A REGULAR MEETING

Of The

TRAVERSE CITY LIGHT AND POWER BOARD

Will Be Held On

Tuesday, April 10, 2018

At

5:15 p.m.

At

Traverse City Light & Power Service Center
1131 Hastings Street

Traverse City Light and Power will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting, to individuals with disabilities at the meeting/hearing upon notice to Traverse City Light and Power. Individuals with disabilities requiring auxiliary aids or services should contact the Light and Power Department by writing or calling the following.

Jennifer St. Amour
Administrative Assistant
1131 Hastings Street
Traverse City, MI 49686
(231) 932-4543

Traverse City Light and Power
1131 Hastings Street
Traverse City, MI 49686
(231) 922-4940

Posting Date: 4-6-18
3:00 p.m.

AGENDA

Pledge of Allegiance

1. Roll Call

ORGANIZATIONAL MEETING (p.4)

2. Disclosure of Recusal

3. Consent Calendar

The purpose of the consent calendar is to expedite business by grouping non-controversial items together to be dealt with by one Board motion without discussion. Any member of the Board, staff or the public may ask that any item on the consent calendar be removed therefrom and placed elsewhere on the agenda for full discussion. Such requests will be automatically respected. If an item is not removed from the consent calendar, the action noted in parentheses on the agenda is approved by a single Board action adopting the consent calendar.

a. Approval of Agenda.

b. Consideration of approving minutes of the Regular Meeting of March 13, 2018. (Approval Recommended) (p.8)

c. Consideration of approving the Electric Utility 2018-19 Operating Budget. (Approval Recommended) (Myers-Beman) (p.13)

d. Consideration of approving the Fiber 2018-19 Operating Budget. (Approval Recommended) (Myers-Beman) (p.20)

e. Consideration of approving a Construction Agreement for the Critical and Large Customer #2 Project. (Approval Recommended) (Dixon) (p.22)

f. Consideration of approving a Construction Agreement for the Substation Circuit Exits Project. (Approval Recommended) (Dixon) (p.25)

g. Consideration of approving a purchase order for miscellaneous materials for Critical and Large Customer #2 Project. (Chartrand) (p.28)

h. Consideration of approving the amendment to Maplenet Wireless Dark Fiber Services Agreement. (Approval Recommended) (Menhart) (p.30)

4. Unfinished Business

a. Public Hearing regarding:

- Renewable Electric Energy Rider adoption as of April 20, 2018. (Arends) (p.34)

5. New Business

a. Consideration of approving the Voluntary Green Pricing Grant Program. (Arends) (p.36)

6. Reports and Communications

a. From Legal Counsel.

b. From Staff.

1. Presentation by Venture North. (Galbraith) (p.39)
2. Report on Landfill Gas and Combustion Turbine purchase power agreements. (Arends/Myers-Beman) (p.46)
3. Executive Director's Annual Performance Evaluation (Schroeder) (p.48)
4. Presentation of the Cost of Service Study. (Myers-Beman) (p.52)

c. From Board.

7. Public Comment

/js

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 10, 2018

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Tim Arends, Executive Director
Date: April 4, 2018
Subject: L&P Board Organizational Meeting

As required by City Charter Section 177(f), the board meeting of April 10, 2018 will be the annual organizational meeting in which a chairperson and vice-chairperson are elected, and a secretary is appointed by the Board. The Charter language is as follows:

"An election of officers of the Board shall be held annually at the first regular meeting following the appointment of a new Board member after the end of a regular term of office. No member shall serve as chairman for more than two (2) consecutive terms."

All Board Members, with the exception of Mr. Geht as he has served as Chairman for a maximum two-year term, are eligible for nomination as board chairperson. All Board Members are eligible to serve as vice-chairperson. The following procedure would be appropriate for the organizational portion of the meeting.

- Tim Arends, as Secretary to the Board, shall initially preside over the meeting.
  - Call meeting to order – Pledge of Allegiance
  - Roll Call
  - Open the floor to nominations for chairperson (nominations need support), call for any further nominations for chairperson.
  - Close nominations
  - Board discussion (nominations will be voted on in order received)
  - Public comment (specific to nominations for chairperson)
  - Voice Vote – Once four votes are received by any one nominee that nominee becomes the new chairperson.
  - Secretary turns the meeting over to the new chairperson.

- The newly elected chairperson follows the same process described above in electing a vice-chairperson of the Board.

- The Chairperson should then appoint a Secretary to the Board with approval of a Board majority. This has historically been the Executive Director.

- Next, a Human Resources Committee should be formed consisting of two or three board members and one alternate. City Charter Section 177(h) allows for ad hoc subcommittees, however, there can be no standing committees. Therefore, it is appropriate to have this committee's term expire at the end of 12 months.

- Proceed to the Consent Calendar portion of the Agenda.

Traverse City Light & Power Board

	Initial Apt. Date	Termination
Elysha Davila (City Resident Elector) 115 Franklin St, TC, 49686 415-728-3613 (Preferred) elysha.davila@gmail.com	03/19/18 (Eff. 4/2/18)	04/03/23
John Taylor (City Resident Elector) 307 W 12th St, TC, 49684 922-1187 (Res) 617-532-0944 (Bus) 617-899-1769 (Cell) john.a.taylor@gmail.com	05/03/10	04/06/20
Ross Hammersley (City Resident Elector) 400 Boughey St., TC 49684 633-6003 ross_hammersley@hotmail.com	04/03/17	04/04/22
Jan Geht (City Resident Elector) 715 Quail Ridge Dr, TC, 49686 205-255-1516 (Res) 941-8048 (Bus) geht@traverselaw.com	06/17/13	04/01/19
Patrick McGuire (City Resident Elector) 308 N. Elmwood Ave, TC, 49684 883-2087 (Cell) 995-7896 (Bus) paddymcguire@me.com	11/10/11	04/05/21
Commissioner Tim Werner (Ex Officio/Full Voting Authority) 400 Boardman Ave, TC, 49684 313-6903 (Res) twerner@traversecitymi.gov	11/09/15	11/11/19
Commissioner Amy Shamroe (Ex Officio/Full Voting Authority) 511 Depot View #20, TC, 49686 517-930-9999 (Res) ashamroe@traversecitymi.gov	11/09/15	11/11/19

Executive Director and Secretary (Tim Arends – Executive Director) - staff

Non-Commissioner Board members shall be appointed to serve terms of five (5) years from the first Monday of April. The Commission Board members shall be appointed for a two-year term bi-annually at the City Commission organizational meeting.

This Board consists of 7 members nominated and appointed by the City Commission. Unexpired term vacancies shall be filled by the Mayor with approval of the City Commission. Not less than one and no more than two of these members shall be City Commissioners selected by the City Commission and shall be ex-officio members with full voting authority.

Members must be resident elector of City, except that one member may be non-resident if he resides within current actual service area of the Department (current actual service area is defined as an address that could receive service from TCL&P; it is not required that the address is currently receiving service from TCL&P).

Non-Commission Board Members cannot hold any other City office nor can they be an employee of the City.

The City Manager or the City Manager's designee shall be an ex-officio member without voting authority and shall not be counted for purposes of establishing a quorum.

Purpose: "shall have exclusive jurisdiction, control and management of the Light and Power Department and all its operations and facilities, except as herein provided. Unless specifically allocated to the City Commission or to a City official, the Board shall have all the powers and duties possessed by the City to construct, acquire, expand and operate the Light and Power system, etc., etc.," (See Charter provisions).

Creation of the Light & Power Board required by City Charter.

Meets 2nd Tuesday of each month at 5:15

The City of Traverse City

Office of the City Clerk

GOVERNMENTAL CENTER
400 Boardman Avenue
Traverse City, MI 49684
(231) 922-4480
tcclerk@traversecitymi.gov

March 23, 2018

Elysha Davila
115 Franklin Street
Traverse City, MI 49686

Dear Ms. Davila,

Subject: Appointment – Traverse City Light and Power Board

Congratulations on your appointment! As you may be aware, the City Commission has appointed you to a five-year term expiring April 3, 2023, effective April 2, 2018, on the Traverse City Light and Power Board.

It is great to see citizens like you who are willing to serve - it is individuals like you who make this community such a wonderful place. I am sure that I can speak accurately on behalf of the citizens of Traverse City when I express appreciation for your generosity with your time, experience and knowledge.

With this letter, I have included an updated excerpt of the City's Board Book showing the current City representation on the Board. As part of your board position, my office will need to administer an Oath of Office to you. At your earliest convenience, please contact Katie Zeits in my office at kzeits@traversecitymi.gov to take your oath of office for your position.

Again, thank you for your willingness to serve in a capacity that contributes to the betterment of our community.

Sincerely,

Benjamin Marentette, MMC
City Clerk

Enclosure

copy: CC Packet 3/19/18

Congratulations and thank you for stepping forward!

TRAVERSE CITY
LIGHT AND POWER BOARD

Minutes of Regular Meeting
Held at 5:15 p.m., Commission Chambers, Governmental Center
Tuesday, March 13, 2018

Board Members -

Present: Ross Hammersley, Pat McGuire, Jeff Palisin, Amy Shamroe, John Taylor, Tim Werner

Absent: Jan Geht

Ex Officio Member -

Present: Marty Colburn, City Manager

Others: Tim Arends, W. Peter Doren, Karla Myers-Beman, Scott Menhart, Daren Dixon, Kelli Schroeder, Tony Chartrand, Jacob Hardy, Jennifer St. Amour.

The meeting was called to order at 5:15 p.m. by Vice -Chairman Palisin.

Board Member Pat McGuire recognized Vice-Chairman Jeff Palisin for his years of service on the Light & Power Board.

Tim Arends recognized Board Member Jeff Palisin for his service and indicated Jeff would be present for Strategic Planning being held May 22, 2018.

Item 2 on the Agenda being Disclosure of Recusal

Item 3 on the Agenda being Consent Calendar

Moved by McGuire, seconded by Shamroe, that the following actions, as recommended on the Consent Calendar portion of the Agenda, be approved:

a. Approval of the Agenda.

b. Approve Minutes of the Regular Meeting of February 13, 2018.

c. Approving an updated Organizational Chart.

d. Approving a purchase order for underground cable for the Substation Circuit Exits Project.

e. Approving an application for waiver and plan regarding Traverse City Light & Power's pension system to the State of Michigan Department of Treasury.

CARRIED unanimously. (Geht absent)

Items Removed from the Consent Calendar

None.

Item 4 on the Agenda being Unfinished Business

None.

Vice-Chairman Jeff Palisin requested item 6b (1) be moved ahead of New Business. Consensus of the Board to allow.

6b (1) Presentation of Traverse City Central High School Solar Project.

The following individuals addressed the Board:

Tim Arends, Executive Director
Martin Chown, Central High School (Students for Environmental Advocacy)
Elliott Smith, Central High School (Students for Environmental Advocacy)

Item 5 on the Agenda being New Business

a. Presentation on Voluntary Green Rate and consideration of a public hearing.

The following individuals addressed the Board:

Tim Arends, Executive Director

Moved by McGuire, seconded by Hammersley, that the Board set a public hearing for proposed adoption of the renewable energy rate rider tariff rate on April 10, 2018 in accordance with Public Act 342 of 2016; and further that a notice of the public hearing be posted on the utility's website and placed in the Traverse City Record Eagle.

The following individuals from the Public addressed the Board:

Ann Rogers, 1236 Peninsula Drive, ratepayer

CARRIED unanimously. (Geht absent)

b. Consideration of the Spartan Renewable Energy Purchase Power Proposal.

The following individuals addressed the Board:

Tim Arends, Executive Director

NO ACTION TAKEN.

Moved by Werner, seconded by Shamroe, that the Board directs staff to provide detailed cost analyses in time for the May Strategic Planning session that includes different options for TCL&P's power supply to become 30, 45, or 60 percent renewable energy.

The following individuals from the Public addressed the Board:

Greg Reisig, Co-Chair NMEAC
Dave Petrov, 9988 Riley Rd., non-ratepayer
Ann Rogers, 1236 Peninsula Drive, ratepayer
June Thaden, 520 Highland Park Dr., ratepayer

CARRIED unanimously. (Geht absent)

c. Consideration of approving the PC-32 Project Authorization Request.

The following individuals addressed the Board:

Daren Dixon, Operations Manager
Tim Arends, Executive Director

Moved by Hammersley, seconded by Shamroe, that the Board approve as presented the PC-32 OH East Bay Blvd. & East Ave. Project and directs staff to solicit construction bids and material quotes for the Board's consideration of approval after design completion.

CARRIED unanimously. (Geht absent)

d. Consideration of approving the Critical and Large Customer Project #2 Authorization Request.

The following individuals addressed the Board:

Daren Dixon, Operations Manager

Moved by Shamroe, seconded by Hammersley, that the Board approve as presented the Critical and Large Customer #2 Project and directs staff to solicit construction bids and material quotes for the Board's consideration of approval after design completion.

The following individuals addressed the Board:

Sam Hogg, Wolverine Power Cooperative, Spartan Renewable Energy

CARRIED unanimously. (Geht absent)

Moved by Hammersley, seconded by Shamroe, that the Board authorize the Public Comment portion of the Agenda be moved ahead of Reports and Communications.

CARRIED unanimously. (Geht absent)

e. Consideration of approving a purchase order for the underground cable for the Critical and Large Customer Project #2.

The following individuals addressed the Board:

Daren Dixon, Operations Manager

Moved by Hammersley, seconded by Taylor, that the Board authorizes the Executive Director to issue a purchase order to Power Line Supply in the amount of $138,852 for underground power cable, plus or minus dependent on commodity prices day of shipment, to be used for the Critical and Large Customer Improvements #2 Project.

CARRIED unanimously. (Geht absent)

The following individuals from the Public addressed the Board:

Sam Hogg, Wolverine Power Cooperative, Spartan Renewable Energy
Dave Petrov, 9988 Riley Rd., non-ratepayer
Ann Rogers, 1236 Peninsula Dr., ratepayer

Item 6 on the Agenda being Reports and Communications

a. From Legal Counsel.

b. From Staff.

1. *Moved ahead of New Business.*

2. Presentation of Electric Fund Budget.

   The following individuals addressed the Board:

   Karla Myers-Beman, Controller
   Tim Arends, Executive Director

3. Report on Belle River Project Debt Service.

   The following individuals addressed the Board:

   Tim Arends, Executive Director
   Karla Myers-Beman, Controller

4. Report on Automated Metering Infrastructure Project and Fiber to the Premise (FTTP).

   The following individuals addressed the Board:

   Scott Menhart, Manager of Telecom & Technology
   Tim Arends, Executive Director

c. From Board

Item 7 on the Agenda being Public Comment

a. General

Moved ahead of Reports and Communications by Board motion.

Amy Shamroe thanked Jeff Palisin for his service on the Board.

There being no objection, Vice-Chairman Palisin declared the meeting adjourned at 7:04 p.m.

_____

Tim Arends, Secretary
LIGHT AND POWER BOARD

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 10, 2018

TRAVERSE CITY
LIGHT & POWER

To:	**Light & Power Board**
From:	Karla Myers-Beman, Controller
Date:	April 2, 2018
Subject:	Electric Fund Budget

In accordance with City Charter Chapter XVIII, section 179 (o), the 2018-19 Electric Fund Operating Budget must be submitted to the City Commission by its last meeting in April.

The Electric Fund was reviewed by the Board at the last meeting, March 13, 2018 and no changes have been made since the initial presentation. The budget is attached for your reference.

Included with the adoption of the budget staff understands the Board would like to continue with the ten-year amortization, which is now the eight-year amortization based on the market value of assets option for contributions into the Municipal Employees' Retirement System ("MERS"). This selection does not directly affect the income statement, but rather the Utility's cash flow statement. Additionally, this will be brought to the Board during the budget process on an annual basis going forward.

Staff recommends that the Board approve submittal of the 2018-19 Electric Fund Budget to the City Commission for its consideration.

This item is appearing on the Consent Calendar as it is deemed by staff to be a non-controversial item. Approval of this item on the Consent Calendar means you agree with staff's recommendation.

If any member of the Board or the public wishes to discuss this matter, other than clarifying questions, it should be placed on the "Items Removed from the Consent Calendar" portion of the agenda for full discussion.

If after Board discussion you agree with staff's recommendation the following motion would be appropriate:

MOTION ON NEXT PAGE

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 10, 2018

MOVED BY _____, SECONDED BY _____, THAT THE

LIGHT & POWER BOARD APPROVES SUBMITTAL OF THE 2018-19 ELECTRIC FUND OPERATING BUDGET AS PRESENTED TO THE CITY COMMISSION FOR ITS CONSIDERATION. IN ADDITION, THE BOARD DIRECTS STAFF TO CONTRIBUTE INTO THE RETIREMENT SYSTEM BASED ON THE EIGHT-YEAR AMORTIZATION CALCULATED ON THE MARKET VALUE OF ASSETS OPTION PROVIDED BY MERS.

