents the Company's revenue determinations and proposed class revenue responsibility and rate design. I also sponsor the Company's rate schedules and tariffs. A summary of the tariff changes proposed in this case is included as Exhibit\_\_\_(SVH-1), Schedule 2. The proposed changes to rates and tariffs are provided in Volume 2F.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I present the remainder of my testimony in the following sections:

- Revenue Determination;
- Rate Design; and
- Conclusion.

1 Q. DO YOU PROVIDE ANY ADDITIONAL INFORMATION RELATED TO THE  
2 COMPANY'S RATE DESIGN?

3 A. Yes. Appendix A provides additional updated information related to  
4 information requests from past rate cases.

5  
6 **II. REVENUE DETERMINATION**  
7

8 Q. WHAT ARE THE 2016 TEST YEAR ELECTRIC REVENUES FROM SALES AT PRESENT  
9 AND PROPOSED RATE LEVELS?

10 A. Table 1 shows 2016 test year revenues at present and proposed rates for the  
11 NSPM-Minnesota electric jurisdiction. Total rate revenue includes retail rate  
12 revenue and other increases. The "other increases" category includes the  
13 incremental revenue increase associated only with the proposed retail revenue  
14 increase for late payment charges and interdepartmental revenue. Total rate  
15 revenue corresponds with the itemized retail rate category in our financial  
16 statements of operating revenues. The interdepartmental category is  
17 interdepartmental revenue at present rates, which corresponds to that itemized  
18 category in our financial statements.  
19

**Table 1**  
**2016 Test Year Revenue** (\$ Thousands)  
 NSPM-Minnesota Electric Jurisdiction

	<b>Present</b>	<b>Proposed</b>	<b>Proposed Increase</b>	<b>Percent Increase</b>
Retail Rate Revenue	\$3,033,285	\$3,227,476	\$194,191	6.40%
+Other Increases	0	421	421	
Total Rate Revenue	\$3,033,285	\$3,227,897	\$194,612	6.42%
Interdepartmental	809	809		
Total + Interdepartmental	\$3,034,093	\$3,228,706	\$194,612	6.41%

\*Amounts may not total due to rounding.

Company witness Ms. Anne E. Heuer presents the 2016 test year total revenue requirement and deficiency in her Direct Testimony. Present and proposed 2016 test year revenues are based on the application of present and proposed rates to the 2016 test year budgeted sales and customers supported by Company witness Ms. Jannell E. Marks in her Direct Testimony. Proposed rates were developed to recover the 2016 test year revenue requirement.

Q. WHAT IS THE BASIS FOR THE RATES USED TO DETERMINE PRESENT REVENUE?

A. Present rates are the final rates from the Company's most recent case, Docket No. E002/GR-13-868, which became effective on November 1, 2015.

Q. WHAT ARE THE 2017 ELECTRIC REVENUES FROM SALES AT PRESENT AND PROPOSED RATE LEVELS?

A. Table 2 shows 2017 revenues at present and proposed rates for the NSPM-Minnesota electric jurisdiction. Proposed 2017 revenues are also presented in Company witness Mr. Charles R. Burdick's Direct Testimony.

**Table 2**  
**2017 Plan Year Revenue** (\$ Thousands)  
 NSPM-Minnesota Electric Jurisdiction

	<b>Present</b>	<b>Proposed</b>	<b>Proposed Increase</b>	<b>Percent Increase</b>
Retail Rate Revenue	\$3,031,800	\$3,277,921	\$246,121	8.12%
+Other Increases	0	545	545	
Total Rate Revenue	\$3,031,800	\$3,278,466	\$246,667	8.14%
Interdepartmental	808	808		
Total + Interdepartmental	\$3,032,608	\$3,279,274	\$246,667	8.13%

\*Amounts may not total due to rounding.

Q. HOW DID YOU DETERMINE PRESENT AND PROPOSED REVENUES FOR 2017?

A. Present revenue for the 2017 plan year is based on 2016 sales and the 2017 cost level for the Transmission Cost Recovery (TCR) rider. It differs from the 2016 test year present revenue listed in Table 1 only by the reduction in TCR rider revenue from 2016 to 2017, as described in more detail by Ms. Heuer. Proposed 2017 revenue is based on the application of proposed 2017 rates to the 2016 test year budgeted sales and customers supported by Ms. Marks. Proposed rates were developed to recover the 2017 plan year revenue requirement.

Q. WHAT ARE THE 2018 ELECTRIC REVENUES FROM SALES AT PRESENT AND PROPOSED RATE LEVELS?

A. Table 3 shows 2018 revenues at present and proposed rates for the NSPM-Minnesota electric jurisdiction. Proposed 2018 revenues are also presented in Mr. Burdick's Direct Testimony.

**Table 3**  
**2018 Plan Year Revenue** (\$ Thousands)  
 NSPM-Minnesota Electric Jurisdiction

	<b>Present</b>	<b>Proposed</b>	<b>Proposed Increase</b>	<b>Percent Increase</b>
Retail Rate Revenue	\$3,030,366	\$3,326,840	\$296,474	9.78%
+Other Increases	0	659	659	
Total Rate Revenue	\$3,030,366	\$3,327,499	\$297,133	9.81%
Interdepartmental	808	808		
Total + Interdepartmental	\$3,031,173	\$3,328,307	\$297,133	9.80%

\*Amounts may not total due to rounding.

Q. HOW DID YOU DETERMINE PRESENT AND PROPOSED REVENUES FOR 2018?

A. Present revenue for the 2018 plan year is based on 2016 sales and the 2018 cost level for the Transmission Cost Recovery (TCR) Rider. It differs from the 2016 test year present revenue listed in Table 1 only by the reduction in TCR Rider revenue from 2016 to 2018, as described in more detail by Ms. Heuer. Proposed 2018 revenue is based on the 2018 revenue requirement supported by Mr. Burdick. The Company's proposal for plan year 2018 rates is to use 2017 plan year base rates as a basis and apply an equal factor to those base rates, which is the methodology used for interim rate adjustments.

Q. DO PRESENT AND PROPOSED REVENUES INCLUDE ANY ECONOMIC DEVELOPMENT DISCOUNTS?

A. Yes. Economic development discounts are included for one Competitive Response Rider account and five Business Incentive and Sustainability (BIS) Rider accounts. The five recognized BIS accounts include known discounts for one established rate application and estimated discounts for four pending rate applications of the discount. The estimated discounts assume 500 kW per account that qualifies for the discount, which is a conservative placeholder

1 estimate with 350 kW as the minimum qualifying load. We be able to update  
2 this information as the pending loads become known.

3  
4 Q. DID YOU CALCULATE THE COMMERCIAL AND INDUSTRIAL DEMAND CLASS  
5 MARGIN ADJUSTMENT USED BY MR. BURDICK AS A REVENUE REQUIREMENT  
6 ADJUSTMENT TO PLAN YEARS 2017 AND 2018?

7 A. Yes. I calculated the base rate revenue increases from test year 2016 to plan  
8 years 2017 and 2018 for the corresponding yearly sales increases for the  
9 Commercial and Industrial (C&I) Demand class cost category. These  
10 increases were determined by substituting 2017 and 2018 plan year sales and  
11 customers into the Company's revenue model that was used to determine  
12 2016 test year revenue. This revenue model determines revenue by individual  
13 detailed billing units and rate components for every electric service category.  
14 The margin adjustments represent the base rate revenue increases over test  
15 year 2016 for the C&I Demand class. As a base rate margin adjustment, the  
16 net adjustment amounts exclude the amount of the Conservation  
17 Improvement Program (CIP) Adjustment Rider included in base rates, which  
18 is the Conservation Cost Recovery Charge (CCRC). Exhibit\_\_\_\_(SVH-1),  
19 Schedule 3 shows the changes in sales and base revenue, in detail by the three  
20 major sales classifications for the C&I Demand class cost category: Small  
21 Commercial and Industrial, Large Commercial and Industrial, and Other Sales  
22 to Public Authorities.

23  
24 Q. HAVE YOU PROVIDED ADDITIONAL COMPARISONS OF PRESENT AND  
25 PROPOSED REVENUES?

26 A. Yes. I prepared the following summary and detailed comparisons of present  
27 and proposed rate revenues, as required by Minn. R. 7825.4300, parts A and



1 B, and the Commission's June 17, 2013 Order in Docket No. E,G999/M-12-  
2 587:

- 3 • Sales and Revenue by Rate Schedule
  - 4 ○ 2016 Test Year: Exhibit\_\_\_\_(SVH-1), Schedule 4, page 1 of 3.
  - 5 ○ 2017 Plan Year: Schedule 4, page 2 of 3
  - 6 ○ 2018 Plan Year: Schedule 4, page 3 of 3.
- 7 • Revenue by Major Rate Class
  - 8 ○ 2016 Test Year: Exhibit\_\_\_\_(SVH-1), Schedule 5, page 1 of 3.
  - 9 ○ 2017 Plan Year: Schedule 5, page 2 of 3
  - 10 ○ 2018 Plan Year: Schedule 5, page 3 of 3.
- 11 • Sales and Revenue by Rate Schedule and Component
  - 12 ○ 2016 Test Year and 2017 and 2018 plan years Filed in Required
  - 13 Information, Volume 3.

14  
15 Q. PLEASE DESCRIBE EXHIBIT\_\_\_\_(SVH-1), SCHEDULE 6 AND EXHIBIT\_\_\_\_(SVH-  
16 1), SCHEDULE 7.

17 A. Schedule 6 compares present base rates to proposed 2016 and 2017 base rates,  
18 both with and without fuel costs. Schedule 7 is a monthly bill comparison of  
19 the present and proposed 2016 and 2017 rates at different usage levels. The  
20 schedules comply with Commission's August 31, 2015 Order, Order Point 12  
21 (d) regarding rate and bill impacts in Docket No. E002/GR-13-868.

### 22 23 **III. RATE DESIGN**

#### 24 25 **A. Pricing Objectives**

26 Q. DOES THE COMPANY USE PRICING OBJECTIVES TO GUIDE THE DEVELOPMENT  
27 OF ITS PROPOSED CLASS REVENUE APPORTIONMENT AND RATE DESIGN?

1 A. Yes. The Company's pricing proposals use the following four objectives to  
2 develop rates that:

- 3 1. Produce total annual revenue that matches the corresponding revenue  
4 requirement in order to allow the Company a reasonable opportunity to  
5 earn its authorized return on investment;
- 6 2. Accurately reflect the resource costs of providing service and, where  
7 appropriate, the market value of the service;
- 8 3. Provide sufficient flexibility in pricing levels and provisions for our  
9 electric service to remain competitive in the broader energy market; and
- 10 4. Provide reasonable pricing by considering the importance of rate  
11 continuity, customer understanding, revenue stability, and  
12 administrative practicality.

13  
14 Q. HOW DOES THE COMPANY APPLY THESE OBJECTIVES WHEN DESIGNING  
15 RATES?

16 A. The first objective is a requirement to ensure that proposed rates accurately  
17 correspond to the proposed total revenue requirement. Allowing for this  
18 requirement, the starting point is the electric service costs by class and rate  
19 component as the standard for determining equitable rates that encourage the  
20 economically efficient use of resources. From this objective cost basis, we  
21 consider and balance the remaining objectives according to circumstances to  
22 determine a proposed rate design that is reasonable and fair for all customers.

23  
24 **B. Class Revenue Apportionment**

25 Q. WHAT PROCESS WAS USED TO DEVELOP THE PROPOSED CLASS REVENUE  
26 APPORTIONMENT?

A. Consistent with our application of pricing objectives, the starting point for proposed class revenue apportionment is the cost responsibility for each customer class. Class cost responsibility is determined by the Class Cost of Service Studies (CCOSS) sponsored by Company witness Mr. Michael A. Peppin. The resulting cost increases by class are then considered individually and relative to the total retail increase for adjustment for moderation or other considerations.

Q. WHAT ARE THE CLASS COST RESPONSIBILITIES AND PROPOSED CLASS INCREASES IN THIS CASE?

A. Table 4 shows the CCOSS class cost responsibilities and the proposed class apportionment for years 2016, 2017 and 2018.

**Table 4**  
**Cost of Service and Proposed Revenue Apportionment (\$ Thousands)**  
 NSPM-Minnesota Electric Jurisdiction

	Present	Cost		Proposed Revenue	
Class	Revenue	Amount	Increase	Amount	Increase
TY 2016					
Residential	\$1,079.7	\$1,180.9	9.38%	\$1,170.4	8.40%
Non-Demand	\$111.8	\$115.0	2.92%	\$116.3	4.09%
C&I Demand	\$1,815.3	\$1,901.3	4.74%	\$1,911.6	5.31%
Lighting	\$26.6	\$30.2	13.59%	\$29.2	10.00%
Total	\$3,033.3	\$3,227.5	6.40%	\$3,227.5	6.40%
TY 2017					
Residential	\$1,079.2	\$1,208.8	12.01%	\$1,195.2	10.75%
Non-Demand	\$111.7	\$117.1	4.84%	\$118.4	5.97%
C&I Demand	\$1,814.3	\$1,919.5	5.79%	\$1,934.1	6.60%
Lighting	\$26.6	\$32.5	22.35%	\$30.2	13.59%
Total	\$3,031.8	\$3,277.9	8.12%	\$3,277.9	8.12%
TY 2018					
Residential	\$1,078.7	\$1,228.9	13.92%	\$1,214.5	12.59%
Non-Demand	\$111.7	\$118.9	6.44%	\$120.2	7.68%
C&I Demand	\$1,813.4	\$1,944.8	7.25%	\$1,961.4	8.16%
Lighting	\$26.6	\$34.2	28.92%	\$30.7	15.59%
Total	\$3,030.4	\$3,326.8	9.78%	\$3,326.8	9.78%

\*Amounts may not total due to rounding.

1  
2 Q. WHAT IS THE BASIS FOR THE PROPOSED CLASS APPORTIONMENTS IN TABLE 4?

3 A. The primary basis for years 2016 and 2017 was a 67 percent movement to cost  
4 for all customer classes except the lighting class. This proposed two-thirds  
5 cost movement was reached to achieve balance between 50 percent and 75  
6 percent movements to cost. This proposal provides both significant  
7 moderation and significant movement to cost. The lighting class required  
8 further moderation to recognize its relatively larger cost difference, which  
9 resulted in a proposed 50 percent cost movement for test year 2016. For  
10 2017, the proposed lighting class increase was further moderated by limiting  
11 its proposed revenue to the test year 2016 cost level. To offset the limited  
12 cost movement for the lighting class, the revenue reduction in the lighting  
13 class difference from a 67 percent cost movement was distributed  
14 proportionately based on revenue to the other classes. For 2018, proposed  
15 revenue for all classes is proposed plan year 2017 class base rate revenue  
16 increased by an equal factor representing the increased retail revenue  
17 requirement from 2017 to 2018. Rather than proposing individual 2018 rates  
18 as for years 2016 and 2017, the Company proposes implementing the plan  
19 year 2018 revenue requirement by using the equal factor as a percent increase  
20 applied to the base rates in effect at that time.

21  
22 Q. HOW DO YOU DEFINE MOVEMENT TO COST?

23 A. Cost movement refers to the difference between the total percent increase to  
24 cost for an individual customer class and the average retail cost percent  
25 increase. A representative hypothetical example can be shown with increases  
26 to the cost of service of 6 percent retail and 10 percent for a particular  
27 customer class. In this example, cost movement is measured by the amount

1 of this four percent differential that is included in the proposed increase. A  
2 class increase of 6 percent would represent no movement to cost, while a 10  
3 percent increase would represent 100 percent movement to cost.  
4 Correspondingly, a 9 percent class increase would be a 75 percent movement  
5 to cost, determined as the retail 6 percent increase plus 3 percent (representing  
6 75 percent of the remaining 4 percent).

7  
8 Q. CAN A PROPOSED REVENUE APPORTIONMENT BE ADJUSTED FOR A DIFFERENT  
9 FINAL REVENUE REQUIREMENT APPROVED BY THE COMMISSION?

10 A. Yes. The proportional class revenue responsibilities that are represented by a  
11 proposed class revenue apportionment at particular total retail increase  
12 amount can be applied to a final ordered retail revenue requirement. This  
13 proportional factoring approach is reasonable and has been previously used  
14 for Company compliance filings to accurately maintain a Commission  
15 approved class revenue apportionment at a different rate level. This approach  
16 can also accommodate revisions to class cost allocations or approved percent  
17 movements to cost, and updated sales and revenues.

18  
19 **C. Low Income Discount**

20 Q. DOES THIS RATE CASE FILING INCLUDE A PROPOSAL TO INCLUDE RECOVERY  
21 OF LOW INCOME PROGRAM COSTS THROUGH BASE RATES?

22 A. Yes. In compliance with the Commission's September 26, 2014 Order in  
23 Docket No. E002/M-04-1956 regarding amended Minn. Stat. § 216B.16,  
24 subd. 14, this filing recognizes our Base low income program funding in base  
25 rates. Present revenue includes the updated Base program surcharges that are  
26 effective January 1, 2016, as included in our September 17, 2015 Low Income  
27 Discount Program compliance filing in Docket Nos. E002/M-04-1956 and

1 E002/GR-13-868. When applied to the applicable billing units by customer  
2 class for the test year 2016 detailed rate revenue determination (Sales and  
3 Revenue by Rate Schedule and Component, Filed in Required Information,  
4 Volume 3), these base rate surcharges yield revenue of \$8,863,000. We have  
5 applied a matching revenue reduction of this same amount to the residential  
6 class that receives the low income program benefit, for a zero net retail  
7 revenue impact.

8  
9 Q. DOES THE DETAILED RATE REVENUE DETERMINATION PRESERVE THE  
10 CURRENT CLASS COST ALLOCATION FOR PROGRAM FUNDING?

11 A. Yes. As background, the current program surcharges, which vary by customer  
12 classification, are currently recovered as an itemized rider charge on customer  
13 bills as a monthly fixed surcharge in the same form as the monthly customer  
14 charge. We recognized the current weighted customer charge allocation  
15 method for present rate revenue and retained it for proposed rate revenue  
16 using proposed customer charge amounts. The Base low income program  
17 surcharges were added to customer charges in the detailed rate revenue  
18 determination to recognize this funding allocation.

19  
20 Q. IS THE COMPANY PROPOSING TO INCLUDE THE BASE PROGRAM RATE  
21 SURCHARGES FOR THE LOW INCOME PROGRAM IN THE CUSTOMER CHARGES  
22 FOR EACH APPLICABLE RATE SCHEDULE AND FOR CUSTOMER BILLING?

23 A. No. There is no advantage to combining low income program surcharges into  
24 the customer charge rate component and there are some disadvantages.  
25 Accounting and tracking of low income program funding are more  
26 transparent with a separate charge component. Additionally, accurate class  
27 funding allocations can be directly confirmed with a separate charge

1 component for the low income program. To maintain these advantages and  
2 an efficient single source of the surcharges in rate sheets, the Company  
3 recommends retaining the surcharge in the current location of the Low  
4 Income Energy Discount Rider.

5  
6 Q. WOULD RETAINING SURCHARGES IN THE LOW INCOME ENERGY DISCOUNT  
7 RIDER BE CONSISTENT WITH THE REQUIRED BASE RATE TREATMENT OF THE  
8 PROGRAM?

9 A. Yes. The rate revenue from rate riders can be considered as either base rate  
10 revenue or as rider revenue. Conventionally, only specific cost recovery riders  
11 such as the TCR Rider are not considered or accounted for as base rate  
12 revenue. The Residential Controlled Air Conditioning and Water Heating  
13 Rider, known as Savers Switch, for example, is accounted for as base rate  
14 revenue.

15  
16 Q. HOW IS THE COMPANY'S PROPOSAL TO INCREASE LOW INCOME PROGRAM  
17 FUNDING BY \$3 MILLION TREATED FOR PROPOSED RATE DESIGN?

18 A. The allocation of relative proposed surcharge levels to customer classes in  
19 base rates was updated to reflect proposed customer charges, consistent with  
20 the Commission-approved customer charge weighted allocation methodology  
21 that is currently being used. The amounts of proposed surcharges were then  
22 increased to recover the additional \$3 million funding. As with present rate  
23 revenues, this additional funding is offset in proposed rate revenues as a  
24 higher program benefit to residential customers. The following table  
25 compares present and proposed class base program surcharges for the 2016  
26 test year.

27

**Table 5**  
**Base Program Surcharges – TY 2016**

Customer Class	Present	Proposed
Residential	\$0.53	\$0.75
C&I Non-Demand	\$0.71	\$0.90
C&I Demand	\$2.13	\$1.94

**D. Rate Design Proposals**

Q. IS THE COMPANY PROPOSING ANY SIGNIFICANT RATE DESIGN CHANGES IN THIS CASE?

A. No. We are proposing to maintain the current rate design structure. Proposed rates generally include only minor changes to the relationship between rate components. More significant changes are described in the follow sections.

*1. Residential and Small Commercial Customer Charges*

Q. DOES THE COMPANY PROPOSE TO INCREASE THE CUSTOMER CHARGE FOR RESIDENTIAL AND SMALL COMMERCIAL CUSTOMERS?

A. Yes. We propose a \$2.00 increase to the fixed monthly customer charge for residential and small commercial customers. This proposal is for the following rate schedules: Residential Service, Residential Time-of Day Service, Small General Service, and Small General Time-of Day Service. This is a moderate proposal for pricing that more precisely represents the different types of electric service costs, including fixed customer related costs and variable energy related costs. The objective of this proposal is to improve fairness between all customers and to provide more appropriate and economically effective price signals.



1 Q. WHY IS ACCURATELY REPRESENTING THE DIFFERENT TYPES OF ELECTRIC  
2 SERVICE COSTS AN IMPORTANT CONSIDERATION FOR PRICING?

3 A. In addition to the basic fairness of having prices that more closely distribute  
4 cost responsibility, accurate pricing gives customers the necessary information  
5 to make the energy usage and supply decisions that minimize system costs and  
6 extract the maximum value from energy resources. The need for accurate cost  
7 information through pricing is growing as customers are increasingly able to  
8 respond to electric pricing. Improving technology, such as for renewable  
9 distributed generation resources and battery storage, gives customers more  
10 options for making decisions about energy usage and supply options. As  
11 customers have more options, it becomes increasingly important that the  
12 economic value of those options not be distorted by large differences between  
13 electric pricing and electric service costs.

14  
15 Q. WHY ARE SUCH DISTORTIONS HARMFUL?

16 A. When energy prices exceed variable cost, as required to recover fixed costs  
17 excluded from customer charges, customers have an economically  
18 unsupported extra incentive for purchasing their own generation sources.  
19 However, what is good for the individual customer in this case is not good for  
20 other customers and does not lead to minimizing system costs. Rather than  
21 contributing to the recovery of fixed costs included in energy prices, such  
22 customers have an incentive and often the ability to respond to their over  
23 allocation of fixed costs from a below cost customer charge, which simply  
24 ends up unnecessarily raising the cost to all other customers.

25  
26 Energy prices that overly subsidize fixed customer related costs also  
27 overburden customers with above-average energy usage that occurs not from

1 a lack of conservation, but from unavoidable individual circumstances such as  
2 an above-average household size or a reliance on electric appliances such as  
3 water heaters or clothes dryers that more commonly operate with natural gas.  
4

5 Q. DOES ADDING FIXED COST TO THE ENERGY PRICE PROVIDE A CONSERVATION  
6 INCENTIVE?

7 A. Yes. That much is clear, but the larger issue is the reasonable extent of that  
8 extra conservation incentive. As a policy issue, some non-cost-based addition  
9 to energy prices can be reasonable, but there are also disadvantages of such an  
10 approach that should be acknowledged. These include disincentives to  
11 minimizing total system costs and reducing equity between customers. An  
12 added conservation incentive can be reasonable, but it should not rise to the  
13 level of punitively reducing the value of electricity to conservation minded  
14 customers with unavoidable individual circumstances that result in above-  
15 average electric energy usage.  
16

17 Q. DOES THE CUSTOMER CHARGE PROPOSAL RETAIN A SUBSTANTIAL  
18 CONSERVATION INCENTIVE IN ENERGY PRICES?

19 A. Yes. Residential Service has four customer charge levels based on service  
20 distinctions, with a weighted average present customer charge of \$8.72. This  
21 average is \$10.72 with the proposed \$2.00 increase, which is only 57 percent  
22 of the \$18.65 fixed customer-related cost shown in the Company's proposed  
23 test year 2016 CCOSS, and 54 percent of the \$19.74 cost for plan year 2017.  
24 For residential customers, this \$8.00 per month cost differential would  
25 transfer over \$96 million of fixed customer-related costs to be recovered  
26 through proposed energy prices.  
27

1 Similar to the Residential Service cost relationship, the Small General Service  
2 present customer charge of \$10.00 is proposed to change to \$12.00, which is  
3 still substantially less than its \$18.44 cost from the Company's proposed test  
4 year 2016 CCOSS.

5  
6 Q. IS REVENUE STABILITY THE REASON FOR THE PROPOSED CUSTOMER CHARGE  
7 INCREASE?

8 A. No. Revenue stability, while providing benefits to utilities and its customers,  
9 is not a primary reason for the Company's proposal. Although the proposal  
10 would increase revenue stability, the main purpose of the proposal is to more  
11 precisely recognize electric service costs and to improve equity between  
12 customers. Ultimately, the ability to minimize future system costs through  
13 more accurate pricing is a significantly more important consideration than  
14 revenue stability. Although the Company has a new decoupling rate provision  
15 that helps to stabilize revenues, that provision does not address customer  
16 equity or reduce the need for accurate pricing.

17  
18 Q. WHAT IS THE NET IMPACT OF PROPOSED ENERGY CHARGES AND THE \$2.00  
19 PROPOSED CUSTOMER CHARGE INCREASE?

20 A. The incremental customer impact of the proposed customer charge is \$2.00  
21 per month only for a customer with no energy usage. The \$2.00 increase is  
22 fully offset by the energy charge at the customer average usage of 620 kWh for  
23 standard residential customers. At relatively low monthly usage of 310 kWh,  
24 the net incremental customer charge impact is a \$1.00 monthly increase.

25  
26 Q. DO THE PROPOSED PERCENT INCREASES FOR JUST THE CUSTOMER CHARGE  
27 COMPONENT INDICATE ITS REASONABLENESS?

1 A. No. A reasonable and objective evaluation of the proposed \$2.00 increase  
2 requires a broader analysis than a single measure for a single rate component.  
3 The percent increase to the customer charge rate component is only a single  
4 measure that cannot be adequately evaluated outside the context of related  
5 measurements. The \$2.00 amount of the increase should also be considered,  
6 particularly net of the offsetting energy charge impact. The fact that the  
7 customer charge is not a majority component of typical electric bills requires  
8 its evaluation in the context of the total proposed bill increase measured in  
9 both the amount and percent terms.

10  
11 Q. HOW WOULD THE PROPOSED RATE DESIGN CHARGES AFFECT AFFORDABILITY  
12 FOR LOW-INCOME CUSTOMERS?

13 A. Rate design for residential customers essentially defines the relationship  
14 between fixed customer charges and variable energy charges. Residential rate  
15 design can affect affordability for a category of customers only when: 1) a  
16 specific group of customers has significantly different energy use than the  
17 entire residential customer class; and 2) when there is a significant relative  
18 difference between proposed increases for fixed and variable pricing. The  
19 Company's proposed residential rate design does not materially affect  
20 affordability for low-income customers because both of these conditions do  
21 not exist. The energy usage of low-income customers is only very slightly less  
22 than the energy usage of other residential customers and a significant  
23 percentage of low-income customers have above average energy usage. There  
24 is also not an unreasonably wide difference between proposed fixed and  
25 variable pricing components.

1                   2.       *Residential Service*

2   Q.   PLEASE DESCRIBE THE PROPOSED RATE DESIGN FOR RESIDENTIAL SERVICE.

3   A.   In addition to the proposed customer charges, proposed energy rates continue  
4       to recognize a seasonal energy rate differential. The electric space heating  
5       category also continues to have lower energy charges during the non-summer  
6       months of October through May to recognize cost of service differentials.  
7       Corresponding to the overall cost of service differential for electric space  
8       heating service, the overall proposed Residential Service increase of 8.4  
9       percent was distributed as an 8.6 percent increase for standard non-heating  
10      service and a 4.2 percent increase for electric space heating service. The  
11      corresponding 2016 test year cost increases for standard non-heating service  
12      are 9.9 percent and 1.9 percent for electric space heating service.