City of Traverse City, Michigan
TRAVERSE CITY LIGHT & POWER DEPARTMENT
2018-19 Budgeted Revenues and Expenses Summary

	FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budget	FY 17/18 Projected	FY 18/19 Recommended
Operating Income:	$ 35,530,044	$ 34,513,531	$ 36,065,200	$ 34,167,200	$ 34,171,700
Operating Expenses:					
Purchase Power Expenses:					
Capacity	$ 465,421	$ 693,921	$ 810,000	$ 810,700	$ 673,000
Purchased Power - MISO	3,766,366	613,006	2,640,000	550,000	2,311,400
Purchased Power - Lansing BWL	2,898,085	-	-	-	-
Stoney Corners - Wind Energy	2,940,041	3,115,585	3,170,000	2,930,000	3,152,000
Combustion Turbine Power Cost	3,338,292	4,254,812	4,500,000	4,415,000	4,541,200
Campbell #3 Power Cost	3,793,717	3,834,696	4,522,500	4,010,000	4,402,000
Belle River #1 Power Cost	3,749,902	4,062,954	3,800,000	2,980,000	1,988,000
Landfill Gas - Granger Project	567,834	858,858	980,000	940,000	930,000
M-72 Wind Turbine	35,056	27,551	48,000	30,000	30,000
M-72 Solar	-	-	-	82,000	128,000
Pegasus Wind	-	-	-	-	260,000
Bilateral Contracts	1,100,866	4,252,243	3,300,000	4,424,000	2,432,000
Other Generation Expenses	414,424	418,943	329,050	187,000	250,575
Total Purchase Power Expenses	23,070,004	22,132,569	24,099,550	21,358,700	21,098,175
Distribution Expenses:					
Operations & Maintenance	4,424,951	3,800,057	4,261,500	4,014,425	4,319,950
Transmission Expenses:					
Operations & Maintenance	421,135	444,502	525,100	434,735	471,400
Other Operating Expenses:					
Metering & Customer Accounting	577,278	501,210	561,550	509,900	501,000
Conservation & Public Services	671,545	466,506	593,000	491,550	569,300
Information Systems	-	-	-	-	480,650
Administrative & General	986,037	1,258,666	1,276,100	1,249,400	981,900
Insurance	62,001	73,530	70,720	75,000	87,625
Depreciation Expense	2,254,188	2,511,527	2,605,000	2,605,000	2,700,000
City Fee	1,784,900	1,729,139	1,820,000	1,716,000	1,712,200
Total Other Operating Expenses	6,335,949	6,540,578	6,926,370	6,646,850	7,032,675
Total Operating Expenses	34,252,039	32,917,706	35,812,520	32,454,710	32,922,200
Operating Income	$ 1,278,005	$ 1,595,825	$ 252,680	$ 1,712,490	$ 1,249,500
Non Operating Revenues/(Expenses):					
Non Operating Revenues	737,684	297,670	555,800	1,086,000	539,400
Non Operating Expenses	(355,965)	(5,965)	-	-	-
Total Non Operating Revenue	381,719	291,705	555,800	1,086,000	539,400
Special Item					
Retirement of meters	-	-	-	-	(725,000)
OTHER FINANCING SOURCES:					
Transfers in	175,000	125,000	125,000	125,000	175,000
Change in Net Position	$ 1,834,724	$ 2,012,530	$ 933,480	$ 2,923,490	$ 1,238,900

City of Traverse City, Michigan
TRAVERSE CITY LIGHT & POWER
2018-19 Budgeted Revenues and Expenses

	FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budget	FY 17/18 Projected	FY 18/19 Recommended
OPERATING REVENUES:					
Residential Sales	$ 6,090,231	$ 6,121,779	$ 6,400,000	$ 5,960,000	$ 6,035,000
Commercial Sales	15,348,675	14,832,506	15,560,000	14,700,000	14,800,000
Industrial Sales	9,615,567	9,594,935	10,050,000	9,580,000	9,670,000
Public Authority Sales	309,162	299,780	300,000	280,000	285,000
Street Lighting Sales	203,949	209,592	225,000	225,000	225,000
Yard Light Sales	98,529	106,527	155,000	144,000	144,000
Total Utility Sales	31,666,113	31,165,119	32,690,000	30,889,000	31,159,000
Forfeited Discounts	60,777	50,712	60,000	50,000	50,000
Merchandise and Jobbing	231,826	91,528	70,000	124,000	73,500
Recovery of Bad Debts	26	151	200	200	200
Sale of Scrap	41,792	26,911	35,000	65,000	50,000
Miscellaneous Income	41,663	38,154	39,500	37,000	37,000
Refunds and Rebates	4,795	17,335	500	2,000	2,000
MISO Revenue	3,483,052	3,123,621	3,170,000	3,000,000	2,800,000
TOTAL OPERATING REVENUES	$ 35,530,044	$ 34,513,531	$ 36,065,200	$ 34,167,200	$ 34,171,700
OPERATING EXPENSES:					
PURCHASE POWER					
Salaries and Wages	$ 123,124	$ 101,437	$ 62,000	$ (14,600)	$ 12,500
Fringe Benefits	192,648	195,024	142,700	67,500	107,500
Wind Generation - Traverse	-	-	-	-	-
Trap and Transfer	-	-	250	250	250
Union Street Fish Ladder	-	-	250	250	250
Kalkaska Combustion Turbine	-	5,613	-	-	-
Operation Supplies	-	-	1,000	1,000	1,000
Software and Hardware		100	-	300	-
Capacity Purchases	465,421	693,921	810,000	810,700	673,000
Purchased Power - MISO Market	3,766,366	613,006	2,640,000	550,000	2,311,400
Bilateral Contracts (offsetting MISO Market)	1,100,866	4,252,243	3,300,000	4,424,000	2,432,000
Purchased Power - LBWL	2,898,085	-	-	-	-
Combustion Turbine Power Cost	3,338,292	4,254,812	4,500,000	4,415,000	4,541,200
Campbell #3 Power Cost	3,793,717	3,834,696	4,522,500	4,010,000	4,402,000
Belle River #1 Power Cost	3,749,902	4,062,954	3,800,000	2,980,000	1,988,000
Stoney Corners - Wind Energy	2,940,041	3,115,585	3,170,000	2,930,000	3,152,000
Landfill Gas - NANR & Granger Project	567,834	858,858	980,000	940,000	930,000
M72 Wind Turbine	35,056	27,551	48,000	30,000	30,000
M72 Solar	-	-	-	82,000	128,000
Pegasus Wind	-	-	-	-	260,000
Total Purchase Power	22,655,580	21,713,626	23,770,500	21,171,700	20,847,600
Puchased Power Cost as % of Sales	71.55%	69.67%	72.71%	68.54%	66.91%
Coal Dock	2,842	-	-	-	-
Communications	170	171	250	300	300
Meal Payments	-	-	200	-	-
Safety	2,994	2,415	3,500	3,500	3,500
Tools	-	-	500	500	500
Professional and Contractual	85,029	100,384	96,000	93,500	93,500
Transportation	6,316	6,449	7,000	7,000	7,500
Professional Development	-	175	500	1,500	1,500
Uniforms	3,456	3,325	3,500	3,000	4,275
Vehicle Rentals	(3,308)	3,820	11,400	23,000	18,000
Miscellaneous	1,153	30	-	-	-
Total Purchase Power	23,070,004	22,132,569	24,099,550	21,358,700	21,098,175
DISTRIBUTION OPERATION & MAINTENANCE:					
Salaries and Wages	1,226,717	1,098,243	1,213,000	1,218,025	1,458,550
Fringe Benefits	1,611,956	1,543,663	1,616,000	1,425,800	1,528,400
Office Supplies	3,160	4,775	4,000	2,000	4,000
Operation Supplies	51,121	36,148	40,000	40,000	40,000
Utilities	44,244	52,728	51,000	54,000	56,000
Meals and Payments	3,231	2,443	5,000	2,800	3,000
Communications	33,987	24,077	61,500	48,000	98,200

City of Traverse City, Michigan
TRAVERSE CITY LIGHT & POWER
2018-19 Budgeted Revenues and Expenses

	FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budget	FY 17/18 Projected	FY 18/19 Recommended
Software and Hardware	74,618	95,078	191,400	100,000	-
Substation	70,618	103,743	120,000	270,000	150,000
Overhead Lines	170,363	222,665	205,000	212,800	217,700
Load and Dispatching	25,000	25,991	31,500	32,300	34,100
Storm Damage Contingency	448,383	-	50,000	-	50,000
Underground Lines	97,922	54,830	30,000	50,000	30,000
Electric Meters	2,624	2,933	6,000	4,000	4,000
Street Lighting	217,587	212,558	230,000	225,000	230,000
Traffic Signal Oper. & Maint.	1,767	4,952	5,000	5,000	5,000
Radio Equipment	3,244	9,860	5,000	2,500	2,500
Plant & Structures	94,302	81,830	82,000	80,800	75,000
Safety	27,538	29,578	38,000	30,000	35,000
Tools	14,969	23,372	31,000	20,000	15,000
Uniforms	22,218	20,672	25,000	21,000	24,000
Professional and Contractual	139,050	84,768	94,000	62,000	82,000
Rent Expense	1,757	-	2,000	2,000	2,000
Professional Development	28,861	47,176	65,000	48,000	55,000
Printing and Publishing	4,110	4,948	4,000	4,000	4,500
Transportation	23,796	23,742	28,000	30,500	32,000
Vehicle Rentals	(23,539)	(12,567)	16,600	8,900	69,000
Miscellaneous	1,673	2,633	1,500	5,000	5,000
Inventory Adjustments	3,674	(782)	10,000	10,000	10,000
Total Distribution O & M	4,424,951	3,800,057	4,261,500	4,014,425	4,319,950
TRANSMISSION OPERATIONS & MAINTENANCE:					
Salaries and Wages	232,813	219,225	294,100	222,000	235,000
Fringe Benefits	409	2,503	3,500	4,000	4,000
Substation	14,496	45,927	50,000	75,000	82,000
Overhead Lines	76,567	33,623	23,000	20,000	25,000
Load and Dispatching	-	10,259	13,500	12,735	14,400
MISO Transmission	32,494	38,466	36,000	36,000	41,000
Tools	-	-	9,000	-	-
Professional and Contractual	-	-	15,000	-	5,000
Vehicle Rentals	223	2,242	3,000	1,000	1,000
Miscellaneous-MPPA Transmission Project	64,133	55,289	78,000	64,000	64,000
Inventory Adjustments	-	36,968	-	-	-
Total Transmission O & M	421,135	444,502	525,100	434,735	471,400
METERING & CUSTOMER ACCOUNTING:					
Salaries and Wages	273,710	251,092	263,700	245,800	248,000
Fringe Benefits	190,106	155,678	164,600	135,300	133,100
Office Supplies	3,610	1,737	4,200	4,000	4,000
Operations Supplies	-	-	-	200	200
Communications	110	50	250	200	200
Hardware/Software	22	1,350	8,000	3,800	-
Meal Payments	-	20	200	100	100
Safety	4,990	1,610	3,500	4,000	4,000
Uniforms	1,826	3,188	3,000	3,000	3,000
Professional and Contractual	23,893	18,509	13,000	27,000	24,000
Postage	28,185	16,575	33,000	30,000	30,000
Uncollectable Accounts	1,739	7,690	10,000	7,800	5,000
Collection Costs	4,118	3,669	5,000	4,000	4,000
Data Processing	20,197	15,890	25,000	20,000	20,000
Transportation	2,344	2,127	4,500	4,000	4,200
Professional Development	1,124	1,494	5,000	2,500	2,500
Printing and Publishing	684	62	4,000	1,000	1,000
Vehicle Rentals	19,666	19,422	14,000	16,000	16,500
Miscellaneous	954	1,047	600	1,200	1,200
Total Customer Accounting	577,278	501,210	561,550	509,900	501,000
CONSERVATION & PUBLIC SERVICES:					
Salaries and Wages	22,481	12,470	13,300	45,000	60,000
Fringe Benefits	34,637	9,887	9,700	21,950	27,100

City of Traverse City, Michigan
TRAVERSE CITY LIGHT & POWER
2018-19 Budgeted Revenues and Expenses

	FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budget	FY 17/18 Projected	FY 18/19 Recommended
Office Supplies	-	-	-	1,000	1,000
Professional and Contractual	4,011	20,916	1,500	1,100	1,500
Contract Labor - Energy Optimization	30,948	-	-	-	-
Public Service & Communications	32,653	17,940	22,000	10,000	25,900
Community Services	32,240	35,960	35,000	25,000	48,500
Professional Development	-	498	-	1,000	3,800
Printing and Publishing	-	49	-	1,500	1,500
Vehicle Rentals	3,943	8,670	6,500	5,000	5,000
PA295 Energy Optimization Compliance	510,632	360,116	505,000	380,000	395,000
Total Conservation & Public Services	671,545	466,506	593,000	491,550	569,300
INFORMATION SYSTEMS					
Salaries and Wages	-	-	-	-	142,000
Fringe Benefits	-	-	-	-	128,800
Office Supplies	-	-	-	-	1,000
Operation Supplies	-	-	-	-	10,100
Communications	-	-	-	-	2,000
Software	-	-	-	-	121,250
Hardware	-	-	-	-	20,000
Professional and Contractual	-	-	-	-	50,000
Professional Development	-	-	-	-	5,500
Total Information Systems	-	-	-	-	480,650
ADMINISTRATIVE AND GENERAL:					
Salaries and Wages	386,497	517,101	515,700	527,000	401,100
Fringe Benefits	322,167	462,158	474,100	464,800	305,600
Office Supplies	5,973	11,307	6,000	7,000	7,000
Communications	3,909	6,452	4,400	10,000	6,000
Software and Hardware	18,579	24,100	15,000	15,600	-
Fees and Per Diem	67,613	64,601	70,000	65,000	66,700
Board Related Expenses	3,872	2,659	15,000	3,000	5,000
Professional & Contractual	82,759	73,293	67,400	77,500	76,500
Legal Services	57,950	57,112	65,000	50,000	75,000
Employee Appreciation	7,073	7,195	7,000	5,000	7,000
City Fee	1,784,900	1,729,139	1,820,000	1,716,000	1,712,200
Transportation	619	326	1,500	1,500	1,500
Professional Development	15,985	21,890	25,000	12,000	19,500
Printing & Publishing	4,682	4,733	5,000	5,000	5,000
Insurance and Bonds	62,001	73,530	70,720	75,000	87,625
Miscellaneous	8,359	5,739	5,000	6,000	6,000
Depreciation Expense	2,254,188	2,511,527	2,605,000	2,605,000	2,700,000
Total Administrative and General	5,087,126	5,572,862	5,771,820	5,645,400	5,481,725
Total Operating Expenses	34,252,039	32,917,706	35,812,520	32,454,710	32,922,200
Operating Income	$ 1,278,005	$ 1,595,825	$ 252,680	$ 1,712,490	$ 1,249,500
NON OPERATING REVENUES/(EXPENSES):					
Rents and Royalties	$ 44,387	$ 38,880	$ 46,500	$ 51,000	$ 53,400
Pole Rentals	48,860	65,866	68,000	79,000	81,000
Reimbursements	296,244	236,776	91,300	703,000	150,000
Interest & Dividend Earnings	348,193	(43,852)	350,000	250,000	250,000
Gain/(Loss) on Sale of Fixed Assets	(355,965)	(5,965)	-	3,000	5,000
Total Non Operating Revenue/(Expenses)	381,719	291,705	555,800	1,086,000	539,400
Income before special items	1,659,724	1,887,530	808,480	2,798,490	1,788,900
SPECIAL ITEM					
Retirement of meters	-	-	-	-	(725,000)
Change in Net Position before Transfers	$ 1,659,724	$ 1,887,530	$ 808,480	$ 2,798,490	$ 1,063,900

City of Traverse City, Michigan
TRAVERSE CITY LIGHT & POWER
2018-19 Budgeted Revenues and Expenses

	FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budget	FY 17/18 Projected	FY 18/19 Recommended
OTHER FINANCING SOURCES:					
Operating Transfers In	175,000	125,000	125,000	125,000	175,000
Change in Net Position	$ 1,834,724	$ 2,012,530	$ 933,480	$ 2,923,490	$ 1,238,900

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 10, 2018

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Karla Myers-Beman, Controller
Date: April 2, 2018
Subject: Fiber Fund Budget

In accordance with City Charter Chapter XVIII, section 179 (o), the 2018-19 Fiber Fund Operating Budget must be submitted to the City Commission by its last meeting in April.

The Fiber Fund was reviewed by the Board at the February 13, 2018 board meeting and there have been no changes made since the presentation. The budget is attached for your reference.

This item is appearing on the Consent Calendar as it is deemed by staff to be a non-controversial item. Approval of this item on the Consent Calendar means you agree with staff's recommendation.

If any member of the Board or the public wishes to discuss this matter, other than clarifying questions, it should be placed on the "Items Removed from the Consent Calendar" portion of the agenda for full discussion.

If after Board discussion you agree with staff's recommendation the following motion would be appropriate:

MOVED BY_____, SECONDED BY_____, THAT

THE LIGHT & POWER BOARD APPROVES SUBMITTAL OF THE 2018-19 FIBER FUND OPERATING BUDGET AS PRESENTED TO THE CITY COMMISSION FOR ITS CONSIDERATION.

Traverse City Light & Power
Fiber Optics Fund
2018-19 Budgeted Revenues and Expenses

	FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budgeted	FY 17/18 Projected	FY 18/19 Recommended
Operating revenues					
Charges for services	$ 278,376	$ 279,746	$ 319,000	$ 352,000	$ 458,000
Other	129	-	-	-	-
Total Operating Revenues	278,505	279,746	319,000	352,000	458,000
Operating expenses					
Salaries and wages	44,601	56,984	81,500	63,000	64,900
Fringe benefits	35,081	49,451	93,900	68,950	70,250
Office & operation supplies	1,829	1,273	1,000	1,500	2,000
WIFI operations and maintenance	28,678	30,488	29,800	31,400	32,100
Hardware and software	-	5,850	5,400	5,400	5,750
Professional services	1,727	24,026	-	44,250	44,250
Legal services	2,475	2,280	1,500	2,500	2,500
City fee	13,932	13,999	15,975	18,000	23,000
Professional development	-	-	2,500	2,500	2,500
Insurance	-	435	1,000	1,000	1,000
Repair and maintenance	11,171	2,999	20,000	16,000	16,000
Vehicle rental	8,974	8,026	13,000	10,000	10,000
Miscellaneous		43	-	100	100
Depreciation expense	143,383	144,630	145,000	145,000	146,000
Total operating expenses	291,851	340,484	410,575	409,600	420,350
Operating income (loss)	(13,346)	(60,738)	(91,575)	(57,600)	37,650
Non-operating revenues (expenses)					
Reimbursements	54,127	33,525	53,400	68,900	177,800
Interest revenue	125	231	500	500	1,130
Loss on disposal of fixed assets	-	(3,897)	-	-	-
Total non operating revenues	54,252	29,859	53,900	69,400	178,930
Other financing transfers					
Transfer out	(175,000)	(125,000)	(125,000)	(125,000)	(175,000)
Change in net position	$ (134,094)	$ (155,879)	$ (162,675)	$ (113,200)	$ 41,580

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Daren Dixon, Manager of Operations
Date: April 4, 2018
Subject: Critical and Large Customer Improvements #2 conduit, cable and equipment installation

On April 3, 2018, four out of five requested bids were received, opened and reviewed for the construction of the Critical and Large Customer Improvements #2 project. The following are the results of the bid process:

Vendor	Price
C.C. Power, LLC	$ 381,421.00
J. Ranck Electric, Inc.	$ 301,800.00
Kent Power, Inc.	$ 146,729.00
SPE Utility Contractors	$ 148,627.26

Staff is recommending Traverse City Light & Power accept the low bid from Kent Power, Inc. and to issue a construction agreement in the amount of $146,729. The recommended bid is in line with approved project costs.

This item is appearing on the Consent Calendar as it is deemed non-controversial. Staff recommends the Board accept the bid from Kent Power and authorizes the execution of a construction contract. Approval of this item on the Consent Calendar means you agree with staff's recommendation.

If any member of the Board or the public wishes to discuss this matter, other than clarifying questions, it should be placed on the "Items removed from the Consent Calendar" portion of the agenda for full discussion. If after Board discussion you agree with staff's recommendation, the following motion would be appropriate.

(MOTION ON NEXT PAGE)

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 10, 2018

MOVED BY _____, SECONDED BY _____,
THAT THE BOARD AUTHORIZES THE CHAIRMAN AND SECRETARY TO ENTER INTO A CONSTRUCTION AGREEMENT FOR THE INSTALLATION OF CONDUIT, CABLE AND EQUIPMENT AND THE REPLACEMENT OF PRIMARY METERING CABINETS AND PMH GEAR WITH KENT POWER, INC. IN THE AMOUNT OF $146,729 FOR THE CRITICAL AND LARGE CUSTOMER IMPROVEMENTS #2 PROJECT; SUBJECT TO APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND AS TO FORM BY GENERAL COUNSEL; AND FURTHER AUTHORIZES THE EXECUTIVE DIRECTOR TO APPROVE CHANGE ORDERS IN THE BEST INTERESTS OF THE UTILITY.

TRAVERSE CITY LIGHT & POWER

Traverse City Light & Power
Bid Tabulation Form

Project Name: Critical and Large Customers #2

BIDDER	BID SECURITY	TOTAL CONTRACTOR BASE BID PRICE	REMARKS
C.C. Power, LLC 3850 Beebe Road NW Kalkaska, MI 49646	10%	$ 381,421.00	
Hydaker-Wheatlake Co. 420 S. Roth Street #B Reed City, MI 49677	NA	NA	NO BID
J. Ranck Electric Electric, Inc. 1993 Gover Parkway Mt. Pleasant, MI 48858	10%	$ 301,800.00	
Kent Power, Inc. 7800 Childsdale Avenue NE Rockford, MI 49341	10%	$ 146,729.00	LOW BID
Newkirk Electric Associates, Inc. 1875 Roberts Street Muskegon, MI 49442	NA	NA	NO BID
SPE Utility Contractors 4400 Dove Road Port Huron, MI 48060	10%	$ 148,627.26	

This is to certify that at 2:00PM, local time on Tuesday, April 3, 2018, the bids tabulated herein were publicly opened and read.

Traverse City Light & Power

By: _____

Tony Chartrand, System Engineer

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Daren Dixon, Operations Manager
Date: April 4, 2018
Subject: Construction Contract – Substation Cable Exits Replacement

On April 3, 2018, two bids out of four requested were submitted, opened and reviewed for the construction of the Substation Cable Exits Replacements projects. The following are the results of the bid process:

Vendor	Amount
CC Power	$588,660.00
Kent Power	$278,892.30

GRP recommends awarding the construction contract to Kent Power in the amount of $278,892.30. A letter of this recommendation is included for your review. With this bid, project total costs are still projected to be within the amount authorized by the Board for this project on February 13, 2018.

This item is appearing on the Consent Calendar as it is deemed non-controversial. Staff concurs with GRP's recommendation to accept the bid from Kent Power and recommends the Board authorize the execution of a construction contract. Approval of this item on the Consent Calendar means you agree with staff's recommendation.

If any member of the Board or the public wishes to discuss this matter, other than clarifying questions, it should be placed on the "Items removed from the Consent Calendar" portion of the agenda for full discussion. If after Board discussion you agree with staff's recommendation, the following motion would be appropriate.

MOVED BY _____, SECONDED BY _____,

THAT THE BOARD AUTHORIZES THE CHARMAN AND SECRETARY TO EXECUTE A CONSTRUCTION AGREEMENT IN THE AMOUNT OF $278,892.30 WITH KENT POWER FOR THE SUBSTATION CABLE EXITS REPLACEMENT PROJECT; SUBJECT TO APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND AS TO FORM BY GENERAL COUNSEL; AND FUTHER AUTHORIZES THE EXECUTIVE DIRECTOR TO APPROVE CHANGE ORDERS IN THE BEST INTERESTS OF THE UTILITY.

April 3, 2018
18-0920.01

Mr. Daren Dixon
Operations Manager
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

RE: Substation Underground Circuit Exits
Construction Bid Evaluation & Recommendation

Dear Daren:

GRP Engineering, Inc. has completed our evaluation of the Construction bids received for the Substation Underground Circuit Exits project. Of the four (4) contractors invited to submit a bid, two (2) bids were received. Kent Power submitted the low bid for the project in the amount of $278,892.30. A complete bid tabulation is attached to this letter.

Contractor	Total	
CC Power	$588,660.00	
Kent Power	$278,892.30	*(Low Bid)*

Kent Power's bid is approximately $30,000 above the estimated cost for the construction portion of this project, but it does include the additional work to finish the cable replacement and a new switchgear for TCL&P's two largest customers. Note that the project remains on budget as the underground cable bids were $30,000 under the cost estimate. GRP Engineering, Inc. sees no reason not to accept Kent Power's bid. Please contact me should you have any questions regarding this evaluation.

Sincerely,
GRP Engineering, Inc.

Michael P. McGeehan, P.E.
Project Manager

cc: Traverse City Light & Power
Mr. Tim Arends
Mr. Tony Chartrand

BID TABULATION

OWNER:
TRAVERSE CITY LIGHT & POWER
1131 HASTINGS STREET
TRAVERSE CITY, MI 49686

SUBSTATION UNDERGROUND EXITS

ENGINEER:
GRP ENGINEERING, INC.
459 BAY STREET
PETOSKEY, MI 49770

BIDDERS	BID SECURITY	TOTAL CONTRACTOR BASE BID PRICE	ADDENDUM #1 & #2		REMARKS
CC Power P.O. Box 2028 Kalkaska, MI 49646	10% Bond	$588,660.00	Yes		
The Hydaker-Wheatlake Company 420 N. Roth Street Reed City, MI 49677					No Bid
Kent Power 90 Spring St Kent City, MI 49330	10% Bond	$278,892.30	Yes		**Low Bid**
Newkirk Electric, Inc. 1875 Roberts Street Muskegon, MI 49442					No Bid

This is to certify that at 11:00a.m., local time on Tuesday, April 3, 2018, the bids tabulated herein were publicly opened and read.

GRP Engineering, Inc.

By: Michael P. McGeehan

Michael P. McGeehan, P.E.

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Daren Dixon, Manager of Operations
Date: April 5, 2018
Subject: Misc. Material for Critical & Large Customers #2

Traverse City Light & Power solicited bids for the remaining material for the Critical and Large Customers #2 project. This material was split into two separate bids. The first bid was for various parts and pieces such as 15kV elbows, arrestors, connectors, ect.

Vendor	Price
Power Line Supply	$19,005.59
WESCO	Incomplete
RESCO	Incomplete

The second bid was for the dead front switchgears and basements.

Vendor	Price
Power Line Supply	$30,737.60
WESCO	$30,790.00
RESCO	$30,874.00
Irby	$32,102.00

After review by staff it is recommended TCL&P accept the low bid for both bids and issue two purchase orders to Power Line Supply in the amount of $49,743.19. These costs are in line with the anticipated material costs for this project.

This item is on the Consent Calendar as it is deemed non-controversial. Approval of this item on the Consent Calendar means you agree with staff's recommendation.

If any member of the Board or the public wishes to discuss this matter other than clarifying questions, it should be placed on the "Items Removed from the Consent Calendar" portion of the agenda for full discussion. If after Board discussion you agree with staff's recommendation, the following motion is recommended:

(MOTION ON NEXT PAGE)

MOVED BY _____, SECONDED BY _____,

THAT THE BOARD AUTHORIZES THE EXECUTIVE DIRECTOR TO ISSUE TWO PURCHASE ORDERS TO POWER LINE SUPPLY IN THE AMOUNT OF $49,743.19 FOR CRITICAL AND LARGE CUSTOMERS #2 MISCILLANIOUS MATERIAL, TO BE USED FOR THE CRITICAL AND LARGE CUSTOMER #2 PROJECT.

TRAVERSE CITY
LIGHT & POWER

To:	**Light and Power Board**
From:	Scott Menhart, Manager of Telecom & Technology
Date:	April 5, 2018
Subject:	Amendment to MapleNet Wireless Dark Fiber Services Agreement

Attached for your consideration is an Amendment to the Dark Fiber Services Agreement ("Agreement") between TCL&P and MapleNet Wireless ("MNW").

MNW and TCL&P entered into an agreement dated July 2, 2013 for the purposes of providing GTACS with fiber optic communications. These communications connected three GTACS schools together, along with a connection to the TCAPS datacenter. GTACS no longer wishes to keep the connection to the TCAPS datacenter and would like to remove it as a site from the original Agreement.

Staff recommends approval of the amendment as presented. This item is appearing on the consent calendar as it is deemed by staff to be a non-controversial issue. Approval of this item on the Consent Calendar means you agree with staff s recommendation.

If any member of the Board or the public wishes to discuss this matter, other than clarifying questions, it should be placed on the agenda as an item under "items removed from the consent calendar."

If after Board discussion you agree with staff's recommendation the following motion would be appropriate:

MOVED BY _____, SECONDED BY _____,

THAT THE BOARD AUTHORIZES THE CHAIRMAN AND SECRETARY TO ENTER INTO AMENDMENT ONE FOR THE MAPLENET WIRELESS DARK FIBER SERVICES AGREEMENT, SUBJECT TO APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND AS TO FORM BY GENERAL COUNSEL.

FIRST AMENDMENT TO
MAPLENET WIRELESS DARK FIBER SERVICES AGREEMENT

THIS AMENDMENT is made and entered into as of the _____ day of _____, 2018, by and between the TRAVERSE CITY LIGHT & POWER DEPARTMENT, a Michigan municipal electric utility, whose address is 1131 Hastings Street, Traverse City, Michigan 49686 ("TCL&P"), and MAPLENET WIRELESS TELECOM INC. ("MNW"), whose address is 4561 Pine Creek Road, Elkhart, In 46516 ("Customer").

RECITALS

WHEREAS, TCL&P and Customer have entered into a Dark Fiber Services Agreement dated July 2, 2013 ("Agreement") and wish to amend the Agreement to remove a site.

NOW THEREFORE, in consideration of the recitals and agreements contained herein and contained in the Agreement, TCL&P and Customer hereby agree as follows:

1. The S. Airport Rd @ Cass Rd Site is removed as a Site from Exhibit 1 of the Agreement at the beginning of the first 5 year renewal term of the Agreement starting August 1, 2018, with no further obligation to pay for the Site by the Customer. The ERU Fee shall be reduced to reflect the elimination of this Site. The attached Exhibit 1 and Exhibit 2 replaces Exhibit 1 and Exhibit 2 to the Agreement.

IN WITNESS WHEREOF, the parties below have entered into this Amendment on the date set forth above.

TRAVERSE CITY LIGHT & POWER DEPARTMENT

_____
By: Jan Geht, Chairman

APPROVED AS TO FORM

_____
By: Timothy Arends, Secretary and Executive Director

_____
By: W. Peter Doren
Traverse City Light & Power
General Counsel

CUSTOMER

_____
By: Gene Cruise, President
MNW Telecom, Inc.

MNW Telecom GTACS Project

EXHIBIT 1

Fiber Count (Strands)	Site	Address
2	St. Francis High School	123 E. Eleventh St, Traverse City, MI
2	St. Elizabeth Middle School	1603 Three Mile Rd, Traverse City, MI
2	Immaculate Conception ES	218 Vine Street, Traverse City, MI

3 Sites

Effective Date: August 1, 2018

MNW Telecom/GTACS Project

EXHIBIT 2

CONSTRUCTION, ERU FEE AND RECURRING CHARGE

I. Fees.

A. Construction Fee

(1) TCL&P agrees to construct the system as shown in Exhibit 1 for a one time upfront flat fee of $15,000.00

B. ERU Fee.

(1) Years 1-5 – Initial Term

(a) $2,200.00 per month ($26,400.00 per year) for 4 Sites at $550 per month ($6,600 per year) per Site.

(b) The monthly ERU Fee shall commence on September 1, 2013.

(2) Years 5-10 – Renewal Term with 1st Amendment Effective August 1, 2018

(a) $1,739.28 per month ($20,871.36 per year) for 3 Sites at $579.76 per month ($6,957.12 per year) per Site.

C. Recurring Charge.

Included in the ERU Fee.

II. Renewal Escalation. The ERU Fee and/or the Recurring Charge may be increased at the beginning of a Renewal Term by the increase, if any, in the Consumer Price Index - All Urban Consumers (CPI-U, U.S. City Average), published by the United States Department of Labor, Bureau of Labor Statistics (1982-84 = 100), for the original twelve (12) month period of the prior term. In the event such index shall cease to be computed or published, the parties shall designate a successor index to be used in determining any increase to the ERU Fee or the Recurring Charge.

III. Invoices. The ERU Fee and/or Recurring Charge shall be invoiced in advance by TCL&P monthly during the Term, and any Renewal Term thereafter, and shall be paid within thirty (30) days after the date of the invoice ("Due Date"). Any sums not paid on the Due Date shall bear interest at an annualized rate of twelve percent (12%). In the event Customer disputes all or a portion of an invoice, Customer shall notify TCL&P in writing of the nature and amount of the dispute on or before the Due Date and shall pay the undisputed portion of the invoice on or before the Due Date. The Parties will work together in good faith to resolve properly noticed disputes. In addition to any other rights and remedies under this Agreement, failure to make any payment when due hereunder shall be a default.

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Karla Myers-Beman, Controller
Date: April 10, 2018
Subject: Renewable Electric Energy Rider Tariff Rate

At the Mach 13, 2018 board meeting, the Board was presented a Renewable Electric Energy Rider Tariff Rate required by the State of Michigan Public Act 342, Section 61. This public act requires utilities to provide customers the option to participate in a voluntary green pricing program where customers can specify the amount of electricity provided to the customer that will be generated from renewable energy. This rate is required to be adopted by April 20, 2018.

In accordance with the board motion made at the last board meeting, a public hearing was scheduled for this meeting with public notice provided through an advertisement in the Traverse City Record Eagle on March 24, 2018 (Traverse City Ticker does not currently provide this service, but is looking into providing it in the future) and posted on the TCL&P website.

After the public hearing, if the Board concurs with implementation of the new Renewable Electric Energy Rider Tariff Rate the following board motion would be appropriate:

MOVED BY_____, SECONDED BY_____, THAT

THE LIGHT & POWER BOARD APPROVES THE ADOPTION OF THE RENEWABLE

ELECTRIC ENERGY RIDER TARIFF RATE EFFECTIVE AS OF APRIL 20, 2018.

City of Traverse City
Light and Power Department
Effective:

RENEWABLE ELECTRIC ENERGY RIDER

Availability:

The rider is available to customers making use of a TCL&P metered electric rate schedule(s).

Nature of Service:

TCL&P will provide green power to system or if needed, purchase renewable energy credits per the participant enrollment. However, TCL&P does not guarantee that the actual electricity delivered to each participant's facility at any specific time will be produced from a green supply resource.

Monthly Rate:

Customer's electing this premium service option will receive an additional charge per kWh in the amount of $.0085 for the specified amount of electricity attributable to the customer. The customer may elect to have 25%, 50%, 75% or 100% of their consumption that will be renewable energy. The customer will only be charged this rate for the amount elected less the percentage of the utility's prior calendar year renewable energy portfolio. The rate will be modified when new renewable resources are executed by a purchase power agreement or on a biennial basis. The amount of kWh's will be based on the availability of resources including renewable energy credits TCL&P is able to secure.

Term:

All participants electing to sign up for this rider will be enrolled until notification is received from the customer requesting termination of the rider.

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Tim Arends, Executive Director
Date: April 2, 2018
Subject: Voluntary Green Pricing Grant Program

At the last board meeting, staff introduced to the Board the Renewable Electric Energy Rider Tariff Rate ("Tariff") and proposed with its adoption, the implementation of a new grant program with the revenues generated from the Tariff. (Included in the board packet is a recommended policy reviewed by General Counsel outlining the grant program.)

The purpose of this policy is to provide funding to the City of Traverse City ("City") that will be used to promote energy waste reduction for both natural gas and electricity savings by providing grants to assist in financing the City's future energy waste reduction and renewable energy projects. Additionally, it provides another mechanism for Traverse City Light & Power to assist the City Commission in achieving their 100% renewable energy goal by 2020.

Some of the details included in the policy are when the funds will be awarded (the awarding of the funds is on a calendar year basis to coordinate with the City Capital Project Improvement Plan process) and how the application process will work, including eligibility of the projects and explanation of the funding disbursement process.

Staff recommends the Board approve the Voluntary Green Pricing Grant Program as it will promote energy savings with the intention of reducing government operation costs and lead to cost savings in taxes or through other rates and fees charged to the public. If the Board concurs with adoption of the Voluntary Green Pricing Grant Program the following board motion would be appropriate:

MOVED BY_____, SECONDED BY_____, THAT

THE LIGHT & POWER BOARD APPROVES THE ADOPTION OF THE VOLUNTARY GREEN PRICING GRANT PROGRAM.

Light and Power Department
City of Traverse City, MI
Approved: _____

VOLUNTARY GREEN PRICING GRANT PROGRAM

PURPOSE

The purpose of Traverse City Light & Power's ("TCL&P") Voluntary Green Pricing Grant Program ("Program") is to provide funding from revenue received through the Renewable Electric Energy Rider Tariff Rate to promote energy waste reduction and renewable energy efforts for City of Traverse City owned government buildings (including City jointly owned/shared buildings with Grand Traverse County) that are served by TCL&P.

This Program is intended to decrease government's energy costs for the benefit of the community through lower taxes, fees, and/or charges for services; and to support the City of Traverse City's Renewable Energy Resolution of 100% renewable by 2020, passed by the City Commission on December 19, 2016.

PROCEDURES

At the end of each calendar year, TCL&P shall provide communication to the City of Traverse City ("City") the amount of funds available in the upcoming budget year for the Program. The funds will be calculated by taking amount of revenue from the Renewable Electric Energy Rider less any costs of renewable energy credits costs purchased from an outside third party.

The City will provide TCL&P their prioritization of energy waste reduction or renewable energy program projects for their government buildings or other assets served by TCL&P.

The submission of grant requests should include the location of the project, description of the project, estimated amount of kilowatt-hour (kWh) savings and/or therm (natural gas) savings, and the anticipated dollar savings, estimated project costs, project timeframe and the estimated payback period of the project (ROI). Any energy waste reduction project must be qualified through the city's utility provider energy waste reduction program, demonstrate kilowatt (kw) demand reduction during the utility's peak times, or demand side management where the project will lower or shift the utility's use at peak times. The city shall provide the submitted rebate application along with the grant application. Approved grant funds shall be disbursed by the utility (at the project cost less the earned rebate amount) upon project completion and inspection.

The City Manager, or designee, shall provide their signature on the submitted grant application, providing acknowledgement of approval of the grant submission.

Staff at TCL&P will review the project information for compliance with the grant program and an award letter shall be provided outlining the dollar amount awarded, including rebates, for each project. TCL&P has the right to publicize the granted project(s) to promote its energy waste reduction programs unless a request is received not to.

After the project is complete, the entity shall submit a recap of the costs with supporting documentation showing the final costs of the project. After submission of the documentation, TCL&P staff shall perform a final on-site review/inspection of the project. Once the submission and on-site visit have been completed and approved, funds shall be disbursed to the city.

Timothy J. Arends
Executive Director and Secretary
Traverse City Light and Power

VENTURE NORTH

Traverse City Light & Power Energy Efficiency Loan Fund

April 10, 2018

Presenter:
Laura Galbraith, Executive Director, Venture North

Powered by Traverse CONNECT

Our Mission

VENTURE NORTH

Mission:

Support the region's *economic growth* and community development efforts by providing *funding options*, offering *technical assistance*, and building connections for viable businesses, including low to moderate income communities.