13  
14                   3.       *Residential Time of Day (TOD) Service*

15   Q.   DO YOU PROPOSE ANY REFINEMENTS TO THE RATE DESIGN FOR RESIDENTIAL  
16      TOD SERVICE?

17   A.   Yes. Although no revisions are proposed to the basic rate design structure for  
18      Residential TOD Service, an update is proposed to the ratio between on-peak  
19      and off-peak energy rates. The present ratio including the cost of fuel is 3.5 to  
20      1 and the comparable proposed ratio is 3.0 to 1, which is consistent with ratio  
21      in the Company's recently established Residential Electric Vehicle Service  
22      tariff, as approved in Docket No. E002/M-15-111. The Company's Petition  
23      in that docket noted the 3.0 to 1 ratio considered both the current forecast  
24      ratio of on-peak to off-peak marginal energy costs of 2.6 to 1 and the present  
25      Residential TOD 3.5 to 1. The proposed 3.0 to 1 ratio will allow consistency  
26      in the energy rates between the two tariffs.

1                   4.       *Residential Electric Vehicle Service*

2   Q.   DOES THE PRESENT TARIFF FOR RESIDENTIAL ELECTRIC VEHICLE SERVICE  
3       HAVE ENERGY RATES THAT ARE CONSISTENT WITH OTHER TARIFFS?

4   A.   No.   The Company's Petition for an electric vehicle charging tariff in  
5       compliance with Minnesota Statute Section 216B.1614 was filed January 30,  
6       2015, and the approved Residential Electric Vehicle Service tariff became  
7       effective August 1, 2015. As a result of this timing difference with the most  
8       recent case filing, this tariff was not increased to the rate level consistent with  
9       the final rates from that rate case that became effective on November 1, 2015.  
10      However, the Company's proposed rates in this rate case reestablish its  
11      consistency with the rate level Residential TOD Service and other tariffs.

12  
13                   5.       *C&I Demand Class Rate Design*

14                   a.       *Base Energy Charges*

15   Q.   HOW DID YOU DEVELOP THE PROPOSED ENERGY CHARGE FOR THE C&I  
16       DEMAND CLASS?

17   A.   The starting point for the proposed C&I Demand class energy charges was  
18       the 6.3¢ per kWh cost of service at secondary voltage for the total of energy-  
19       related costs and energy-related capacity costs. Next, the fuel cost of 2.7¢ per  
20       kWh was subtracted and the average 0.2¢ per kWh cost of the Energy Charge  
21       Credit (ECC) was added to establish a reference point of 3.8¢ per kWh to  
22       guide the determination of the General Service base energy charge. This  
23       reference point was moderated to the proposed energy charge of 3.564¢ per  
24       kWh to recognize the significantly lower present energy charge of 3.201¢ per  
25       kWh and the effect of moving the present \$0.68 per kW charge for the TCR  
26       Rider into base rates. The proposed increase for the total of General Service  
27       base energy and fuel costs is 6.0 percent.

1  
2 Q. DO PROPOSED ENERGY CHARGES FOR GENERAL TOD SERVICE MAINTAIN  
3 THE PRESENT RATE RELATIONSHIP WITH THE GENERAL SERVICE ENERGY  
4 CHARGE?

5 A. Yes. As with present rates, proposed TOD base energy rates are derived from  
6 the proposed General Service non-TOD base energy rate, by de-averaging the  
7 flat energy rate by a TOD ratio for the relative difference between on-peak  
8 and off-peak rates. In particular, the proposed non-TOD rate is equal to the  
9 weighted average of TOD rates as applied to the TOD usage pattern of only  
10 non-TOD customers. This produces the same result as the weighted average  
11 of TOD rates as applied to the TOD usage pattern of only TOD customers.  
12

13 Q. HOW DO THE TOD RATIOS FOR BASE ENERGY RATES AND FUEL COST  
14 CHARGES COMPARE TO PRIOR RATE CASES?

15 A. The proposed base energy ratio continues the increasing trend to moderate  
16 and balance the prescribed decreasing trend of the fuel cost ratio as shown in  
17 Table 6.  
18

19 **Table 6**  
20 **Comparison of Test Year On-Peak Ratios**

Test Year	Base Energy Ratio	Fuel Cost Ratio	Combined Ratio
2006	1.67	1.67	1.67
2009	1.70	1.87	1.79
2011	1.69	1.63	1.66
2013	1.82	1.61	1.72
2014	2.01	1.59	1.80
2016	2.07	1.53	1.82

1 Q. WHAT IS THE PROPOSED LEVEL OF THE ECC?

2 A. The present ECC of 1.40¢ per kWh is proposed to increase to 1.56¢ per kWh.  
3 This proposal maintains the proposed ECC at the same percentage of the base  
4 energy rate as in present rates.

5  
6 *b. Firm Service Demand Charges*

7 Q. HOW DID YOU DEVELOP THE PROPOSED FIRM SERVICE DEMAND CHARGES FOR  
8 THE C&I DEMAND CLASS?

9 A. The proposed demand charges are calculated to recover the proposed C&I  
10 Demand class revenue remaining after considering revenue from other rate  
11 components, including customer and energy charges, voltage discounts and  
12 interruptible service credits.

13  
14 Q. DOES THE PROPOSED C&I DEMAND RATE DESIGN PRODUCE CUSTOMER BILL  
15 INCREASES THAT SIGNIFICANTLY VARY BY LOAD FACTOR?

16 A. No. The proposed rate design produces similar percent increases by load  
17 factor, as shown in Schedule 7 as the different percent increases for customer  
18 load factors defined at the 200, 400 and 600 hours-use levels.

19  
20 *c. Interruptible Service*

21 Q. IS THE COMPANY PROPOSING AN INCREASE IN THE INTERRUPTIBLE SERVICE  
22 DISCOUNTS?

23 A. Yes. A modest increase is proposed for interruptible service discounts to help  
24 moderate proposed bill increases for those customers. The effective discount  
25 for interruptible service is the difference between firm and controllable  
26 demand charges. The proposed increase to the total amount of demand  
27 charge discounts is 1.84%. The following table compares present and



proposed discounts by Tier and Performance Factor (PF) category of interruptible service.

**Table 7**  
**Present and Proposed Interruptible Discounts**  
**NSPM-Minnesota Electric Jurisdiction**  
(Average Monthly Discount per kW)

Tier-PF	2-C	2-B	2-A	1-C	1-B	1-SN
Present	\$4.43	\$3.93	\$3.12	\$5.20	\$4.63	\$5.70
Proposed	\$4.52	\$4.01	\$3.14	\$5.30	\$4.72	\$5.80
Increase	\$0.09	\$0.08	\$0.02	\$0.10	\$0.09	\$0.10
Increase %	2.0%	2.0%	0.6%	1.9%	1.9%	1.8%

Q. HOW DID YOU DETERMINE THE PROPOSED DISCOUNTS?

A. A 2 percent discount proposed increase was established for the Tier 2 Performance Factor C interruptible service category as a significant contribution to moderating the C&I-Demand proposed overall increase of 5.3 percent. This resulted in proposed increases for Peak-Controlled Services that are higher than their firm service counterparts, by only 0.31 percent for non-TOD and 0.37 percent for TOD. The percent increases for the other interruptible service categories were established relative to established discount relationships. As an exception to recognize its relatively lower value, only a nominal increase is proposed for the Tier 2 Performance Factor A discount.

*d. Voltage Discounts*

Q. ARE YOU PROPOSING ANY REVISIONS TO THE VOLTAGE DISCOUNTS THAT ARE A PART OF THE C&I DEMAND TARIFFS?

A. Yes. Moderate decreases are proposed for the demand charge discounts at all voltage levels to recognize a reduction in the cost basis for those discounts. A \$0.10 decrease is proposed for Primary voltage and a \$0.05 decrease is

1 proposed for Transmission Transformed and Transmission voltage levels, as  
2 shown on Exhibit\_\_\_\_(SVH-1), Schedule 8, page 1 of 2. Also, as shown on  
3 Schedule 8, page 2 of 2, proposed energy charge voltage discounts have been  
4 updated for the proposed level of base energy and fuel charges.

5  
6 *6. Street Lighting*

7 Q. DOES THE PROPOSED INCREASE FOR THE LIGHTING CLASS VARY BY RATE  
8 SCHEDULE, AND DOES IT RECOGNIZE COST DIFFERENTIALS BY SUBCATEGORY  
9 WITHIN THE LIGHTING CLASS?

10 A. Yes. The proposed percent revenue increases for each lighting rate schedule  
11 vary recognize lighting sub-category cost differences in the CCOSS. Street  
12 lighting for municipal customers includes the System and Energy service cost  
13 categories. System service is full service lighting that includes the lighting  
14 system, energy, maintenance and repairs. The Energy-only category includes  
15 the flat rate Street Lighting Energy Service (Closed) rate schedule and the  
16 Street Lighting Energy Service – Metered rate schedule. Protective lighting  
17 service is full service security lighting that is available for residential and  
18 commercial customers. The proposed total lighting class increase is 10.0  
19 percent for test year 2016. The higher relative cost increase indicated by the  
20 CCOSS for System service was moderated to a proposed increase of 12.0  
21 percent. The corresponding proposed lighting increases are 8.0 percent for  
22 Protective lighting and 5.4 percent for the Energy-only lighting category.  
23 These relationships were also maintained for proposed plan year 2017 lighting  
24 rates.

1 Q. DO PROPOSED LIGHTING RATES INCLUDE THOSE RECENTLY FILED FOR LIGHT  
2 EMITTING DIODE (LED) LIGHTING WITHIN THE OVERHEAD CATEGORY OF  
3 THE STREET LIGHTING SYSTEM SERVICE RATE SCHEDULE?

4 A. No. The Company only recently made this miscellaneous filing on October  
5 15, 2015 and regulatory review and approval are pending. If the LED  
6 miscellaneous filing is approved by the Commission at the present rate level  
7 and subject to the proposed interim rate adjustment, the Company proposes  
8 including LED rates in the compliance filing for this case according to the rate  
9 relationships included in the miscellaneous filing.

10  
11 7. *Fuel Clause Rider*

12 Q. HAS THE PROPOSED FUEL CLAUSE RIDER BEEN UPDATED FOR THE TEST YEAR  
13 2016?

14 A. Yes. The Fuel Adjustment Factor section of the Fuel Clause Rider was  
15 updated to be consistent with test year 2016 information. The Fuel  
16 Adjustment Factor Ratios by Service Category were updated to test year 2016  
17 based on corresponding updates to Class Cost Ratios and TOD Ratios. These  
18 updates were determined using the method approved by the Commission in  
19 previous rate cases. The development of these updates is shown in  
20 Exhibit\_\_\_\_(SVH-1), Schedule 9.

21  
22 The System Base Cost of Energy also was updated to the test year 2016 cost  
23 level, as were the resulting base cost of energy figures by service category.

24  
25 **E. Development of 2017 and 2018 Rates**

26 Q. DO THE 2016 AND 2017 RATES SHARE A COMMON RATE DESIGN?

1 A. Yes. Years 2016 and 2017 share a common rate design. The only significant  
2 difference between the two years is that energy and demand charges in 2017  
3 are proportionally higher to reflect the higher 2017 revenue requirement.  
4

5 Q. WHAT IS THE COMPANY'S PROPOSAL FOR IMPLEMENTING RATES AT THE 2018  
6 PLAN YEAR LEVEL?

7 A. We propose to apply an equal percent factor to the present rates in effect at  
8 that time. The percent factor would represent the incremental increase in the  
9 2018 revenue requirement. The recommended form of this incremental factor  
10 is a percent increase applicable to all base rates using the same method that is  
11 used for interim rate increases.  
12

13 Q. HOW WOULD YOU IMPLEMENT 2019 AND 2020 RATES UNDER THE FIVE-YEAR  
14 [MULTI-YEAR RATE PLAN \(MYRP\)](#) DISCUSSED BY COMPANY WITNESS MR.  
15 AAKASH H. CHANDARANA?

16 A. The same method the Company proposes for 2018 rates could be used to  
17 implement 2019 and 2020 rates under the five-year MYRP, or the rate design  
18 for 2019 and 2020 could be part of the settlement process discussed by Mr.  
19 Chandarana.  
20

#### 21 **IV. CONCLUSION** 22

23 Q. PLEASE SUMMARIZE YOUR TESTIMONY.

24 A. The Company's proposed class revenue apportionment and rate design is  
25 reasonable and provides important but moderate movement closer to electric  
26 service costs. Better recognition of electric service costs will give customers

1       the necessary information to make decisions that minimize system costs and  
2       make more economically efficient use of energy resources.

3

4   Q.   DOES THIS CONCLUDE YOUR TESTIMONY?

5   A.   Yes, it does.

**Statement of Qualifications and Experience**

**Steven V. Huso**

I graduated from St. Olaf College in 1976 with a Bachelor of Arts degree in Mathematics and Economics. In 1979, I received a Master of Business Administration degree from the University of St. Thomas.

I have been employed by Northern States Power Company in pricing positions since 1979. I began my current position as Pricing Consultant in 2000. I held Administrator positions from 1992 until 2000, including two years from 1993 to 1995 with Northern States Power Company-Wisconsin.

My job responsibilities include rate design, rate-revenue determinations, and cost allocations for the utility operating subsidiaries of Xcel Energy. I have presented several papers and have a published book chapter on electric utility pricing issues. In 1999, I lectured on industrial rate design at Taiwan Power Company headquarters.

I have sponsored rate design testimony in proceedings before state regulatory commissions in Minnesota, North Dakota, South Dakota, Wisconsin, and Colorado.

**Minnesota Electric Rate Book - MPUC No. 2**  
**2016 Proposed Tariff Sheets**

Sheet No. 1-1, revision 7 *	Sheet No. 5-11.1, revision 8 *
Sheet No. 1-2, revision 9 *	Sheet No. 5-12, revision 7
Sheet No. 1-3, revision 14 *	Sheet No. 5-13, revision 5 *
Sheet No. 1-4, revision 15 *	Sheet No. 5-14, revision 20
Sheet No. 1-5, revision 8 *	Sheet No. 5-15, revision 11 *
Sheet No. 1-6, revision 5 *	Sheet No. 5-21, revision 28
	Sheet No. 5-22, revision 8 *
Sheet No. 2-1, revision 3	Sheet No. 5-23, revision 28
	Sheet No. 5-24, revision 14 *
Sheet No. 3-1, revision 6	Sheet No. 5-24.1, revision 11
Sheet No. 3-1.1, revision 5 *	Sheet No. 5-26, revision 28
Sheet No. 3-2, revision 6 *	Sheet No. 5-27, revision 8 *
Sheet No. 3-2.1, revision 5 *	Sheet No. 5-28, revision 7 *
Sheet No. 3-3, revision 6	Sheet No. 5-28.1, revision 5 *
Sheet No. 3-3.1, revision 5	Sheet No. 5-29, revision 24
Sheet No. 3-4, revision 6	Sheet No. 5-30, revision 15 *
Sheet No. 3-4.1, revision 5 *	Sheet No. 5-31, revision 8 *
Sheet No. 3-5, revision 6	Sheet No. 5-32, revision 6 *
Sheet No. 3-5.1, revision 6 *	Sheet No. 5-32.1, revision 5 *
Sheet No. 3-6, revision 6 *	Sheet No. 5-40, revision 20
Sheet No. 3-6.1, revision 5 *	Sheet No. 5-41, revision 17 *
Sheet No. 3-7, revision 6 *	Sheet No. 5-42, revision 6 *
Sheet No. 3-7.1, revision 4 *	Sheet No. 5-43, revision 6 *
Sheet No. 3-8, revision 6 *	Sheet No. 5-44, revision 15
	Sheet No. 5-45, revision 22
Sheet No. 5-TOC-1, revision 9 *	Sheet No. 5-46, revision 12 *
Sheet No. 5-TOC-2, revision 12 *	Sheet No. 5-47, revision 7 *
Sheet No. 5-1, revision 28	Sheet No. 5-47.1, revision 6 *
Sheet No. 5-1.1, revision 9 *	Sheet No. 5-48, revision 7 *
Sheet No. 5-2, revision 28	Sheet No. 5-49, revision 6 *
Sheet No. 5-3, revision 12 *	Sheet No. 5-50, revision 6 *
Sheet No. 5-4, revision 6 *	Sheet No. 5-64, revision 9
Sheet No. 5-5, revision 16	Sheet No. 5-65, revision 21 *
Sheet No. 5-6, revision 16 *	Sheet No. 5-65.1, revision 5 *
Sheet No. 5-9, revision 27	Sheet No. 5-66, revision 7
Sheet No. 5-10, revision 8 *	Sheet No. 5-67, revision 6 *
Sheet No. 5-10.1, revision 5 *	Sheet No. 5-68, revision 5 *
Sheet No. 5-11, revision 30	Sheet No. 5-71, revision 14

\* = No substantive changes to sheet, but included to provide complete tariff.

**Minnesota Electric Rate Book - MPUC No. 2**  
**2016 Proposed Tariff Sheets**

Sheet No. 5-72, revision 7 *	Sheet No. 5-93.11, revision 4 *
Sheet No. 5-73, revision 6 *	Sheet No. 5-93.12, revision 7*
Sheet No. 5-74, revision 22	Sheet No. 5-93.13, revision 3 *
Sheet No. 5-74.1, revision 10 *	Sheet No. 5-94, revision 11 *
Sheet No. 5-76, revision 21	Sheet No. 5-95, revision 8
Sheet No. 5-77, revision 11 *	Sheet No. 5-96, revision 8 *
Sheet No. 5-78, revision 26	Sheet No. 5-97, revision 8 *
Sheet No. 5-78.1, revision 6 *	Sheet No. 5-98, revision 5 *
Sheet No. 5-80, revision 24	Sheet No. 5-99, revision 8 *
Sheet No. 5-81, revision 14 *	Sheet No. 5-99.1, revision 5 *
Sheet No. 5-82, revision 7 *	Sheet No. 5-100, revision 5 *
Sheet No. 5-83, revision 6 *	Sheet No. 5-101, revision 17
Sheet No. 5-84, revision 6 *	Sheet No. 5-102, revision 13 *
Sheet No. 5-84.1, revision 4 *	Sheet No. 5-103, revision 6 *
Sheet No. 5-85, revision 27	Sheet No. 5-104, revision 7 *
Sheet No. 5-86, revision 7 *	Sheet No. 5-105, revision 7 *
Sheet No. 5-87, revision 28	Sheet No. 5-106, revision 7 *
Sheet No. 5-88, revision 8 *	Sheet No. 5-107, revision 5 *
Sheet No. 5-89, revision 12	Sheet No. 5-108, revision 10
Sheet No. 5-91, revision 25	Sheet No. 5-109, revision 15 *
Sheet No. 5-91.1, revision 14 *	Sheet No. 5-110, revision 8 *
Sheet No. 5-91.2, revision 9 *	Sheet No. 5-111, revision 7 *
Sheet No. 5-91.3, revision 11	Sheet No. 5-112, revision 8 *
Sheet No. 5-92, revision 16	Sheet No. 5-113, revision 8 *
Sheet No. 5-92.1, revision 6	Sheet No. 5-114, revision 7 *
Sheet No. 5-93, revision 8 *	Sheet No. 5-115, revision 11
Sheet No. 5-93.1, revision 12 *	Sheet No. 5-116, revision 8 *
Sheet No. 5-93.2, revision 14 *	Sheet No. 5-116.1, revision 5 *
Sheet No. 5-93.3, revision 10 *	Sheet No. 5-117, revision 3 *
Sheet No. 5-93.4, revision 15 *	Sheet No. 5-118, revision 3 *
Sheet No. 5-93.5, revision 12 *	Sheet No. 5-119, revision 5 *
Sheet No. 5-93.6, revision 4 *	Sheet No. 5-120, revision 5 *
Sheet No. 5-93.7, revision 4 *	Sheet No. 5-121, revision 5 *
Sheet No. 5-93.8, revision 4 *	Sheet No. 5-122, revision 5 *
Sheet No. 5-93.9, revision 4 *	Sheet No. 5-123, revision 5 *
Sheet No. 5-93.10, revision 4 *	Sheet No. 5-124, revision 6 *

\* = No substantive changes to sheet, but included to provide complete tariff.



**Minnesota Electric Rate Book - MPUC No. 2**  
**2016 Proposed Tariff Sheets**

Sheet No. 5-126, revision 11 \*

Sheet No. 5-131, revision 7 \*

Sheet No. 5-132, revision 6 \*

Sheet No. 5-133, revision 6 \*

Sheet No. 5-134, revision 7 \*

Sheet No. 5-134.1, revision 6 \*

Sheet No. 5-135, revision 5 \*

Sheet No. 5-136, revision 8 \*

Sheet No. 5-136.1, revision 7 \*

Sheet No. 5-137, revision 12 \*

Sheet No. 5-138, revision 5 \*

Sheet No. 5-139, revision 2 \*

Sheet No. 5-140, revision 2 \*

Sheet No. 5-141, revision 2 \*

Sheet No. 5-142, revision 15 \*

Sheet No. 5-143, revision 16 \*

Sheet No. 5-144, revision 12

Sheet No. 5-145, revision 5 \*

Sheet No. 5-146, revision 10 \*

Sheet No. 5-147, revision 11 \*

\* = No substantive changes to sheet, but included to provide complete tariff.

**Summary List of 2016 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Contact List	2-1		Updated contact name & title.
Index of Company's Service Area	3-1 thru 3-8		Various Service Area Updates.
Residential Service	5-1	A00, A01, A03	Rate changes.
Residential Time of Day Service	5-2	A02, A04	Rate changes.
Residential Electric Vehicle Service	5-5	A08	Rate changes.
Energy Controlled Service (Non-Demand Metered)	5-9	A05	Rate changes.
Limited Off Peak Service	5-11	A06	Rate changes.
Limited Off Peak Service	5-12	A06	Rate change.
Automatic Protective Lighting Service	5-14	A07	Rate changes.
Small General Service	5-21	A09, A10, A11, A13	Rate changes.
Small General Time of Day Service	5-23, 5-24.1	A12, A16, A18, A22	Rate changes.
General Service	5-26	A14	Rate changes.
General Time of Day Service	5-29	A15, A17, A19	Rate changes.
Peak Controlled Service	5-40	A23	Rate changes.
Peak Controlled Time of Day Service	5-44, 5-45	A24	Rate changes.
Real Time Pricing Service	5-64, 5-66	A62 (Firm), A63 (Controllable)	Rate changes.
Hiawatha Light Rail Line Tariff	5-71	A29	Rate changes.
Street Lighting System Service	5-74	A30	Rate changes.
Street Lighting Energy Service (Closed)	5-76	A32	Rate changes.

**Summary List of 2016 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Street Lighting Energy Service – Metered	5-78	A34	Rate changes.
Street Lighting – City of St. Paul	5-80	A37	Rate changes.
Small Municipal Pumping Service	5-85	A40	Rate changes.
Municipal Pumping Service	5-87	A41	Rate changes.
Fire and Civil Defense Siren Service	5-89	A42	Rate changes.
Fuel Clause Rider	5-91, 5-91.3		1. Rate changes. 2. Ratio changes. 3. Administrative Correction: Added “Residential Electric Vehicle (A08)” to Rate Schedules by Service Category
Conservation Improvement Program Adjustment Rider	5-92, 5-92.1		Rate changes.
Low Income Energy Discount Rider	5-95		Added Proposed Senior/Medical Assistance Program Language
Standby Service Rider	5-101		Rate changes.
Supplemental Generation Service Rider	5-108		Rate changes.
Tier 1 Energy Controlled Service Rider	5-115		Rate changes.
Transmission Cost Recovery Rider	5-144		Administrative Correction: Deleted “, and (4) Street Lighting”

**Minnesota Electric Rate Book - MPUC No. 2**  
**2017 Proposed Tariff Sheets**

2017 Proposed Tariff Sheet Changes (in addition to those Proposed for 2016)

Sheet No. 5-1, revision 28  
Sheet No. 5-2, revision 28  
Sheet No. 5-5, revision 16  
Sheet No. 5-9, revision 27  
Sheet No. 5-11, revision 30  
Sheet No. 5-12, revision 7  
Sheet No. 5-14, revision 20  
Sheet No. 5-21, revision 28  
Sheet No. 5-23, revision 28  
Sheet No. 5-24.1, revision 11  
Sheet No. 5-26, revision 28  
Sheet No. 5-29, revision 24  
Sheet No. 5-40, revision 20  
Sheet No. 5-44, revision 15  
Sheet No. 5-45, revision 22  
Sheet No. 5-64, revision 9  
Sheet No. 5-66, revision 7  
Sheet No. 5-71, revision 14  
Sheet No. 5-74, revision 22  
Sheet No. 5-76, revision 21  
Sheet No. 5-78, revision 26  
Sheet No. 5-80, revision 24  
Sheet No. 5-85, revision 27  
Sheet No. 5-87, revision 28  
Sheet No. 5-89, revision 12  
Sheet No. 5-91, revision 25  
Sheet No. 5-91.3, revision 11  
Sheet No. 5-92, revision 16  
Sheet No. 5-92.1, revision 6  
Sheet No. 5-95, revision 8  
Sheet No. 5-101, revision 17  
Sheet No. 5-108, revision 10  
Sheet No. 5-115, revision 11  
Sheet No. 5-144, revision 12

**Summary List of 2017 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Residential Service	5-1	A00, A01, A03	Rate changes.
Residential Time of Day Service	5-2	A02, A04	Rate changes.
Residential Electric Vehicle Service	5-5	A08	Rate changes.
Energy Controlled Service (Non-Demand Metered)	5-9	A05	Rate changes.
Limited Off Peak Service	5-11	A06	Rate changes.
Limited Off Peak Service	5-12	A06	Rate change.
Automatic Protective Lighting Service	5-14	A07	Rate changes.
Small General Service	5-21	A09, A10, A11, A13	Rate changes.
Small General Time of Day Service	5-23, 5-24.1	A12, A16, A18, A22	Rate changes.
General Service	5-26	A14	Rate changes.
General Time of Day Service	5-29	A15, A17, A19	Rate changes.
Peak Controlled Service	5-40	A23	Rate changes.
Peak Controlled Time of Day Service	5-44, 5-45	A24	Rate changes.
Real Time Pricing Service	5-64, 5-66	A62 (Firm), A63 (Controllable)	Rate changes.
Hiawatha Light Rail Line Tariff	5-71	A29	Rate changes.
Street Lighting System Service	5-74	A30	Rate changes.
Street Lighting Energy Service (Closed)	5-76	A32	Rate changes.
Street Lighting Energy Service – Metered	5-78	A34	Rate changes.
Street Lighting – City of St. Paul	5-80	A37	Rate changes.
Small Municipal Pumping Service	5-85	A40	Rate changes.