Vision:

$10 Million by 2020

U.S. DEPARTMENT OF THE TREASURY
CERTIFIED CDFI
CDFI FUND
Financial Institutions Fostering Community Growth

Geographic Reach:

Region 2 – 10 counties

Powered by Traverse CONNECT

Energy Efficiency Impact

VENTURE NORTH

Energy Efficiency Projects Funded: **8**

Total Loans: **$291,500**

Total kWh Saved: **1,064,991**

Total Dollars Saved Annually: **$87,002**

Most projects have a quick ROI of **less than 3 years**

Powered by Traverse CONNECT

Example Project
Radio Centre

VENTURE NORTH

3 Loans totaling $98,300

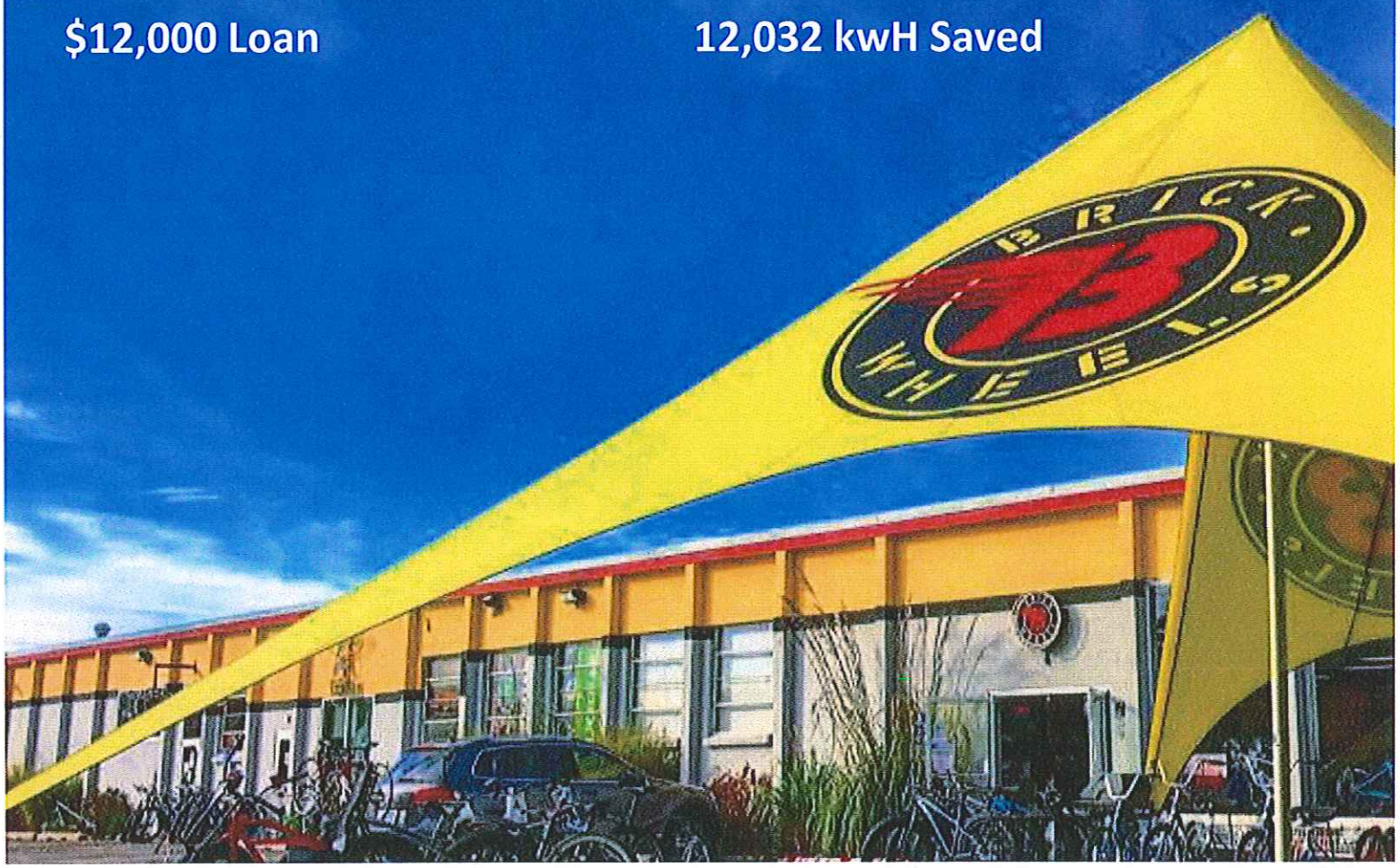
369,446 kwH Saved

Example Project
Brick Wheels

VENTURE NORTH

$12,000 Loan

12,032 kwH Saved



Loan Fund
Projected Cashflow

VENTURE NORTH

COMPANY	REMAINING PAYMENTS AS OF 12/31/17	KWH SAVINGS	MONTHLY PAYMENT	ANNUAL PAYMENT	2018	2019	2020	2021	2022	TOTAL
BEGINNING CASH BALANCE - JAN. 1, 2018					$72,651.12					$72,651.12
RADIO CENTRE #2	16	44767.12	$1,625.00	$19,500.00	$19,500.00	$6,500.00				$26,000.00
EAST BAY PLAZA	60	58941.66	$829.50	$9,954.00	$9,954.00	$9,954.00	$9,954.00	$9,954.00	$9,954.00	$49,770.00
BUDGET LUXURY INN	17	391859.00	$1,388.89	$16,666.68	$16,666.68	$6,944.45				$23,611.13
RADIO CENTRE	16	40041.20	$1,000.00	$12,000.00	$12,000.00	$4,000.00				$16,000.00
BEVERAGE COMPANY	12	102721.59	$873.06	$10,476.72	$10,476.72					$10,476.72
BILL MARSH	5	14063.00	$898.43	*	$4,458.68					$4,458.68
	TOTAL KwH Saved	**652393.57**	CASH FLOW BY YEAR		$73,056.08	$27,398.45	$9,954.00	$9,954.00	$9,954.00	$202,967.65
PROJECTED CASH AVAILABLE AT THE END OF YEAR:					**$145,707.20**	**$173,105.65**	**$183,059.65**	**$193,013.65**	**$202,967.65**	

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VENTURE NORTH

Questions?

Laura Galbraith, Executive Director, Venture North

Email: laura@venturenorthfunding.org
Website: venturenorthfunding.org
Facebook: facebook.com/Venturenorthfunding

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TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Karla Myers-Beman, Controller
Date: April 2, 2018
Subject: Landfill Gas and Kalkaska Combustion Turbine Update

At the December board meeting, a board member requested information on how the landfill gas projects are performing, and on the Kalkaska Combustion Turbine as it seems to be underutilized. Below is information obtained from Michigan Public Power Agency ("MPPA") on these two questions.

Landfill Gas

Traverse City Light & Power is part of the two landfill gas projects through MPPA. These projects typically provide capacity factor from 68 to 71% (obtained from EIA website), however, the landfill gas projects the utility participates in are at 88% capacity factor rating. Therefore, producing more energy than the average landfill gas project.

The landfill agreements through MPPA are characterized as legacy renewable agreements, meaning they are projects entered when the first renewable energy mandate was required by the State of Michigan. Additionally, they are above current market energy prices and expect to be for some time. MPPA is only taking the minimum generation required by contract and reviewing options to withdraw from the agreements as quickly as legally allowed.

Kalkaska Combustion Turbine ("CT")

Enclosed is an updated analysis of the CT, which was first presented to you by Bob Dyer, RTD Consulting, LLC. The analysis continues to show the CT having a cumulative savings for the utility through past savings from reduced power pool capacity payments, transmission savings, and avoided annual capacity payments.

The CT was constructed as a peaking plant (at a lower cost than a base load plant) for the primary purpose of reducing exposure to the capacity market. The CT is only entered/dispatched into the market when the price is set at a cost to recover variable expenses (fuel, labor, maintenance et cetera). Since the plant is a high heat rate unit, it costs more to operate than base load natural gas plants with a lower heat rate which is the reason why it is minimally scheduled/dispatched into the market.

When the plant is dispatched it tends to be called on from MISO for reliability reasons for the grid with the pricing only recovering operating/variable expenses.

Notes	(1)	(2)			(3)	(1)(4)	(5)			(6)			(7)				
Year	Benefits from Reduced Power Pool Capacity Payments	C.T. Ownership Cost (Debt Services)	Net Benefit		Cumulative Savings	Benefits From Reduced Transmission Bills	C.T. Ownership Cost (Debt Services)	Net Benefit	Cumulative Savings	Net Energy Sales	Cumulative Savings	Reduced Capacity Payments $/KW-Yr.	Capacity Rating of CT (MW)	Avoided Annual Capacity Payment	Cumulative Savings	Net Annual Benefit	Cumulative Savings
2001			$ -		$ -	$ -		$ -	$ -	$ -		$ -		$ -	$ -	$ -	$ -
2002	$ 160,436	$ 1,384,970	$ (1,224,534)		$ (1,224,534)	$ -	$ 49,738	$ (49,738)	$ (49,738)	$ -	$ -	$ -	36.053	$ -		$ (1,274,272)	$ (1,274,272)
2003	$ 1,925,230	$ 1,850,993	$ 74,237		$ (1,150,297)	$ -	$ 88,143	$ (88,143)	$ (137,881)	$ -	$ -	$ -	36.053	$ -		$ (13,906)	$ (1,288,178)
2004	$ 1,942,211	$ 1,301,080	$ 641,131		$ (509,166)	$ -	$ 63,967	$ (63,967)	$ (201,848)	$ -	$ -	$ -	36.371	$ -		$ 577,164	$ (711,014)
2005	$ 2,043,428	$ 1,845,514	$ 197,915		$ (311,251)	$ -	$ 90,605	$ (90,605)	$ (292,453)	$ -	$ -	$ -	36.231	$ -		$ 107,310	$ (603,704)
2006	$ 3,942,468	$ 1,623,260	$ 2,319,208		$ 2,007,957	$ 799,106	$ 313,011	$ 486,095	$ 193,642	$ -	$ -	$ -	36.887	$ -		$ 2,805,304	$ 2,201,600
2007	$ 3,983,796	$ 1,626,791	$ 2,357,005		$ 4,364,962	$ 986,473	$ 311,505	$ 674,968	$ 868,610	$ -	$ -	$ -	36.887	$ -		$ 3,031,972	$ 5,233,572
2008	$ 3,983,796	$ 1,625,195	$ 2,358,601		$ 6,723,563	$ 1,254,581	$ 311,184	$ 943,397	$ 1,812,007	$ -	$ -	$ -	36.887	$ -		$ 3,301,998	$ 8,535,570
2009	$ 3,983,796	$ 1,625,625	$ 2,358,171		$ 9,081,734	$ 1,598,483	$ 311,267	$ 1,287,217	$ 3,099,223	$ -	$ -	$ -	36.887	$ -		$ 3,645,387	$ 12,180,957
2010	$ 3,983,796	$ 1,627,950	$ 2,355,846		$ 11,437,579	$ 1,630,165	$ 311,712	$ 1,318,453	$ 4,417,677	$ -	$ -	$ -	36.887	$ -		$ 3,674,299	$ 15,855,256
2011	$ -	$ 1,531,905	$ (1,531,905)			$ 1,669,618	$ 293,322	$ 1,376,296	$ 5,793,973	$ 214,064	$ 214,064	$ 4.80	25.9	$ 124,320	$ (1,407,585)	$ 182,776	$ 16,038,032
2012	$ -	$ 1,529,976	$ (1,529,976)			$ 1,798,527	$ 292,952	$ 1,505,575	$ 7,299,548	$ 611,152	$ 825,216	$ 4.80	30.8	$ 147,840	$ (2,789,721)	$ 734,591	$ 16,772,623
2013	$ -	$ 1,528,224	$ (1,528,224)			$ 1,908,451	$ 292,617	$ 1,615,834	$ 8,915,382	$ 180,149	$ 1,005,365	$ 4.80	32.5	$ 156,000	$ (4,161,945)	$ 423,759	$ 17,196,382
2014	$ -	$ 1,531,091	$ (1,531,091)			$ 2,141,355	$ 293,166	$ 1,848,189	$ 10,763,571	$ 199,089	$ 1,204,454	$ 4.80	30.6	$ 146,880	$ (5,546,156)	$ 663,068	$ 17,859,449
2015	$ -	$ 1,528,702	$ (1,528,702)			$ 1,928,903	$ 292,708	$ 1,636,195	$ 12,399,766	$ 201,167	$ 1,405,621	$ 24.00	32	$ 768,000	$ (6,306,857)	$ 1,076,660	$ 18,936,109
2016	$ -	$ 1,562,451	$ (1,562,451)			$ 2,135,380	$ 299,171	$ 1,836,209	$ 14,235,975	$ 455,257	$ 1,860,878	$ 42.31	33.0	$ 1,396,296	$ (6,473,012)	$ 2,125,311	$ 21,061,420
2017	$ -	$ 1,562,477	$ (1,562,477)			$ 2,193,690	$ 299,176	$ 1,894,515	$ 16,130,490	$ 210,349	$ 2,071,227	$ 43.07	32.9	$ 1,416,937	$ (6,618,553)	$ 1,959,323	$ 23,020,743
2018	$ -	$ 1,531,409	$ (1,531,409)			$ 2,257,308	$ 293,227	$ 1,964,081	$ 18,094,571	$ 75,000	$ 2,146,227	$ 48.00	35.2	$ 1,689,600	$ (6,460,362)	$ 2,197,272	$ 25,218,015
2019	$ -	$ 1,529,817	$ (1,529,817)			$ 2,322,769	$ 292,922	$ 2,029,848	$ 20,124,419	$ 75,000	$ 2,221,227	$ 48.00	31	$ 1,488,000	$ (6,502,179)	$ 2,063,031	$ 27,281,046
2020	$ -	$ 1,532,206	$ (1,532,206)			$ 2,390,130	$ 293,379	$ 2,096,751	$ 22,221,169	$ 75,000	$ 2,296,227	$ 48.00	31	$ 1,488,000	$ (6,546,384)	$ 2,127,545	$ 29,408,591
2021	$ -	$ 1,531,887	$ (1,531,887)			$ 2,459,444	$ 293,318	$ 2,166,125	$ 24,387,294	$ 75,000	$ 2,371,227	$ 48.00	31	$ 1,488,000	$ (6,590,271)	$ 2,197,238	$ 31,605,829
2022	$ -	$ 1,528,861	$ (1,528,861)			$ 2,530,767	$ 292,739	$ 2,238,029	$ 26,625,323	$ 75,000	$ 2,446,227	$ 48.00	31	$ 1,488,000	$ (6,631,132)	$ 2,272,167	$ 33,877,996
2023	$ -	$ 1,529,498	$ (1,529,498)			$ 2,604,160	$ 292,861	$ 2,311,299	$ 28,936,622	$ 75,000	$ 2,521,227	$ 48.00	31	$ 1,488,000	$ (6,672,630)	$ 2,344,801	$ 36,222,797
2024	$ -	$ 1,530,294	$ (1,530,294)			$ 2,679,680	$ 293,013	$ 2,386,667	$ 31,323,289	$ 75,000	$ 2,596,227	$ 48.00	31	$ 1,488,000	$ (6,714,925)	$ 2,419,373	$ 38,642,170
2025	$ -	$ 1,531,091	$ (1,531,091)			$ 2,757,391	$ 293,166	$ 2,464,225	$ 33,787,514	$ 75,000	$ 2,671,227	$ 48.00	31	$ 1,488,000	$ (6,758,016)	$ 2,496,134	$ 41,138,304
2026	$ -	$ 1,531,728	$ (1,531,728)			$ 2,837,355	$ 293,288	$ 2,544,068	$ 36,331,582	$ 75,000	$ 2,746,227	$ 48.00	31	$ 1,488,000	$ (6,801,743)	$ 2,575,340	$ 43,713,644
2027	$ -		$ -			$ 2,919,639		$ 2,919,639	$ 39,251,220	$ 75,000	$ 2,821,227	$ 48.00	31	$ 1,488,000	$ (5,313,743)	$ 4,482,639	$ 48,196,283

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Kelli Schroeder, Manager of HR & Communications
Date: April 5, 2018
Subject: Executive Director's Annual Performance Evaluation

We have been fortunate for many years to have the involvement of Mary Grover in the Executive Director's annual review process. However, this year, Ms. Grover has indicated she is working her way into retirement and has declined to facilitate the review.

Subsequently, I reached out to Jennifer Ewing from Human Resource Partners to facilitate the Executive Director's annual review this spring. Included with this memo is the proposal which closely matches the process that has occurred the last few years. The only exception is the four-tiered rating system recommended by the Human Resources Ad Hoc Committee in May 2017.

HRP
Human Resource Partners

333 Sixth Street
Traverse City
Michigan 49684

Phone: 231.313.2391

Proposal for Services - Traverse City Light and Power

Objective

To provide facilitation services for the Board of Director's annual performance evaluation of the Executive Director.

Introduction

Human Resource Partners (HRP) was founded in 2000 and is located in Traverse City, Michigan. We work with organizations a variety of human resource and employment projects. Our clientele include small businesses, non-profit organizations, government entities, and large corporations. HRP is an outsourced solution for organizations human resources, training and safety needs.

Location, Experience and Qualifications

Human Resource Partners is located in Traverse City. The partners of the firm are Kate Greene, Jennifer Ewing and Michelle Baldwin. For this project, Jennifer Ewing will provide services.

Jennifer Ewing SHRM-SCP, SPHR

Jennifer Ewing has been practicing human resources and health & safety management for over twenty-six years in both union and non-union environments. Jennifer is a strategic contributor in developing cultures of employee engagement, wellness and people-based safety.

Jennifer holds her MBA from Michigan State University and her BSBA from Central Michigan University. She is certified as both a Senior Professional in Human Resources (SPHR) and a Senior Certified Professional through the Society of Human Resource Management (SHRM-SCP). Jennifer is an Adjunct Professor through both Davenport University's MBA program and our local Northwester Michigan College where she teaches human resources.

She is active in the community, serving on many boards over the years including the Traverse Area Human Resources Association (Past-President), Grand Traverse Industries (Chair) and the MiOSHA General Industry Standards Commission (Past-Chair).

Jennifer and her husband Bill live in Traverse City with their West Highland Terrier, Fergus.

Strategy and Proposed Method

The purpose of the performance evaluation is for the Board to assess how the Executive Director is executing his role. The process will allow the Board time to reflect on not only the Executive Director's individual performance, by also how the organization is performing as a whole.

The process will focus around individual interviews with each of the voting members of the Board. HRP will work directly with the Manager of HR & Communications, Kelli Schroeder, to coordinate meeting times and locations. These interviews will be targeted to take approximately 30 minutes each.

For consistency and comparison, HRP will utilize the nine questions traditionally used during this review process. In addition, a four-tiered rating process will be attached to each question to offer a quantifiable rating to provide the Executive Director more guidance on his performance and areas of improvement opportunity.

HRP will conduct these interviews, collect the comments and ratings, and create a summary report. This report will focus on themes and relevant information to measure performance and create improvement opportunities. Additionally, HRP would make itself available to assist the Board with its evaluation discussion.

Timing

All Board interviews will be conducted and the summary report created no later than May 21, 2018 to submit to the Ad Hoc Committee for review.

Agreement and Confidentiality

All information received from Traverse City Light & Power, the Client, **will be treated as confidential** except information, which was or becomes generally available to the public other than as a result of a disclosure by Traverse City Light & Power; was or becomes available to HRP from a source other than Traverse City Light & Power or its agents; or was known to HRP prior to the disclosure by Traverse City Light & Power.

HRP is the owner of, including copyright, of all the process, materials and training programs developed for, and provided to, the client. The client, Traverse City Light & Power, is granted a **nontransferable license to reproduce materials** for in-house use with Traverse City Light & Power employees. The client my not provide or resell the HRP processes or training programs to other parties without HRP written authorization.

HRP training materials and advice are intended to enhance personal and organization performance, and **are not legal advice.** HRP encourages its customers to seek legal advice if questions exist about employment practices and procedures.

The Client will indemnify and hold HRP harmless against all losses, damages, costs, and expenses including reasonable attorney fees, resulting from any breach of any warranty, representation or covenant contained in this agreement.

This agreement shall be governed and construed in accordance with the laws of the State of Michigan and shall benefit and be binding upon the parties and their respective successors and assignees. This section shall survive the termination of this agreement.

Investment

Planning and Preparation
Interview of 7 Voting Members
Summary Report
Attendance at Ad Hoc Committee or Board Meetings as Necessary

Total Investment **$ 900**

Terms: Total amount due upon completion.
This quote is valid for 30 days.
Consulting on other issues not identified in this proposal is available at a rate of $140 per hour.

If you have any questions regarding this arrangement please do not hesitate to contact me.

Acknowledged and Accepted:

Traverse City Light & Power

Date:

Jennifer Ewing, Human Resource Partners

Date: April 3, 2018

TRAVERSE CITY
LIGHT & POWER

To: **Light & Power Board**
From: Karla Myers-Beman, Controller
Date: April 2, 2018
Subject: Cost of Service Study

The utility went through a Cost of Service Study ("Study") with the goals of 1) Ensuring there is sufficient revenue to provide capital to maintain a high reliable electrical system, 2) Creating a five-year plan to correct subsidizations between rate classes, 3) Modifying the billing structure within each rate class to reflect the cost of service and 4) Simplifying the rate structure for ease of billing and customer knowledge while providing rates that promote the current electrical industry environment of encouraging energy waste reduction.

Creating a Five-Year Plan to Correct Subsidizations

With the assistance of Utility Financial Solutions, LLC (UFS) staff created a five-year plan to correct subsidizations between rate classes. This is where rate classes subsidize or pay for the costs of other rate classes or customers. On p9 of the Study included in the packet shows the results of the Cost of Service and the rate classes being subsidized (positive percentage) and the customer classes subsidizing the rate classes (negative percentage).