**Summary List of 2017 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Municipal Pumping Service	5-87	A41	Rate changes.
Fire and Civil Defense Siren Service	5-89	A42	Rate changes.
Fuel Clause Rider	5-91, 5-91.3		1. Rate changes. 2. Ratio changes. 3. Administrative Correction: Added “Residential Electric Vehicle (A08)” to Rate Schedules by Service Category
Conservation Improvement Program Adjustment Rider	5-92, 5-92.1		Rate changes.
Low Income Energy Discount Rider	5-95		Added Proposed Senior/Medical Assistance Program Language
Standby Service Rider	5-101		Rate changes.
Supplemental Generation Service Rider	5-108		Rate changes.
Tier 1 Energy Controlled Service Rider	5-115		Rate changes.
Transmission Cost Recovery Rider	5-144		Administrative Correction: Deleted “, and (4) Street Lighting”

**Minnesota Electric Rate Book - MPUC No. 2**  
**2018 Proposed Tariff Sheets**

2018 Proposed Tariff Sheet Changes (in addition to those Proposed for 2016)

Sheet No. 1-3, revision 14	
Sheet No. 5-TOC-2, revision 12	Sheet No. 5-66, revision 7
Sheet No. 5-1, revision 28	Sheet No. 5-71, revision 14
Sheet No. 5-2, revision 28	Sheet No. 5-74, revision 22
Sheet No. 5-5, revision 16	Sheet No. 5-76, revision 21
Sheet No. 5-9, revision 27	Sheet No. 5-78, revision 26
Sheet No. 5-11, revision 30	Sheet No. 5-80, revision 24
Sheet No. 5-12, revision 7	Sheet No. 5-85, revision 27
Sheet No. 5-14, revision 20	Sheet No. 5-87, revision 28
Sheet No. 5-21, revision 28	Sheet No. 5-89, revision 12
Sheet No. 5-23, revision 28	Sheet No. 5-91, revision 25
Sheet No. 5-24.1, revision 11	Sheet No. 5-91.3, revision 11
Sheet No. 5-26, revision 28	Sheet No. 5-92, revision 16
Sheet No. 5-29, revision 24	Sheet No. 5-92.1, revision 6
Sheet No. 5-40, revision 20	Sheet No. 5-95, revision 8
Sheet No. 5-41, revision 17	Sheet No. 5-101, revision 17
Sheet No. 5-44, revision 15	Sheet No. 5-108, revision 10
Sheet No. 5-45, revision 22	Sheet No. 5-115, revision 11
Sheet No. 5-64, revision 9	Sheet No. 5-144, revision 12
Sheet No. 5-65, revision 21	Sheet No. 5-148, original

**Summary List of 2018 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Table of Contents	1-3		Added "General Rate Adjustment Surcharge Rider."
Table of Contents	5-TOC-2		Added "General Rate Adjustment Surcharge Rider."
Residential Service	5-1	A00, A01, A03	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Residential Time of Day Service	5-2	A02, A04	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Residential Electric Vehicle Service	5-5	A08	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Energy Controlled Service (Non-Demand Metered)	5-9	A05	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Limited Off Peak Service	5-11	A06	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Limited Off Peak Service	5-12	A06	Rate change.
Automatic Protective Lighting Service	5-14	A07	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Small General Service	5-21	A09, A10, A11, A13	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Small General Time of Day Service	5-23, 5-24.1	A12, A16, A18, A22	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
General Service	5-26	A14	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
General Time of Day Service	5-29	A15, A17, A19	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Peak Controlled Service	5-40, 5-41	A23	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Peak Controlled Time of Day Service	5-44, 5-45	A24	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.



**Summary List of 2018 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Real Time Pricing Service	5-64, 5-65, 5-66	A62 (Firm), A63 (Controllable)	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Hiawatha Light Rail Line Tariff	5-71	A29	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Street Lighting System Service	5-74	A30	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Street Lighting Energy Service (Closed)	5-76	A32	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Street Lighting Energy Service – Metered	5-78	A34	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Street Lighting – City of St. Paul	5-80	A37	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Small Municipal Pumping Service	5-85	A40	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Municipal Pumping Service	5-87	A41	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Fire and Civil Defense Siren Service	5-89	A42	1. Rate changes. 2. Added General Rate Adjustment Surcharge Rider paragraph.
Fuel Clause Rider	5-91, 5-91.3		1. Rate changes. 2. Ratio changes. 3. Administrative Correction: Added “Residential Electric Vehicle (A08)” to Rate Schedules by Service Category
Conservation Improvement Program Adjustment Rider	5-92, 5-92.1		Rate changes.
Low Income Energy Discount Rider	5-95		Added Proposed Senior/Medical Assistance Program Language
Standby Service Rider	5-101		Rate changes.
Supplemental Generation Service Rider	5-108		Rate changes.

**Summary List of 2018 Tariff Changes**

<b><u>Tariff</u></b>	<b><u>Sheet No.</u></b>	<b><u>Rate Code</u></b>	<b><u>Changes</u></b>
Tier 1 Energy Controlled Service Rider	5-115		Rate changes.
Transmission Cost Recovery Rider	5-144		Administrative Correction: Deleted “, and (4) Street Lighting”
General Rate Adjustment Surcharge Rider	5-148		Added New Rider.

	2016	2017	2018	2016- 2017	2017- 2018	2016- 2018
<b>Present Base Revenue Including CCRC</b>						
SCI	796,032	800,685	803,836	4,653	3,151	7,804
LCI	389,255	389,691	392,007	436	2,316	2,752
OPA	5,270	5,207	5,195	-63	-12	-75
<b>Demand</b>	<b>1,190,557</b>	<b>1,195,582</b>	<b>1,201,038</b>	<b>5,026</b>	<b>5,455</b>	<b>10,481</b>
<b>MWH</b>						
SCI	12,599,248	12,672,503	12,722,706	73,255	50,204	123,459
LCI	8,351,402	8,361,801	8,409,141	10,400	47,340	57,739
OPA	62,916	62,139	62,060	-777	-78	-855
<b>Demand</b>	<b>21,013,565</b>	<b>21,096,443</b>	<b>21,193,908</b>	<b>82,877</b>	<b>97,465</b>	<b>180,342</b>
<b>CCRC / MWH</b>				3.13000	3.13000	3.13000
<b>CCRC Change = MWH Change x CCRC</b>						
SCI				229	157	386
LCI				33	148	181
OPA				-2	0	-3
<b>Demand</b>				<b>259</b>	<b>305</b>	<b>564</b>
<b>Present Base Revenue Excluding CCRC Change</b>						
SCI	796,032	800,478	803,618	4,424	2,994	7,418
LCI	389,255	389,551	391,679	403	2,168	2,571
OPA	5,270	5,202	5,190	-61	-12	-73
<b>Demand</b>	<b>1,190,557</b>	<b>1,195,231</b>	<b>1,200,487</b>	<b>4,766</b>	<b>5,150</b>	<b>9,917</b>

**SALES AND REVENUE BY RATE SCHEDULE**

Service Schedule	Average Customers	Revenues (\$1,000's)										
		MWH Sales			Summer		Winter		Annual		Increase	
		Summer	Winter	Annual	Present	Proposed	Present	Proposed	Present	Proposed	Amount	Percent
<b>Residential</b>												
Residential	1,127,454	3,178,049	5,334,776	8,512,825	413,417	449,219	662,485	717,230	1,075,902	1,166,448	90,547	8.42%
Residential TOD	436	1,517	3,755	5,272	205	222	406	437	611	659	48	7.90%
Load Management	3,420	5,873	34,624	40,497	534	550	2,651	2,694	3,185	3,244	59	1.87%
<b>Res Total</b>	<b>1,131,309</b>	<b>3,185,439</b>	<b>5,373,156</b>	<b>8,558,594</b>	<b>414,156</b>	<b>449,991</b>	<b>665,541</b>	<b>720,361</b>	<b>1,079,697</b>	<b>1,170,351</b>	<b>90,654</b>	<b>8.40%</b>
<b>C&amp;I - Non-Demand</b>												
Small General	74,883	276,570	551,107	827,676	35,771	37,401	64,560	66,760	100,331	104,161	3,830	3.82%
Small General TOD	10,810	29,033	61,806	90,839	3,444	3,692	6,600	7,030	10,043	10,721	678	6.75%
Load Management	192	804	3,861	4,666	77	83	294	311	371	394	23	6.14%
<b>C&amp;I N-D Total</b>	<b>85,885</b>	<b>306,407</b>	<b>616,774</b>	<b>923,181</b>	<b>39,291</b>	<b>41,176</b>	<b>71,454</b>	<b>74,101</b>	<b>110,746</b>	<b>115,277</b>	<b>4,531</b>	<b>4.09%</b>
<b>C&amp;I - Demand</b>												
General	40,037	2,942,238	5,232,208	8,174,446	311,063	328,318	486,919	509,327	797,983	837,646	39,663	4.97%
General TOD	4,054	2,966,679	5,236,980	8,203,660	250,142	264,893	392,947	413,370	643,089	678,263	35,174	5.47%
Light Rail	16	6,840	14,016	20,856	640	681	1,213	1,282	1,854	1,964	110	5.94%
Peak-Controlled	1,587	432,751	834,922	1,267,673	42,344	44,656	75,941	79,879	118,285	124,535	6,250	5.28%
Peak-Controlled TOD	402	976,505	1,829,276	2,805,781	78,841	83,605	137,669	145,540	216,511	229,145	12,634	5.84%
Energy-Controlled	17	160,727	296,779	457,506	10,108	10,811	18,847	20,169	28,955	30,980	2,025	6.99%
Real Time Pricing	2	7,030	13,697	20,727	461	492	901	982	1,362	1,474.0	112	8.23%
<b>C&amp;I Dmd Total</b>	<b>46,116</b>	<b>7,492,770</b>	<b>13,457,879</b>	<b>20,950,649</b>	<b>693,599</b>	<b>733,456</b>	<b>1,114,438</b>	<b>1,170,550</b>	<b>1,808,038</b>	<b>1,904,006</b>	<b>95,968</b>	<b>5.31%</b>
<b>C&amp;I Total</b>	<b>132,000</b>	<b>7,799,177</b>	<b>14,074,653</b>	<b>21,873,830</b>	<b>732,891</b>	<b>774,632</b>	<b>1,185,893</b>	<b>1,244,651</b>	<b>1,918,784</b>	<b>2,019,282</b>	<b>100,499</b>	<b>5.24%</b>
<b>Public Authorities</b>												
Small Mun Pumping	987	2,775	5,015	7,790	377	395	614	639	990	1,034	44	4.42%
Municipal Pumping	1,087	26,360	36,556	62,916	3,192	3,362	4,025	4,193	7,217	7,554	337	4.67%
Siren Service	0	0	0	0	12	12	23	25	35	37	2	5.33%
<b>PA Total</b>	<b>2,073</b>	<b>29,135</b>	<b>41,571</b>	<b>70,706</b>	<b>3,581</b>	<b>3,769</b>	<b>4,662</b>	<b>4,856</b>	<b>8,243</b>	<b>8,625</b>	<b>383</b>	<b>4.64%</b>
<b>Lighting</b>												
System Service	0	17,292	47,190	64,482	5,443	6,105	11,153	12,495	16,596	18,600	2,004	12.08%
Energy	0	9,117	24,880	33,996	782	823	1,705	1,798	2,487	2,621	134	5.38%
Metered Energy	2,249	12,957	35,361	48,318	888	936	2,393	2,522	3,281	3,458	177	5.40%
Protective Lighting	0	8,215	22,610	30,826	1,355	1,466	2,842	3,072	4,197	4,537	340	8.11%
<b>Lighting Total</b>	<b>2,249</b>	<b>47,581</b>	<b>130,040</b>	<b>177,621</b>	<b>8,468</b>	<b>9,330</b>	<b>18,093</b>	<b>19,887</b>	<b>26,561</b>	<b>29,217</b>	<b>2,655</b>	<b>10.00%</b>
<b>Total Retail</b>	<b>1,267,632</b>	<b>11,061,332</b>	<b>19,619,420</b>	<b>30,680,751</b>	<b>1,159,096</b>	<b>1,237,721</b>	<b>1,874,189</b>	<b>1,989,755</b>	<b>3,033,285</b>	<b>3,227,476</b>	<b>194,191</b>	<b>6.40%</b>
Other Rev Increase					0	129	0	259	0	388	388	
Interdept. Increase					0	15	0	19	0	33	33	
<b>Total Revenue</b>	<b>1,267,632</b>	<b>11,061,332</b>	<b>19,619,420</b>	<b>30,680,751</b>	<b>1,159,096</b>	<b>1,237,865</b>	<b>1,874,189</b>	<b>1,990,032</b>	<b>3,033,285</b>	<b>3,227,897</b>	<b>194,612</b>	<b>6.42%</b>
Interdept Present	13	4,087	5,148	9,235	358	358	451	451	809	809	0	
<b>Retail + ID</b>	<b>1,267,645</b>	<b>11,065,418</b>	<b>19,624,567</b>	<b>30,689,986</b>	<b>1,159,453</b>	<b>1,238,223</b>	<b>1,874,640</b>	<b>1,990,483</b>	<b>3,034,093</b>	<b>3,228,706</b>	<b>194,612</b>	<b>6.41%</b>

**SALES AND REVENUE BY RATE SCHEDULE**

Service Schedule	Average Customers	Revenues (\$1,000's)										
		MWH Sales			Summer		Winter		Annual		Increase	
		Summer	Winter	Annual	Present	Proposed	Present	Proposed	Present	Proposed	Amount	Percent
<b>Residential</b>												
Residential	1,127,454	3,178,049	5,334,776	8,512,825	413,229	458,641	662,170	732,543	1,075,399	1,191,184	115,785	10.77%
Residential TOD	436	1,517	3,755	5,272	205	227	406	447	610	674	63	10.36%
Load Management	3,420	5,873	34,624	40,497	534	566	2,648	2,790	3,182	3,356	174	5.46%
<b>Res Total</b>	<b>1,131,309</b>	<b>3,185,439</b>	<b>5,373,156</b>	<b>8,558,594</b>	<b>413,968</b>	<b>459,434</b>	<b>665,224</b>	<b>735,780</b>	<b>1,079,192</b>	<b>1,195,214</b>	<b>116,022</b>	<b>10.75%</b>
<b>C&amp;I - Non-Demand</b>												
Small General	74,883	276,570	551,107	827,676	35,755	38,065	64,529	67,917	100,284	105,982	5,698	5.68%
Small General TOD	10,810	29,033	61,806	90,839	3,442	3,755	6,596	7,152	10,038	10,907	869	8.65%
Load Management	192	804	3,861	4,666	77	85	294	321	371	406	35	9.48%
<b>C&amp;I N-D Total</b>	<b>85,885</b>	<b>306,407</b>	<b>616,774</b>	<b>923,181</b>	<b>39,274</b>	<b>41,906</b>	<b>71,419</b>	<b>75,390</b>	<b>110,693</b>	<b>117,295</b>	<b>6,602</b>	<b>5.96%</b>
<b>C&amp;I - Demand</b>												
General	40,037	2,942,238	5,232,208	8,174,446	310,906	332,420	486,649	514,895	797,556	847,314	49,758	6.24%
General TOD	4,054	2,966,679	5,236,980	8,203,660	250,037	268,110	392,767	417,915	642,805	686,025	43,220	6.72%
Light Rail	16	6,840	14,016	20,856	640	691	1,213	1,299	1,853	1,989	137	7.39%
Peak-Controlled	1,587	432,751	834,922	1,267,673	42,316	45,266	75,892	80,910	118,208	126,176	7,968	6.74%
Peak-Controlled TOD	402	976,505	1,829,276	2,805,781	78,802	84,683	137,599	147,338	216,401	232,020	15,620	7.22%
Energy-Controlled	17	160,727	296,779	457,506	10,100	10,980	18,832	20,491	28,932	31,471	2,539	8.77%
Real Time Pricing	2	7,030	13,697	20,727	461	499	901	1,014	1,361	1,512.2	151	11.08%
<b>C&amp;I Dmd Total</b>	<b>46,116</b>	<b>7,492,770</b>	<b>13,457,879</b>	<b>20,950,649</b>	<b>693,263</b>	<b>742,647</b>	<b>1,113,853</b>	<b>1,183,861</b>	<b>1,807,116</b>	<b>1,926,508</b>	<b>119,392</b>	<b>6.61%</b>
<b>C&amp;I Total</b>	<b>132,000</b>	<b>7,799,177</b>	<b>14,074,653</b>	<b>21,873,830</b>	<b>732,537</b>	<b>784,553</b>	<b>1,185,272</b>	<b>1,259,251</b>	<b>1,917,809</b>	<b>2,043,803</b>	<b>125,995</b>	<b>6.57%</b>
<b>Public Authorities</b>												
Small Mun Pumping	987	2,775	5,015	7,790	377	402	613	650	990	1,051	61	6.21%
Municipal Pumping	1,087	26,360	36,556	62,916	3,191	3,404	4,022	4,239	7,213	7,643	430	5.96%
Siren Service	0	0	0	0	12	12	23	25	35	37	2	6.67%
<b>PA Total</b>	<b>2,073</b>	<b>29,135</b>	<b>41,571</b>	<b>70,706</b>	<b>3,579</b>	<b>3,818</b>	<b>4,659</b>	<b>4,913</b>	<b>8,238</b>	<b>8,731</b>	<b>494</b>	<b>5.99%</b>
<b>Lighting</b>												
System Service	0	17,292	47,190	64,482	5,443	6,319	11,153	12,923	16,596	19,242	2,646	15.94%
Energy	0	9,117	24,880	33,996	782	849	1,705	1,848	2,487	2,697	210	8.42%
Metered Energy	2,249	12,957	35,361	48,318	888	965	2,393	2,602	3,281	3,567	286	8.72%
Protective Lighting	0	8,215	22,610	30,826	1,355	1,509	2,842	3,157	4,197	4,666	469	11.17%
<b>Lighting Total</b>	<b>2,249</b>	<b>47,581</b>	<b>130,040</b>	<b>177,621</b>	<b>8,468</b>	<b>9,641</b>	<b>18,093</b>	<b>20,531</b>	<b>26,561</b>	<b>30,172</b>	<b>3,611</b>	<b>13.59%</b>
<b>Total Retail</b>	<b>1,267,632</b>	<b>11,061,332</b>	<b>19,619,420</b>	<b>30,680,751</b>	<b>1,158,551</b>	<b>1,257,446</b>	<b>1,873,248</b>	<b>2,020,474</b>	<b>3,031,800</b>	<b>3,277,921</b>	<b>246,121</b>	<b>8.12%</b>
Other Rev Increase					0	167	0	335	0	502	502	
Interdept. Increase					0	19	0	24	0	43	43	
<b>Total Revenue</b>	<b>1,267,632</b>	<b>11,061,332</b>	<b>19,619,420</b>	<b>30,680,751</b>	<b>1,158,551</b>	<b>1,257,633</b>	<b>1,873,248</b>	<b>2,020,833</b>	<b>3,031,800</b>	<b>3,278,466</b>	<b>246,667</b>	<b>8.14%</b>
Interdept Present	13	4,087	5,148	9,235	358	358	451	451	808	808	0	
<b>Retail + ID</b>	<b>1,267,645</b>	<b>11,065,418</b>	<b>19,624,567</b>	<b>30,689,986</b>	<b>1,158,909</b>	<b>1,257,991</b>	<b>1,873,699</b>	<b>2,021,284</b>	<b>3,032,608</b>	<b>3,279,274</b>	<b>246,667</b>	<b>8.13%</b>

**SALES AND REVENUE BY RATE SCHEDULE**

Service Schedule	Average Customers	Revenues (\$1,000's)										
		MWH Sales			Summer		Winter		Annual		Increase	
		Summer	Winter	Annual	Present	Proposed	Present	Proposed	Present	Proposed	Amount	Percent
<b>Residential</b>												
Residential	1,127,454	3,178,049	5,334,776	8,512,825	413,048	466,032	661,866	744,348	1,074,914	1,210,380	135,466	12.60%
Residential TOD	436	1,517	3,755	5,272	205	231	406	454	610	684	74	12.15%
Load Management	3,420	5,873	34,624	40,497	533	574	2,647	2,827	3,180	3,401	221	6.95%
<b>Res Total</b>	<b>1,131,309</b>	<b>3,185,439</b>	<b>5,373,156</b>	<b>8,558,594</b>	<b>413,786</b>	<b>466,837</b>	<b>664,918</b>	<b>747,628</b>	<b>1,078,704</b>	<b>1,214,465</b>	<b>135,761</b>	<b>12.59%</b>
<b>C&amp;I - Non-Demand</b>												
Small General	74,883	276,570	551,107	827,676	35,740	38,669	64,498	68,976	100,238	107,644	7,406	7.39%
Small General TOD	10,810	29,033	61,806	90,839	3,441	3,814	6,593	7,261	10,033	11,075	1,042	10.38%
Load Management	192	804	3,861	4,666	77	87	294	325	371	412	41	11.05%
<b>C&amp;I N-D Total</b>	<b>85,885</b>	<b>306,407</b>	<b>616,774</b>	<b>923,181</b>	<b>39,257</b>	<b>42,569</b>	<b>71,385</b>	<b>76,562</b>	<b>110,642</b>	<b>119,131</b>	<b>8,489</b>	<b>7.67%</b>
<b>C&amp;I - Demand</b>												
General	40,037	2,942,238	5,232,208	8,174,446	310,755	337,480	486,389	522,348	797,144	859,827	62,684	7.86%
General TOD	4,054	2,966,679	5,236,980	8,203,660	249,937	271,875	392,594	423,447	642,530	695,322	52,792	8.22%
Light Rail	16	6,840	14,016	20,856	640	701	1,212	1,317	1,851	2,018	166	8.99%
Peak-Controlled	1,587	432,751	834,922	1,267,673	42,289	45,937	75,845	82,074	118,134	128,011	9,877	8.36%
Peak-Controlled TOD	402	976,505	1,829,276	2,805,781	78,764	85,836	137,531	149,275	216,295	235,111	18,816	8.70%
Energy-Controlled	17	160,727	296,779	457,506	10,093	11,113	18,818	20,741	28,910	31,853	2,943	10.18%
Real Time Pricing	2	7,030	13,697	20,727	460	505	900	1,027	1,361	1,531.4	171	12.54%
<b>C&amp;I Dmd Total</b>	<b>46,116</b>	<b>7,492,770</b>	<b>13,457,879</b>	<b>20,950,649</b>	<b>692,937</b>	<b>753,446</b>	<b>1,113,288</b>	<b>1,200,228</b>	<b>1,806,225</b>	<b>1,953,674</b>	<b>147,449</b>	<b>8.16%</b>
<b>C&amp;I Total</b>	<b>132,000</b>	<b>7,799,177</b>	<b>14,074,653</b>	<b>21,873,830</b>	<b>732,194</b>	<b>796,015</b>	<b>1,184,673</b>	<b>1,276,790</b>	<b>1,916,867</b>	<b>2,072,805</b>	<b>155,938</b>	<b>8.14%</b>
<b>Public Authorities</b>												
Small Mun Pumping	987	2,775	5,015	7,790	376	408	613	660	990	1,068	79	7.94%
Municipal Pumping	1,087	26,360	36,556	62,916	3,189	3,458	4,020	4,304	7,209	7,762	553	7.67%
Siren Service	0	0	0	0	12	13	23	25	35	38	3	8.83%
<b>PA Total</b>	<b>2,073</b>	<b>29,135</b>	<b>41,571</b>	<b>70,706</b>	<b>3,577</b>	<b>3,879</b>	<b>4,656</b>	<b>4,989</b>	<b>8,233</b>	<b>8,868</b>	<b>635</b>	<b>7.71%</b>
<b>Lighting</b>												
System Service	0	17,292	47,190	64,482	5,443	6,439	11,153	13,163	16,596	19,602	3,006	18.11%
Energy	0	9,117	24,880	33,996	782	862	1,705	1,874	2,487	2,736	249	9.99%
Metered Energy	2,249	12,957	35,361	48,318	888	979	2,393	2,638	3,281	3,617	336	10.25%
Protective Lighting	0	8,215	22,610	30,826	1,355	1,535	2,842	3,211	4,197	4,746	549	13.09%
<b>Lighting Total</b>	<b>2,249</b>	<b>47,581</b>	<b>130,040</b>	<b>177,621</b>	<b>8,468</b>	<b>9,815</b>	<b>18,093</b>	<b>20,887</b>	<b>26,561</b>	<b>30,702</b>	<b>4,140</b>	<b>15.59%</b>
<b>Total Retail</b>	<b>1,267,632</b>	<b>11,061,332</b>	<b>19,619,420</b>	<b>30,680,751</b>	<b>1,158,026</b>	<b>1,276,546</b>	<b>1,872,340</b>	<b>2,050,294</b>	<b>3,030,366</b>	<b>3,326,840</b>	<b>296,474</b>	<b>9.78%</b>
Other Rev Increase					0	205	0	409	0	614	614	
Interdept. Increase					0	20	0	25	0	45	45	
<b>Total Revenue</b>	<b>1,267,632</b>	<b>11,061,332</b>	<b>19,619,420</b>	<b>30,680,751</b>	<b>1,158,026</b>	<b>1,276,770</b>	<b>1,872,340</b>	<b>2,050,728</b>	<b>3,030,366</b>	<b>3,327,499</b>	<b>297,133</b>	<b>9.81%</b>
Interdept Present	13	4,087	5,148	9,235	357	357	450	450	808	808	0	
<b>Retail + ID</b>	<b>1,267,645</b>	<b>11,065,418</b>	<b>19,624,567</b>	<b>30,689,986</b>	<b>1,158,383</b>	<b>1,277,128</b>	<b>1,872,790</b>	<b>2,051,179</b>	<b>3,031,173</b>	<b>3,328,307</b>	<b>297,133</b>	<b>9.80%</b>

Revenues (\$1,000's)								
Total		Base		Fuel		Rider		
Present	Proposed	Present	Proposed	Present	Proposed	Present	Proposed	
Residential Regular	1,039,707	1,128,767	786,430	894,550	224,707	224,873	28,570	9,343
Res Space Heating	41,057	42,701	28,994	31,553	10,692	10,700	1,371	448
Total Residential	1,080,764	1,171,467	815,423	926,103	235,399	235,573	29,942	9,792
Small Comm. & Ind.	1,288,007	1,352,547	880,145	972,403	365,528	364,657	42,333	15,487
Large Comm. & Ind.	633,906	670,157	389,255	437,091	223,025	223,518	21,626	9,547
Total Comm. & Ind.	1,921,913	2,022,704	1,269,400	1,409,494	588,554	588,175	63,959	25,034
Street Lighting	22,364	24,680	19,247	21,349	2,948	3,163	169	168
Public Authorities	8,243	8,625	6,048	6,631	1,922	1,914	272	81
Total Retail	3,033,285	3,227,476	2,110,119	2,363,577	828,823	828,824	94,342	35,074
Other Revenues Incr.		388		388				
Interdept Rev Incr		33		55		-1		-21
Retail + Increases	3,033,285	3,227,897	2,110,119	2,364,020	828,823	828,823	94,342	35,053
Interdept Present Rev.	809	809	527	527	250	250	32	32
Retail + Interdept	3,034,093	3,228,706	2,110,646	2,364,548	829,073	829,073	94,374	35,085

Revenue Increase								
Total		Base		Fuel		Rider		
Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
Residential Regular	89,059	8.57%	108,121	13.75%	166	0.07%	-19,227	-67.3%
Res Space Heating	1,644	4.00%	2,559	8.83%	7	0.07%	-923	-67.3%
Total Residential	90,703	8.39%	110,680	13.57%	173	0.07%	-20,150	-67.3%
Small Comm. & Ind.	64,541	5.01%	92,258	10.48%	-871	-0.24%	-26,846	-63.4%
Large Comm. & Ind.	36,250	5.72%	47,836	12.29%	492	0.22%	-12,079	-55.9%
Total Comm. & Ind.	100,791	5.24%	140,094	11.04%	-378	-0.06%	-38,925	-60.9%
Street Lighting	2,315	10.35%	2,102	10.92%	215	7.28%	-1	-0.6%
Public Authorities	383	4.64%	583	9.63%	-9	-0.45%	-192	-70.3%
Total Retail	194,191	6.40%	253,458	12.01%	1	0.00%	-59,268	-62.8%
Other Revenues Incr.	388		388		0		0	
Interdept Rev Incr	33		55		-1		-21	
Retail + Increases	194,613	6.42%	253,901	12.03%	0	0.00%	-59,289	-62.8%
Interdept Present Rev.	0	0.00%	0	0.00%	0	0.00%	0	0.0%
Retail + Interdept	194,613	6.41%	253,901	12.03%	0	0.00%	-59,289	-62.8%

Revenues (\$1,000's)								
Total			Base		Fuel		Rider	
Present	Proposed		Present	Proposed	Present	Proposed	Present	Proposed
Residential Regular	1,039,225	1,152,515	786,430	918,299	224,707	224,873	28,088	9,343
Res Space Heating	41,034	43,845	28,994	32,697	10,692	10,700	1,348	448
Total Residential	1,080,259	1,196,360	815,423	950,996	235,399	235,573	29,437	9,792
Small Comm. & Ind.	1,287,334	1,369,080	880,145	988,936	365,528	364,657	41,660	15,487
Large Comm. & Ind.	633,604	678,242	389,255	445,177	223,025	223,518	21,324	9,547
Total Comm. & Ind.	1,920,938	2,047,323	1,269,400	1,434,114	588,554	588,175	62,984	25,034
Street Lighting	22,364	25,506	19,247	22,175	2,948	3,163	169	168
Public Authorities	8,238	8,731	6,048	6,737	1,922	1,914	268	81
Total Retail	3,031,800	3,277,921	2,110,119	2,414,022	828,823	828,824	92,857	35,074
Other Revenues Incr.		502		502				
Interdept Rev Incr		43		64		-1		-20
Retail + Increases	3,031,800	3,278,466	2,110,119	2,414,589	828,823	828,823	92,857	35,054
Interdept Present Rev.	808	808	527	527	250	250	31	31
Retail + Interdept	3,032,608	3,279,274	2,110,646	2,415,116	829,073	829,073	92,888	35,085