In October 2018, staff will propose an overall revenue neutral change with several rate classes receiving an increase (Residential, Residential Space Heat, Senior Citizen (combined with Senior Space Heat shows a negative increase), Senior Water Heater, Residential Life Support, Residential Senior Life Support, Commercial Electric Heat and Air Conditioning, Commercial and Industrial Water Heating Service Rates, and Municipal Pumping – 2, and Metal Melting). The Commercial/General Customer Rate Class will receive a one percent decrease that will offset the increases.

Rates selected to be phased out and consolidated into other rates will be completed within or over the next five years. These consist of:

1. Residential Water Heater and Space Heat to Residential Rate
2. Senior Water Heater and Space Heat Rate to Senior Rate
3. Commercial Electric and Air Conditioning and Commercial Water Heater to Commercial
4. Primary Interruptible to Primary High Load Factor
5. Municipal Pumping 103% to Municipal Pumping 2

For the proposed base rate increases not relating to consolidation of the rates in 2020-21 and 2022-23, the rate classes who are being subsidized will receive a higher rate increase than the proposed

two percent, while those who are not being subsidized will receive a lower increase than two percent.

Modifying the Billing Structure Within Each Rate Class

With the proposed rate increases the rate structure is being modified to follow the cost of service costs minimum charge, kW demand charge and kWh charge. One change among all rate classes is a higher base rate to recover the fixed costs of the system such as operation and maintenance of the distribution system, contributions to the general fund, customer service, customer accounting, meter reading, billing, meter operation and maintenance, and administrative expenses with the intention of lowering the per kWh charge.

Simplifying the Rate Structure

In simplifying the rate structure staff:

1) Eliminated seasoned rates, now all customers will have the same rate throughout the year instead of one rate for the summer season and another rate for the winter season. This will eliminate the opportunity of human error in the billing department from not switching the season rates from summer to winter and vice versa.
2) Eliminated or phasing out the number of rates available by the utility (mentioned previously). Specifically, 1) the primary interruptible rate, which is not utilized by the utility to curve demand 2) space heating, water heating, air conditioning rates as those rates tend to encourage the customer to use energy rather than look for alternative methods to conserve energy.

Other Information

When the Study's financial projection is compared to the Cash Flow Projections presented to the Board in March there are conservative differences (the Study being more conservative) primarily caused by two reasons. First, the Study power cost recovery had to have a starting point, which was the 2018-19 year, while the budget reflects the twelve-month rolling average moving forward. This caused an average difference of $91,000 each year or cumulative effect over five years of $450,000. Additionally, the Study was based on 2016-17 billing information while the budget was based on 2017-18 year to date through the end of January with projections from February through June and projected forward considering weather and new additional load. This caused an average difference of $120,000 each year, which consisted of small differences among each rate classes or cumulative effect over the five years of $600,000. Combined, these annual differences are less than one percent of annual revenues, but do have an impact on cash balances at the end of the five years of approximately $1M.

There are two other financial considerations not reflected in the Study with the utility's Pension System, but I believe are worthy to mention. In 2014-15 MERS modified their assumption changes causing a significant cost to be amortized over the next four years and in the same year, significant deficit investment returns occurred that are being amortized over the next five years. In fiscal year 2020-21 with the assumption that these costs were of a one-time nature with the expectation that

it won't occur again to that level, the utility's pension expense will decrease by these amortized costs in the amount of $700,000. Additionally, the utility is contributing an additional $1M for accelerated funding for the pension system over a ten-year amortization schedule. If the utility continues this plan, the additional funding (equal to an approximate three percent rate increase) will cease in fiscal year 2025-26 and the funds can be redirected towards capital funding. Additionally, with the additional funding in theory, the utility's pension expense beyond the amortizations mentioned above should decrease and having an effect of increasing the operating income.

UFS is proposing another section within our Minimum Cash Reserve Policy by increasing the amount to reflect market rate risk. This component will allow for sufficient funds to be reserved in case there is a significant increase in the energy market prices.

Staff revisits these projections on an annual basis through the budgeting process and will make recommendations for adjustment, if necessary, at that time to continue or amend this five-year plan. Additionally, once there is sufficient billing data obtained through the AMI system, time of use rates will be evaluated and brought before the board for discussion.

Lastly, UFS's presentation and report is included in the board packet and they will be at the Board meeting to present the results of the Study.

Traverse City Light & Power
Rate Study Preliminary Results

Mark Beauchamp, CPA, CMA, MBA
President
Utility Financial Solutions
616-393-9722

Mike Johnson/Jillian Beauchamp
Project Managers
Utility Financial Solutions
608-230-5849

Objectives

- Review Electric Department
  - Financial Projections & Targets
    - Minimum Cash Reserves
    - Target Operating Income
- Review Cost of service results
  - Cost to service each class of customers
  - Monthly Customer Charges
- Rate Adjustments
  - Class Consolidations
  - Movement toward cost of service

Assumptions

- Purchase Power
  - 1.0% Increase for Projection Period
- Annual Inflation 2.0%
- Annual Growth 1.0%

- Capital Plan
  - 2019 – 7.2M
  - 2020 – 5.5M
  - 2021 – 4.8M
  - 2022 – 5.7M
  - 2023 – 3.9M

Projection without Rate Change

Fiscal Year	Projected Rate Adjustments	Adjusted Operating Income	Target Operating Income	Projected Cash Balances	Recommended Minimum Cash
FY 18 - 19	0.0%	$ 1,012,325	$ 2,924,342	$ 13,909,010	$ 10,946,963
FY 19 - 20	0.0%	856,440	3,094,563	12,219,906	10,200,856
FY 20 - 21	0.0%	602,488	3,241,968	11,211,128	10,315,273
FY 21 - 22	0.0%	342,453	3,417,924	9,226,729	10,585,564
FY 22 - 23	0.0%	96,790	3,539,909	8,821,840	9,552,320

Recommended Rate Track

Fiscal Year	Projected Rate Adjustments	Projected Expenses	Projected Revenues	Adjusted Operating Income	Target Operating Income	Projected Cash Balances	Recommended Minimum Cash
FY 18 - 19	0.0%	$ 31,011,596	$ 33,714,347	$ 1,012,325	$ 2,924,342	$ 13,909,010	$ 10,946,963
FY 19 - 20	0.0%	31,690,221	34,263,303	856,440	3,094,563	12,219,906	10,200,856
FY 20 - 21	2.0%	32,475,363	35,508,806	1,254,948	3,241,968	11,863,588	10,315,273
FY 21 - 22	0.0%	33,275,853	36,084,308	1,001,274	3,417,924	10,541,272	10,558,658
FY 22 - 23	2.0%	34,071,824	37,384,611	1,440,921	3,539,909	11,487,086	10,628,570

Electric Department
Minimum Cash Reserve

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Minimum Cash Reserve Allocation					
Operation & Maintenance Less Depreciation Expense	12.3%	12.3%	12.3%	12.3%	12.3%
Purchase Power Expense	9.7%	9.7%	9.7%	9.7%	9.7%
Historical Rate Base	1%	1%	1%	1%	1%
Market Risk	50%	50%	50%	50%	50%
Five Year Capital Improvements - Net of bond proceeds	20%	20%	20%	20%	20%
% Plant Depreciated	35%	36%	37%	38%	40%
Calculated Minimum Cash Level					
Operation & Maintenance Less Depreciation Expense	$ 914,119	$ 932,401	$ 951,049	$ 970,070	$ 989,472
Purchase Power Expense	2,024,915	2,065,616	2,107,134	2,149,488	2,192,693
Historical Rate Base	943,336	998,246	1,045,796	1,102,556	1,141,906
Market Risk	1,334,193	1,334,193	1,334,193	1,334,193	1,334,193
Five Year Capital Improvements - Net of bond proceeds	5,730,400	4,870,400	4,877,100	5,029,256	3,894,056
Minimum Cash Reserve Levels	**$ 10,946,963**	**$ 10,200,856**	**$ 10,315,273**	**$ 10,585,564**	**$ 9,552,320**
Projected Cash Reserves	**$ 13,909,010**	**$ 12,219,906**	**$ 11,211,128**	**$ 9,226,729**	**$ 8,821,840**

Rate of Return (Target Operating Income)

- Rate of Return is used to identify the level of operating income
- Operating Income has to be set high enough to cover the following:
  - interest expense on debt
  - Inflationary increase in asset replacement costs

Electric Department
Target Operating Income

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Target Operating Income Determinants					
Net Book Value/Working Capital	$ 61,108,391	$ 63,813,587	$ 65,577,862	$ 68,054,517	$ 68,597,953
System Equity	$ 61,108,391	$ 63,813,587	$ 65,577,862	$ 68,054,517	$ 68,597,953
Target Operating Income Allocation					
System Equity	4.79%	4.85%	4.94%	5.02%	5.16%
Target Operating Income					
System Equity	$ 2,924,342	$ 3,094,563	$ 3,241,968	$ 3,417,924	$ 3,539,909
Target Operating Income	**$ 2,924,342**	**$ 3,094,563**	**$ 3,241,968**	**$ 3,417,924**	**$ 3,539,909**
Projected Operating Income	**$ 1,012,325**	**$ 856,440**	**$ 602,488**	**$ 342,453**	**$ 96,790**
Rate of Return in %	**4.8%**	**4.8%**	**4.9%**	**5.0%**	**5.2%**

Electric Cost of Service Results

Customer Class	Cost of Service	Projected Revenues	% Change
Residential	5,401,462	4,893,847	10.4%
Residential Water Heater	297,836	273,591	8.9%
Residential Space Heat	113,806	105,357	8.0%
Senior Water Heater	65,656	49,385	32.9%
Senior Citizen	814,125	625,173	30.2%
Senior Space Heat	19,007	16,918	12.3%
Residential Life Support	22,573	17,831	26.6%
Residential Senior Life Support	12,817	7,980	60.6%
Commercial/General	3,605,601	4,094,095	-11.9%
Commercial Electric Heat and Air Conditioning	164,347	162,049	1.4%
Commercial and Industrial Water Heating Service	1,896	1,602	18.4%
Municipal Pumping Service (MP-1)	60,613	59,148	2.5%
Municipal Pumping Service (MP-2)	243,611	174,293	39.8%
Municipal Pumping Service at 103%	65,193	55,707	17.0%
Commercial Demand/General Secondary	10,857,881	10,197,762	6.5%
Commercial Demand Primary Metered	176,298	178,810	-1.4%
Primary Service High Load Factor	7,721,241	7,439,778	3.8%
Primary Interruptible	489,623	456,742	7.2%
Metal Melting	1,899,299	1,762,762	7.7%
Total	32,032,888	30,572,830	4.8%

Monthly Customer Charge

- Designed to recover a portion of the fixed distribution costs of the utility such as:
  - Meter Costs
  - Meter Reading Costs
  - Billing Costs
  - Customer Service
  - Service Drop
  - Portion of Distribution System

Monthly Customer Charge

- Movement toward cost based customer charges to help stabilize revenues
- Helps to reduce subsidy between year-round customers and seasonal customers
- Will impact low use customers
- Low income compared with low use
  - ***For most utilities, low income customers tend to be higher than average users***

Monthly Customer Charge

Customer Class	COS Customer Charge	Current Average Customer Charge
Residential	$ 15.11	$ 6.00
Residential Water Heater	15.13	6.00
Residential Space Heat	15.14	6.00
Senior Water Heater	15.10	5.00
Senior Citizen	15.09	5.00
Senior Space Heat	15.23	5.00
Residential Life Support	15.15	4.80
Residential Senior Life Support	15.11	4.00
Commercial/General	24.10	13.00
Commercial Electric Heat and Air Conditioning	24.87	13.00
Commercial and Industrial Water Heating Service	23.96	11.75
Municipal Pumping Service (MP-1)	31.62	19.00
Municipal Pumping Service (MP-2)	129.44	22.00
Municipal Pumping Service at 103%	140.56	19.00
Commercial Demand/General Secondary	127.46	15.00
Commercial Demand Primary Metered	356.81	16.00
Primary Service High Load Factor	376.50	50.00
Primary Interruptible	424.72	50.00
Metal Melting	621.62	40.00

Rate Design

- Revenue Neutral Rate Design
  - FY2018 – 2019
- No Rate Change
  - FY 2019 – 2020
  - FY 2021 - 2022
- 2.0% Rate Increase
  - FY2020 – 2021
  - FY 2022 - 2023
- 2% Bandwidth
  - Largest increase 4.0%
  - Smallest Increase 0%
- Move toward COS

Rate Designs – Phase In Consolidation

- Residential Water Heat to Residential Rate
- Senior Water Heat & Senior Space Heat to Senior Rate
- Commercial Electric Heat and Air to Commercial
- Commercial Water Heat to Commercial
- Primary Interruptible to Primary High Load Factor
- Municipal Pumping 103% to Municipal Pumping 2

Residential Rate Design

TCL&P

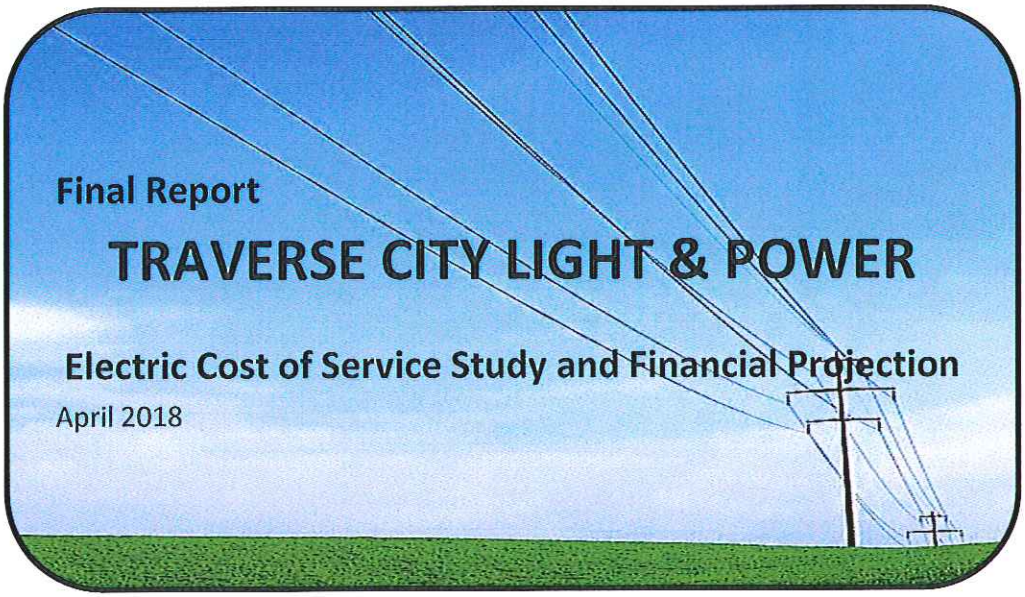
Electric Rate Design

Residential

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 6.00	$ 7.50	$ 7.50	$ 9.00	$ 9.00	$ 10.50
Energy Charge:						
Block 1 (0 - 16 kWh per day)	$ 0.09400	$ 0.0921	$ 0.0921	$ 0.0928	$ 0.0928	$ 0.0935
Block 2 (Excess)	$ 0.10550	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Power Cost Adjustment:						
All Energy	$ (0.00193)	$ (0.00193)	$ (0.00193)	$ (0.00193)	$ (0.00193)	$ (0.00193)
Revenue from Rate	$ 4,893,847	$ 5,219,113	$ 5,219,113	$ 5,375,686	$ 5,375,686	$ 5,536,957
Change from Previous		1.0%	0.0%	3.0%	0.0%	3.0%

Residential Dollar Impacts

Chart Data ($ Change)	Year 1	Year 2	Year 3	Year 4	Year 5
350	$ 0.85	$ -	$ 1.72	$ -	$ 1.77
500	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
650	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
800	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
950	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
1100	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
1250	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
1400	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
1550	$ 0.60	$ -	$ 1.81	$ -	$ 1.87
1700	$ 0.60	$ -	$ 1.81	$ -	$ 1.87



Final Report

TRAVERSE CITY LIGHT & POWER

Electric Cost of Service Study and Financial Projection

April 2018

Utility Financial Solutions, LLC

Specializing in Cost of Service,
Rate Design, and Financial Analysis

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Utility Financial Solutions, LLC

April 2018

Tim Arends
Executive Director
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

Dear Mr. Arends;

We are pleased to present the Final Report for the electric cost of service study and financial projection for the Traverse City Light & Power (TCLP). This report was prepared to provide the TCLP with a comprehensive examination of its existing rate structure by an outside party.

The specific purposes of this rate study are:

- Determine electric utility's revenue requirements for fiscal year FY 2018 - 2019
- Identify cross-subsidies that may exist between rate classes
- Recommend rate adjustments needed to meet targeted revenue requirements
- Identify the appropriate monthly customer charge for each customer class

This report includes results of the electric cost of service study and financial projection and recommendations on future rate designs.

This report is intended for information and use by the utility and management for the purposes stated above and is not intended to be used by anyone except the specified parties.

Sincerely,

Utility Financial Solutions, LLC
Mark Beauchamp
CPA, MBA, CMA
185 Sun Meadow Ct
Holland, MI 49424

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1. Introduction

This report was prepared to provide the Traverse City Light & Power (TCLP) with an electric cost of service study and financial projection and a comprehensive examination of its existing rate structure by an outside party. The specific purposes of the study are identified below:

1) **Determine electric utility's revenue requirements for fiscal year FY** 2018 - 2019. TCLP's revenue requirements were projected for the period from FY 2018 - 2019 through FY 2022 - 2023 and included adjustments for the following:

    a. Projected power costs
    b. Projected changes in staffing levels
    c. Capital improvement plan projected over next five years

2) ***Identify cross-subsidies that may exist between rate classes.*** Cross-subsidies exist when certain customer classes subsidize the electric costs of other customers. The rate study identifies if cross-subsidies exist and practical ways to reduce the subsidies. The cost of service study was completed using FY 2018 - 2019 projected revenues and expenses. The financial projections are for the period from FY 2018 - 2019 through FY 2022 - 2023.

3) ***Recommend rate adjustments needed to meet targeted revenue requirements.*** The primary purpose of this study is to identify appropriate revenue requirements and the rate adjustments needed to meet targeted revenue requirements. The report includes a long-term rate track for TCLP to help ensure the financial stability of the utility in future years.

4) ***Unbundled electric rates.*** The cost of providing electricity to customers consists of several components, including power generation, distribution, customer services, transmission, and transfers to the general fund. Electric unbundling identifies the cost of each component to assists the utility in preparing for electric restructuring and understanding its cost structure.

5) ***Identify the appropriate monthly customer charge for each customer class.*** The monthly customer charge consists of fixed costs to service customers that do not vary based on the amount of electricity used.

2. Cost of Service Summary

Utility Rate Process

TCLP retained Utility Financial Solutions to review utility rates and cost of service and make recommendations on the appropriate course of action. This report includes results of the electric cost of service and unbundling study and recommendations on future rate designs.

Utility Revenue Requirements

To determine revenue requirements, the revenues and expenses for Fiscal Years 2016 and 2017, 2018/2019 budget were analyzed, with adjustments made to reflect projected operating characteristics. ***The projected financial statements are for cost of service purposes only.***

Table 1 is the projected financial statement for the Electric Department from FY 2018 - 2019 through FY 2022 - 2023. The FY 2018 - 2019 rate of return calculation established an operating income target of $2.9M (See Table 4).

Adjusted operating income for FY 2018 - 2019 is projected at $1.02M and decreases to $97K in FY 2022 - 2023. Operating income is one target that helps to determine if rate adjustments are needed. The following pages review cash flow and debt coverage ratio which are also important indicators.

Table 1 – Financial Statements (without rate adjustments)

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Operating Revenues:					
Residential	$ 4,893,847	$ 4,942,785	$ 4,992,213	$ 5,042,135	$ 5,092,557
Residential Water Heater	273,591	276,327	279,091	281,881	284,700
Residential Space Heat	105,357	106,411	107,475	108,550	109,635
Senior Water Heater	49,385	49,878	50,377	50,881	51,390
Senior Citizen	625,173	631,425	637,739	644,116	650,558
Senior Space Heat	16,918	17,087	17,258	17,431	17,605
Residential Life Support	17,831	18,009	18,189	18,371	18,555
Residential Senior Life Support	7,980	8,060	8,141	8,222	8,304
Commercial/General	4,094,095	4,135,036	4,176,387	4,218,150	4,260,332
Commercial Electric Heat and Air Conditioning	162,049	163,670	165,306	166,959	168,629
Commercial and Industrial Water Heating Service	1,602	1,618	1,634	1,650	1,667
Municipal Pumping Service (MP-1)	59,148	59,739	60,337	60,940	61,550
Municipal Pumping Service (MP-2)	174,293	176,036	177,797	179,575	181,370
Municipal Pumping Service at 103%	55,707	56,265	56,827	57,395	57,969
Private Area Lighting	122,345	123,568	124,804	126,052	127,312
Street Lighting	7,472	7,547	7,622	7,698	7,775
Commercial Demand/General Secondary	10,197,762	10,299,739	10,402,737	10,506,764	10,611,832
Commercial Demand Primary Metered	178,810	180,598	182,404	184,228	186,070
Primary Service High Load Factor	7,439,778	7,514,175	7,589,317	7,665,210	7,741,862
Primary Interruptible	456,742	461,310	465,923	470,582	475,288
Metal Melting	1,762,762	1,780,389	1,798,193	1,816,175	1,834,337
Forfeited Discounts	51,000	52,020	53,060	54,122	55,204
Merchandise and Jobbing	73,500	74,235	74,977	75,727	76,484
Sale of Scrap	50,000	50,500	51,005	51,515	52,030
Recovery of Bad Debts	200	202	204	206	208
MISO Income	2,800,000	2,828,000	2,856,280	2,884,843	2,913,691
Miscellaneous	37,000	37,370	37,744	38,121	38,502
Additional PCA Revenues	-	211,303	428,966	653,139	883,973
Total Operating Revenues	**$ 33,714,347**	**$ 34,263,303**	**$ 34,822,007**	**$ 35,390,640**	**$ 35,969,390**

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Operating Expenses:					
Purchased Power (Cost of Sales and Service)	$ 20,921,092	$ 21,341,606	$ 21,770,572	$ 22,208,160	$ 22,654,544
Production Expense	361,355	368,582	375,954	383,473	391,142
Total Transmission O&M	467,005	476,345	485,872	495,589	505,501
Total Distribution O&M	4,169,815	4,253,211	4,338,275	4,425,041	4,513,542
Customer/Sales Expense	526,584	537,115	547,858	558,815	569,991
Administrative and General Expense	1,322,386	1,348,834	1,375,810	1,403,327	1,431,393
Public Service Expense	490,123	499,925	509,924	520,122	530,525
Insurance	77,252	78,798	80,373	81,981	83,621
Depreciation Expense	2,675,985	2,785,805	2,990,725	3,199,345	3,391,565
Total Operating Expenses	$ 31,011,596	$ 31,690,221	$ 32,475,363	$ 33,275,853	$ 34,071,824
Operating Income	$ 2,702,751	$ 2,573,083	$ 2,346,644	$ 2,114,787	$ 1,897,566
Other Income & Expense					
Interest and Other Income	94,166	69,545	61,100	56,056	46,134
Other	619,340	631,727	644,361	657,249	570,394
Payment In Lieu of Taxes	(1,690,426)	(1,716,642)	(1,744,155)	(1,772,335)	(1,800,776)
Non Operating Income/Expense	**$ (976,920)**	**$ (1,015,371)**	**$ (1,038,694)**	**$ (1,059,031)**	**$ (1,184,249)**
Net Income	**$ 1,725,831**	**$ 1,557,712**	**$ 1,307,949**	**$ 1,055,757**	**$ 713,317**
Adjusted Operating Income	**$ 1,012,325**	**$ 856,440**	**$ 602,488**	**$ 342,453**	**$ 96,790**

Projected Cash Flow

Table 2 is the projected cash flow for FY 2018 - 2019 through FY 2022 - 2023, including projections of capital improvements as provided by the TCLP. Changes in the capital improvement plan can greatly affect the cash balance and recommended minimum cash reserve target. The cash balance for FY 2018 - 2019 is projected at $13.8M and $8.8M in FY 2022 - 2023. The recommended minimum cash reserve level for FY 2018 - 2019 is $10.9M and $9.6M for FY 2022 - 2023.

Table 2 – Projected Cash Flows (without rate adjustments)

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Projected Cash Flows					
Net Income	$ 1,725,831	$ 1,557,712	$ 1,307,949	$ 1,055,757	$ 713,317
Depreciation Expense/Amortization	2,675,985	2,785,805	2,990,725	3,199,345	3,391,565
Cash Available from Operations	$ 4,401,816	$ 4,343,517	$ 4,298,674	$ 4,255,101	$ 4,104,882
Pension Accelerated Funding	$ 531,000	$ 541,620	$ 552,452	$ 563,501	574,771
Estimated Annual Capital Additions	8,795,000	5,491,000	4,755,000	5,676,000	3,935,000
Net Cash From Operations	$ (4,924,184)	$ (1,689,103)	$ (1,008,778)	$ (1,984,400)	$ (404,889)
Beginning Cash Balance	$ 18,833,194	$ 13,909,010	$ 12,219,906	$ 11,211,128	$ 9,226,729
Ending Cash Balance	$ 13,909,010	$ 12,219,906	$ 11,211,128	$ 9,226,729	$ 8,821,840
Total Cash Available	**$ 13,909,010**	**$ 12,219,906**	**$ 11,211,128**	**$ 9,226,729**	**$ 8,821,840**
Recommended Minimum	**$ 10,946,963**	**$ 10,200,856**	**$ 10,315,273**	**$ 10,585,564**	**$ 9,552,320**

Minimum Cash Reserve

Table 3 details the minimum level of cash reserves required to help ensure timely replacement of assets and to provide financial stability of the utility. The methodology used to establish this target is based on certain assumptions related to a percentage of operating expense, historical investment, capital improvements, and debt service to be kept in cash reserves. Based on these assumptions, TCLP should maintain a minimum of $10.9M in cash reserves for FY 2018 - 2019 and $9.6M in FY 2022 - 2023.

Table 3 – Minimum Cash Reserves (without rate adjustments)

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Minimum Cash Reserve Allocation					
Operation & Maintenance Less Depreciation Expense	12.3%	12.3%	12.3%	12.3%	12.3%
Purchase Power Expense	9.7%	9.7%	9.7%	9.7%	9.7%
Historical Rate Base	1%	1%	1%	1%	1%
Market Risk	50%	50%	50%	50%	50%
Five Year Capital Improvements - Net of bond proceeds	20%	20%	20%	20%	20%
% Plant Depreciated	35%	36%	37%	38%	40%
Calculated Minimum Cash Level					
Operation & Maintenance Less Depreciation Expense	$ 914,119	$ 932,401	$ 951,049	$ 970,070	$ 989,472
Purchase Power Expense	2,024,915	2,065,616	2,107,134	2,149,488	2,192,693
Historical Rate Base	943,336	998,246	1,045,796	1,102,556	1,141,906
Market Risk	1,334,193	1,334,193	1,334,193	1,334,193	1,334,193
Five Year Capital Improvements - Net of bond proceeds	5,730,400	4,870,400	4,877,100	5,029,256	3,894,056
Minimum Cash Reserve Levels	**$ 10,946,963**	**$ 10,200,856**	**$ 10,315,273**	**$ 10,585,564**	**$ 9,552,320**
Projected Cash Reserves	**$ 13,909,010**	**$ 12,219,906**	**$ 11,211,128**	**$ 9,226,729**	**$ 8,821,840**

Projected cash balances fall below the recommended minimums during the projection period.

Rate of Return

The optimal target for setting rates is the establishment of a target operating income to help ensure the following:

A. Funding of interest expense on the outstanding principal on debt. Interest expense is below the operating income line and needs to be recouped through the operating income balance.
B. Funding of the inflationary increase on the assets invested in the system. The inflation on the replacement of assets invested in the utility should be recouped through the Operating Income.
C. Funding of depreciation expense.
D. Adequate rate of return on investment to help ensure current customers are paying their fair share of the use of the infrastructure and not deferring the charge to future generations.

As improvements are made to the system, the optimal operating income target will increase unless annual depreciation expense is greater than yearly capital improvements. The revenue requirements for the study are set on the utility basis. Table 4 identifies the utility basis target established for FY 2018 - 2019 is $2.9M and increases to $3.5M in FY 2022 - 2023.

Table 4 – Rate of Return Calculation

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Target Operating Income Determinants					
Net Book Value/Working Capital	$ 61,108,391	$ 63,813,587	$ 65,577,862	$ 68,054,517	$ 68,597,953
System Equity	$ 61,108,391	$ 63,813,587	$ 65,577,862	$ 68,054,517	$ 68,597,953
Target Operating Income Allocation					
System Equity	4.79%	4.85%	4.94%	5.02%	5.16%
Target Operating Income					
System Equity	$ 2,924,342	$ 3,094,563	$ 3,241,968	$ 3,417,924	$ 3,539,909
Target Operating Income	**$ 2,924,342**	**$ 3,094,563**	**$ 3,241,968**	**$ 3,417,924**	**$ 3,539,909**
Projected Operating Income	**$ 1,012,325**	**$ 856,440**	**$ 602,488**	**$ 342,453**	**$ 96,790**
Rate of Return in %	**4.8%**	**4.8%**	**4.9%**	**5.0%**	**5.2%**

Recommended Rate Track

The study identifies maintaining current revenues in FY 2018 - 2019, and increase annually thereafter in 2021 and 2023 to maintain minimum cash targets. Table 5 is a summary of the financial results detailing the recommended revenue adjustments required to meet target operating income.

Table 5 – Recommended Revenue Adjustments

Fiscal Year	Projected Rate Adjustments	Projected Expenses	Projected Revenues	Adjusted Operating Income	Target Operating Income	Projected Cash Balances	Recommended Minimum Cash
FY 18 - 19	0.0%	$ 31,011,596	$ 33,714,347	$ 1,012,325	$ 2,924,342	$ 13,909,010	$ 10,946,963
FY 19 - 20	0.0%	31,690,221	34,263,303	856,440	3,094,563	12,219,906	10,200,856
FY 20 - 21	2.0%	32,475,363	35,508,806	1,254,948	3,241,968	11,863,588	10,315,273
FY 21 - 22	0.0%	33,275,853	36,084,308	1,001,274	3,417,924	10,541,272	10,558,658
FY 22 - 23	2.0%	34,071,824	37,384,611	1,440,921	3,539,909	11,487,086	10,628,570

Cost of Service Summary Results

A cost of service study was completed to determine the cost of providing service to each class of customers and to assist in design of electric rates for customers. A cost of service study consists of the following general steps:

1) Determine utility revenue requirement for test year FY 2018 - 2019
2) Classify utility expenses into common cost pools
3) Allocate costs to customer classes based on the classes' contribution to utility expenses
4) Compare revenues received from each class to the cost of service

The cost of service summary is included as Table 6 which compares the projected cost to serve each class with the revenue received from each class. The "% change" column is the revenue adjustment necessary to meet projected cost of service requirements. The cost of service summary uses the current rates including any adjustment factors.

Table 6 – Cost of Service Summary

Customer Class	Cost of Service	Projected Revenues	% Change
Residential	5,401,462	4,893,847	10.4%
Residential Water Heater	297,836	273,591	8.9%
Residential Space Heat	113,806	105,357	8.0%
Senior Water Heater	65,656	49,385	32.9%
Senior Citizen	814,125	625,173	30.2%
Senior Space Heat	19,007	16,918	12.3%
Residential Life Support	22,573	17,831	26.6%
Residential Senior Life Support	12,817	7,980	60.6%
Commercial/General	3,605,601	4,094,095	-11.9%
Commercial Electric Heat and Air Conditioning	164,347	162,049	1.4%
Commercial and Industrial Water Heating Service	1,896	1,602	18.4%
Municipal Pumping Service (MP-1)	60,613	59,148	2.5%
Municipal Pumping Service (MP-2)	243,611	174,293	39.8%
Municipal Pumping Service at 103%	65,193	55,707	17.0%
Commercial Demand/General Secondary	10,857,881	10,197,762	6.5%
Commercial Demand Primary Metered	176,298	178,810	-1.4%
Primary Service High Load Factor	7,721,241	7,439,778	3.8%
Primary Interruptible	489,623	456,742	7.2%
Metal Melting	1,899,299	1,762,762	7.7%
Total	32,032,888	30,572,830	4.8%

Cost of Service Results

Table 7 shows the average cost of service per kWh and compares the cost to the average revenue per kWh for each customer class.

Table 7 – Average Cost per kWh vs. Average Revenue per kWh

Customer Class	Cost of Service $/kWh	Projected Revenues $/kWh
Residential	$ 0.1182	$ 0.1071
Residential Water Heater	0.1123	0.1031
Residential Space Heat	0.1078	0.0998
Senior Water Heater	0.1196	0.0900
Senior Citizen	0.1247	0.0957
Senior Space Heat	0.1060	0.0944
Residential Life Support	0.1060	0.0837
Residential Senior Life Support	0.1224	0.0762
Commercial/General	0.1162	0.1319
Commercial Electric Heat and Air Conditioning	0.1090	0.1075
Commercial and Industrial Water Heating Service	0.1366	0.1154
Municipal Pumping Service (MP-1)	0.1039	0.1014
Municipal Pumping Service (MP-2)	0.1263	0.0903
Municipal Pumping Service at 103%	0.1176	0.1005
Commercial Demand/General Secondary	0.1023	0.0961
Commercial Demand Primary Metered	0.0886	0.0899
Primary Service High Load Factor	0.0824	0.0794
Primary Interruptible	0.0785	0.0732
Metal Melting	0.0716	0.0664

Cost differences result from usage patterns of customers and how efficiently each class of customer use facilities based on load data provided by TCLP.

Distribution Costs

Separation of distribution cost helps identify distribution charges for each customer class and the fixed monthly customer charge. Distribution rates include separation of the following costs:

- Operation and maintenance of distribution & transmission system
- Contributions to general fund
- Customer service
- Customer accounting
- Meter reading
- Billing
- Meter operation & maintenance
- Administrative expenses

The distribution rates consist of two components:

- Monthly customer charge to recover the costs of meter reading, billing, customer service, and a portion of maintenance and operations of the distribution system.
- Distribution rate based on billing parameter, (kW or kWh) to recover the cost to operate and maintain the distribution system. Table 8 identifies the cost-based distribution rates for customer classes.

Table 8 – Distribution Costs by Customer Class (COS)

Customer Class	Monthly Customer Charge	Distribution Rate	Billing Basis
Residential	$ 15.11	$ 0.0268	kWh
Residential Water Heater	15.13	0.0257	kWh
Residential Space Heat	15.14	0.0256	kWh
Senior Water Heater	15.10	0.0263	kWh
Senior Citizen	15.09	0.0264	kWh
Senior Space Heat	15.23	0.0304	kWh
Residential Life Support	15.15	0.0238	kWh
Residential Senior Life Support	15.11	0.0284	kWh
Commercial/General	24.10	0.0254	kWh
Commercial Electric Heat and Air Conditioning	24.87	0.0338	kWh
Commercial and Industrial Water Heating Service	23.96	0.0254	kWh
Municipal Pumping Service (MP-1)	31.62	0.0266	kWh
Municipal Pumping Service (MP-2)	129.44	0.0511	kWh
Municipal Pumping Service at 103%	140.56	0.0417	kWh
Commercial Demand/General Secondary	127.46	7.78	kW
Commercial Demand Primary Metered	356.81	7.64	kW
Primary Service High Load Factor	376.50	8.45	kW
Primary Interruptible	424.72	9.44	kW
Metal Melting	621.62	7.34	kW

Power Supply Costs

Table 9 identifies the average cost of providing power supply to customers of TCLP.

Table 9 – Power Supply Costs by Customer Class

Customer Class	Demand	Billing Basis	Energy	Billing Basis
Residential	$ 0.0186	kWh	$ 0.0442	kWh
Residential Water Heater	0.0184	kWh	0.0442	kWh
Residential Space Heat	0.0168	kWh	0.0442	kWh
Senior Water Heater	0.0184	kWh	0.0442	kWh
Senior Citizen	0.0185	kWh	0.0442	kWh
Senior Space Heat	0.0162	kWh	0.0441	kWh
Residential Life Support	0.0184	kWh	0.0442	kWh
Residential Senior Life Support	0.0185	kWh	0.0443	kWh
Commercial/General	0.0263	kWh	0.0442	kWh
Commercial Electric Heat and Air Conditioning	0.0246	kWh	0.0441	kWh
Commercial and Industrial Water Heating Service	0.0256	kWh	0.0442	kWh
Municipal Pumping Service (MP-1)	0.0260	kWh	0.0442	kWh
Municipal Pumping Service (MP-2)	0.0290	kWh	0.0445	kWh
Municipal Pumping Service at 103%	0.0285	kWh	0.0443	kWh
Commercial Demand/General Secondary	8.20	KW	0.0442	kWh
Commercial Demand Primary Metered	7.93	KW	0.0428	kWh
Primary Service High Load Factor	8.92	KW	0.0428	kWh
Primary Interruptible	9.37	KW	0.0428	kWh
Metal Melting	9.19	KW	0.0428	kWh

Combined Cost Summary

Table 10 identifies the cost of service rates for each customer class. Charging these rates would directly match the cost of providing service to customers identified in this study.

Table 10 – Total Costs by Customer Class

Customer Class	Current Average Customer Charge	COS Customer Charge	Demand	Energy
Residential	$ 6.00	$ 15.11	$ -	$ 0.0897
Residential Water Heater	6.00	15.13	-	0.0883
Residential Space Heat	6.00	15.14	-	0.0866
Senior Water Heater	5.00	15.10	-	0.0889
Senior Citizen	5.00	15.09	-	0.0891
Senior Space Heat	5.00	15.23	-	0.0907
Residential Life Support	4.80	15.15	-	0.0864
Residential Senior Life Support	4.00	15.11	-	0.0912
Commercial/General	13.00	24.10	-	0.0959
Commercial Electric Heat and Air Conditioning	13.00	24.87	-	0.1025
Commercial and Industrial Water Heating Service	11.75	23.96	-	0.0952
Municipal Pumping Service (MP-1)	19.00	31.62	-	0.0967
Municipal Pumping Service (MP-2)	22.00	129.44	-	0.1247
Municipal Pumping Service at 103%	19.00	140.56	-	0.1145
Commercial Demand/General Secondary	15.00	127.46	15.97	0.0442
Commercial Demand Primary Metered	16.00	356.81	15.56	0.0428
Primary Service High Load Factor	50.00	376.50	17.37	0.0428
Primary Interruptible	50.00	424.72	18.81	0.0428
Metal Melting	40.00	621.62	16.53	0.0428

3. Functionalization of Costs

Delivery of electricity consists of many components that bring electricity from the power supply facilities to the communities and eventually into customer facilities. The facilities consist of four major components: transmission, distribution, customer-related services, and administration. Following are general descriptions of each of these facilities and the sub-breakdowns within each category.