Revenue Increase								
Total			Base		Fuel		Rider	
Amount	Percent		Amount	Percent	Amount	Percent	Amount	Percent
Residential Regular	113,290	10.90%	131,869	16.77%	166	0.07%	-18,745	-66.7%
Res Space Heating	2,811	6.85%	3,704	12.77%	7	0.07%	-900	-66.8%
Total Residential	116,101	10.75%	135,573	16.63%	173	0.07%	-19,645	-66.7%
Small Comm. & Ind.	81,746	6.35%	108,791	12.36%	-871	-0.24%	-26,174	-62.8%
Large Comm. & Ind.	44,638	7.05%	55,922	14.37%	492	0.22%	-11,776	-55.2%
Total Comm. & Ind.	126,385	6.58%	164,713	12.98%	-378	-0.06%	-37,950	-60.3%
Street Lighting	3,142	14.05%	2,928	15.21%	215	7.28%	-1	-0.6%
Public Authorities	494	5.99%	689	11.39%	-9	-0.45%	-187	-69.8%
Total Retail	246,121	8.12%	303,903	14.40%	1	0.00%	-57,783	-62.2%
Other Revenues Incr.	502		502		0		0	
Interdept Rev Incr	43		64		-1		-20	
Retail + Increases	246,667	8.14%	304,470	14.43%	0	0.00%	-57,803	-62.2%
Interdept Present Rev.	0	0.00%	0	0.00%	0	0.00%	0	0.0%
Retail + Interdept	246,667	8.13%	304,470	14.43%	0	0.00%	-57,803	-62.2%



Revenues (\$1,000's)								
Total		Base		Fuel		Rider		
Present	Proposed	Present	Proposed	Present	Proposed	Present	Proposed	
Residential Regular	1,038,760	1,171,124	786,430	936,908	224,707	224,873	27,623	9,343
Res Space Heating	41,012	44,508	28,994	33,360	10,692	10,700	1,326	448
Total Residential	1,079,771	1,215,632	815,423	970,268	235,399	235,573	28,949	9,792
Small Comm. & Ind.	1,286,684	1,389,121	880,145	1,008,977	365,528	364,657	41,011	15,487
Large Comm. & Ind.	633,312	687,264	389,255	454,199	223,025	223,518	21,032	9,547
Total Comm. & Ind.	1,919,997	2,076,384	1,269,400	1,463,175	588,554	588,175	62,043	25,034
Street Lighting	22,364	25,956	19,247	22,625	2,948	3,163	169	168
Public Authorities	8,233	8,868	6,048	6,874	1,922	1,914	263	81
Total Retail	3,030,366	3,326,840	2,110,119	2,462,941	828,823	828,824	91,423	35,074
Other Revenues Incr.		614		614				
Interdept Rev Incr		45		76		-1		-20
Retail + Increases	3,030,366	3,327,499	2,110,119	2,463,631	828,823	828,823	91,423	35,054
Interdept Present Rev.	808	808	527	527	250	250	31	31
Retail + Interdept	3,031,173	3,328,307	2,110,646	2,464,159	829,073	829,073	91,454	35,085

Revenue Increase								
Total		Base		Fuel		Rider		
Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	
Residential Regular	132,364	12.74%	150,478	19.13%	166	0.07%	-18,279	-66.2%
Res Space Heating	3,496	8.52%	4,366	15.06%	7	0.07%	-878	-66.2%
Total Residential	135,860	12.58%	154,844	18.99%	173	0.07%	-19,157	-66.2%
Small Comm. & Ind.	102,436	7.96%	128,831	14.64%	-871	-0.24%	-25,524	-62.2%
Large Comm. & Ind.	53,951	8.52%	64,944	16.68%	492	0.22%	-11,485	-54.6%
Total Comm. & Ind.	156,388	8.15%	193,775	15.27%	-378	-0.06%	-37,009	-59.7%
Street Lighting	3,591	16.06%	3,378	17.55%	215	7.28%	-1	-0.6%
Public Authorities	635	7.71%	825	13.65%	-9	-0.45%	-182	-69.3%
Total Retail	296,474	9.78%	352,822	16.72%	1	0.00%	-56,349	-61.6%
Other Revenues Incr.	614		614		0		0	
Interdept Rev Incr	45		76		-1		-20	
Retail + Increases	297,133	9.81%	353,512	16.75%	0	0.00%	-56,369	-61.7%
Interdept Present Rev.	0	0.00%	0	0.00%	0	0.00%	0	0.0%
Retail + Interdept	297,133	9.80%	353,512	16.75%	0	0.00%	-56,369	-61.6%

Fuel Cost - Retail	Present			Proposed		
	Summer	Winter	Annual	Summer	Winter	Annual
<b>Retail</b>	2.805 ¢	2.663 ¢	2.714 ¢	2.805 ¢	2.663 ¢	2.714 ¢
<b>Residential</b>	2.857 ¢	2.712 ¢	2.764 ¢	2.855 ¢	2.710 ¢	2.762 ¢
<b>C&amp;I - Non-Demand</b>	2.943 ¢	2.794 ¢	2.848 ¢	2.891 ¢	2.744 ¢	2.797 ¢
<b>C&amp;I-Dmd - Non-TOD</b>			2.722 ¢			2.710 ¢
<b>C&amp;I-Dmd -TOD On-Peak</b>			3.455 ¢			3.389 ¢
<b>C&amp;I-Dmd -TOD Off-Peak</b>			2.168 ¢			2.216 ¢
<b>Lighting</b>			2.021 ¢			2.165 ¢

		Present	Proposed	Present	Proposed
<b>Residential (A01, A03)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>	Overhead	\$8.00	\$10.00	\$8.00	\$10.00
	Overhead - Electric Sp Ht	\$10.00	\$12.00	\$10.00	\$12.00
	Underground	\$10.00	\$12.00	\$10.00	\$12.00
	Underground - Electric Sp Ht	\$12.00	\$14.00	\$12.00	\$14.00
<b>Energy / kWh</b>	Summer	9.395 ¢	10.548 ¢	12.252 ¢	13.403 ¢
	Winter	8.040 ¢	8.998 ¢	10.752 ¢	11.708 ¢
	Winter - Electric Space Heat	5.819 ¢	6.105 ¢	8.531 ¢	8.815 ¢

<b>Residential Time of Day (A02, A04)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>	Overhead	\$10.00	\$12.00	\$10.00	\$12.00
	Underground	\$12.00	\$14.00	\$12.00	\$14.00
	Overhead - Electric Sp Ht	\$12.00	\$14.00	\$12.00	\$14.00
	Underground - Electric Sp Ht	\$14.00	\$16.00	\$14.00	\$16.00
<b>Energy / kWh</b>	On-Peak Summer	20.077 ¢	21.019 ¢	22.934 ¢	23.874 ¢
	On-Peak Winter	16.454 ¢	16.891 ¢	19.166 ¢	19.601 ¢
	On-Peak Winter -Elec. Sp Ht	10.912 ¢	9.465 ¢	13.624 ¢	12.175 ¢
	Off-Peak Summer	3.015 ¢	4.252 ¢	5.872 ¢	7.107 ¢
	Off-Peak Winter	3.015 ¢	4.252 ¢	5.727 ¢	6.962 ¢

<b>Residential Electric Vehicle (A08)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>		\$4.95	\$5.50	\$4.95	\$5.50
<b>Energy / kWh</b>	On-Peak Summer	17.564 ¢	21.019 ¢	20.421 ¢	23.874 ¢
	On-Peak Winter	14.170 ¢	16.891 ¢	16.882 ¢	19.601 ¢
	Off-Peak Summer	3.300 ¢	4.252 ¢	6.157 ¢	7.107 ¢
	Off-Peak Winter	3.300 ¢	4.252 ¢	6.012 ¢	6.962 ¢

<b>Energy-Controlled Non-Demand (A05)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>		\$4.95	\$5.50	\$4.95	\$5.50
<b>Energy / kWh</b>	Standard Resid.	4.2830 ¢	4.5300 ¢	7.047 ¢	7.292 ¢
	Standard Comm.	4.2830 ¢	4.5300 ¢	7.131 ¢	7.327 ¢
	Optional Resid. - Summer	9.395 ¢	10.548 ¢	12.252 ¢	13.403 ¢
	Optional Comm.- Summer	8.787 ¢	9.415 ¢	11.730 ¢	12.306 ¢

			Present	Proposed	Present	Proposed
<b>Limited Off-Peak (A06)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Residential		\$4.95	\$5.50	\$4.95	\$5.50
	Commercial	Sec. 1 Phase	\$10.00	\$11.00	\$10.00	\$11.00
	Commercial	Sec. 3 Phase	\$13.60	\$15.00	\$13.60	\$15.00
	Commercial	Higher Voltages	\$60.00	\$65.00	\$60.00	\$65.00
<b>Energy / kWh</b>	Residential	On-Peak	30.800 ¢	34.000 ¢	33.564 ¢	36.762 ¢
	Commercial	On-Peak	30.800 ¢	34.000 ¢	33.648 ¢	36.797 ¢
	Residential	Secondary	2.642 ¢	3.652 ¢	5.406 ¢	6.414 ¢
	Commercial	Secondary	2.642 ¢	3.652 ¢	5.490 ¢	6.449 ¢
	Commercial	Primary	2.549 ¢	3.545 ¢	5.397 ¢	6.342 ¢
	Commercial	T Trnsfrmd	2.368 ¢	3.380 ¢	5.216 ¢	6.177 ¢
	Commercial	Transmission	2.358 ¢	3.370 ¢	5.206 ¢	6.166 ¢
<b>Small General (A09, A10, A11, A13)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Metered (A10)		\$10.00	\$12.00	\$10.00	\$12.00
	Unmetered (A09)		\$8.00	\$10.00	\$8.00	\$10.00
<b>Demand / kW</b>	Direct Current		\$3.48	\$3.83	\$3.48	\$3.83
<b>Energy /kWh</b>	Summer		8.787 ¢	9.415 ¢	11.730 ¢	12.306 ¢
	Winter		7.432 ¢	7.866 ¢	10.226 ¢	10.610 ¢
<b>Small Municipal Pumping (A40)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Overhead		\$10.00	\$12.00	\$10.00	\$12.00
<b>Energy /kWh</b>	Summer		8.787 ¢	9.415 ¢	11.730 ¢	12.306 ¢
	Winter		7.432 ¢	7.866 ¢	10.226 ¢	10.610 ¢
<b>Small General TOD (A12, A16, A18, A22)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	TOD Metered (A12)		\$12.00	\$14.00	\$12.00	\$14.00
	KWH Metered (A16)		\$10.00	\$12.00	\$10.00	\$12.00
	Unmetered (A18)		\$8.00	\$10.00	\$8.00	\$10.00
	Low Wattage <100W (A22)		\$0.28	\$0.30	\$0.28	\$0.30
	Low Wattage <400W (A22)		\$1.20	\$1.28	\$1.20	\$1.28
<b>Energy / kWh</b>	On-Peak Summer		15.123 ¢	15.124 ¢	18.066 ¢	18.015 ¢
	On-Peak Winter		12.280 ¢	11.862 ¢	15.074 ¢	14.606 ¢
	Off-Peak Summer		3.015 ¢	4.252 ¢	5.958 ¢	7.143 ¢
	Off-Peak Winter		3.015 ¢	4.252 ¢	5.809 ¢	6.996 ¢
	Constant Use - Summer		7.253 ¢	8.057 ¢	10.196 ¢	10.948 ¢
	Constant Use - Winter		6.258 ¢	6.916 ¢	9.052 ¢	9.660 ¢

		Present	Proposed	Present	Proposed
<b>Demand-Metered Voltage Discounts</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Voltage Discount / kWh</b>	Primary	0.093 ¢	0.107 ¢	0.093 ¢	0.107 ¢
	Transmission Transformed	0.274 ¢	0.272 ¢	0.274 ¢	0.272 ¢
	Transmission	0.284 ¢	0.282 ¢	0.284 ¢	0.282 ¢
<b>Voltage Discount / kW</b>	Primary	\$0.90	\$0.80	\$0.90	\$0.80
	Transmission Transformed	\$1.60	\$1.55	\$1.60	\$1.55
	Transmission	\$2.40	\$2.35	\$2.40	\$2.35

<b>General (A14)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$25.75	\$25.76	\$25.75	\$25.76
<b>Demand / kW</b>	Summer	\$14.07	\$15.52	\$14.07	\$15.52
	Winter	\$9.96	\$10.92	\$9.96	\$10.92
<b>Energy / kWh</b>		3.201 ¢	3.564 ¢	5.923 ¢	6.274 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

<b>Municipal Pumping (A41)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$25.75	\$25.76	\$25.75	\$25.76
<b>Demand / kW</b>	Summer	\$14.07	\$15.52	\$14.07	\$15.52
	Winter	\$9.96	\$10.92	\$9.96	\$10.92
<b>Energy / kWh</b>		3.201 ¢	3.564 ¢	5.923 ¢	6.274 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

<b>General Time of Day (A15)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Standard A15)	\$29.75	\$29.76	\$29.75	\$29.76
	kWh Metered (A17)	\$25.75	\$25.76	\$25.75	\$25.76
	Unmetered (A19)	\$21.75	\$21.76	\$21.75	\$21.76
<b>On-Peak Demand / kW</b>	Summer	\$14.07	\$15.52	\$14.07	\$15.52
	Winter	\$9.96	\$10.92	\$9.96	\$10.92
<b>Off-Peak Demand / kW</b>		\$2.40	\$2.35	\$2.40	\$2.35
<b>Energy / kWh</b>	On-Peak	4.482 ¢	5.079 ¢	7.937 ¢	8.468 ¢
	Off-Peak	2.233 ¢	2.449 ¢	4.401 ¢	4.665 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

<b>Hiawatha Light Rail Line (A29)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$100.00	\$100.00	\$100.00	\$100.00
<b>Generation Demand / kW</b>	Summer	\$8.93	\$9.18	\$8.93	\$9.18
	Winter	\$4.82	\$4.58	\$4.82	\$4.58
<b>Transmission &amp; Distribution Demand / kW</b>		\$4.24	\$5.54	\$4.24	\$5.54
<b>Off-Peak Demand / kW</b>	Primary	\$1.50	\$1.55	\$1.50	\$1.55
<b>Energy / kWh</b>	On-Peak Primary	4.389 ¢	4.972 ¢	7.844 ¢	8.361 ¢
	Off-Peak Primary	2.140 ¢	2.342 ¢	4.308 ¢	4.558 ¢
<b>Energy Credit / kWh</b>		-1.200 ¢	-1.340 ¢	-1.200 ¢	-1.340 ¢

		Present	Proposed	Present	Proposed
<b>Peak-Controlled (A23)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$55.00	\$55.00	\$55.00	\$55.00
<b>Firm Demand / kW</b>	Summer	\$14.07	\$15.52	\$14.07	\$15.52
	Winter	\$9.96	\$10.92	\$9.96	\$10.92
<b>Control Demand / kW</b>	Tier 2 - Level A	\$8.21	\$9.31	\$8.21	\$9.31
	Tier 2 - Level B	\$7.40	\$8.44	\$7.40	\$8.44
	Tier 2 - Level C	\$6.90	\$7.93	\$6.90	\$7.93
	Tier 1 - Level B	\$6.70	\$7.73	\$6.70	\$7.73
	Tier 1 - Level C	\$6.13	\$7.15	\$6.13	\$7.15
	Tier 1 - Short Notice	\$5.63	\$6.65	\$5.63	\$6.65
<b>Energy / kWh</b>		3.201 ¢	3.564 ¢	5.923 ¢	6.274 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

		Present	Proposed	Present	Proposed
<b>Peak-Controlled TOD (A24)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$55.00	\$55.00	\$55.00	\$55.00
<b>On-Peak Demand / kW</b>	Summer	\$14.07	\$15.52	\$14.07	\$15.52
	Winter	\$9.96	\$10.92	\$9.96	\$10.92
<b>Control Demand / kW</b>	Tier 2 - Level A	\$8.21	\$9.31	\$8.21	\$9.31
	Tier 2 - Level B	\$7.40	\$8.44	\$7.40	\$8.44
	Tier 2 - Level C	\$6.90	\$7.93	\$6.90	\$7.93
	Tier 1 - Level B	\$6.70	\$7.73	\$6.70	\$7.73
	Tier 1 - Level C	\$6.13	\$7.15	\$6.13	\$7.15
	Tier 1 - Short Notice	\$5.63	\$6.65	\$5.63	\$6.65
<b>Off-Peak Demand / kW</b>		\$2.40	\$2.35	\$2.40	\$2.35
<b>Energy / kWh</b>	On-Peak	4.482 ¢	5.079 ¢	7.937 ¢	8.468 ¢
	Off-Peak	2.233 ¢	2.449 ¢	4.401 ¢	4.665 ¢
<b>Energy Credit / kWh</b>		-1.4000 ¢	-1.5600 ¢	-1.4000 ¢	-1.5600 ¢

		Present	Proposed	Present	Proposed
<b>Tier 1 Energy-Controlled Rider (A27)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$55.00	\$55.00	\$55.00	\$55.00
<b>On-Peak Demand / kW</b>	Summer	\$14.07	\$15.52	\$14.07	\$15.52
	Winter	\$9.96	\$10.92	\$9.96	\$10.92
<b>Control Demand / kW</b>	Tier 1 - Level B	\$6.70	\$7.73	\$6.70	\$7.73
	Tier 1 - Level C	\$6.13	\$7.15	\$6.13	\$7.15
	Tier 1 - Short Notice	\$5.63	\$6.65	\$5.63	\$6.65
<b>Off-Peak Demand / kW</b>		\$2.40	\$2.35	\$2.40	\$2.35
<b>Energy / kWh</b>	Firm On-Peak	4.482 ¢	5.079 ¢	7.937 ¢	8.468 ¢
	Firm Off-Peak	2.233 ¢	2.449 ¢	4.401 ¢	4.665 ¢
	Controllable On-Peak	4.261 ¢	4.863 ¢	7.716 ¢	8.252 ¢
	Controllable Off-Peak	2.178 ¢	2.388 ¢	4.346 ¢	4.604 ¢
	Control Period Energy	9.000 ¢	9.000 ¢	12.455 ¢	12.389 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

		Present	Proposed	Present	Proposed
<b>Real-Time Pricing (A63)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer /Month</b>		\$300.00	\$300.00	\$300.00	\$300.00
<b>Contract Demand /kW</b>		\$9.06	\$10.35	\$9.06	\$10.35
<b>Distribution Demand /kW</b>	Secondary	\$2.07	\$2.07	\$2.07	\$2.07
	Primary	\$1.07	\$1.07	\$1.07	\$1.07
	Transmission Transformed	\$0.46	\$0.46	\$0.46	\$0.46
<b>Limited Energy</b>	Standard	17.600 ¢	21.000 ¢	17.600 ¢	21.000 ¢
<b>Surcharge /kWh</b>	Control Level A	12.400 ¢	14.100 ¢	12.400 ¢	14.100 ¢
	Control Level B	8.800 ¢	10.000 ¢	8.800 ¢	10.000 ¢
	Control Level C	7.000 ¢	8.000 ¢	7.000 ¢	8.000 ¢
<b>Energy Credit /kWh</b>		-1.200 ¢	-1.200 ¢	-1.200 ¢	-1.200 ¢

<b>Fire &amp; Civil Defense Siren (A42)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>HP Capacity / Mo.</b>		\$0.75	\$0.79	\$0.75	\$0.79
<b>Min Charge / Mo.</b>		\$3.61	\$3.79	\$3.61	\$3.79

			Present	Proposed
<b>Standby Service Rider</b>				
<b>Supplemental Generation Service Rider</b>				
<b>Customer / Mo.</b>			\$25.75	\$25.76
<b>Demand / Contract kW</b>	Unscheduled	Secondary	\$3.47	\$3.56
	Maintenance	Primary	\$2.57	\$2.76
		Tran Transformed	\$1.87	\$2.01
		Transmission	\$1.07	\$1.21
	Scheduled	Secondary	\$3.37	\$3.46
	Maintenance and Supplemental	Primary	\$2.47	\$2.66
		Tran Transformed	\$1.77	\$1.91
		Transmission	\$0.97	\$1.11
	Non-Firm	Secondary	\$2.40	\$2.35
		Primary	\$1.50	\$1.55
		Tran Transformed	\$0.80	\$0.80
		Transmission	\$0.00	\$0.00

		Present	Proposed	Present	Proposed
<b>Automatic Protective Lighting (A07)</b>		Base Rates		Rates + Fuel	
<b>Area</b>	100 W HPSodium	\$7.34	\$7.63	\$8.16	\$8.50
	175 W Mercury	\$7.34	\$7.63	\$8.75	\$9.20
	250 W HPSodium	\$11.64	\$12.16	\$13.78	\$14.45
	400 W Mercury	\$11.64	\$12.16	\$14.84	\$15.78
<b>Directional</b>	250 W HPSodium	\$12.62	\$14.48	\$14.76	\$16.77
	400 W HPSodium	\$16.12	\$18.10	\$19.48	\$21.70
	1000 W Mercury	\$25.52	\$28.05	\$33.19	\$36.28

<b>Street Lighting System (A30)</b>		Base Rates		Rates + Fuel	
<b>Overhead</b>	70 W HPSodium	\$8.95	\$9.91	\$9.51	\$10.52
	100 W HPSodium	\$9.44	\$10.48	\$10.26	\$11.35
	150 W HPSodium	\$10.15	\$11.27	\$11.34	\$12.55
	200 W HPSodium	\$11.89	\$13.28	\$13.54	\$15.05
	250 W HPSodium	\$12.78	\$14.30	\$14.92	\$16.59
	400 W HPSodium	\$15.50	\$17.35	\$18.86	\$20.95
	175 W Metal Halide	\$13.86	\$15.43	\$15.27	\$16.95
<b>Underground</b>	70 W HPSodium	\$17.67	\$20.30	\$18.23	\$20.91
	100 W HPSodium	\$18.16	\$20.87	\$18.98	\$21.74
	150 W HPSodium	\$18.87	\$21.66	\$20.06	\$22.94
	250 W HPSodium	\$21.29	\$24.22	\$23.43	\$26.51
	400 W HPSodium	\$23.72	\$26.97	\$27.08	\$30.57
	175 W Metal Halide	\$25.51	\$28.88	\$26.92	\$30.40
<b>Decorative UG</b>	100 W HPSodium	\$28.16	\$33.10	\$28.98	\$33.97
	150 W HPSodium	\$29.25	\$34.29	\$30.44	\$35.57
	250 W HPSodium	\$31.11	\$36.40	\$33.25	\$38.69
	400 W HPSodium	\$33.36	\$38.96	\$36.72	\$42.56
	175 W Metal Halide	\$33.36	\$38.96	\$34.77	\$40.48
<b>Purchase Option</b>	70 W HPSodium	\$5.50	\$6.15	\$6.06	\$6.76
	100 W HPSodium	\$6.14	\$6.88	\$6.96	\$7.75
	150 W HPSodium	\$6.94	\$7.76	\$8.13	\$9.04
	250 W HPSodium	\$8.83	\$9.91	\$10.97	\$12.20
	400 W HPSodium	\$11.38	\$12.77	\$14.74	\$16.37
	175 W Metal Halide	\$12.47	\$13.96	\$13.88	\$15.48

	Present	Proposed	Present	Proposed
<b>Street Lighting Energy (A32)</b>	<b>Base Rates</b>		<b>Rates + Fuel</b>	
100 W Mercury	\$2.37	\$2.48	\$3.25	\$3.43
175 W Mercury	\$3.53	\$3.70	\$4.94	\$5.21
250 W Mercury	\$4.78	\$5.01	\$6.77	\$7.14
400 W Mercury	\$7.45	\$7.81	\$10.65	\$11.24
700 W Mercury	\$12.39	\$12.98	\$17.85	\$18.83
1000 W Mercury	\$17.24	\$18.06	\$24.91	\$26.29
1F72HO Fluorescent	\$3.61	\$3.61	\$4.52	\$4.58
50 W HPSodium	\$1.32	\$1.38	\$1.72	\$1.81
70 W HPSodium	\$1.67	\$1.75	\$2.23	\$2.35
100 W HPSodium	\$2.22	\$2.33	\$3.04	\$3.20
150 W HPSodium	\$3.04	\$3.19	\$4.23	\$4.46
200 W HPSodium	\$4.05	\$4.24	\$5.70	\$6.01
250 W HPSodium	\$5.12	\$5.36	\$7.26	\$7.65
400 W HPSodium	\$7.79	\$8.16	\$11.15	\$11.76
750 W HPSodium	\$13.37	\$14.01	\$19.27	\$20.34

<b>Street Lighting Energy - Metered (A34)</b>	<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	\$4.75	\$5.00	\$4.75	\$5.00
<b>Energy Charge per kWh</b>	4.402 ¢	4.609 ¢	6.423 ¢	6.774 ¢

<b>Street Lighting Energy - City of St. Paul (A37)</b>	<b>Base Rates</b>		<b>Rates + Fuel</b>	
100 W HPSodium	\$5.35	\$5.72	\$6.17	\$6.59
150 W HPSodium	\$6.07	\$6.41	\$7.26	\$7.69
250 W HPSodium	\$8.78	\$8.98	\$10.92	\$11.27



Fuel Cost - Retail	Present			Proposed		
	Summer	Winter	Annual	Summer	Winter	Annual
<b>Retail</b>	2.805 ¢	2.663 ¢	2.714 ¢	2.805 ¢	2.663 ¢	2.714 ¢
<b>Residential</b>	2.857 ¢	2.712 ¢	2.764 ¢	2.855 ¢	2.710 ¢	2.762 ¢
<b>C&amp;I - Non-Demand</b>	2.943 ¢	2.794 ¢	2.848 ¢	2.891 ¢	2.744 ¢	2.797 ¢
<b>C&amp;I-Dmd - Non-TOD</b>			2.722 ¢			2.710 ¢
<b>C&amp;I-Dmd -TOD On-Peak</b>			3.455 ¢			3.389 ¢
<b>C&amp;I-Dmd -TOD Off-Peak</b>			2.168 ¢			2.216 ¢
<b>Lighting</b>			2.021 ¢			2.165 ¢

		Present	Proposed	Present	Proposed
<b>Residential (A01, A03)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>	Overhead	\$8.00	\$10.00	\$8.00	\$10.00
	Overhead - Electric Sp Ht	\$10.00	\$12.00	\$10.00	\$12.00
	Underground	\$10.00	\$12.00	\$10.00	\$12.00
	Underground - Electric Sp Ht	\$12.00	\$14.00	\$12.00	\$14.00
<b>Energy / kWh</b>	Summer	9.395 ¢	10.865 ¢	12.252 ¢	13.720 ¢
	Winter	8.040 ¢	9.285 ¢	10.752 ¢	11.995 ¢
	Winter - Electric Space Heat	5.819 ¢	6.394 ¢	8.531 ¢	9.104 ¢

<b>Residential Time of Day (A02, A04)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>	Overhead	\$10.00	\$12.00	\$10.00	\$12.00
	Underground	\$12.00	\$14.00	\$12.00	\$14.00
	Overhead - Electric Sp Ht	\$12.00	\$14.00	\$12.00	\$14.00
	Underground - Electric Sp Ht	\$14.00	\$16.00	\$14.00	\$16.00
<b>Energy / kWh</b>	On-Peak Summer	20.077 ¢	21.583 ¢	22.934 ¢	24.438 ¢
	On-Peak Winter	16.454 ¢	17.376 ¢	19.166 ¢	20.086 ¢
	On-Peak Winter -Elec. Sp Ht	10.912 ¢	9.973 ¢	13.624 ¢	12.683 ¢
	Off-Peak Summer	3.015 ¢	4.420 ¢	5.872 ¢	7.275 ¢
	Off-Peak Winter	3.015 ¢	4.420 ¢	5.727 ¢	7.130 ¢

<b>Residential Electric Vehicle (A08)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>		\$4.95	\$5.50	\$4.95	\$5.50
<b>Energy / kWh</b>	On-Peak Summer	17.564 ¢	21.583 ¢	20.421 ¢	24.438 ¢
	On-Peak Winter	14.170 ¢	17.376 ¢	16.882 ¢	20.086 ¢
	Off-Peak Summer	3.300 ¢	4.420 ¢	6.157 ¢	7.275 ¢
	Off-Peak Winter	3.300 ¢	4.420 ¢	6.012 ¢	7.130 ¢