Transmission

The transmission system is comprised of four types of subsystems that operate together:

1) Backbone and inter-tie transmission facilities are the network of high voltage facilities through which a utility's major production sources are integrated.
2) Generation set-up facilities are the substations through which power is transformed from a utility's generation voltages to its various transmission voltages.
3) Sub-transmission plant consists of lower voltage facilities to transfer electric energy from convenient points on a utility's backbone system to its distribution system.
4) Radial transmission facilities are those that are not networked with other transmission lines but are used to serve specific loads directly.

Operation of the transmission system also consists of providing certain services that ensure a stable supply of power. These services are typically referred to as ancillary services. The Federal Energy Regulatory Commission (FERC) has defined six ancillary service charges for the use of transmission facilities. For TCLP, these charges will be passed-through charges by the control area operator. Ancillary services consist of the following:

- **Mandatory Ancillary Service Charges:**

  Reactive Supply and Voltage Control
  Regulation and Frequency Response Service
  Energy Imbalance Charges
  Operating Reserves Spinning
  Operating Reserves Supplemental
  Reactive Power Supply
  Power losses from use of transmission system

Terminology of Cost of Service

FUNCTIONALIZATION – Cost data arranged by functional category (e.g. power supply, transmission, distribution)

CLASSIFICATION – Assignment of functionalized costs to cost components (e.g. demand, energy and customer related).

ALLOCATION – Allocating classified costs to each class of service based on each class's contribution to that specific cost component.

DEMAND COSTS – Costs that vary with the maximum or peak usage. Measured in kilowatts (kW)

ENERGY COSTS – Costs that vary over an extended period of time. Measured in kilowatt-hours (kWh)

CUSTOMER COSTS – Costs that vary with the number of customers on the system, e.g. metering costs.

DIRECT ASSIGNMENT – Costs identified as belonging to a specific customer or group of customers.

Distribution

The distribution facilities connect the customer with the transmission grid to provide the customer with access to the electrical power that has been generated and transmitted. The distribution plant includes substations, primary and secondary conductors, poles, and line transformers that are jointly used and in the public right-of-way.

Substations typically separate the distribution plant from the transmission system. The substation power transformer "steps down" the voltage to a level that is more practical to install on and under city streets.

Distribution circuits are divided into primary and secondary voltages with the primary voltages usually ranging between 35 kV and 4 kV and the secondary below 4 kV.

Distribution Customer Types

Sub-transmission customers are served directly from the substation feeder and bypass both the secondary and primary distribution lines. The charges for this type of customer should reflect the cost of the substation and not include the cost of primary or secondary line charges.

Primary customers are typically referred to as customers who have purchased, owned, and maintained their own transformers that convert the voltage to the secondary voltage level. The rates for these customers should reflect the cost of substations and the cost of primary distribution lines and not include the cost of secondary line extensions.

Secondary customers have the services provided by the utilities directly into their facilities. The utility provides the customer with the transformer and the connection on the customers' facilities.

Customer-Related Services

Certain administrative-type services are necessary to ensure customers are provided service connections and disconnections in a timely manner and the facilities are in place to read meters and bill for customer usages. These services typically consist of the following components:

- Customer Services – The cost of providing personnel to assist customers with questions and dispatch personnel to connect and disconnect meters.
- Billing and Collections – The cost of billing and collections personnel, postage, and supplies.
- Meter Reading – The cost of reading customers' meters.
- Meter Operation and Maintenance – The cost of installing and maintaining customer meters.

Administrative Services

These costs are sometimes referred to as overhead costs and relate to functions that cannot be directly-attributed to any service. These costs are spread to the other services through an allocator such as labor, expenses, or total rate base. These costs may consist of Board expenses, property insurance, and wages for higher level management of the utility.

System Losses

As energy moves through each component of the transmission and distribution system, some of the power is lost and cannot be sold to customers. Losses vary based on time of day and season. Typically, as system usage increases or ambient temperature increases, the percentages of losses that occur also increase. These losses are recovered from distribution customers through an analysis of the peak losses that occur in the system. The average system losses and unaccounted for energy for TCLP are approximately 2.8%. (Typical municipal system losses are approximately 5.4%)

4. Unbundling Process

The cost of power supply, distribution, and customer services are identified as part of the unbundling process and are the first step in determining unbundled charges to customers. The total revenue requirements of $32.6M are separated into four categories identified in Table 11.

Table 11 – Breakdown of TCLP Cost Structure

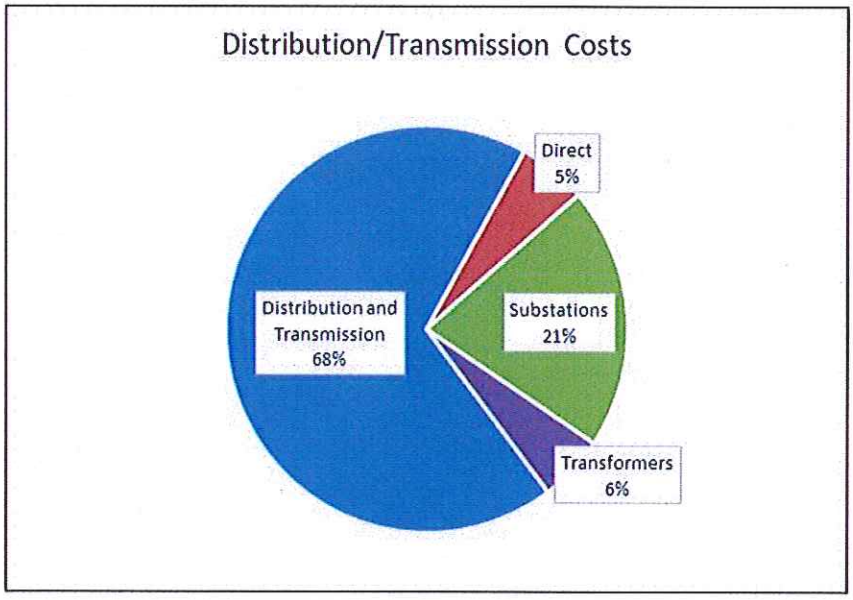
Expense Type	Amount	Percentage
Power Supply	$ 21,426,757	66.7%
Distribution/Transmission	$ 7,273,386	22.6%
Transfer to City	$ 1,816,677	5.7%
Customer	$ 1,627,477	5.1%
	$ 32,144,298	100%

TCLP is projected to expend 66.7% of its total costs toward power supply. Distribution/transmission-related costs are 22.6%; transfers to the city represent 5.7% and customer service 5.1%. These components are broken down into each of the subcomponents and are identified in the following sections.

Distribution Breakdown

Distribution rates consist of a number of different components. Total distribution-related costs of $7.27M for FY 2018 - 2019 are broken down into the main components including substations, transformers, transmission, and distribution lines. Figure 1 shows the breakdown of distribution components identified in the study.

Figure 1 – Breakdown of Distribution Costs

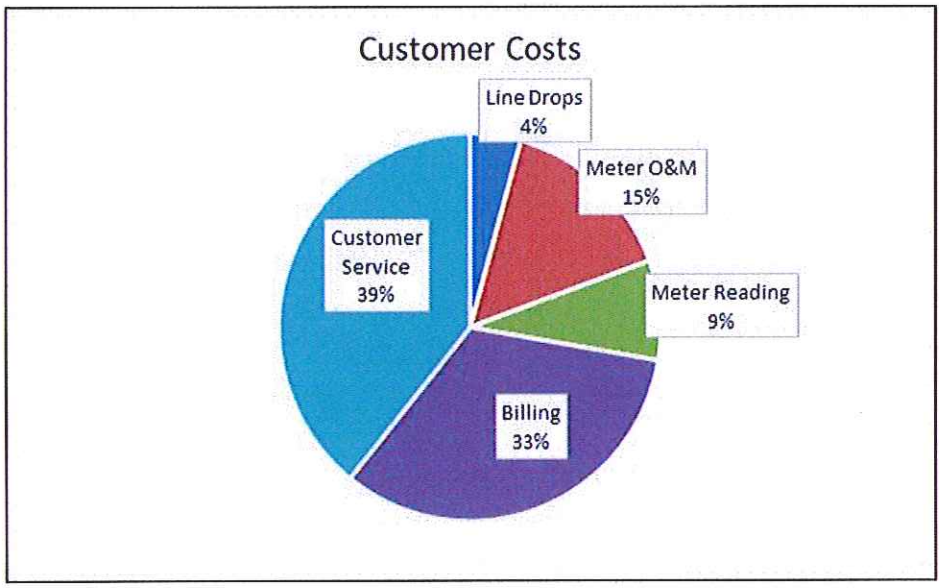


Each of these components is allocated to customer groups based on certain factors established in the study. These factors are based on the efficiency of each customer class and the time of day or the season the electricity is used. Other factors are also considered, such as the length of line extensions to reach certain customer classes.

Customer-Related Cost Breakdown

TCLP total expenses for customer-related costs are $1.6M for FY 2018 - 2019. The cost is broken down into the components identified in Figure 2.

Figure 2 – Breakdown of Customer Costs



Power Supply Cost Breakdown

Power supply costs for FY 2018 - 2019 were made up of purchased power.

5. Significant Assumptions

This section outlines the procedures used to develop the cost of service and unbundling study for TCLP and the related significant assumptions.

Forecasted Operating Expenses

Forecasted expenses were based on 2016 and 2017, 2018/2019 budget adjusted for power supply costs and inflation. The table below is a summary of the expenses used in the analysis; the projected operating expenses include an adjustment for any city contributions.

Table 12 – Projected Operating Expenses for FY 2018 - 2019 through FY 2022 - 20233

Description	Projected FY 18 - 19	Projected FY 19 - 20	Projected FY 20 - 21	Projected FY 21 - 22	Projected FY 22 - 23
Operating Expenses:					
Purchased Power (Cost of Sales and Service)	$ 20,921,092	$ 21,341,606	$ 21,770,572	$ 22,208,160	$ 22,654,544
Production Expense	361,355	368,582	375,954	383,473	391,142
Total Transmission O&M	467,005	476,345	485,872	495,589	505,501
Total Distribution O&M	4,169,815	4,253,211	4,338,275	4,425,041	4,513,542
Customer/Sales Expense	526,584	537,115	547,858	558,815	569,991
Administrative and General Expense	1,322,386	1,348,834	1,375,810	1,403,327	1,431,393
Public Service Expense	490,123	499,925	509,924	520,122	530,525
Insurance	77,252	78,798	80,373	81,981	83,621
Depreciation Expense	2,675,985	2,785,805	2,990,725	3,199,345	3,391,565
Total Operating Expenses	$ 31,011,596	$ 31,690,221	$ 32,475,363	$ 33,275,853	$ 34,071,824

Power supply costs from FY 2018 - 2019 through FY 2022 - 2023 are based on TCLP's current charges adjusted for system growth factors and inflation.

Load Data

Load data is one of the most critical components of a cost of service study. Information from the billing statistics were used to determine the usage patterns of each customer class after reconciling revenues with financial statements to ensure a good basis for development of the study.

Annual Projection Assumptions

The kWh sales forecast is based on FY2017 actual adjusted for growth. Table 13 details growth, inflation of expenses, changes in purchase power costs and interest earned on investments.

Table 13 – Projection Annual Escalation Factors FY 2018 - 2019 through FY 2022 - 2023

Fiscal Year	Inflation	Growth	Purchase Power Change	Investment Income
FY 18 - 19	2.0%	1.0%		0.5%
FY 19 - 20	2.0%	1.0%	1.0%	0.5%
FY 20 - 21	2.0%	1.0%	1.0%	0.5%
FY 21 - 22	2.0%	1.0%	1.0%	0.5%
FY 22 - 23	2.0%	1.0%	1.0%	0.5%

System Loss Factors

Losses occurring from the transmission and distribution of electricity can vary from year to year depending upon weather and system loading.

Revenue Forecast

The revenue forecast was based on FY2017 usages adjusted for growth rate assumptions.

6. Recommendations and Additional Information

We recommend that the utility move toward cost of service for each customer class.

The study indicates rate adjustments are needed to meet minimum cash and operating income targets. To ensure the utility meets financial targets and remains financially stable, the rate track identified in may be considered:

Table 14 – Recommended Rate Adjustments FY 2018 - 2019 through FY 2022 - 2023

Fiscal Year	Projected Rate Adjustments	Projected Expenses	Projected Revenues	Adjusted Operating Income	Target Operating Income	Projected Cash Balances	Recommended Minimum Cash
FY 18 - 19	0.0%	$ 31,011,596	$ 33,714,347	$ 1,012,325	$ 2,924,342	$ 13,909,010	$ 10,946,963
FY 19 - 20	0.0%	31,690,221	34,263,303	856,440	3,094,563	12,219,906	10,200,856
FY 20 - 21	2.0%	32,475,363	35,508,806	1,254,948	3,241,968	11,863,588	10,315,273
FY 21 - 22	0.0%	33,275,853	36,084,308	1,001,274	3,417,924	10,541,272	10,558,658
FY 22 - 23	2.0%	34,071,824	37,384,611	1,440,921	3,539,909	11,487,086	10,628,570

The cost of service study identified some customer classes are subsidizing other customer classes. TCLP should consider movements toward cost of service using a bandwidth of plus or minus 2%. Using the 0% rate adjustment, this would result in no customer class given a rate increase greater than 2% or less than 0%. Table 15 identifies the cost of service charges compared with the projected current revenues for each class. Classes that indicate a lower % change than the total percentage change are providing subsidy to other customer classes, conversely customer classes with a higher % change than the total percentage are receiving subsidy.

Table 15 – Cost of Service Summary Results

Customer Class	Cost of Service	Projected Revenues	% Change
Residential	5,401,462	4,893,847	10.4%
Residential Water Heater	297,836	273,591	8.9%
Residential Space Heat	113,806	105,357	8.0%
Senior Water Heater	65,656	49,385	32.9%
Senior Citizen	814,125	625,173	30.2%
Senior Space Heat	19,007	16,918	12.3%
Residential Life Support	22,573	17,831	26.6%
Residential Senior Life Support	12,817	7,980	60.6%
Commercial/General	3,605,601	4,094,095	-11.9%
Commercial Electric Heat and Air Conditioning	164,347	162,049	1.4%
Commercial and Industrial Water Heating Service	1,896	1,602	18.4%
Municipal Pumping Service (MP-1)	60,613	59,148	2.5%
Municipal Pumping Service (MP-2)	243,611	174,293	39.8%
Municipal Pumping Service at 103%	65,193	55,707	17.0%
Commercial Demand/General Secondary	10,857,881	10,197,762	6.5%
Commercial Demand Primary Metered	176,298	178,810	-1.4%
Primary Service High Load Factor	7,721,241	7,439,778	3.8%
Primary Interruptible	489,623	456,742	7.2%
Metal Melting	1,899,299	1,762,762	7.7%
Total	32,032,888	30,572,830	4.8%

TCLP may consider movements in the customer charges to move toward cost of service based customer charges to help ensure fixed distribution charges are collected in the customer charge. Table 16 compares the total cost of service monthly customer charges with the current charges. By charging cost of service rates for the monthly charge TCLP reduces it risk associated with power usage fluctuations due to weather etc.

Table 16 – Customer Charge Comparison

Customer Class	COS Customer Charge	Current Average Customer Charge
Residential	$ 15.11	$ 6.00
Residential Water Heater	15.13	6.00
Residential Space Heat	15.14	6.00
Senior Water Heater	15.10	5.00
Senior Citizen	15.09	5.00
Senior Space Heat	15.23	5.00
Residential Life Support	15.15	4.80
Residential Senior Life Support	15.11	4.00
Commercial/General	24.10	13.00
Commercial Electric Heat and Air Conditioning	24.87	13.00
Commercial and Industrial Water Heating Service	23.96	11.75
Municipal Pumping Service (MP-1)	31.62	19.00
Municipal Pumping Service (MP-2)	129.44	22.00
Municipal Pumping Service at 103%	140.56	19.00
Commercial Demand/General Secondary	127.46	15.00
Commercial Demand Primary Metered	356.81	16.00
Primary Service High Load Factor	376.50	50.00
Primary Interruptible	424.72	50.00
Metal Melting	621.62	40.00

Utility Financial Solutions
185 Sun Meadow Ct.
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Accountant's Compilation Report

Governing Body
Traverse City Light & Power

The accompanying forecasted statements of revenues and expenses of the Traverse City Light & Power (utility) were compiled for the year ending December 31, FY 2018 - 2019 in accordance with guidelines established by the American Institute of Certified Public Accountants.

The purpose of this report is to assist management in forecasting revenue requirements and determining the cost to service each customer class. This report should not be used for any other purpose.

A compilation is limited to presenting, in the form of a forecast; information represented by management and does not include evaluation of support for any assumptions used in projecting revenue requirements. We have not audited the forecast and, accordingly, do not express an opinion or any other form of assurance on the statements or assumptions accompanying this report.

Differences between forecasted and actual results will occur since some assumptions may not materialize and events and circumstances may occur that were not anticipated. Some of these variations may be material. Utility Financial Solutions has no responsibility to update this report after the date of this report.

This report is intended for information and use by the governing body and management for the purposes stated above. This report is not intended to be used by anyone except the specified parties.