<b>Energy-Controlled Non-Demand (A05)</b>		Base Rates		Rates + Fuel	
<b>Customer / Mo.</b>		\$4.95	\$5.50	\$4.95	\$5.50
<b>Energy / kWh</b>	Standard Resid.	4.2830 ¢	4.8150 ¢	7.047 ¢	7.577 ¢
	Standard Comm.	4.2830 ¢	4.8150 ¢	7.131 ¢	7.612 ¢
	Optional Resid. - Summer	9.395 ¢	10.865 ¢	12.252 ¢	13.720 ¢
	Optional Comm.- Summer	8.787 ¢	9.655 ¢	11.730 ¢	12.546 ¢

			Present	Proposed	Present	Proposed
<b>Limited Off-Peak (A06)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Residential		\$4.95	\$5.50	\$4.95	\$5.50
	Commercial	Sec. 1 Phase	\$10.00	\$11.00	\$10.00	\$11.00
	Commercial	Sec. 3 Phase	\$13.60	\$15.00	\$13.60	\$15.00
	Commercial	Higher Voltages	\$60.00	\$65.00	\$60.00	\$65.00
<b>Energy / kWh</b>	Residential	On-Peak	30.800 ¢	36.000 ¢	33.564 ¢	38.762 ¢
	Commercial	On-Peak	30.800 ¢	36.000 ¢	33.648 ¢	38.797 ¢
	Residential	Secondary	2.642 ¢	3.760 ¢	5.406 ¢	6.522 ¢
	Commercial	Secondary	2.642 ¢	3.760 ¢	5.490 ¢	6.557 ¢
	Commercial	Primary	2.549 ¢	3.652 ¢	5.397 ¢	6.449 ¢
	Commercial	T Trnsfrmd	2.368 ¢	3.486 ¢	5.216 ¢	6.282 ¢
	Commercial	Transmission	2.358 ¢	3.475 ¢	5.206 ¢	6.272 ¢
<b>Small General (A09, A10, A11, A13)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Metered (A10)		\$10.00	\$12.00	\$10.00	\$12.00
	Unmetered (A09)		\$8.00	\$10.00	\$8.00	\$10.00
<b>Demand / kW</b>	Direct Current		\$3.48	\$3.89	\$3.48	\$3.89
<b>Energy /kWh</b>	Summer		8.787 ¢	9.655 ¢	11.730 ¢	12.546 ¢
	Winter		7.432 ¢	8.076 ¢	10.226 ¢	10.820 ¢
<b>Small Municipal Pumping (A40)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Overhead		\$10.00	\$12.00	\$10.00	\$12.00
<b>Energy /kWh</b>	Summer		8.787 ¢	9.655 ¢	11.730 ¢	12.546 ¢
	Winter		7.432 ¢	8.076 ¢	10.226 ¢	10.820 ¢
<b>Small General TOD (A12, A16, A18, A22)</b>			<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	TOD Metered (A12)		\$12.00	\$14.00	\$12.00	\$14.00
	KWH Metered (A16)		\$10.00	\$12.00	\$10.00	\$12.00
	Unmetered (A18)		\$8.00	\$10.00	\$8.00	\$10.00
	Low Wattage <100W (A22)		\$0.28	\$0.30	\$0.28	\$0.30
	Low Wattage <400W (A22)		\$1.20	\$1.28	\$1.20	\$1.28
<b>Energy / kWh</b>	On-Peak Summer		15.123 ¢	15.443 ¢	18.066 ¢	18.334 ¢
	On-Peak Winter		12.280 ¢	12.118 ¢	15.074 ¢	14.862 ¢
	Off-Peak Summer		3.015 ¢	4.420 ¢	5.958 ¢	7.311 ¢
	Off-Peak Winter		3.015 ¢	4.420 ¢	5.809 ¢	7.164 ¢
	Constant Use - Summer		7.253 ¢	8.278 ¢	10.196 ¢	11.169 ¢
	Constant Use - Winter		6.258 ¢	7.114 ¢	9.052 ¢	9.858 ¢

		Present	Proposed	Present	Proposed
<b>Demand-Metered Voltage Discounts</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Voltage Discount / kWh</b>	Primary	0.093 ¢	0.108 ¢	0.093 ¢	0.108 ¢
	Transmission Transformed	0.274 ¢	0.275 ¢	0.274 ¢	0.275 ¢
	Transmission	0.284 ¢	0.285 ¢	0.284 ¢	0.285 ¢
<b>Voltage Discount / kW</b>	Primary	\$0.90	\$0.80	\$0.90	\$0.80
	Transmission Transformed	\$1.60	\$1.55	\$1.60	\$1.55
	Transmission	\$2.40	\$2.35	\$2.40	\$2.35

<b>General (A14)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$25.75	\$25.78	\$25.75	\$25.78
<b>Demand / kW</b>	Summer	\$14.07	\$15.79	\$14.07	\$15.79
	Winter	\$9.96	\$11.09	\$9.96	\$11.09
<b>Energy / kWh</b>		3.201 ¢	3.619 ¢	5.923 ¢	6.329 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

<b>Municipal Pumping (A41)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$25.75	\$25.78	\$25.75	\$25.78
<b>Demand / kW</b>	Summer	\$14.07	\$15.79	\$14.07	\$15.79
	Winter	\$9.96	\$11.09	\$9.96	\$11.09
<b>Energy / kWh</b>		3.201 ¢	3.619 ¢	5.923 ¢	6.329 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

<b>General Time of Day (A15)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	Standard A15)	\$29.75	\$29.78	\$29.75	\$29.78
	kWh Metered (A17)	\$25.75	\$25.78	\$25.75	\$25.78
	Unmetered (A19)	\$21.75	\$21.78	\$21.75	\$21.78
<b>On-Peak Demand / kW</b>	Summer	\$14.07	\$15.79	\$14.07	\$15.79
	Winter	\$9.96	\$11.09	\$9.96	\$11.09
<b>Off-Peak Demand / kW</b>		\$2.40	\$2.35	\$2.40	\$2.35
<b>Energy / kWh</b>	On-Peak	4.482 ¢	5.158 ¢	7.937 ¢	8.547 ¢
	Off-Peak	2.233 ¢	2.487 ¢	4.401 ¢	4.703 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

<b>Hiawatha Light Rail Line (A29)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$100.00	\$100.00	\$100.00	\$100.00
<b>Generation Demand / kW</b>	Summer	\$8.93	\$9.13	\$8.93	\$9.13
	Winter	\$4.82	\$4.43	\$4.82	\$4.43
<b>Transmission &amp; Distribution Demand / kW</b>		\$4.24	\$5.86	\$4.24	\$5.86
<b>Off-Peak Demand / kW</b>	Primary	\$1.50	\$1.55	\$1.50	\$1.55
<b>Energy / kWh</b>	On-Peak Primary	4.389 ¢	5.050 ¢	7.844 ¢	8.439 ¢
	Off-Peak Primary	2.140 ¢	2.379 ¢	4.308 ¢	4.595 ¢
<b>Energy Credit / kWh</b>		-1.200 ¢	-1.340 ¢	-1.200 ¢	-1.340 ¢

		Present	Proposed	Present	Proposed
<b>Peak-Controlled (A23)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$55.00	\$55.00	\$55.00	\$55.00
<b>Firm Demand / kW</b>	Summer	\$14.07	\$15.79	\$14.07	\$15.79
	Winter	\$9.96	\$11.09	\$9.96	\$11.09
<b>Control Demand / kW</b>	Tier 2 - Level A	\$8.21	\$9.52	\$8.21	\$9.52
	Tier 2 - Level B	\$7.40	\$8.65	\$7.40	\$8.65
	Tier 2 - Level C	\$6.90	\$8.14	\$6.90	\$8.14
	Tier 1 - Level B	\$6.70	\$7.94	\$6.70	\$7.94
	Tier 1 - Level C	\$6.13	\$7.36	\$6.13	\$7.36
	Tier 1 - Short Notice	\$5.63	\$6.86	\$5.63	\$6.86
<b>Energy / kWh</b>		3.201 ¢	3.619 ¢	5.923 ¢	6.329 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

		Present	Proposed	Present	Proposed
<b>Peak-Controlled TOD (A24)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$55.00	\$55.00	\$55.00	\$55.00
<b>On-Peak Demand / kW</b>	Summer	\$14.07	\$15.79	\$14.07	\$15.79
	Winter	\$9.96	\$11.09	\$9.96	\$11.09
<b>Control Demand / kW</b>	Tier 2 - Level A	\$8.21	\$9.52	\$8.21	\$9.52
	Tier 2 - Level B	\$7.40	\$8.65	\$7.40	\$8.65
	Tier 2 - Level C	\$6.90	\$8.14	\$6.90	\$8.14
	Tier 1 - Level B	\$6.70	\$7.94	\$6.70	\$7.94
	Tier 1 - Level C	\$6.13	\$7.36	\$6.13	\$7.36
	Tier 1 - Short Notice	\$5.63	\$6.86	\$5.63	\$6.86
<b>Off-Peak Demand / kW</b>		\$2.40	\$2.35	\$2.40	\$2.35
<b>Energy / kWh</b>	On-Peak	4.482 ¢	5.158 ¢	7.937 ¢	8.547 ¢
	Off-Peak	2.233 ¢	2.487 ¢	4.401 ¢	4.703 ¢
<b>Energy Credit / kWh</b>		-1.4000 ¢	-1.5600 ¢	-1.4000 ¢	-1.5600 ¢

		Present	Proposed	Present	Proposed
<b>Tier 1 Energy-Controlled Rider (A27)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>		\$55.00	\$55.00	\$55.00	\$55.00
<b>On-Peak Demand / kW</b>	Summer	\$14.07	\$15.79	\$14.07	\$15.79
	Winter	\$9.96	\$11.09	\$9.96	\$11.09
<b>Control Demand / kW</b>	Tier 1 - Level B	\$6.70	\$7.94	\$6.70	\$7.94
	Tier 1 - Level C	\$6.13	\$7.36	\$6.13	\$7.36
	Tier 1 - Short Notice	\$5.63	\$6.86	\$5.63	\$6.86
<b>Off-Peak Demand / kW</b>		\$2.40	\$2.35	\$2.40	\$2.35
<b>Energy / kWh</b>	Firm On-Peak	4.482 ¢	5.158 ¢	7.937 ¢	8.547 ¢
	Firm Off-Peak	2.233 ¢	2.487 ¢	4.401 ¢	4.703 ¢
	Controllable On-Peak	4.261 ¢	4.938 ¢	7.716 ¢	8.327 ¢
	Controllable Off-Peak	2.178 ¢	2.420 ¢	4.346 ¢	4.636 ¢
	Control Period Energy	9.000 ¢	9.000 ¢	12.455 ¢	12.389 ¢
<b>Energy Credit / kWh</b>		-1.400 ¢	-1.560 ¢	-1.400 ¢	-1.560 ¢

		Present	Proposed	Present	Proposed
<b>Real-Time Pricing (A63)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer /Month</b>		\$300.00	\$300.00	\$300.00	\$300.00
<b>Contract Demand /kW</b>		\$9.06	\$10.56	\$9.06	\$10.56
<b>Distribution Demand /kW</b>	Secondary	\$2.07	\$2.07	\$2.07	\$2.07
	Primary	\$1.07	\$1.07	\$1.07	\$1.07
	Transmission Transformed	\$0.46	\$0.46	\$0.46	\$0.46
<b>Limited Energy</b>	Standard	17.600 ¢	22.000 ¢	17.600 ¢	22.000 ¢
<b>Surcharge /kWh</b>	Control Level A	12.400 ¢	14.400 ¢	12.400 ¢	14.400 ¢
	Control Level B	8.800 ¢	10.200 ¢	8.800 ¢	10.200 ¢
	Control Level C	7.000 ¢	8.200 ¢	7.000 ¢	8.200 ¢
<b>Energy Credit /kWh</b>		-1.200 ¢	-1.200 ¢	-1.200 ¢	-1.200 ¢

<b>Fire &amp; Civil Defense Siren (A42)</b>		<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>HP Capacity / Mo.</b>		\$0.75	\$0.80	\$0.75	\$0.80
<b>Min Charge / Mo.</b>		\$3.61	\$3.86	\$3.61	\$3.86

			Present	Proposed
<b>Standby Service Rider</b>				
<b>Supplemental Generation Service Rider</b>				
<b>Customer / Mo.</b>			\$25.75	\$25.78
<b>Demand / Contract kW</b>	Unscheduled	Secondary	\$3.47	\$3.59
	Maintenance	Primary	\$2.57	\$2.79
		Tran Transformed	\$1.87	\$2.04
		Transmission	\$1.07	\$1.24
	Scheduled	Secondary	\$3.37	\$3.49
	Maintenance and Supplemental	Primary	\$2.47	\$2.69
		Tran Transformed	\$1.77	\$1.94
		Transmission	\$0.97	\$1.14
	Non-Firm	Secondary	\$2.40	\$2.35
		Primary	\$1.50	\$1.55
		Tran Transformed	\$0.80	\$0.80
		Transmission	\$0.00	\$0.00

		Present	Proposed	Present	Proposed
<b>Automatic Protective Lighting (A07)</b>		Base Rates		Rates + Fuel	
<b>Area</b>	100 W HPSodium	\$7.34	\$7.87	\$8.16	\$8.74
	175 W Mercury	\$7.34	\$7.87	\$8.75	\$9.47
	250 W HPSodium	\$11.64	\$12.58	\$13.78	\$14.87
	400 W Mercury	\$11.64	\$12.58	\$14.84	\$16.24
<b>Directional</b>	250 W HPSodium	\$12.62	\$14.97	\$14.76	\$17.26
	400 W HPSodium	\$16.12	\$18.74	\$19.48	\$22.34
	1000 W Mercury	\$25.52	\$29.15	\$33.19	\$37.38

		Present	Proposed	Present	Proposed
<b>Street Lighting System (A30)</b>		Base Rates		Rates + Fuel	
<b>Overhead</b>	70 W HPSodium	\$8.95	\$10.27	\$9.51	\$10.88
	100 W HPSodium	\$9.44	\$10.88	\$10.26	\$11.75
	150 W HPSodium	\$10.15	\$11.71	\$11.34	\$12.99
	200 W HPSodium	\$11.89	\$13.81	\$13.54	\$15.58
	250 W HPSodium	\$12.78	\$14.88	\$14.92	\$17.17
	400 W HPSodium	\$15.50	\$18.08	\$18.86	\$21.68
	175 W Metal Halide	\$13.86	\$16.03	\$15.27	\$17.55
<b>Underground</b>	70 W HPSodium	\$17.67	\$21.03	\$18.23	\$21.64
	100 W HPSodium	\$18.16	\$21.63	\$18.98	\$22.50
	150 W HPSodium	\$18.87	\$22.47	\$20.06	\$23.75
	250 W HPSodium	\$21.29	\$25.15	\$23.43	\$27.44
	400 W HPSodium	\$23.72	\$28.04	\$27.08	\$31.64
	175 W Metal Halide	\$25.51	\$29.94	\$26.92	\$31.46
<b>Decorative UG</b>	100 W HPSodium	\$28.16	\$34.29	\$28.98	\$35.16
	150 W HPSodium	\$29.25	\$35.54	\$30.44	\$36.82
	250 W HPSodium	\$31.11	\$37.76	\$33.25	\$40.05
	400 W HPSodium	\$33.36	\$40.45	\$36.72	\$44.05
	175 W Metal Halide	\$33.36	\$40.45	\$34.77	\$41.97
<b>Purchase Option</b>	70 W HPSodium	\$5.50	\$6.38	\$6.06	\$6.99
	100 W HPSodium	\$6.14	\$7.15	\$6.96	\$8.02
	150 W HPSodium	\$6.94	\$8.08	\$8.13	\$9.36
	250 W HPSodium	\$8.83	\$10.33	\$10.97	\$12.62
	400 W HPSodium	\$11.38	\$13.35	\$14.74	\$16.95
	175 W Metal Halide	\$12.47	\$14.50	\$13.88	\$16.02

	Present	Proposed	Present	Proposed
<b>Street Lighting Energy (A32)</b>	<b>Base Rates</b>		<b>Rates + Fuel</b>	
100 W Mercury	\$2.37	\$2.58	\$3.25	\$3.53
175 W Mercury	\$3.53	\$3.86	\$4.94	\$5.37
250 W Mercury	\$4.78	\$5.23	\$6.77	\$7.36
400 W Mercury	\$7.45	\$8.17	\$10.65	\$11.60
700 W Mercury	\$12.39	\$13.59	\$17.85	\$19.45
1000 W Mercury	\$17.24	\$18.92	\$24.91	\$27.15
1F72HO Fluorescent	\$3.61	\$3.61	\$4.52	\$4.58
50 W HPSodium	\$1.32	\$1.43	\$1.72	\$1.86
70 W HPSodium	\$1.67	\$1.81	\$2.23	\$2.42
100 W HPSodium	\$2.22	\$2.42	\$3.04	\$3.29
150 W HPSodium	\$3.04	\$3.32	\$4.23	\$4.60
200 W HPSodium	\$4.05	\$4.43	\$5.70	\$6.20
250 W HPSodium	\$5.12	\$5.60	\$7.26	\$7.89
400 W HPSodium	\$7.79	\$8.53	\$11.15	\$12.13
750 W HPSodium	\$13.37	\$14.67	\$19.27	\$21.00

<b>Street Lighting Energy - Metered (A34)</b>	<b>Base Rates</b>		<b>Rates + Fuel</b>	
<b>Customer / Mo.</b>	\$4.75	\$5.00	\$4.75	\$5.00
<b>Energy Charge per kWh</b>	4.402 ¢	4.835 ¢	6.423 ¢	7.000 ¢

<b>Street Lighting Energy - City of St. Paul (A37)</b>	<b>Base Rates</b>		<b>Rates + Fuel</b>	
100 W HPSodium	\$5.35	\$5.72	\$6.17	\$6.59
150 W HPSodium	\$6.07	\$6.41	\$7.26	\$7.69
250 W HPSodium	\$8.78	\$8.98	\$10.92	\$11.27

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_(SVH-1)  
Schedule 7  
Page 1 of 26

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL SERVICE (Overhead) - A01**

	Energy in kWh	Monthly Bill		Increase	
		Present	Proposed	Amount	Percent
WINTER	250	\$36.29	\$40.31	\$4.02	11.09%
	300	\$41.84	\$46.22	\$4.38	10.48%
	400	\$52.94	\$58.04	\$5.10	9.64%
	500	\$64.04	\$69.86	\$5.82	9.10%
	600	\$75.14	\$81.69	\$6.55	8.71%
	675	\$83.47	\$90.55	\$7.09	8.49%
	750	\$91.80	\$99.42	\$7.63	8.31%
	1000	\$119.55	\$128.98	\$9.43	7.89%
	1500	\$175.06	\$188.09	\$13.03	7.44%
	2000	\$230.57	\$247.20	\$16.63	7.21%
	3000	\$341.59	\$365.43	\$23.84	6.98%
	4000	\$452.61	\$483.65	\$31.04	6.86%
	5000	\$563.63	\$601.88	\$38.24	6.79%
SUMMER	250	\$40.03	\$44.55	\$4.51	11.27%
	300	\$46.33	\$51.30	\$4.97	10.72%
	400	\$58.94	\$64.82	\$5.88	9.98%
	500	\$71.54	\$78.34	\$6.80	9.50%
	600	\$84.14	\$91.85	\$7.71	9.17%
	675	\$93.59	\$101.99	\$8.40	8.98%
	750	\$103.04	\$112.13	\$9.09	8.82%
	1000	\$134.55	\$145.92	\$11.38	8.46%
	1500	\$197.55	\$213.51	\$15.95	8.07%
	2000	\$260.56	\$281.09	\$20.53	7.88%
	3000	\$386.58	\$416.26	\$29.68	7.68%
	4000	\$512.60	\$551.43	\$38.84	7.58%
	5000	\$638.61	\$686.60	\$47.99	7.51%
AVERAGE MONTHLY	250	\$37.53	\$41.72	\$4.19	11.15%
	300	\$43.34	\$47.91	\$4.58	10.57%
	400	\$54.94	\$60.30	\$5.36	9.76%
	500	\$66.54	\$72.69	\$6.15	9.24%
	600	\$78.14	\$85.08	\$6.94	8.88%
	675	\$86.84	\$94.37	\$7.52	8.66%
	750	\$95.54	\$103.66	\$8.11	8.49%
	1000	\$124.55	\$134.63	\$10.08	8.09%
	1500	\$182.56	\$196.56	\$14.00	7.67%
	2000	\$240.57	\$258.50	\$17.93	7.45%
	3000	\$356.59	\$382.37	\$25.78	7.23%
	4000	\$472.61	\$506.24	\$33.64	7.12%
	5000	\$588.62	\$630.12	\$41.49	7.05%



**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL SERVICE - SPACE HEATING (Overhead) - A01**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$32.73	\$35.08	\$2.34	7.16%
	300	\$37.17	\$39.54	\$2.37	6.37%
	400	\$46.05	\$48.47	\$2.42	5.25%
	500	\$54.94	\$57.40	\$2.46	4.49%
	600	\$63.82	\$66.33	\$2.51	3.94%
	675	\$70.48	\$73.03	\$2.55	3.62%
	750	\$77.14	\$79.72	\$2.59	3.35%
	1000	\$99.34	\$102.05	\$2.71	2.73%
	1500	\$143.75	\$146.69	\$2.95	2.05%
	2000	\$188.15	\$191.34	\$3.19	1.70%
	3000	\$276.96	\$280.64	\$3.68	1.33%
	4000	\$365.77	\$369.93	\$4.16	1.14%
	5000	\$454.58	\$459.23	\$4.64	1.02%
SUMMER	250	\$42.03	\$46.55	\$4.51	10.73%
	300	\$48.33	\$53.30	\$4.97	10.28%
	400	\$60.94	\$66.82	\$5.88	9.66%
	500	\$73.54	\$80.34	\$6.80	9.25%
	600	\$86.14	\$93.85	\$7.71	8.96%
	675	\$95.59	\$103.99	\$8.40	8.79%
	750	\$105.04	\$114.13	\$9.09	8.65%
	1000	\$136.55	\$147.92	\$11.38	8.33%
	1500	\$199.55	\$215.51	\$15.95	7.99%
	2000	\$262.56	\$283.09	\$20.53	7.82%
	3000	\$388.58	\$418.26	\$29.68	7.64%
	4000	\$514.60	\$553.43	\$38.84	7.55%
	5000	\$640.61	\$688.60	\$47.99	7.49%
AVERAGE MONTHLY	250	\$35.83	\$38.90	\$3.07	8.56%
	300	\$40.89	\$44.13	\$3.23	7.91%
	400	\$51.01	\$54.59	\$3.57	7.00%
	500	\$61.14	\$65.05	\$3.91	6.40%
	600	\$71.26	\$75.50	\$4.25	5.96%
	675	\$78.85	\$83.35	\$4.50	5.71%
	750	\$86.44	\$91.19	\$4.75	5.50%
	1000	\$111.74	\$117.34	\$5.60	5.01%
	1500	\$162.35	\$169.63	\$7.28	4.49%
	2000	\$212.95	\$221.93	\$8.97	4.21%
	3000	\$314.17	\$326.51	\$12.34	3.93%
	4000	\$415.38	\$431.10	\$15.72	3.78%
	5000	\$516.59	\$535.68	\$19.09	3.70%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_(SVH-1)  
Schedule 7  
Page 3 of 26

**RESIDENTIAL SERVICE (Underground) - A03**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$38.29	\$42.31	\$4.02	10.51%
	300	\$43.84	\$48.22	\$4.38	10.00%
	400	\$54.94	\$60.04	\$5.10	9.29%
	500	\$66.04	\$71.86	\$5.82	8.82%
	600	\$77.14	\$83.69	\$6.55	8.48%
	675	\$85.47	\$92.55	\$7.09	8.29%
	750	\$93.80	\$101.42	\$7.63	8.13%
	1000	\$121.55	\$130.98	\$9.43	7.76%
	1500	\$177.06	\$190.09	\$13.03	7.36%
	2000	\$232.57	\$249.20	\$16.63	7.15%
	3000	\$343.59	\$367.43	\$23.84	6.94%
	4000	\$454.61	\$485.65	\$31.04	6.83%
	5000	\$565.63	\$603.88	\$38.24	6.76%
SUMMER	250	\$42.03	\$46.55	\$4.51	10.73%
	300	\$48.33	\$53.30	\$4.97	10.28%
	400	\$60.94	\$66.82	\$5.88	9.66%
	500	\$73.54	\$80.34	\$6.80	9.25%
	600	\$86.14	\$93.85	\$7.71	8.96%
	675	\$95.59	\$103.99	\$8.40	8.79%
	750	\$105.04	\$114.13	\$9.09	8.65%
	1000	\$136.55	\$147.92	\$11.38	8.33%
	1500	\$199.55	\$215.51	\$15.95	7.99%
	2000	\$262.56	\$283.09	\$20.53	7.82%
	3000	\$388.58	\$418.26	\$29.68	7.64%
	4000	\$514.60	\$553.43	\$38.84	7.55%
	5000	\$640.61	\$688.60	\$47.99	7.49%
AVERAGE MONTHLY	250	\$39.53	\$43.72	\$4.19	10.59%
	300	\$45.34	\$49.91	\$4.58	10.10%
	400	\$56.94	\$62.30	\$5.36	9.42%
	500	\$68.54	\$74.69	\$6.15	8.97%
	600	\$80.14	\$87.08	\$6.94	8.65%
	675	\$88.84	\$96.37	\$7.52	8.47%
	750	\$97.54	\$105.66	\$8.11	8.32%
	1000	\$126.55	\$136.63	\$10.08	7.96%
	1500	\$184.56	\$198.56	\$14.00	7.59%
	2000	\$242.57	\$260.50	\$17.93	7.39%
	3000	\$358.59	\$384.37	\$25.78	7.19%
	4000	\$474.61	\$508.24	\$33.64	7.09%
	5000	\$590.62	\$632.12	\$41.49	7.03%

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL SERVICE - SPACE HEATING (Underground) - A03**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$34.73	\$37.08	\$2.34	6.75%
	300	\$39.17	\$41.54	\$2.37	6.05%
	400	\$48.05	\$50.47	\$2.42	5.03%
	500	\$56.94	\$59.40	\$2.46	4.33%
	600	\$65.82	\$68.33	\$2.51	3.82%
	675	\$72.48	\$75.03	\$2.55	3.52%
	750	\$79.14	\$81.72	\$2.59	3.27%
	1000	\$101.34	\$104.05	\$2.71	2.67%
	1500	\$145.75	\$148.69	\$2.95	2.02%
	2000	\$190.15	\$193.34	\$3.19	1.68%
	3000	\$278.96	\$282.64	\$3.68	1.32%
	4000	\$367.77	\$371.93	\$4.16	1.13%
	5000	\$456.58	\$461.23	\$4.64	1.02%
SUMMER	250	\$44.03	\$48.55	\$4.51	10.24%
	300	\$50.33	\$55.30	\$4.97	9.87%
	400	\$62.94	\$68.82	\$5.88	9.35%
	500	\$75.54	\$82.34	\$6.80	9.00%
	600	\$88.14	\$95.85	\$7.71	8.75%
	675	\$97.59	\$105.99	\$8.40	8.61%
	750	\$107.04	\$116.13	\$9.09	8.49%
	1000	\$138.55	\$149.92	\$11.38	8.21%
	1500	\$201.55	\$217.51	\$15.95	7.91%
	2000	\$264.56	\$285.09	\$20.53	7.76%
	3000	\$390.58	\$420.26	\$29.68	7.60%
	4000	\$516.60	\$555.43	\$38.84	7.52%
	5000	\$642.61	\$690.60	\$47.99	7.47%
AVERAGE MONTHLY	250	\$37.83	\$40.90	\$3.07	8.10%
	300	\$42.89	\$46.13	\$3.23	7.54%
	400	\$53.01	\$56.59	\$3.57	6.74%
	500	\$63.14	\$67.05	\$3.91	6.19%
	600	\$73.26	\$77.50	\$4.25	5.80%
	675	\$80.85	\$85.35	\$4.50	5.57%
	750	\$88.44	\$93.19	\$4.75	5.37%
	1000	\$113.74	\$119.34	\$5.60	4.92%
	1500	\$164.35	\$171.63	\$7.28	4.43%
	2000	\$214.95	\$223.93	\$8.97	4.17%
	3000	\$316.17	\$328.51	\$12.34	3.90%
	4000	\$417.38	\$433.10	\$15.72	3.77%
	5000	\$518.59	\$537.68	\$19.09	3.68%

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL TIME OF DAY SERVICE (Overhead) - A02**

35% On-Peak

65% Off-Peak

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$37.48	\$41.50	\$4.02	10.73%
	300	\$42.87	\$47.25	\$4.38	10.22%
	400	\$53.65	\$58.75	\$5.10	9.51%
	500	\$64.43	\$70.25	\$5.82	9.03%
	600	\$75.21	\$81.75	\$6.54	8.69%
	675	\$83.30	\$90.38	\$7.08	8.50%
	750	\$91.39	\$99.00	\$7.62	8.34%
	1000	\$118.34	\$127.75	\$9.42	7.96%
	1500	\$172.24	\$185.25	\$13.01	7.56%
	2000	\$226.14	\$242.75	\$16.61	7.35%
	3000	\$333.95	\$357.76	\$23.81	7.13%
	4000	\$441.76	\$472.76	\$31.00	7.02%
	5000	\$549.56	\$587.76	\$38.19	6.95%
SUMMER	250	\$41.01	\$45.48	\$4.46	10.88%
	300	\$47.11	\$52.02	\$4.91	10.42%
	400	\$59.30	\$65.11	\$5.81	9.79%
	500	\$71.50	\$78.20	\$6.70	9.38%
	600	\$83.69	\$91.29	\$7.60	9.08%
	675	\$92.84	\$101.11	\$8.27	8.91%
	750	\$101.98	\$110.92	\$8.94	8.77%
	1000	\$132.46	\$143.65	\$11.18	8.44%
	1500	\$193.43	\$209.09	\$15.66	8.10%
	2000	\$254.40	\$274.54	\$20.14	7.92%
	3000	\$376.33	\$405.44	\$29.10	7.73%
	4000	\$498.26	\$536.33	\$38.07	7.64%
	5000	\$620.20	\$667.22	\$47.03	7.58%
AVERAGE MONTHLY	250	\$38.66	\$42.83	\$4.17	10.78%
	300	\$44.28	\$48.84	\$4.56	10.29%
	400	\$55.54	\$60.87	\$5.34	9.61%
	500	\$66.79	\$72.90	\$6.11	9.15%
	600	\$78.04	\$84.93	\$6.89	8.83%
	675	\$86.48	\$93.95	\$7.48	8.65%
	750	\$94.92	\$102.98	\$8.06	8.49%
	1000	\$123.05	\$133.05	\$10.01	8.13%
	1500	\$179.30	\$193.20	\$13.90	7.75%
	2000	\$235.56	\$253.35	\$17.79	7.55%
	3000	\$348.08	\$373.65	\$25.57	7.35%
	4000	\$460.59	\$493.95	\$33.36	7.24%
	5000	\$573.11	\$614.25	\$41.14	7.18%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016

**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826

Exhibit No. \_\_\_\_\_ (SVH-1)

Schedule 7

Page 6 of 26

**RESIDENTIAL TIME OF DAY SERVICE - SPACE HEATING (Overhead) - A02**

35% On-Peak

65% Off-Peak

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$34.63	\$37.01	\$2.37	6.85%
	300	\$39.05	\$41.46	\$2.40	6.15%
	400	\$47.89	\$50.36	\$2.46	5.14%
	500	\$56.73	\$59.26	\$2.52	4.45%
	600	\$65.58	\$68.16	\$2.58	3.94%
	675	\$72.21	\$74.83	\$2.63	3.64%
	750	\$78.84	\$81.51	\$2.67	3.39%
	1000	\$100.94	\$103.76	\$2.82	2.80%
	1500	\$145.14	\$148.27	\$3.12	2.15%
	2000	\$189.35	\$192.77	\$3.42	1.81%
	3000	\$277.76	\$281.78	\$4.02	1.45%
	4000	\$366.17	\$370.79	\$4.62	1.26%
	5000	\$454.58	\$459.80	\$5.22	1.15%
SUMMER	250	\$43.01	\$47.48	\$4.46	10.38%
	300	\$49.11	\$54.02	\$4.91	10.00%
	400	\$61.30	\$67.11	\$5.81	9.47%
	500	\$73.50	\$80.20	\$6.70	9.12%
	600	\$85.69	\$93.29	\$7.60	8.87%
	675	\$94.84	\$103.11	\$8.27	8.72%
	750	\$103.98	\$112.92	\$8.94	8.60%
	1000	\$134.46	\$145.65	\$11.18	8.32%
	1500	\$195.43	\$211.09	\$15.66	8.02%
	2000	\$256.40	\$276.54	\$20.14	7.86%
	3000	\$378.33	\$407.44	\$29.10	7.69%
	4000	\$500.26	\$538.33	\$38.07	7.61%
	5000	\$622.20	\$669.22	\$47.03	7.56%
AVERAGE MONTHLY	250	\$37.43	\$40.50	\$3.07	8.20%
	300	\$42.41	\$45.64	\$3.24	7.64%
	400	\$52.36	\$55.94	\$3.58	6.83%
	500	\$62.32	\$66.24	\$3.92	6.28%
	600	\$72.28	\$76.54	\$4.25	5.89%
	675	\$79.75	\$84.26	\$4.51	5.65%
	750	\$87.22	\$91.98	\$4.76	5.46%
	1000	\$112.11	\$117.72	\$5.61	5.00%
	1500	\$161.91	\$169.21	\$7.30	4.51%
	2000	\$211.70	\$220.70	\$9.00	4.25%
	3000	\$311.28	\$323.67	\$12.38	3.98%
	4000	\$410.87	\$426.64	\$15.77	3.84%
	5000	\$510.45	\$529.61	\$19.16	3.75%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 7 of 26

**SMALL GENERAL SERVICE**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$37.15	\$39.71	\$2.56	6.90%
	300	\$42.44	\$45.08	\$2.64	6.22%
	400	\$53.01	\$55.80	\$2.79	5.26%
	500	\$63.59	\$66.53	\$2.94	4.62%
	600	\$74.17	\$77.25	\$3.08	4.16%
	750	\$90.03	\$93.34	\$3.31	3.67%
	1000	\$116.47	\$120.15	\$3.68	3.16%
	1500	\$169.35	\$173.77	\$4.42	2.61%
	2000	\$222.23	\$227.39	\$5.16	2.32%
	3000	\$327.99	\$334.64	\$6.65	2.03%
	4000	\$433.75	\$441.88	\$8.13	1.88%
	5000	\$539.51	\$549.13	\$9.62	1.78%
SUMMER	250	\$40.91	\$43.95	\$3.04	7.44%
	300	\$46.95	\$50.16	\$3.21	6.84%
	400	\$59.03	\$62.58	\$3.55	6.02%
	500	\$71.11	\$75.00	\$3.89	5.47%
	600	\$83.19	\$87.42	\$4.23	5.09%
	750	\$101.31	\$106.05	\$4.74	4.68%
	1000	\$131.51	\$137.10	\$5.59	4.25%
	1500	\$191.91	\$199.20	\$7.29	3.80%
	2000	\$252.31	\$261.30	\$8.99	3.56%
	3000	\$373.11	\$385.50	\$12.39	3.32%
	4000	\$493.91	\$509.70	\$15.79	3.20%
	5000	\$614.71	\$633.90	\$19.18	3.12%
AVERAGE MONTHLY	250	\$38.40	\$41.13	\$2.72	7.09%
	300	\$43.94	\$46.77	\$2.83	6.44%
	400	\$55.02	\$58.06	\$3.04	5.53%
	500	\$66.10	\$69.35	\$3.25	4.92%
	600	\$77.17	\$80.64	\$3.47	4.49%
	750	\$93.79	\$97.58	\$3.79	4.04%
	1000	\$121.48	\$125.80	\$4.32	3.55%
	1500	\$176.87	\$182.25	\$5.38	3.04%
	2000	\$232.26	\$238.70	\$6.44	2.77%
	3000	\$343.03	\$351.59	\$8.56	2.50%
	4000	\$453.81	\$464.49	\$10.68	2.35%
	5000	\$564.58	\$577.39	\$12.81	2.27%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 8 of 26

**GENERAL SERVICE (Secondary Voltage)**

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$389.15	\$406.14	\$16.99	4.37%
15	6,000	400	\$570.28	\$597.78	\$27.50	4.82%
15	9,000	600	\$709.41	\$742.62	\$33.21	4.68%
25	5,000	200	\$630.00	\$658.43	\$28.43	4.51%
25	10,000	400	\$931.88	\$977.83	\$45.95	4.93%
25	15,000	600	\$1,163.76	\$1,219.23	\$55.47	4.77%
50	10,000	200	\$1,232.12	\$1,289.16	\$57.05	4.63%
50	20,000	400	\$1,835.87	\$1,927.96	\$92.09	5.02%
50	30,000	600	\$2,299.63	\$2,410.76	\$111.13	4.83%
75	15,000	200	\$1,834.23	\$1,919.90	\$85.66	4.67%
75	30,000	400	\$2,739.87	\$2,878.09	\$138.22	5.04%
75	45,000	600	\$3,435.51	\$3,602.29	\$166.78	4.85%
100	20,000	200	\$2,436.35	\$2,550.63	\$114.28	4.69%
100	40,000	400	\$3,643.87	\$3,828.22	\$184.36	5.06%
100	60,000	600	\$4,571.38	\$4,793.82	\$222.44	4.87%
200	40,000	200	\$4,844.82	\$5,073.56	\$228.74	4.72%
200	80,000	400	\$7,259.85	\$7,628.75	\$368.90	5.08%
200	120,000	600	\$9,114.88	\$9,559.94	\$445.06	4.88%
300	60,000	200	\$7,253.29	\$7,596.49	\$343.19	4.73%
300	120,000	400	\$10,875.84	\$11,429.27	\$553.44	5.09%
300	180,000	600	\$13,658.38	\$14,326.06	\$667.68	4.89%
400	80,000	200	\$9,661.76	\$10,119.42	\$457.65	4.74%
400	160,000	400	\$14,491.82	\$15,229.80	\$737.97	5.09%
400	240,000	600	\$18,201.89	\$19,092.18	\$890.30	4.89%
500	100,000	200	\$12,070.23	\$12,642.34	\$572.11	4.74%
500	200,000	400	\$18,107.81	\$19,030.32	\$922.51	5.09%
500	300,000	600	\$22,745.39	\$23,858.30	\$1,112.91	4.89%
750	150,000	200	\$18,091.41	\$18,949.67	\$858.26	4.74%
750	300,000	400	\$27,147.77	\$28,531.63	\$1,383.86	5.10%
750	450,000	600	\$34,104.14	\$35,773.60	\$1,669.46	4.90%
1,000	200,000	200	\$24,112.59	\$25,256.99	\$1,144.40	4.75%
1,000	400,000	400	\$36,187.74	\$38,032.95	\$1,845.21	5.10%
1,000	600,000	600	\$45,462.89	\$47,688.90	\$2,226.01	4.90%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 9 of 26

**GENERAL SERVICE (Primary Voltage)**

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$372.86	\$390.93	\$18.07	4.85%
15	6,000	400	\$551.20	\$579.36	\$28.17	5.11%
15	9,000	600	\$687.54	\$721.00	\$33.46	4.87%
25	5,000	200	\$602.85	\$633.09	\$30.24	5.02%
25	10,000	400	\$900.08	\$947.14	\$47.06	5.23%
25	15,000	600	\$1,127.31	\$1,183.19	\$55.89	4.96%
50	10,000	200	\$1,177.82	\$1,238.47	\$60.66	5.15%
50	20,000	400	\$1,772.27	\$1,866.58	\$94.31	5.32%
50	30,000	600	\$2,226.73	\$2,338.69	\$111.96	5.03%
75	15,000	200	\$1,752.78	\$1,843.86	\$91.08	5.20%
75	30,000	400	\$2,644.47	\$2,786.02	\$141.55	5.35%
75	45,000	600	\$3,326.16	\$3,494.18	\$168.03	5.05%
100	20,000	200	\$2,327.75	\$2,449.25	\$121.50	5.22%
100	40,000	400	\$3,516.67	\$3,705.46	\$188.80	5.37%
100	60,000	600	\$4,425.58	\$4,649.68	\$224.10	5.06%
200	40,000	200	\$4,627.62	\$4,870.80	\$243.18	5.25%
200	80,000	400	\$7,005.45	\$7,383.23	\$377.78	5.39%
200	120,000	600	\$8,823.28	\$9,271.66	\$448.38	5.08%
300	60,000	200	\$6,927.49	\$7,292.35	\$364.85	5.27%
300	120,000	400	\$10,494.24	\$11,060.99	\$566.76	5.40%
300	180,000	600	\$13,220.98	\$13,893.64	\$672.66	5.09%
400	80,000	200	\$9,227.36	\$9,713.90	\$486.53	5.27%
400	160,000	400	\$13,983.02	\$14,738.76	\$755.73	5.40%
400	240,000	600	\$17,618.69	\$18,515.62	\$896.94	5.09%
500	100,000	200	\$11,527.23	\$12,135.44	\$608.21	5.28%
500	200,000	400	\$17,471.81	\$18,416.52	\$944.71	5.41%
500	300,000	600	\$22,016.39	\$23,137.60	\$1,121.21	5.09%
750	150,000	200	\$17,276.91	\$18,189.32	\$912.41	5.28%
750	300,000	400	\$26,193.77	\$27,610.93	\$1,417.16	5.41%
750	450,000	600	\$33,010.64	\$34,692.55	\$1,681.91	5.10%
1,000	200,000	200	\$23,026.59	\$24,243.19	\$1,216.60	5.28%
1,000	400,000	400	\$34,915.74	\$36,805.35	\$1,889.61	5.41%
1,000	600,000	600	\$44,004.89	\$46,247.50	\$2,242.61	5.10%



**GENERAL TOD SERVICE (Secondary Voltage)**

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$389.93	\$407.52	\$17.58	4.51%
15	6,000	400	\$567.85	\$596.53	\$28.69	5.05%
15	9,000	600	\$703.76	\$738.75	\$34.99	4.97%
25	5,000	200	\$628.64	\$658.06	\$29.42	4.68%
25	10,000	400	\$925.16	\$973.09	\$47.93	5.18%
25	15,000	600	\$1,151.67	\$1,210.12	\$58.44	5.07%
50	10,000	200	\$1,225.39	\$1,284.42	\$59.03	4.82%
50	20,000	400	\$1,818.43	\$1,914.48	\$96.05	5.28%
50	30,000	600	\$2,271.47	\$2,388.53	\$117.06	5.15%
75	15,000	200	\$1,822.15	\$1,910.78	\$88.63	4.86%
75	30,000	400	\$2,711.71	\$2,855.86	\$144.16	5.32%
75	45,000	600	\$3,391.26	\$3,566.95	\$175.69	5.18%
100	20,000	200	\$2,418.91	\$2,537.14	\$118.23	4.89%
100	40,000	400	\$3,604.98	\$3,797.25	\$192.27	5.33%
100	60,000	600	\$4,511.06	\$4,745.36	\$234.31	5.19%
200	40,000	200	\$4,805.94	\$5,042.59	\$236.65	4.92%
200	80,000	400	\$7,178.08	\$7,562.81	\$384.72	5.36%
200	120,000	600	\$8,990.23	\$9,459.03	\$468.80	5.21%
300	60,000	200	\$7,192.97	\$7,548.03	\$355.06	4.94%
300	120,000	400	\$10,751.19	\$11,328.36	\$577.18	5.37%
300	180,000	600	\$13,469.41	\$14,172.69	\$703.29	5.22%
500	100,000	200	\$11,967.02	\$12,558.92	\$591.90	4.95%
500	200,000	400	\$17,897.39	\$18,859.47	\$962.08	5.38%
500	300,000	600	\$22,427.76	\$23,600.02	\$1,172.27	5.23%
1,000	200,000	200	\$23,902.16	\$25,086.14	\$1,183.97	4.95%
1,000	400,000	400	\$35,762.90	\$37,687.24	\$1,924.34	5.38%
1,000	600,000	600	\$44,823.63	\$47,168.35	\$2,344.72	5.23%
3,000	600,000	200	\$71,642.73	\$75,195.01	\$3,552.28	4.96%
3,000	1,200,000	400	\$107,224.93	\$112,998.33	\$5,773.39	5.38%
3,000	1,800,000	600	\$134,407.13	\$141,441.64	\$7,034.51	5.23%
5,000	1,000,000	200	\$119,383.30	\$125,303.89	\$5,920.58	4.96%
5,000	2,000,000	400	\$178,686.97	\$188,309.41	\$9,622.44	5.39%
5,000	3,000,000	600	\$223,990.64	\$235,714.94	\$11,724.30	5.23%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 11 of 26

**GENERAL TOD SERVICE** (Primary Voltage)

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$373.64	\$392.31	\$18.66	5.00%
15	6,000	400	\$548.77	\$578.12	\$29.35	5.35%
15	9,000	600	\$681.89	\$717.13	\$35.24	5.17%
25	5,000	200	\$601.49	\$632.71	\$31.23	5.19%
25	10,000	400	\$893.36	\$942.40	\$49.04	5.49%
25	15,000	600	\$1,115.22	\$1,174.08	\$58.86	5.28%
50	10,000	200	\$1,171.09	\$1,233.73	\$62.64	5.35%
50	20,000	400	\$1,754.83	\$1,853.10	\$98.27	5.60%
50	30,000	600	\$2,198.57	\$2,316.46	\$117.89	5.36%
75	15,000	200	\$1,740.70	\$1,834.75	\$94.05	5.40%
75	30,000	400	\$2,616.31	\$2,763.79	\$147.49	5.64%
75	45,000	600	\$3,281.91	\$3,458.84	\$176.93	5.39%
100	20,000	200	\$2,310.31	\$2,435.76	\$125.45	5.43%
100	40,000	400	\$3,477.78	\$3,674.49	\$196.71	5.66%
100	60,000	600	\$4,365.26	\$4,601.22	\$235.97	5.41%
200	40,000	200	\$4,588.74	\$4,839.83	\$251.09	5.47%
200	80,000	400	\$6,923.68	\$7,317.29	\$393.60	5.68%
200	120,000	600	\$8,698.63	\$9,170.75	\$472.12	5.43%
300	60,000	200	\$6,867.17	\$7,243.89	\$376.72	5.49%
300	120,000	400	\$10,369.59	\$10,960.08	\$590.50	5.69%
300	180,000	600	\$13,032.01	\$13,740.27	\$708.27	5.43%
500	100,000	200	\$11,424.02	\$12,052.02	\$628.00	5.50%
500	200,000	400	\$17,261.39	\$18,245.67	\$984.28	5.70%
500	300,000	600	\$21,698.76	\$22,879.32	\$1,180.57	5.44%
1,000	200,000	200	\$22,816.16	\$24,072.34	\$1,256.17	5.51%
1,000	400,000	400	\$34,490.90	\$36,459.64	\$1,968.74	5.71%
1,000	600,000	600	\$43,365.63	\$45,726.95	\$2,361.32	5.45%
3,000	600,000	200	\$68,384.73	\$72,153.61	\$3,768.88	5.51%
3,000	1,200,000	400	\$103,408.93	\$109,315.53	\$5,906.59	5.71%
3,000	1,800,000	600	\$130,033.13	\$137,117.44	\$7,084.31	5.45%
5,000	1,000,000	200	\$113,953.30	\$120,234.89	\$6,281.58	5.51%
5,000	2,000,000	400	\$172,326.97	\$182,171.41	\$9,844.44	5.71%
5,000	3,000,000	600	\$216,700.64	\$228,507.94	\$11,807.30	5.45%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016

**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826

Exhibit No. \_\_\_\_\_ (SVH-1)

Schedule 7

Page 12 of 26

**GENERAL TOD SERVICE (Transmission Transformed Voltage)**

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$357.72	\$376.10	\$18.38	5.14%
15	6,000	400	\$527.42	\$556.96	\$29.53	5.60%
15	9,000	600	\$655.12	\$691.01	\$35.89	5.48%
25	5,000	200	\$574.95	\$605.70	\$30.75	5.35%
25	10,000	400	\$857.79	\$907.13	\$49.34	5.75%
25	15,000	600	\$1,070.62	\$1,130.55	\$59.93	5.60%
50	10,000	200	\$1,118.02	\$1,179.71	\$61.69	5.52%
50	20,000	400	\$1,683.69	\$1,782.56	\$98.87	5.87%
50	30,000	600	\$2,109.36	\$2,229.40	\$120.04	5.69%
75	15,000	200	\$1,661.10	\$1,753.72	\$92.62	5.58%
75	30,000	400	\$2,509.60	\$2,657.98	\$148.39	5.91%
75	45,000	600	\$3,148.10	\$3,328.25	\$180.16	5.72%
100	20,000	200	\$2,204.17	\$2,327.72	\$123.55	5.61%
100	40,000	400	\$3,335.50	\$3,533.41	\$197.91	5.93%
100	60,000	600	\$4,186.84	\$4,427.10	\$240.27	5.74%
200	40,000	200	\$4,376.46	\$4,623.75	\$247.29	5.65%
200	80,000	400	\$6,639.12	\$7,035.13	\$396.00	5.96%
200	120,000	600	\$8,341.79	\$8,822.51	\$480.72	5.76%
300	60,000	200	\$6,548.75	\$6,919.77	\$371.02	5.67%
300	120,000	400	\$9,942.75	\$10,536.84	\$594.10	5.98%
300	180,000	600	\$12,496.75	\$13,217.91	\$721.17	5.77%
500	100,000	200	\$10,893.32	\$11,511.82	\$618.50	5.68%
500	200,000	400	\$16,549.99	\$17,540.27	\$990.28	5.98%
500	300,000	600	\$20,806.66	\$22,008.72	\$1,202.07	5.78%
1,000	200,000	200	\$21,754.76	\$22,991.94	\$1,237.17	5.69%
1,000	400,000	400	\$33,068.10	\$35,048.84	\$1,980.74	5.99%
1,000	600,000	600	\$41,581.43	\$43,985.75	\$2,404.32	5.78%
3,000	600,000	200	\$65,200.53	\$68,912.41	\$3,711.88	5.69%
3,000	1,200,000	400	\$99,140.53	\$105,083.13	\$5,942.59	5.99%
3,000	1,800,000	600	\$124,680.53	\$131,893.84	\$7,213.31	5.79%
5,000	1,000,000	200	\$108,646.30	\$114,832.89	\$6,186.58	5.69%
5,000	2,000,000	400	\$165,212.97	\$175,117.41	\$9,904.44	5.99%
5,000	3,000,000	600	\$207,779.64	\$219,801.94	\$12,022.30	5.79%

**GENERAL TOD SERVICE** (Transmission Voltage)

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$345.41	\$363.80	\$18.38	5.32%
15	6,000	400	\$514.81	\$544.34	\$29.54	5.74%
15	9,000	600	\$642.20	\$678.09	\$35.90	5.59%
25	5,000	200	\$554.44	\$585.19	\$30.76	5.55%
25	10,000	400	\$836.76	\$886.11	\$49.35	5.90%
25	15,000	600	\$1,049.07	\$1,109.02	\$59.95	5.71%
50	10,000	200	\$1,076.99	\$1,138.69	\$61.70	5.73%
50	20,000	400	\$1,641.63	\$1,740.52	\$98.89	6.02%
50	30,000	600	\$2,066.27	\$2,186.34	\$120.07	5.81%
75	15,000	200	\$1,599.55	\$1,692.19	\$92.64	5.79%
75	30,000	400	\$2,446.51	\$2,594.92	\$148.42	6.07%
75	45,000	600	\$3,083.46	\$3,263.66	\$180.20	5.84%
100	20,000	200	\$2,122.11	\$2,245.68	\$123.57	5.82%
100	40,000	400	\$3,251.38	\$3,449.33	\$197.95	6.09%
100	60,000	600	\$4,100.66	\$4,340.98	\$240.33	5.86%
200	40,000	200	\$4,212.34	\$4,459.67	\$247.33	5.87%
200	80,000	400	\$6,470.88	\$6,866.97	\$396.08	6.12%
200	120,000	600	\$8,169.43	\$8,650.27	\$480.84	5.89%
300	60,000	200	\$6,302.57	\$6,673.65	\$371.08	5.89%
300	120,000	400	\$9,690.39	\$10,284.60	\$594.22	6.13%
300	180,000	600	\$12,238.21	\$12,959.55	\$721.35	5.89%
500	100,000	200	\$10,483.02	\$11,101.62	\$618.60	5.90%
500	200,000	400	\$16,129.39	\$17,119.87	\$990.48	6.14%
500	300,000	600	\$20,375.76	\$21,578.12	\$1,202.37	5.90%
1,000	200,000	200	\$20,934.16	\$22,171.54	\$1,237.37	5.91%
1,000	400,000	400	\$32,226.90	\$34,208.04	\$1,981.14	6.15%
1,000	600,000	600	\$40,719.63	\$43,124.55	\$2,404.92	5.91%
3,000	600,000	200	\$62,738.73	\$66,451.21	\$3,712.48	5.92%
3,000	1,200,000	400	\$96,616.93	\$102,560.73	\$5,943.79	6.15%
3,000	1,800,000	600	\$122,095.13	\$129,310.24	\$7,215.11	5.91%
5,000	1,000,000	200	\$104,543.30	\$110,730.89	\$6,187.58	5.92%
5,000	2,000,000	400	\$161,006.97	\$170,913.41	\$9,906.44	6.15%
5,000	3,000,000	600	\$203,470.64	\$215,495.94	\$12,025.30	5.91%

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL SERVICE (Overhead) - A01**

	Energy in kWh	Monthly Bill		Increase	
		Present	Proposed	Amount	Percent
WINTER	250	\$36.27	\$41.03	\$4.76	13.11%
	300	\$41.82	\$47.08	\$5.26	12.58%
	400	\$52.91	\$59.19	\$6.28	11.86%
	500	\$64.01	\$71.30	\$7.29	11.39%
	600	\$75.11	\$83.41	\$8.30	11.05%
	675	\$83.43	\$92.49	\$9.06	10.86%
	750	\$91.75	\$101.57	\$9.82	10.71%
	1000	\$119.49	\$131.85	\$12.36	10.34%
	1500	\$174.97	\$192.39	\$17.42	9.96%
	2000	\$230.45	\$252.94	\$22.49	9.76%
	3000	\$341.41	\$374.04	\$32.62	9.56%
	4000	\$452.37	\$495.13	\$42.76	9.45%
	5000	\$563.34	\$616.23	\$52.89	9.39%
SUMMER	250	\$40.02	\$45.34	\$5.32	13.29%
	300	\$46.32	\$52.25	\$5.94	12.82%
	400	\$58.91	\$66.09	\$7.18	12.18%
	500	\$71.51	\$79.92	\$8.41	11.77%
	600	\$84.10	\$93.76	\$9.65	11.48%
	675	\$93.55	\$104.13	\$10.58	11.31%
	750	\$103.00	\$114.51	\$11.51	11.17%
	1000	\$134.49	\$149.09	\$14.60	10.86%
	1500	\$197.47	\$218.26	\$20.80	10.53%
	2000	\$260.44	\$287.43	\$26.99	10.36%
	3000	\$386.40	\$425.77	\$39.37	10.19%
	4000	\$512.36	\$564.11	\$51.75	10.10%
	5000	\$638.32	\$702.45	\$64.13	10.05%
AVERAGE MONTHLY	250	\$37.52	\$42.46	\$4.94	13.18%
	300	\$43.32	\$48.81	\$5.49	12.67%
	400	\$54.91	\$61.49	\$6.58	11.97%
	500	\$66.51	\$74.17	\$7.66	11.52%
	600	\$78.11	\$86.86	\$8.75	11.21%
	675	\$86.80	\$96.37	\$9.57	11.02%
	750	\$95.50	\$105.88	\$10.38	10.87%
	1000	\$124.49	\$137.60	\$13.11	10.53%
	1500	\$182.47	\$201.02	\$18.55	10.16%
	2000	\$240.45	\$264.44	\$23.99	9.98%
	3000	\$356.41	\$391.28	\$34.87	9.78%
	4000	\$472.37	\$518.12	\$45.75	9.69%
	5000	\$588.33	\$644.97	\$56.64	9.63%

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL SERVICE - SPACE HEATING (Overhead) - A01**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$32.72	\$35.80	\$3.08	9.42%
	300	\$37.16	\$40.41	\$3.25	8.75%
	400	\$46.03	\$49.63	\$3.60	7.81%
	500	\$54.91	\$58.84	\$3.94	7.17%
	600	\$63.78	\$68.06	\$4.28	6.71%
	675	\$70.44	\$74.98	\$4.54	6.45%
	750	\$77.09	\$81.89	\$4.80	6.22%
	1000	\$99.28	\$104.94	\$5.66	5.70%
	1500	\$143.66	\$151.03	\$7.37	5.13%
	2000	\$188.03	\$197.12	\$9.09	4.83%
	3000	\$276.78	\$289.31	\$12.52	4.52%
	4000	\$365.53	\$381.49	\$15.96	4.37%
	5000	\$454.29	\$473.68	\$19.39	4.27%
SUMMER	250	\$42.02	\$47.34	\$5.32	12.66%
	300	\$48.32	\$54.25	\$5.94	12.29%
	400	\$60.91	\$68.09	\$7.18	11.78%
	500	\$73.51	\$81.92	\$8.41	11.45%
	600	\$86.10	\$95.76	\$9.65	11.21%
	675	\$95.55	\$106.13	\$10.58	11.07%
	750	\$105.00	\$116.51	\$11.51	10.96%
	1000	\$136.49	\$151.09	\$14.60	10.70%
	1500	\$199.47	\$220.26	\$20.80	10.43%
	2000	\$262.44	\$289.43	\$26.99	10.28%
	3000	\$388.40	\$427.77	\$39.37	10.14%
	4000	\$514.36	\$566.11	\$51.75	10.06%
	5000	\$640.32	\$704.45	\$64.13	10.02%
AVERAGE MONTHLY	250	\$35.82	\$39.65	\$3.83	10.68%
	300	\$40.88	\$45.02	\$4.15	10.15%
	400	\$50.99	\$55.78	\$4.79	9.39%
	500	\$61.11	\$66.54	\$5.43	8.89%
	600	\$71.22	\$77.29	\$6.07	8.53%
	675	\$78.81	\$85.36	\$6.55	8.32%
	750	\$86.39	\$93.43	\$7.03	8.14%
	1000	\$111.68	\$120.32	\$8.64	7.74%
	1500	\$162.26	\$174.11	\$11.85	7.30%
	2000	\$212.84	\$227.89	\$15.06	7.07%
	3000	\$313.99	\$335.46	\$21.47	6.84%
	4000	\$415.14	\$443.03	\$27.89	6.72%
	5000	\$516.30	\$550.60	\$34.30	6.64%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 16 of 26

**RESIDENTIAL SERVICE (Underground) - A03**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$38.27	\$43.03	\$4.76	12.43%
	300	\$43.82	\$49.08	\$5.26	12.01%
	400	\$54.91	\$61.19	\$6.28	11.43%
	500	\$66.01	\$73.30	\$7.29	11.04%
	600	\$77.11	\$85.41	\$8.30	10.77%
	675	\$85.43	\$94.49	\$9.06	10.61%
	750	\$93.75	\$103.57	\$9.82	10.48%
	1000	\$121.49	\$133.85	\$12.36	10.17%
	1500	\$176.97	\$194.39	\$17.42	9.84%
	2000	\$232.45	\$254.94	\$22.49	9.67%
	3000	\$343.41	\$376.04	\$32.62	9.50%
	4000	\$454.37	\$497.13	\$42.76	9.41%
	5000	\$565.34	\$618.23	\$52.89	9.36%
SUMMER	250	\$42.02	\$47.34	\$5.32	12.66%
	300	\$48.32	\$54.25	\$5.94	12.29%
	400	\$60.91	\$68.09	\$7.18	11.78%
	500	\$73.51	\$81.92	\$8.41	11.45%
	600	\$86.10	\$95.76	\$9.65	11.21%
	675	\$95.55	\$106.13	\$10.58	11.07%
	750	\$105.00	\$116.51	\$11.51	10.96%
	1000	\$136.49	\$151.09	\$14.60	10.70%
	1500	\$199.47	\$220.26	\$20.80	10.43%
	2000	\$262.44	\$289.43	\$26.99	10.28%
	3000	\$388.40	\$427.77	\$39.37	10.14%
	4000	\$514.36	\$566.11	\$51.75	10.06%
	5000	\$640.32	\$704.45	\$64.13	10.02%
AVERAGE MONTHLY	250	\$39.52	\$44.46	\$4.94	12.51%
	300	\$45.32	\$50.81	\$5.49	12.11%
	400	\$56.91	\$63.49	\$6.58	11.55%
	500	\$68.51	\$76.17	\$7.66	11.19%
	600	\$80.11	\$88.86	\$8.75	10.93%
	675	\$88.80	\$98.37	\$9.57	10.78%
	750	\$97.50	\$107.88	\$10.38	10.65%
	1000	\$126.49	\$139.60	\$13.11	10.36%
	1500	\$184.47	\$203.02	\$18.55	10.05%
	2000	\$242.45	\$266.44	\$23.99	9.89%
	3000	\$358.41	\$393.28	\$34.87	9.73%
	4000	\$474.37	\$520.12	\$45.75	9.65%
	5000	\$590.33	\$646.97	\$56.64	9.59%

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL SERVICE - SPACE HEATING (Underground) - A03**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$34.72	\$37.80	\$3.08	8.87%
	300	\$39.16	\$42.41	\$3.25	8.31%
	400	\$48.03	\$51.63	\$3.60	7.49%
	500	\$56.91	\$60.84	\$3.94	6.92%
	600	\$65.78	\$70.06	\$4.28	6.51%
	675	\$72.44	\$76.98	\$4.54	6.27%
	750	\$79.09	\$83.89	\$4.80	6.07%
	1000	\$101.28	\$106.94	\$5.66	5.58%
	1500	\$145.66	\$153.03	\$7.37	5.06%
	2000	\$190.03	\$199.12	\$9.09	4.78%
	3000	\$278.78	\$291.31	\$12.52	4.49%
	4000	\$367.53	\$383.49	\$15.96	4.34%
	5000	\$456.29	\$475.68	\$19.39	4.25%
SUMMER	250	\$44.02	\$49.34	\$5.32	12.08%
	300	\$50.32	\$56.25	\$5.94	11.80%
	400	\$62.91	\$70.09	\$7.18	11.41%
	500	\$75.51	\$83.92	\$8.41	11.14%
	600	\$88.10	\$97.76	\$9.65	10.96%
	675	\$97.55	\$108.13	\$10.58	10.85%
	750	\$107.00	\$118.51	\$11.51	10.76%
	1000	\$138.49	\$153.09	\$14.60	10.55%
	1500	\$201.47	\$222.26	\$20.80	10.32%
	2000	\$264.44	\$291.43	\$26.99	10.21%
	3000	\$390.40	\$429.77	\$39.37	10.08%
	4000	\$516.36	\$568.11	\$51.75	10.02%
	5000	\$642.32	\$706.45	\$64.13	9.98%
AVERAGE MONTHLY	250	\$37.82	\$41.65	\$3.83	10.12%
	300	\$42.88	\$47.02	\$4.15	9.67%
	400	\$52.99	\$57.78	\$4.79	9.04%
	500	\$63.11	\$68.54	\$5.43	8.61%
	600	\$73.22	\$79.29	\$6.07	8.29%
	675	\$80.81	\$87.36	\$6.55	8.11%
	750	\$88.39	\$95.43	\$7.03	7.96%
	1000	\$113.68	\$122.32	\$8.64	7.60%
	1500	\$164.26	\$176.11	\$11.85	7.21%
	2000	\$214.84	\$229.89	\$15.06	7.01%
	3000	\$315.99	\$337.46	\$21.47	6.80%
	4000	\$417.14	\$445.03	\$27.89	6.69%
	5000	\$518.30	\$552.60	\$34.30	6.62%



**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL TIME OF DAY SERVICE (Overhead) - A02**

35% On-Peak

65% Off-Peak

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$37.47	\$42.20	\$4.73	12.63%
	300	\$42.85	\$48.09	\$5.24	12.22%
	400	\$53.63	\$59.87	\$6.24	11.64%
	500	\$64.40	\$71.65	\$7.24	11.25%
	600	\$75.18	\$83.43	\$8.25	10.97%
	675	\$83.26	\$92.26	\$9.00	10.81%
	750	\$91.34	\$101.10	\$9.75	10.68%
	1000	\$118.28	\$130.54	\$12.27	10.37%
	1500	\$172.15	\$189.44	\$17.29	10.04%
	2000	\$226.03	\$248.33	\$22.31	9.87%
	3000	\$333.77	\$366.12	\$32.35	9.69%
	4000	\$441.52	\$483.91	\$42.39	9.60%
	5000	\$549.27	\$601.71	\$52.44	9.55%
SUMMER	250	\$41.00	\$46.24	\$5.24	12.79%
	300	\$47.09	\$52.94	\$5.85	12.42%
	400	\$59.28	\$66.34	\$7.06	11.90%
	500	\$71.47	\$79.73	\$8.27	11.57%
	600	\$83.65	\$93.13	\$9.47	11.33%
	675	\$92.80	\$103.18	\$10.38	11.19%
	750	\$101.94	\$113.22	\$11.29	11.07%
	1000	\$132.40	\$146.71	\$14.31	10.81%
	1500	\$193.34	\$213.69	\$20.35	10.53%
	2000	\$254.28	\$280.67	\$26.39	10.38%
	3000	\$376.15	\$414.63	\$38.48	10.23%
	4000	\$498.03	\$548.59	\$50.57	10.15%
	5000	\$619.90	\$682.55	\$62.65	10.11%
AVERAGE MONTHLY	250	\$38.64	\$43.55	\$4.90	12.69%
	300	\$44.27	\$49.71	\$5.44	12.29%
	400	\$55.51	\$62.02	\$6.51	11.73%
	500	\$66.76	\$74.34	\$7.58	11.36%
	600	\$78.00	\$86.66	\$8.66	11.10%
	675	\$86.44	\$95.90	\$9.46	10.95%
	750	\$94.87	\$105.14	\$10.27	10.82%
	1000	\$122.99	\$135.93	\$12.95	10.53%
	1500	\$179.21	\$197.52	\$18.31	10.22%
	2000	\$235.44	\$259.11	\$23.67	10.05%
	3000	\$347.90	\$382.29	\$34.39	9.89%
	4000	\$460.36	\$505.47	\$45.12	9.80%
	5000	\$572.81	\$628.65	\$55.84	9.75%

**Comparison Of Bills At Present & Proposed Rates**

**RESIDENTIAL TIME OF DAY SERVICE - SPACE HEATING (Overhead) - A02**

35% On-Peak

65% Off-Peak

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$34.62	\$37.72	\$3.11	8.97%
	300	\$39.04	\$42.32	\$3.28	8.41%
	400	\$47.87	\$51.50	\$3.63	7.59%
	500	\$56.71	\$60.69	\$3.99	7.03%
	600	\$65.54	\$69.88	\$4.34	6.62%
	675	\$72.17	\$76.77	\$4.60	6.38%
	750	\$78.79	\$83.66	\$4.87	6.18%
	1000	\$100.88	\$106.63	\$5.75	5.70%
	1500	\$145.06	\$152.57	\$7.52	5.18%
	2000	\$189.23	\$198.51	\$9.28	4.90%
	3000	\$277.58	\$290.39	\$12.81	4.62%
	4000	\$365.93	\$382.27	\$16.34	4.47%
	5000	\$454.28	\$474.15	\$19.87	4.37%
SUMMER	250	\$43.00	\$48.24	\$5.24	12.20%
	300	\$49.09	\$54.94	\$5.85	11.91%
	400	\$61.28	\$68.34	\$7.06	11.52%
	500	\$73.47	\$81.73	\$8.27	11.25%
	600	\$85.65	\$95.13	\$9.47	11.06%
	675	\$94.80	\$105.18	\$10.38	10.95%
	750	\$103.94	\$115.22	\$11.29	10.86%
	1000	\$134.40	\$148.71	\$14.31	10.65%
	1500	\$195.34	\$215.69	\$20.35	10.42%
	2000	\$256.28	\$282.67	\$26.39	10.30%
	3000	\$378.15	\$416.63	\$38.48	10.18%
	4000	\$500.03	\$550.59	\$50.57	10.11%
	5000	\$621.90	\$684.55	\$62.65	10.07%
AVERAGE MONTHLY	250	\$37.41	\$41.23	\$3.82	10.21%
	300	\$42.39	\$46.52	\$4.14	9.76%
	400	\$52.34	\$57.12	\$4.78	9.12%
	500	\$62.29	\$67.71	\$5.41	8.69%
	600	\$72.25	\$78.30	\$6.05	8.38%
	675	\$79.71	\$86.24	\$6.53	8.19%
	750	\$87.17	\$94.18	\$7.01	8.04%
	1000	\$112.06	\$120.66	\$8.60	7.68%
	1500	\$161.82	\$173.61	\$11.79	7.29%
	2000	\$211.58	\$226.57	\$14.99	7.08%
	3000	\$311.11	\$332.47	\$21.37	6.87%
	4000	\$410.63	\$438.38	\$27.75	6.76%
	5000	\$510.16	\$544.29	\$34.13	6.69%

**SMALL GENERAL SERVICE**

	Energy in kWh	Monthly Bill		Increase	
		Present	Ordered	Amount	Percent
WINTER	250	\$37.14	\$40.24	\$3.10	8.36%
	300	\$42.42	\$45.71	\$3.29	7.75%
	400	\$52.99	\$56.64	\$3.65	6.89%
	500	\$63.56	\$67.58	\$4.02	6.32%
	600	\$74.13	\$78.51	\$4.38	5.91%
	750	\$89.99	\$94.91	\$4.93	5.47%
	1000	\$116.41	\$122.25	\$5.84	5.01%
	1500	\$169.26	\$176.92	\$7.66	4.53%
	2000	\$222.11	\$231.59	\$9.48	4.27%
	3000	\$327.81	\$340.94	\$13.13	4.00%
	4000	\$433.52	\$450.28	\$16.77	3.87%
	5000	\$539.22	\$559.63	\$20.41	3.79%
SUMMER	250	\$40.90	\$44.55	\$3.66	8.94%
	300	\$46.93	\$50.88	\$3.95	8.42%
	400	\$59.01	\$63.54	\$4.54	7.69%
	500	\$71.08	\$76.20	\$5.12	7.21%
	600	\$83.15	\$88.86	\$5.71	6.86%
	750	\$101.27	\$107.85	\$6.59	6.50%
	1000	\$131.45	\$139.50	\$8.05	6.12%
	1500	\$191.82	\$202.80	\$10.98	5.72%
	2000	\$252.19	\$266.10	\$13.91	5.51%
	3000	\$372.93	\$392.70	\$19.77	5.30%
	4000	\$493.68	\$519.30	\$25.62	5.19%
	5000	\$614.42	\$645.90	\$31.48	5.12%
AVERAGE MONTHLY	250	\$38.39	\$41.68	\$3.29	8.57%
	300	\$43.92	\$47.43	\$3.51	7.99%
	400	\$55.00	\$58.94	\$3.95	7.17%
	500	\$66.07	\$70.45	\$4.38	6.64%
	600	\$77.14	\$81.96	\$4.82	6.25%
	750	\$93.75	\$99.23	\$5.48	5.85%
	1000	\$121.42	\$128.00	\$6.57	5.41%
	1500	\$176.78	\$185.55	\$8.77	4.96%
	2000	\$232.14	\$243.10	\$10.96	4.72%
	3000	\$342.85	\$358.19	\$15.34	4.47%
	4000	\$453.57	\$473.29	\$19.72	4.35%
	5000	\$564.28	\$588.39	\$24.10	4.27%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 21 of 26

**GENERAL SERVICE (Secondary Voltage)**

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$388.89	\$410.86	\$21.97	5.65%
15	6,000	400	\$570.02	\$604.15	\$34.13	5.99%
15	9,000	600	\$709.15	\$750.64	\$41.49	5.85%
25	5,000	200	\$629.57	\$666.29	\$36.72	5.83%
25	10,000	400	\$931.45	\$988.43	\$56.99	6.12%
25	15,000	600	\$1,163.33	\$1,232.58	\$69.26	5.95%
50	10,000	200	\$1,231.26	\$1,304.85	\$73.59	5.98%
50	20,000	400	\$1,835.02	\$1,949.15	\$114.13	6.22%
50	30,000	600	\$2,298.78	\$2,437.45	\$138.67	6.03%
75	15,000	200	\$1,832.95	\$1,943.42	\$110.47	6.03%
75	30,000	400	\$2,738.59	\$2,909.86	\$171.28	6.25%
75	45,000	600	\$3,434.22	\$3,642.31	\$208.09	6.06%
100	20,000	200	\$2,434.64	\$2,581.98	\$147.34	6.05%
100	40,000	400	\$3,642.16	\$3,870.58	\$228.42	6.27%
100	60,000	600	\$4,569.67	\$4,847.17	\$277.50	6.07%
200	40,000	200	\$4,841.40	\$5,136.25	\$294.84	6.09%
200	80,000	400	\$7,256.44	\$7,713.44	\$457.00	6.30%
200	120,000	600	\$9,111.47	\$9,666.63	\$555.16	6.09%
300	60,000	200	\$7,248.17	\$7,690.51	\$442.34	6.10%
300	120,000	400	\$10,870.71	\$11,556.29	\$685.58	6.31%
300	180,000	600	\$13,653.26	\$14,486.08	\$832.82	6.10%
400	80,000	200	\$9,654.93	\$10,244.77	\$589.84	6.11%
400	160,000	400	\$14,484.99	\$15,399.15	\$914.16	6.31%
400	240,000	600	\$18,195.05	\$19,305.54	\$1,110.48	6.10%
500	100,000	200	\$12,061.69	\$12,799.03	\$737.34	6.11%
500	200,000	400	\$18,099.27	\$19,242.01	\$1,142.74	6.31%
500	300,000	600	\$22,736.84	\$24,124.99	\$1,388.14	6.11%
750	150,000	200	\$18,078.60	\$19,184.69	\$1,106.09	6.12%
750	300,000	400	\$27,134.96	\$28,849.16	\$1,714.19	6.32%
750	450,000	600	\$34,091.33	\$36,173.62	\$2,082.30	6.11%
1,000	200,000	200	\$24,095.50	\$25,570.34	\$1,474.84	6.12%
1,000	400,000	400	\$36,170.66	\$38,456.30	\$2,285.65	6.32%
1,000	600,000	600	\$45,445.81	\$48,222.26	\$2,776.45	6.11%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 22 of 26

**GENERAL SERVICE (Primary Voltage)**

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$372.60	\$395.63	\$23.02	6.18%
15	6,000	400	\$550.94	\$585.68	\$34.74	6.31%
15	9,000	600	\$687.28	\$728.94	\$41.66	6.06%
25	5,000	200	\$602.42	\$640.90	\$38.48	6.39%
25	10,000	400	\$899.65	\$957.65	\$58.01	6.45%
25	15,000	600	\$1,126.88	\$1,196.41	\$69.54	6.17%
50	10,000	200	\$1,176.96	\$1,254.07	\$77.11	6.55%
50	20,000	400	\$1,771.42	\$1,887.59	\$116.17	6.56%
50	30,000	600	\$2,225.88	\$2,365.11	\$139.23	6.26%
75	15,000	200	\$1,751.50	\$1,867.25	\$115.75	6.61%
75	30,000	400	\$2,643.19	\$2,817.52	\$174.34	6.60%
75	45,000	600	\$3,324.87	\$3,533.80	\$208.93	6.28%
100	20,000	200	\$2,326.04	\$2,480.42	\$154.38	6.64%
100	40,000	400	\$3,514.96	\$3,747.46	\$232.50	6.61%
100	60,000	600	\$4,423.87	\$4,702.49	\$278.62	6.30%
200	40,000	200	\$4,624.20	\$4,933.13	\$308.92	6.68%
200	80,000	400	\$7,002.04	\$7,467.20	\$465.16	6.64%
200	120,000	600	\$8,819.87	\$9,377.27	\$557.40	6.32%
300	60,000	200	\$6,922.37	\$7,385.83	\$463.46	6.70%
300	120,000	400	\$10,489.11	\$11,186.93	\$697.82	6.65%
300	180,000	600	\$13,215.86	\$14,052.04	\$836.18	6.33%
400	80,000	200	\$9,220.53	\$9,838.53	\$618.00	6.70%
400	160,000	400	\$13,976.19	\$14,906.67	\$930.48	6.66%
400	240,000	600	\$17,611.85	\$18,726.82	\$1,114.96	6.33%
500	100,000	200	\$11,518.69	\$12,291.23	\$772.54	6.71%
500	200,000	400	\$17,463.27	\$18,626.41	\$1,163.14	6.66%
500	300,000	600	\$22,007.84	\$23,401.59	\$1,393.74	6.33%
750	150,000	200	\$17,264.10	\$18,422.99	\$1,158.89	6.71%
750	300,000	400	\$26,180.96	\$27,925.76	\$1,744.79	6.66%
750	450,000	600	\$32,997.83	\$35,088.52	\$2,090.70	6.34%
1,000	200,000	200	\$23,009.50	\$24,554.74	\$1,545.24	6.72%
1,000	400,000	400	\$34,898.66	\$37,225.10	\$2,326.45	6.67%
1,000	600,000	600	\$43,987.81	\$46,775.46	\$2,787.65	6.34%

**GENERAL TOD SERVICE (Secondary Voltage)**

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$389.68	\$412.22	\$22.54	5.78%
15	6,000	400	\$567.59	\$602.87	\$35.28	6.22%
15	9,000	600	\$703.50	\$746.72	\$43.22	6.14%
25	5,000	200	\$628.21	\$665.88	\$37.67	6.00%
25	10,000	400	\$924.73	\$983.63	\$58.90	6.37%
25	15,000	600	\$1,151.25	\$1,223.38	\$72.13	6.27%
50	10,000	200	\$1,224.54	\$1,300.05	\$75.51	6.17%
50	20,000	400	\$1,817.58	\$1,935.54	\$117.97	6.49%
50	30,000	600	\$2,270.61	\$2,415.04	\$144.43	6.36%
75	15,000	200	\$1,820.87	\$1,934.21	\$113.34	6.22%
75	30,000	400	\$2,710.43	\$2,887.46	\$177.03	6.53%
75	45,000	600	\$3,389.98	\$3,606.70	\$216.72	6.39%
100	20,000	200	\$2,417.20	\$2,568.38	\$151.18	6.25%
100	40,000	400	\$3,603.27	\$3,839.37	\$236.09	6.55%
100	60,000	600	\$4,509.35	\$4,798.36	\$289.01	6.41%
200	40,000	200	\$4,802.52	\$5,105.03	\$302.51	6.30%
200	80,000	400	\$7,174.67	\$7,647.02	\$472.35	6.58%
200	120,000	600	\$8,986.81	\$9,565.00	\$578.18	6.43%
300	60,000	200	\$7,187.84	\$7,641.69	\$453.85	6.31%
300	120,000	400	\$10,746.06	\$11,454.66	\$708.60	6.59%
300	180,000	600	\$13,464.28	\$14,331.63	\$867.35	6.44%
500	100,000	200	\$11,958.48	\$12,715.01	\$756.53	6.33%
500	200,000	400	\$17,888.85	\$19,069.96	\$1,181.11	6.60%
500	300,000	600	\$22,419.21	\$23,864.91	\$1,445.70	6.45%
1,000	200,000	200	\$23,885.08	\$25,398.29	\$1,513.21	6.34%
1,000	400,000	400	\$35,745.81	\$38,108.20	\$2,362.38	6.61%
1,000	600,000	600	\$44,806.55	\$47,698.10	\$2,891.55	6.45%
3,000	600,000	200	\$71,591.48	\$76,131.43	\$4,539.95	6.34%
3,000	1,200,000	400	\$107,173.68	\$114,261.15	\$7,087.47	6.61%
3,000	1,800,000	600	\$134,355.88	\$143,030.86	\$8,674.98	6.46%
5,000	1,000,000	200	\$119,297.89	\$126,864.58	\$7,566.69	6.34%
5,000	2,000,000	400	\$178,601.55	\$190,414.10	\$11,812.55	6.61%
5,000	3,000,000	600	\$223,905.22	\$238,363.62	\$14,458.41	6.46%

Northern States Power Company  
Electric Utility - Minnesota  
Test Year Ending December 31, 2016  
**Comparison Of Bills At Present & Proposed Rates**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_ (SVH-1)  
Schedule 7  
Page 24 of 26

**GENERAL TOD SERVICE** (Primary Voltage)

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$373.39	\$396.98	\$23.60	6.32%
15	6,000	400	\$548.51	\$584.40	\$35.89	6.54%
15	9,000	600	\$681.63	\$725.01	\$43.38	6.36%
25	5,000	200	\$601.06	\$640.49	\$39.43	6.56%
25	10,000	400	\$892.93	\$952.85	\$59.92	6.71%
25	15,000	600	\$1,114.80	\$1,187.21	\$72.41	6.50%
50	10,000	200	\$1,170.24	\$1,249.27	\$79.03	6.75%
50	20,000	400	\$1,753.98	\$1,873.98	\$120.01	6.84%
50	30,000	600	\$2,197.71	\$2,342.70	\$144.99	6.60%
75	15,000	200	\$1,739.42	\$1,858.04	\$118.62	6.82%
75	30,000	400	\$2,615.03	\$2,795.12	\$180.09	6.89%
75	45,000	600	\$3,280.63	\$3,498.19	\$217.56	6.63%
100	20,000	200	\$2,308.60	\$2,466.82	\$158.22	6.85%
100	40,000	400	\$3,476.07	\$3,716.25	\$240.17	6.91%
100	60,000	600	\$4,363.55	\$4,653.68	\$290.13	6.65%
200	40,000	200	\$4,585.32	\$4,901.91	\$316.59	6.90%
200	80,000	400	\$6,920.27	\$7,400.78	\$480.51	6.94%
200	120,000	600	\$8,695.21	\$9,275.64	\$580.42	6.68%
300	60,000	200	\$6,862.04	\$7,337.01	\$474.97	6.92%
300	120,000	400	\$10,364.46	\$11,085.30	\$720.84	6.95%
300	180,000	600	\$13,026.88	\$13,897.59	\$870.71	6.68%
500	100,000	200	\$11,415.48	\$12,207.21	\$791.73	6.94%
500	200,000	400	\$17,252.85	\$18,454.36	\$1,201.51	6.96%
500	300,000	600	\$21,690.21	\$23,141.51	\$1,451.30	6.69%
1,000	200,000	200	\$22,799.08	\$24,382.69	\$1,583.61	6.95%
1,000	400,000	400	\$34,473.81	\$36,877.00	\$2,403.18	6.97%
1,000	600,000	600	\$43,348.55	\$46,251.30	\$2,902.75	6.70%
3,000	600,000	200	\$68,333.48	\$73,084.63	\$4,751.15	6.95%
3,000	1,200,000	400	\$103,357.68	\$110,567.55	\$7,209.87	6.98%
3,000	1,800,000	600	\$129,981.88	\$138,690.46	\$8,708.58	6.70%
5,000	1,000,000	200	\$113,867.89	\$121,786.58	\$7,918.69	6.95%
5,000	2,000,000	400	\$172,241.55	\$184,258.10	\$12,016.55	6.98%
5,000	3,000,000	600	\$216,615.22	\$231,129.62	\$14,514.41	6.70%

**Comparison Of Bills At Present & Proposed Rates**

**GENERAL TOD SERVICE (Transmission Transformed Voltage)**

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$357.47	\$380.73	\$23.27	6.51%
15	6,000	400	\$527.17	\$563.15	\$35.98	6.83%
15	9,000	600	\$654.87	\$698.76	\$43.89	6.70%
25	5,000	200	\$574.53	\$613.41	\$38.88	6.77%
25	10,000	400	\$857.36	\$917.43	\$60.07	7.01%
25	15,000	600	\$1,070.19	\$1,143.45	\$73.26	6.85%
50	10,000	200	\$1,117.17	\$1,195.10	\$77.93	6.98%
50	20,000	400	\$1,682.84	\$1,803.14	\$120.31	7.15%
50	30,000	600	\$2,108.50	\$2,255.19	\$146.69	6.96%
75	15,000	200	\$1,659.82	\$1,776.79	\$116.97	7.05%
75	30,000	400	\$2,508.32	\$2,688.86	\$180.54	7.20%
75	45,000	600	\$3,146.82	\$3,366.92	\$220.11	6.99%
100	20,000	200	\$2,202.46	\$2,358.48	\$156.02	7.08%
100	40,000	400	\$3,333.79	\$3,574.57	\$240.77	7.22%
100	60,000	600	\$4,185.13	\$4,478.66	\$293.53	7.01%
200	40,000	200	\$4,373.04	\$4,685.23	\$312.19	7.14%
200	80,000	400	\$6,635.71	\$7,117.42	\$481.71	7.26%
200	120,000	600	\$8,338.37	\$8,925.60	\$587.22	7.04%
300	60,000	200	\$6,543.62	\$7,011.99	\$468.37	7.16%
300	120,000	400	\$9,937.62	\$10,660.26	\$722.64	7.27%
300	180,000	600	\$12,491.62	\$13,372.53	\$880.91	7.05%
500	100,000	200	\$10,884.78	\$11,665.51	\$780.73	7.17%
500	200,000	400	\$16,541.45	\$17,745.96	\$1,204.51	7.28%
500	300,000	600	\$20,798.11	\$22,266.41	\$1,468.30	7.06%
1,000	200,000	200	\$21,737.68	\$23,299.29	\$1,561.61	7.18%
1,000	400,000	400	\$33,051.01	\$35,460.20	\$2,409.18	7.29%
1,000	600,000	600	\$41,564.35	\$44,501.10	\$2,936.75	7.07%
3,000	600,000	200	\$65,149.28	\$69,834.43	\$4,685.15	7.19%
3,000	1,200,000	400	\$99,089.28	\$106,317.15	\$7,227.87	7.29%
3,000	1,800,000	600	\$124,629.28	\$133,439.86	\$8,810.58	7.07%
5,000	1,000,000	200	\$108,560.89	\$116,369.58	\$7,808.69	7.19%
5,000	2,000,000	400	\$165,127.55	\$177,174.10	\$12,046.55	7.30%
5,000	3,000,000	600	\$207,694.22	\$222,378.62	\$14,684.41	7.07%



**GENERAL TOD SERVICE** (Transmission Voltage)

40% On-Peak

60% Off-Peak

Demand in kW	Energy in kWh	Hours	Monthly Bill		Increase	
			Present	Ordered	Amount	Percent
15	3,000	200	\$345.16	\$368.43	\$23.27	6.74%
15	6,000	400	\$514.55	\$550.54	\$35.99	6.99%
15	9,000	600	\$641.94	\$685.84	\$43.90	6.84%
25	5,000	200	\$554.01	\$592.90	\$38.89	7.02%
25	10,000	400	\$836.33	\$896.41	\$60.08	7.18%
25	15,000	600	\$1,048.65	\$1,121.92	\$73.28	6.99%
50	10,000	200	\$1,076.14	\$1,154.08	\$77.94	7.24%
50	20,000	400	\$1,640.78	\$1,761.10	\$120.33	7.33%
50	30,000	600	\$2,065.41	\$2,212.13	\$146.72	7.10%
75	15,000	200	\$1,598.27	\$1,715.26	\$116.99	7.32%
75	30,000	400	\$2,445.23	\$2,625.80	\$180.57	7.38%
75	45,000	600	\$3,082.18	\$3,302.33	\$220.15	7.14%
100	20,000	200	\$2,120.40	\$2,276.44	\$156.04	7.36%
100	40,000	400	\$3,249.67	\$3,490.49	\$240.81	7.41%
100	60,000	600	\$4,098.95	\$4,392.54	\$293.59	7.16%
200	40,000	200	\$4,208.92	\$4,521.15	\$312.23	7.42%
200	80,000	400	\$6,467.47	\$6,949.26	\$481.79	7.45%
200	120,000	600	\$8,166.01	\$8,753.36	\$587.34	7.19%
300	60,000	200	\$6,297.44	\$6,765.87	\$468.43	7.44%
300	120,000	400	\$9,685.26	\$10,408.02	\$722.76	7.46%
300	180,000	600	\$12,233.08	\$13,114.17	\$881.09	7.20%
500	100,000	200	\$10,474.48	\$11,255.31	\$780.83	7.45%
500	200,000	400	\$16,120.85	\$17,325.56	\$1,204.71	7.47%
500	300,000	600	\$20,367.21	\$21,835.81	\$1,468.60	7.21%
1,000	200,000	200	\$20,917.08	\$22,478.89	\$1,561.81	7.47%
1,000	400,000	400	\$32,209.81	\$34,619.40	\$2,409.58	7.48%
1,000	600,000	600	\$40,702.55	\$43,639.90	\$2,937.35	7.22%
3,000	600,000	200	\$62,687.48	\$67,373.23	\$4,685.75	7.47%
3,000	1,200,000	400	\$96,565.68	\$103,794.75	\$7,229.07	7.49%
3,000	1,800,000	600	\$122,043.88	\$130,856.26	\$8,812.38	7.22%
5,000	1,000,000	200	\$104,457.89	\$112,267.58	\$7,809.69	7.48%
5,000	2,000,000	400	\$160,921.55	\$172,970.10	\$12,048.55	7.49%
5,000	3,000,000	600	\$203,385.22	\$218,072.62	\$14,687.41	7.22%

Northern States Power Company  
Electric Utility - Minnesota  
**VOLTAGE DISCOUNT ANALYSIS**  
**Demand Charge**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_(SVH-1)  
Schedule 8  
Page 1 of 2

**CCOSS - Page 2**

	Distribution Cost - 2016	Secondary	Primary	Transmission Transformed	Total
1	Sec - Line 35	\$12,961			\$12,961
2	Pri - Line 34	\$35,122	\$8,374		\$43,496
3	Sub - Line 33	\$35,905	\$10,003	\$5,062	\$50,970
4	Total	\$83,988	\$18,377	\$5,062	\$107,426

Distribution Cost - 2017

5	Sec - Line 35	\$14,507			\$14,507
6	Pri - Line 34	\$38,200	\$9,112		\$47,312
7	Sub - Line 33	\$38,158	\$10,617	\$5,337	\$54,112
8	Total	\$90,865	\$19,729	\$5,337	\$115,931

Billing KW

9	Sec	40,687			40,687
10	Pri	40,687	8,746		49,432
11	Sub	40,687	8,746	4,298	53,730

Losses

12	Sec	1.0000			
13	Pri	1.0207	1.0000		
14	Sub	1.0368	1.0157	1.0000	

Billing KW with Losses

15	Sec	40,687			40,687
16	Pri	41,529	8,746		50,274
17	Sub	42,184	8,883	4,298	55,365

Cost per kW - 2016

18	Sec (1) / (15)	\$0.32			\$0.32	(a)
19	Pri (2) / (16)	\$0.86	\$0.96		\$0.87	(b)
20	Sub (3) / (17)	\$0.88	\$1.14	\$1.18	\$0.92	(c)

Cost per kW - 2017

21	Sec (5) / (15)	\$0.36			\$0.36	(a)
22	Pri (6) / (16)	\$0.92	\$1.04		\$0.94	(b)
23	Sub (7) / (17)	\$0.90	\$1.20	\$1.24	\$0.98	(c)

Demand Voltage Discoun	2016 Cost	2017 Cost	Present	Proposed
Primary (a)	\$0.32	\$0.36	\$0.90	\$0.80
Tr Transformed (a) + (b)	\$1.18	\$1.30	\$1.60	\$1.55
Transmission (a) + (b) + (c)	\$2.10	\$2.28	\$2.40	\$2.35

Northern States Power Company  
Electric Utility - Minnesota  
**VOLTAGE DISCOUNT ANALYSIS**  
**Energy Charge**

Docket No. E002/GR-15-826  
Exhibit No. \_\_\_\_\_(SVH-1)  
Schedule 8  
Page 2 of 2

		Transmission		
	Secondary	Primary	Transformed	Transmission
1 E8760 Losses	7.90%	6.19%	3.82%	3.68%
2 Percent Difference	0.00%	1.71%	4.07%	4.22%
3 Prior Percent Difference		1.56%	4.62%	4.80%
4 Percent Difference - Max or Ave		1.71%	4.35%	4.51%

**Proposed General Service - per kWh**

3 Base Energy and Fuel - 2016	6.261 ¢	6.154 ¢	5.989 ¢	5.979 ¢
4 Base Energy and Fuel - 2017	6.316 ¢	6.208 ¢	6.042 ¢	6.031 ¢

**Energy Voltage Discount - per kWh**

5 Discount from Secondary - 2016		0.107 ¢	0.272 ¢	0.282 ¢
6 Discount from Secondary - 2017		0.108 ¢	0.274 ¢	0.285 ¢

		SERVICE CATEGORY				
		Residential	C&I Non-Dmd	C&I Demand	Outdoor Lighting	RETAIL
STEP 1: CLASS RATIOS						
1.	Hourly Marginal Energy Costs x Hourly Loads*	\$249,889,994	\$27,516,998	\$589,461,215	\$4,063,485	\$870,931,692
2.	MWh Energy at Generator	9,311,287	1,012,644	22,511,097	193,193	33,028,220
3.	Load-Weighted Marginal Energy Cost /MWh =(1)/(2)	\$26.837	\$27.173	\$26.185	\$21.033	\$26.369
4.	Class Ratio (Class Unit Cost / Retail Unit Cost)	1.0177	1.0305	0.9930	0.7976	1.0000
STEP 2: C&I DEMAND TOD RATIOS						
				Non-TOD	On-Peak	Off-Peak
5.	Ratio of On-Peak to Off-Peak System Weighted Marginal Energy Costs				1.529	
6.	C&I Demand Class Time-of-Day Percentages from 8760 loads				0.4083	0.5917
7.	C&I Demand TOD On-Peak Ratio = 1 / (0.4083 + (0.5917 / 1.529)) **				1.2574	
8.	C&I Demand TOD Off-Peak Ratio = 1 / ((1.529 x 0.4083) + 0.5917)) **					0.8224
9.	C&I Demand Non-TOD On-Peak Weighting			0.4206		
10.	C&I Demand Non-TOD Off-Peak Weighting			0.5794		
11.	C&I Demand Non-TOD Ratio = (0.4206 x 1.2574) + ( 0.5794 x 0.8224)			1.0054		
STEP 3: FUEL ADJUSTMENT FACTOR						
12.	FAF = Step 1, or for C&I Demand, Step 1 x Step 2	1.0177	1.0305	0.9984	1.2486	0.8166
		(4)	(4)	(4) x (11)	(4) x (7)	(4) x (8)
						(4)

\* E8760 Allocator = Sum of Hourly System Marginal Costs times Hourly Class Loads

\*\* Based on C&I Demand Weighted Average = (40.83% class on-peak x on-peak charge) + (59.17% class off-peak x off-peak charge)

Docket No. E002/GR-15-826  
Exhibit\_\_\_\_(SVH-1), Appendix A

## Rate Design Discovery - 2016 TY Electric Rate Case

### Index of Appendix Items

Page	Subject	Docket E002/GR-13-868 Reference
2	General TOD Energy Charge Analysis	DOC IR 305
3	Energy Charge Credit Analysis	DOC IR 306
4	All Residential Customer Usage Under and Over 600 kWh	Ex. (SVH-1) Appendix A <sup>(1)</sup>
5	LIHEAP Customer Usage Under and Over 600 kWh	Ex. (SVH-1) Appendix A <sup>(2)</sup>
6	Non-LIHEAP Customer Usage Under and Over 600 kWh	Ex. (SVH-1) Appendix A <sup>(3)</sup>
7	Residential Bill Frequency - LIHEAP and Non-LIHEAP Customers Year Ending December 2014	OAG IR 602
8	Residential Bill Frequency - LIHEAP and Non-LIHEAP Customers Year Ending July 2015	OAG IR 602

#### Notes:

- (1) Based on Docket No. E002/GR-12-961, DOC IR 305
- (2) Based on Docket No. E002/GR-12-961, DOC IR 306
- (3) Based on Docket No. E002/GR-12-961, DOC IR 307

Docket No. E002/GR-15-826  
Exhibit\_\_\_\_(SVH-1), Appendix A

## General Time of Day Service Proposed Energy Charge Development

### Input Variables:

Proposed General Service Energy Charge	3.564¢	<i>Std</i>
C&I-Demand Class On-Peak Sales Percent	40.83%	<i>On</i>
C&I-Demand Class Off-Peak Sales Percent	59.17%	<i>Off</i>
TOD On-Peak Percent	39.81%	
TOD Off-Peak Percent	60.19%	
Non-TOD (Std) On-Peak Percent	42.37%	
Non-TOD (Std) Off-Peak Percent	57.63%	
Base Energy Rate Ratio: On-Peak to Off-Peak	2.074	<i>Ratio</i>
Fuel Cost Ratio: On-Peak to Off-Peak	1.529	<i>ARatio</i>
TOD_On = 1/(Class On%+Class Off%/Ratio)	1.4418	TOD_On
TOD_Off = 1/(Ratio*Class On%+Class Off%)	0.6952	TOD_Off
Std_Ratio = TOD_On x Std On% + TOD_Off x Std Off%	1.0115	StdRatio

### TOD Energy Rates Calculation:

Std Rate = On Rate x Std On% + Off Rate x Std Off%	3.564¢
On Rate = Off Rate x Ratio	5.079¢
Std Rate = Off Rate x Ratio x Std On% + Off Rate x Std Off%	3.564¢
Std Rate = Off Rate x (Ratio x Std On% + Std Off%)	3.564¢
Off Rate = Std Rate / (Ratio x Std On% + Std Off%)	2.449¢
Off Rate = Std Rate / (Ratio x Std On% + Std Off%)	2.449¢
Off Rate = (Std Rate / Std_Ratio) / (Ratio x Class On% + Class Off%)	2.449¢
On Rate = Off Rate x Ratio	5.080¢

### TOD Energy Charges using Proposed Summer Ratio:

Off Rate = (3.564¢ / 1.0115) / (2.074 x 40.83% + 59.17%) =	2.449¢
On Rate = 2.253¢ x 2.007 =	5.079¢
Ratio Test =	2.074
Weighted Average Rate Test =	3.564¢

**Energy Charge Credit Comparison****TY2016**

<b>Energy Charge Credit (ECC)</b>		
Comparison as Percent of Energy Charge and Fuel Cost		
	<u>Present</u>	<u>Proposed</u>
General Service Energy Charge	3.201¢	3.564¢
C&I-Demand Non-TOD Fuel Cost	<u>2.722¢</u>	<u>2.710¢</u>
Total Base Energy and Fuel Cost	5.923¢	6.274¢
Energy Charge Credit (ECC)	1.400¢	1.560¢
<b>ECC % Base Energy</b>	44%	44%
<b>ECC % Base Energy and Fuel Cost</b>	24%	25%

<b>Class Cost of Service Study - 2016</b>		
C&I-Demand - Secondary Voltage		
MWH Sales	14,695,446	
Revenue Requirement	Amount	Cost/kWh
Energy	\$809,255	5.507¢
Energy-related Capacity	<u>\$118,057</u>	<u>0.803¢</u>
Total Energy Related	\$927,313	<b>6.310¢</b>

<b>ECC Average Cost per kWh</b>	
C&I-Demand ECC MWH w/o RTP	2,974,313
C&I-Demand Total MWH w/o RTP	20,992,838
Percent ECC MWH	14.17%
Proposed ECC Rate	1.560¢
<b>ECC Cost per kWh (%ECC x ECC Rate )</b>	<b>0.221¢</b>

<b>All C&amp;I-Demand Average Fuel Cost</b>	<b>2.682¢</b>
---------------------------------------------	---------------

<b>General Service</b>	
<b>Proposed Energy Charge Cost</b>	
Energy Related Cost per kWh	6.310¢
plus ECC Cost	0.221¢
less Fuel Cost	<u>-2.682¢</u>
<b>Base Energy Rate Cost</b>	<b>3.849¢</b>

<b>Capacity Energy Cost vs. Average ECC per kWh at 100% Load Factor</b>		
	<b>Secondary</b>	<b>All Demand</b>
Energy Cost/kWh	5.507¢	5.405¢
Capacity Energy/kWh	<u>0.803¢</u>	<u>0.787¢</u>
Total Energy/kWh	6.310¢	6.192¢
ECC Hours Use	400	400
Average 100% Load Factor Hours	730	730
Qualifying ECC Hours at 100% LF	330	330
ECC Percent Hours at 100% Load Factor	45%	45%
Proposed ECC	1.560¢	1.560¢
Average ECC at 100% LF (ECC x 45%)	0.705¢	0.705¢
Ave ECC at 100% LF as % of Capacity Cost	87.8%	89.6%

Docket No. E002/GR-15-826  
Exhibit\_\_\_\_(SVH-1), Appendix A

	Standard Service without Electric Space Heating						Electric Space Heating Only						With and without Electric Space Heating					
	All Usage		Usage < 600 kWh		Usage >= 600 kWh		All Usage		Usage < 600 kWh		Usage >= 600 kWh		All Usage		Usage < 600 kWh		Usage >= 600 kWh	
	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH
<b>ALL Customers</b>																		
Jan-14	1,049,371	864	467,972	338	581,399	1,287	28,796	2,287	3,194	344	25,602	2,529	1,078,167	902	471,166	338	607,001	1,340
Feb-14	965,292	722	522,404	334	442,888	1,179	25,533	1,990	3,566	353	21,967	2,255	990,825	754	525,970	334	464,855	1,230
Mar-14	1,051,063	697	591,537	330	459,526	1,169	28,970	1,836	5,028	352	23,942	2,148	1,080,033	728	596,565	331	483,468	1,218
Apr-14	1,051,763	580	681,976	322	369,787	1,056	29,021	1,207	9,341	348	19,680	1,614	1,080,784	597	691,317	322	389,467	1,084
May-14	1,009,474	521	698,744	318	310,730	976	27,563	845	12,955	330	14,608	1,302	1,037,037	529	711,699	318	325,338	991
Jun-14	1,052,321	665	588,854	333	463,467	1,087	29,149	744	15,369	322	13,780	1,215	1,081,470	667	604,223	333	477,247	1,091
Jul-14	1,052,668	789	474,605	341	578,063	1,157	29,109	774	14,870	324	14,239	1,244	1,081,777	788	489,475	340	592,302	1,159
Aug-14	1,012,875	781	451,377	342	561,498	1,133	28,701	757	14,765	324	13,936	1,216	1,041,576	780	466,142	342	575,434	1,135
Sep-14	1,055,170	737	517,640	339	537,530	1,121	29,330	745	15,413	323	13,917	1,213	1,084,500	738	533,053	338	551,447	1,124
Oct-14	1,055,315	551	696,793	325	358,522	989	29,304	698	16,264	324	13,040	1,165	1,084,619	555	713,057	325	371,562	995
Nov-14	966,954	557	635,914	325	331,040	1,002	27,524	1,008	10,430	352	17,094	1,408	994,478	569	646,344	325	348,134	1,022
Dec-14	1,009,743	721	528,044	336	481,699	1,143	27,747	1,661	4,966	356	22,781	1,945	1,037,490	746	533,010	336	504,480	1,179
Jan-15	1,055,303	763	522,357	336	532,946	1,181	29,578	1,832	4,495	354	25,083	2,097	1,084,881	792	526,852	336	558,029	1,222
Feb-15	973,737	649	574,620	330	399,117	1,108	26,880	1,631	5,066	358	21,814	1,927	1,000,617	675	579,686	330	420,931	1,150
Mar-15	1,057,379	676	615,445	328	441,934	1,160	29,817	1,697	6,216	352	23,601	2,051	1,087,196	704	621,661	328	465,535	1,206
Apr-15	1,058,061	537	724,403	317	333,658	1,015	29,819	992	12,210	341	17,609	1,444	1,087,880	550	736,613	317	351,267	1,036
May-15	1,004,851	488	731,129	313	273,722	958	28,433	691	15,925	318	12,508	1,165	1,033,284	494	747,054	313	286,230	967
Jun-15	1,060,474	614	645,365	326	415,109	1,063	29,965	699	17,016	315	12,949	1,202	1,090,439	617	662,381	325	428,058	1,067
Jul-15	1,058,297	778	478,005	341	580,292	1,137	29,787	774	15,155	326	14,632	1,239	1,088,084	778	493,160	341	594,924	1,140
YE Dec-14	12,332,009	683	6,855,860	331	5,476,149	1,123	340,747	1,204	126,161	332	214,586	1,717	12,672,756	697	6,982,021	331	5,690,735	1,145
YE Jul-15	12,368,159	655	7,121,092	328	5,247,067	1,098	346,885	1,095	137,921	330	208,964	1,599	12,715,044	667	7,259,013	329	5,456,031	1,117



Docket No. E002/GR-15-826  
Exhibit\_\_\_\_(SVH-1), Appendix A

	Standard Service without Electric Space Heating						Electric Space Heating Only						With and without Electric Space Heating					
	All Usage		Usage < 600 kWh		Usage >= 600 kWh		All Usage		Usage < 600 kWh		Usage >= 600 kWh		All Usage		Usage < 600 kWh		Usage >= 600 kWh	
	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH
<b>LIHEAP Customers</b>																		
Jan-14	64,075	789	31,907	352	32,168	1,222	3,120	2,222	229	373	2,891	2,368	67,195	855	32,136	352	35,059	1,317
Feb-14	60,318	683	34,756	339	25,562	1,152	2,729	2,016	228	367	2,501	2,167	63,047	741	34,984	339	28,063	1,242
Mar-14	64,122	656	38,519	333	25,603	1,141	3,136	1,798	420	375	2,716	2,018	67,258	709	38,939	334	28,319	1,225
Apr-14	63,880	542	43,817	323	20,063	1,021	3,124	1,172	876	367	2,248	1,485	67,004	571	44,693	323	22,311	1,068
May-14	61,566	479	45,271	318	16,295	924	2,846	807	1,311	352	1,535	1,197	64,412	493	46,582	319	17,830	948
Jun-14	62,692	568	40,019	338	22,673	974	3,044	612	1,856	325	1,188	1,061	65,736	570	41,875	337	23,861	978
Jul-14	61,839	684	32,607	351	29,232	1,057	2,972	605	1,827	317	1,145	1,063	64,811	681	34,434	349	30,377	1,057
Aug-14	57,649	678	29,951	353	27,698	1,030	2,840	596	1,729	316	1,111	1,034	60,489	674	31,680	351	28,809	1,030
Sep-14	60,120	651	33,476	347	26,644	1,033	2,863	601	1,748	314	1,115	1,050	62,983	649	35,224	345	27,759	1,033
Oct-14	56,477	499	40,244	324	16,233	935	2,746	616	1,680	323	1,066	1,078	59,223	505	41,924	324	17,299	944
Nov-14	49,952	499	35,801	322	14,151	947	2,535	944	976	367	1,559	1,305	52,487	521	36,777	323	15,710	982
Dec-14	55,509	653	32,347	342	23,162	1,089	2,638	1,643	340	393	2,298	1,828	58,147	698	32,687	342	25,460	1,155
Jan-15	57,370	693	31,772	346	25,598	1,123	2,905	1,762	340	378	2,565	1,945	60,275	744	32,112	346	28,163	1,198
Feb-15	52,070	592	33,521	328	18,549	1,068	2,671	1,563	392	379	2,279	1,767	54,741	639	33,913	329	20,828	1,145
Mar-15	57,336	651	35,173	328	22,163	1,165	2,907	1,667	495	372	2,412	1,933	60,243	700	35,668	328	24,575	1,240
Apr-15	57,013	498	41,372	316	15,641	980	2,877	930	1,141	352	1,736	1,310	59,890	518	42,513	317	17,377	1,013
May-15	54,443	440	42,219	311	12,224	887	2,775	621	1,626	319	1,149	1,049	57,218	449	43,845	311	13,373	901
Jun-15	55,857	522	38,557	326	17,300	956	2,801	564	1,825	308	976	1,042	58,658	524	40,382	326	18,276	961
Jul-15	55,109	662	29,789	349	25,320	1,031	2,768	603	1,713	315	1,055	1,070	57,877	659	31,502	347	26,375	1,033
YE Dec-14	718,199	617	438,715	335	279,484	1,060	34,593	1,142	13,220	334	21,373	1,642	752,792	642	451,935	335	300,857	1,102
YE Jul-15	668,905	588	424,222	331	244,683	1,034	33,326	1,009	14,005	329	19,321	1,501	702,231	608	438,227	331	264,004	1,068

Docket No. E002/GR-15-826  
Exhibit\_\_\_\_(SVH-1), Appendix A

	Standard Service without Electric Space Heating						Electric Space Heating Only						With and without Electric Space Heating					
	All Usage		Usage < 600 kWh		Usage >= 600 kWh		All Usage		Usage < 600 kWh		Usage >= 600 kWh		All Usage		Usage < 600 kWh		Usage >= 600 kWh	
	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH	Customers	Ave/KWH
<b>Non-LIHEAP Customers</b>																		
Jan-14	985,296	869	436,065	337	549,231	1,291	25,676	2,295	2,965	342	22,711	2,550	1,010,972	905	439,030	337	571,942	1,341
Feb-14	904,974	724	487,648	333	417,326	1,181	22,804	1,986	3,338	352	19,466	2,267	927,778	755	490,986	333	436,792	1,229
Mar-14	986,941	700	553,018	330	433,923	1,171	25,834	1,841	4,608	349	21,226	2,164	1,012,775	729	557,626	330	455,149	1,217
Apr-14	987,883	582	638,159	322	349,724	1,058	25,897	1,211	8,465	346	17,432	1,631	1,013,780	598	646,624	322	367,156	1,085
May-14	947,908	523	653,473	318	294,435	979	24,717	850	11,644	328	13,073	1,314	972,625	532	665,117	318	307,508	993
Jun-14	989,629	671	548,835	333	440,794	1,093	26,105	759	13,513	321	12,592	1,229	1,015,734	674	562,348	332	453,386	1,097
Jul-14	990,829	795	441,998	340	548,831	1,162	26,137	793	13,043	325	13,094	1,260	1,016,966	795	455,041	340	561,925	1,164
Aug-14	955,226	787	421,426	341	533,800	1,138	25,861	774	13,036	325	12,825	1,232	981,087	786	434,462	341	546,625	1,141
Sep-14	995,050	743	484,164	338	510,886	1,126	26,467	761	13,665	324	12,802	1,227	1,021,517	743	497,829	338	523,688	1,128
Oct-14	998,838	554	656,549	325	342,289	992	26,558	707	14,584	324	11,974	1,173	1,025,396	558	671,133	325	354,263	998
Nov-14	917,002	560	600,113	325	316,889	1,005	24,989	1,014	9,454	350	15,535	1,419	941,991	572	609,567	325	332,424	1,024
Dec-14	954,234	725	495,697	336	458,537	1,145	25,109	1,662	4,626	353	20,483	1,958	979,343	749	500,323	336	479,020	1,180
Jan-15	997,933	767	490,585	336	507,348	1,184	26,673	1,840	4,155	352	22,518	2,114	1,024,606	795	494,740	336	529,866	1,224
Feb-15	921,667	652	541,099	330	380,568	1,109	24,209	1,639	4,674	356	19,535	1,946	945,876	677	545,773	330	400,103	1,150
Mar-15	1,000,043	677	580,272	328	419,771	1,160	26,910	1,700	5,721	350	21,189	2,065	1,026,953	704	585,993	328	440,960	1,204
Apr-15	1,001,048	539	683,031	317	318,017	1,017	26,942	999	11,069	340	15,873	1,459	1,027,990	551	694,100	317	333,890	1,038
May-15	950,408	491	688,910	313	261,498	961	25,658	698	14,299	317	11,359	1,177	976,066	497	703,209	313	272,857	970
Jun-15	1,004,617	619	606,808	326	397,809	1,068	27,164	712	15,191	316	11,973	1,215	1,031,781	622	621,999	325	409,782	1,072
Jul-15	1,003,188	784	448,216	341	554,972	1,142	27,019	792	13,442	327	13,577	1,252	1,030,207	784	461,658	341	568,549	1,144
YE Dec-14	11,613,810	687	6,417,145	330	5,196,665	1,126	306,154	1,211	112,941	332	193,213	1,725	11,919,964	700	6,530,086	330	5,389,878	1,148
YE Jul-15	11,699,254	659	6,696,870	328	5,002,384	1,101	313,559	1,104	123,916	331	189,643	1,609	12,012,813	670	6,820,786	328	5,192,027	1,120