UTILITY FINANCIAL SOLUTIONS

Mark Beauchamp, CPA, CMA, MBA
Holland, MI
April 2018

Appendix A – Rate Design

This Appendix details the rates for the test year for major customer classes

TCL&P
Rate Design

4/6/2018

Utility Financial Solutions, LLC
185 Sun Meadow Court
Holland, MI USA 49424
(616) 393-9722
Fax (616) 393-9721
Email: mbeauchamp@ufsweb.com

Submitted Respectfully by:
Mark Beauchamp, CPA, CMA, MBA
President, Utility Financial Solutions

TCL&P
Rate Design
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TCL&P

Rate Design

Rate Design Summary

Customer Class	Projected Revenues Under Current Rates	Projected Revenues Under Proposed Rates Year 1	Projected Revenues Under Proposed Rates Year 2	Projected Revenues Under Proposed Rates Year 3	Projected Revenues Under Proposed Rates Year 4	Projected Revenues Under Proposed Rates Year 5
Residential	$ 4,893,847	$ 5,219,113	$ 5,219,113	$ 5,375,686	$ 5,375,686	$ 5,536,957
Residential Water Heater	273,591					
Residential Space Heat	105,357	106,542	106,542	109,745	109,745	113,040
Senior Citizen	625,173	628,786	628,786	715,798	715,798	737,756
Senior Water Heater	49,385	50,509	51,035			
Senior Space Heat	17,257					
Residential Life Support	17,831	17,990	17,990	18,379	18,379	18,778
Residential Senior Life Support	7,980	8,060	8,060	8,375	8,375	8,626
Commercial/General	4,038,103	3,977,647	3,977,647	4,028,859	4,028,859	4,264,380
Commercial Electric Heat and Air Conditioning	162,049	168,872	168,872	177,202	177,202	
Commercial and Industrial Water Heating Service	1,602	1,708	1,777	1,894	1,964	
Municipal Pumping Service (MP-1)	59,148	59,135	59,135	60,023	60,023	60,923
Municipal Pumping Service (MP-2)	174,293	232,304	232,304	239,273	239,273	246,451
Municipal Pumping Service at 103%	55,707					
Commercial Demand/General Secondary	10,197,762	10,197,762	10,197,762	10,401,717	10,401,717	10,609,751
Commercial Demand Primary Metered	178,810	178,732	178,732	180,992	180,992	183,346
Primary Service High Load Factor	7,521,378	8,020,595	8,020,595	8,142,735	8,142,735	8,268,623
Primary Interruptible	499,342					
Metal Melting	1,762,762	1,771,503	1,771,503	1,806,813	1,806,813	1,842,123
Totals	$ 30,641,377	$ 30,639,328	$ 30,639,925	$ 31,267,466	$ 31,267,536	$ 31,890,710

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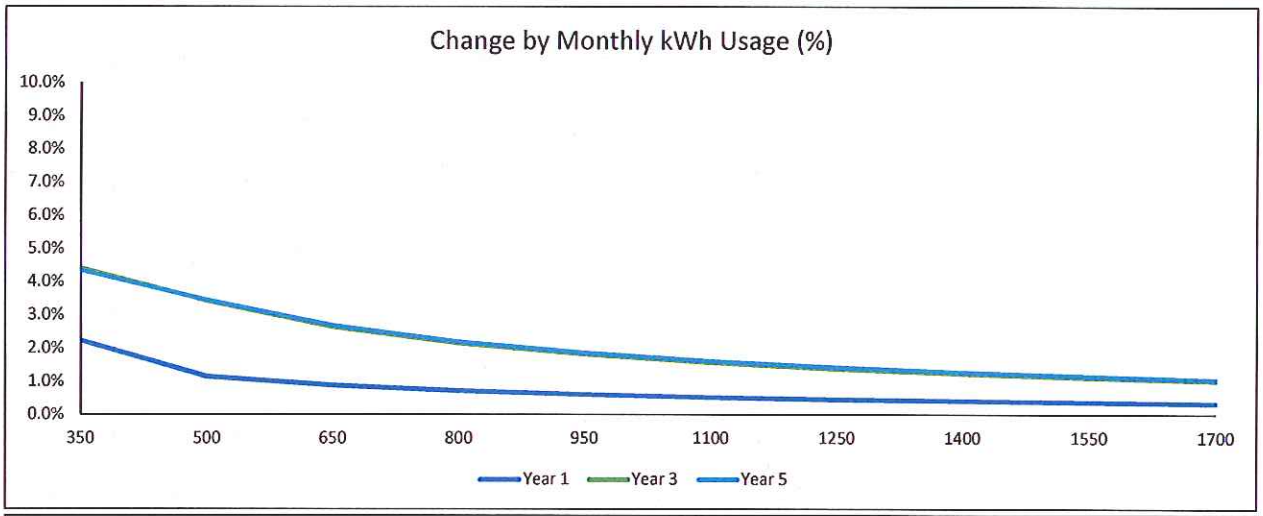
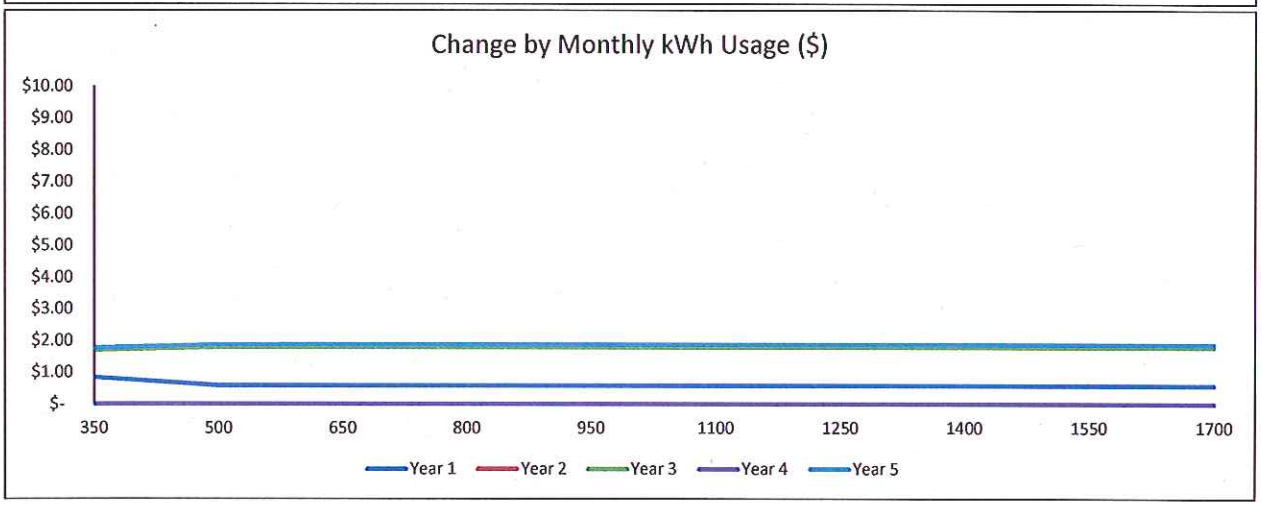
Electric Rate Design

Projected Residential Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 6.00	$ 7.50	$ 7.50	$ 9.00	$ 9.00	$ 10.50
Energy Charge:						
Block 1 (0 - 16 kWh per day)	$ 0.0940	$ 0.0921	$ 0.0921	$ 0.0928	$ 0.0928	$ 0.0935
Block 2 (Excess)	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 4,893,847	$ 5,219,113	$ 5,219,113	$ 5,375,686	$ 5,375,686	$ 5,536,957
Change from Previous		1.0%	0.0%	3.0%	0.0%	3.0%





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Electric Rate Design

Consolidated Residential Water Heater Rates

			Residential Rate				
Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 6.00	$ 7.50	$ 7.50	$ 9.00	$ 9.00	$ 10.50
Energy Charge:						
Block 1 (0 - 29 kWh per da	$ 0.09400	$ 0.09214	$ 0.09214	$ 0.09277	$ 0.09277	$ 0.09354
Block 2 (Excess)	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)

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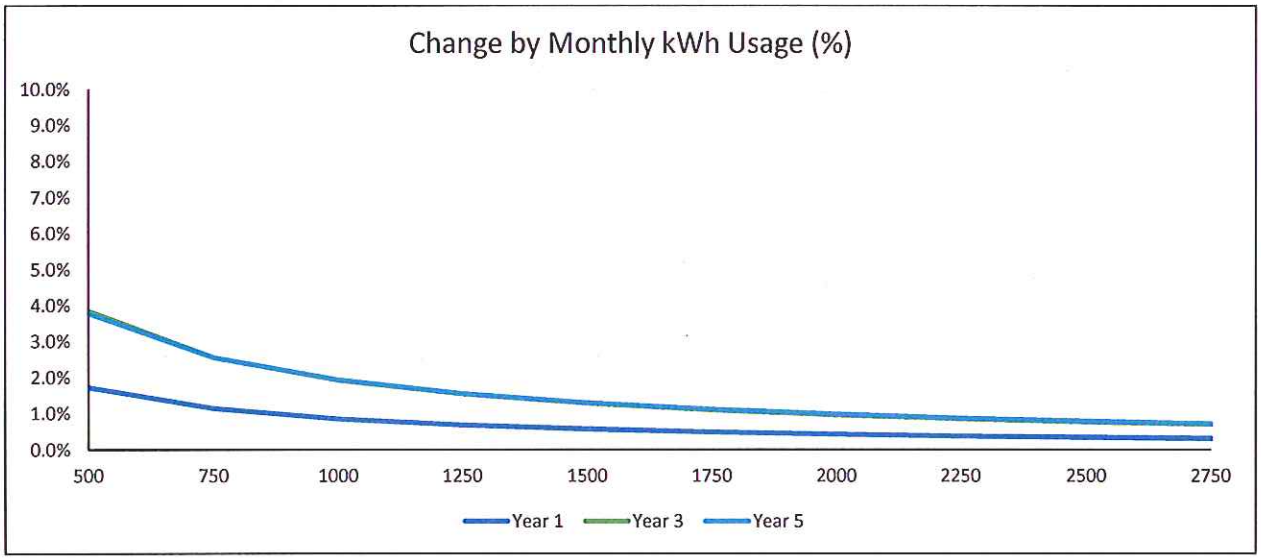
Electric Rate Design

Consolidated Residential Space Heat Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 6.00	$ 7.50	$ 7.50	$ 9.00	$ 9.00	$ 10.50
Energy Charge:						
Winter Block 1 (0 - 480 kWh)	$ 0.09200	$ 0.09092	$ 0.09092	$ 0.09196	$ 0.09196	$ 0.09309
Winter Block 2 (Excess)	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550
Summer Block 1 (0 - 480 kWh)	$ 0.09200	$ 0.09092	$ 0.09092	$ 0.09196	$ 0.09196	$ 0.09309
Summer Block 2 (Excess)	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550	$ 0.10550
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 105,357	$ 106,542	$ 106,542	$ 109,745	$ 109,745	$ 113,040
Change from Previous		1.1%	0.0%	3.0%	0.0%	3.0%



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Electric Rate Design

Projected Senior Citizen Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 5.00	$ 7.50	$ 7.50	$ 8.50	$ 8.50	$ 9.00
Senior Discount		$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00
Energy Charge:						
Block 1 (0 - 480 kWh)	$ 0.07700	$ 0.0829	$ 0.0829	$ 0.0836	$ 0.0836	$ 0.0860
Block 2 (481 - 522 kWh)	$ 0.12290	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Block 3 (Excess)	$ 0.10550	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 625,173	$ 628,786	$ 628,786	$ 715,798	$ 715,798	$ 737,756
Change from Previous		-2.1%	0.0%	5.3%	0.0%	3.1%

Chart Data ($ Change)	Year 1	Year 2	Year 3	Year 4	Year 5
100	$ 0.09	$ -	$ 1.07	$ -	$ 0.73
200	$ 0.68	$ -	$ 1.14	$ -	$ 0.97
300	$ 1.27	$ -	$ 1.22	$ -	$ 1.20
400	$ 1.86	$ -	$ 1.29	$ -	$ 1.43
500	$ 1.98	$ -	$ 1.34	$ -	$ 1.62
600	$ 1.60	$ -	$ 1.34	$ -	$ 1.62
700	$ 1.60	$ -	$ 1.34	$ -	$ 1.62
800	$ 1.60	$ -	$ 1.34	$ -	$ 1.62
900	$ 1.60	$ -	$ 1.34	$ -	$ 1.62
1000	$ 1.60	$ -	$ 1.34	$ -	$ 1.62

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Electric Rate Design

Consolidated Senior Water Heater Rates

Rates	Current	Year 1	Year 2	Senior Rate Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 5.00	$ 7.50	$ 7.50	$ 8.50	$ 8.50	$ 9.00
Senior Discount		$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00
Energy Charge:						
Block 1 (0 - 29 kWh per da	$ 0.08070	$ 0.0829	$ 0.0829	$ 0.0836	$ 0.0836	$ 0.0860
Block 2 (Excess)	$ 0.10550	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Power Cost Adjustment	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 49,385	$ 50,509	$ 51,035	$ 53,004	$ 53,004	$ 54,626
Change from Previous		2.3%	1.0%	3.9%	0.0%	3.1%

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Electric Rate Design

Consolidated Senior Space Heat Rates

		Senior Rate				
Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 5.00	$ 7.50	$ 7.50	$ 8.50	$ 8.50	$ 9.00
Senior Discount		$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00
Energy Charge:						
Winter Block 1 (0 - 488 kWh)	$ 0.09200	$ 0.0829	$ 0.0829	$ 0.0836	$ 0.0836	$ 0.0860
Winter Block 2 (Excess)	$ 0.09200	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Summer Block 1 (0 - 488 kWh)	$ 0.09400	$ 0.0829	$ 0.0829	$ 0.0836	$ 0.0836	$ 0.0860
Summer Block 2 (Excess)	$ 0.10550	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055	$ 0.1055
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)

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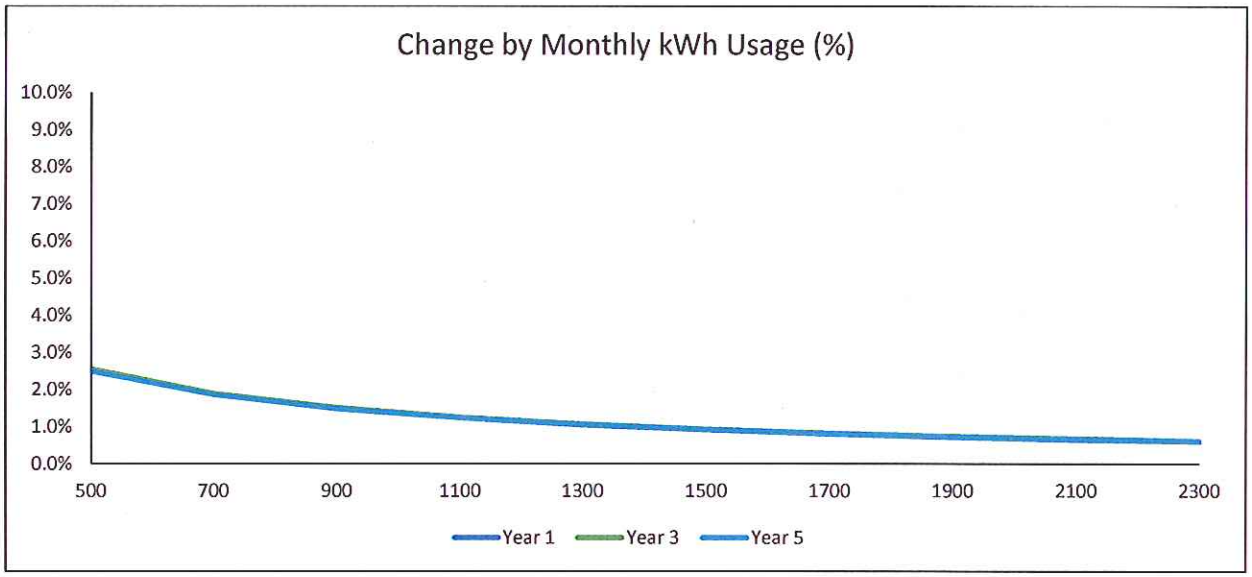
Electric Rate Design

Projected Residential Life Support Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 4.80	$ 6.00	$ 6.00	$ 7.20	$ 7.20	$ 8.40
Energy Charge:						
Block 1 (0 - 16 kWh per da	$ 0.07520	$ 0.0737	$ 0.0737	$ 0.0742	$ 0.0742	$ 0.0748
Block 2 (Excess)	$ 0.08440	$ 0.0844	$ 0.0844	$ 0.0844	$ 0.0844	$ 0.0844
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 17,831	$ 17,990	$ 17,990	$ 18,379	$ 18,461	$ 18,778
Change from Previous		0.9%	0.0%	2.2%	0.0%	2.2%



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Electric Rate Design

Projected Residential Senior Life Support Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 4.00	$ 6.00	$ 6.00	$ 6.80	$ 6.80	$ 7.20
Senior Discount		$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00
Energy Charge:						
Block 1 (0 - 480 kWh per day)	$ 0.06160	$ 0.0663	$ 0.0663	$ 0.0669	$ 0.0669	$ 0.0688
Block 2 (16 - 33kWh per day)	$ 0.09832	$ 0.0844	$ 0.0844	$ 0.0844	$ 0.0844	$ 0.0844
Block 3 (Excess)	$ 0.08440	$ 0.0844	$ 0.0844	$ 0.0844	$ 0.0844	$ 0.0844
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0015)	$ (0.0015)
Revenue from Rate	$ 7,980	$ 8,060	$ 8,131	$ 8,375	$ 8,375	$ 8,626
Change From Previous		1.9%	0.0%	2.7%	0.0%	2.7%

Chart Data ($ Change)	Year 1	Year 2	Year 3	Year 4	Year 5
100	$ (0.49)	$ -	$ 0.86	$ -	$ 0.59
200	$ 0.02	$ -	$ 0.92	$ -	$ 0.78
300	$ 0.53	$ -	$ 0.98	$ -	$ 0.97
400	$ 1.03	$ -	$ 1.04	$ -	$ 1.16
500	$ 1.54	$ -	$ 1.10	$ -	$ 1.35
600	$ 2.05	$ -	$ 1.16	$ -	$ 1.54
700	$ 2.56	$ -	$ 1.22	$ -	$ 1.73
800	$ 3.07	$ -	$ 1.28	$ -	$ 1.92
900	$ 3.58	$ -	$ 1.34	$ -	$ 2.11
1000	$ 4.09	$ -	$ 1.40	$ -	$ 2.30

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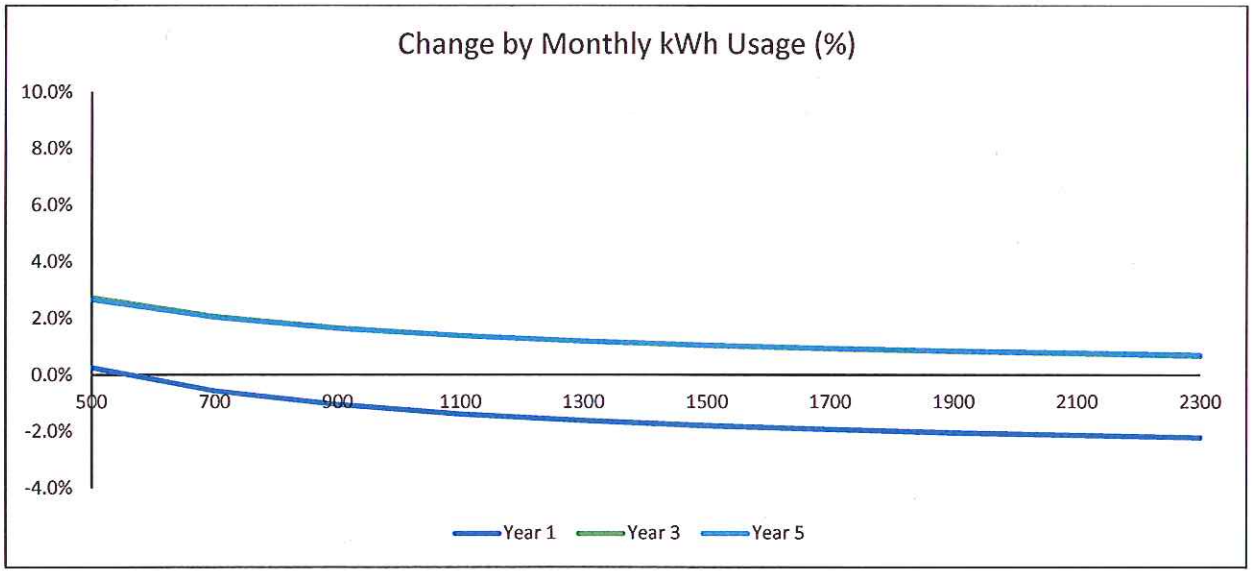
Electric Rate Design

Projected Commercial/General Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 13.00	$ 15.00	$ 15.00	$ 17.00	$ 17.00	$ 19.00
Energy Charge:						
All Energy	$ 0.1211	$ 0.1175	$ 0.1175	$ 0.1174	$ 0.1174	$ 0.1174
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 4,038,103	$ 3,977,647	$ 3,977,647	$ 4,028,859	$ 4,028,859	$ 4,264,380
Change from Previous		-1.5%	0.0%	1.3%	0.0%	1.3%



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Electric Rate Design

Consolidated Commercial Electric Heat and Air Conditioning Rates

						Commercial Rate
Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 13.00	$ 15.00	$ 15.00	$ 17.00	$ 17.00	$ 19.00
Energy Charge:						
All Energy	$ 0.1060	$ 0.1100	$ 0.1100	$ 0.1150	$ 0.1150	$ 0.1174
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 162,049	$ 168,872	$ 168,872	$ 177,202	$ 177,202	$ 181,630
Change from Previous		4.2%	0.0%	4.9%	0.0%	2.5%

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Electric Rate Design

Consolidated Commercial and Industrial Water Heating Service Rates

						Commercial Rate
Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 11.75	$ 15.00	$ 15.00	$ 17.00	$ 17.00	$ 19.00
Energy Charge:						
All Energy	$ 0.0970	$ 0.0990	$ 0.1040	$ 0.1090	$ 0.1140	$ 0.1174
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 1,602	$ 1,708	$ 1,777	$ 1,894	$ 1,964	$ 2,059
Change from Previous		6.6%	4.1%	6.6%	3.7%	4.9%

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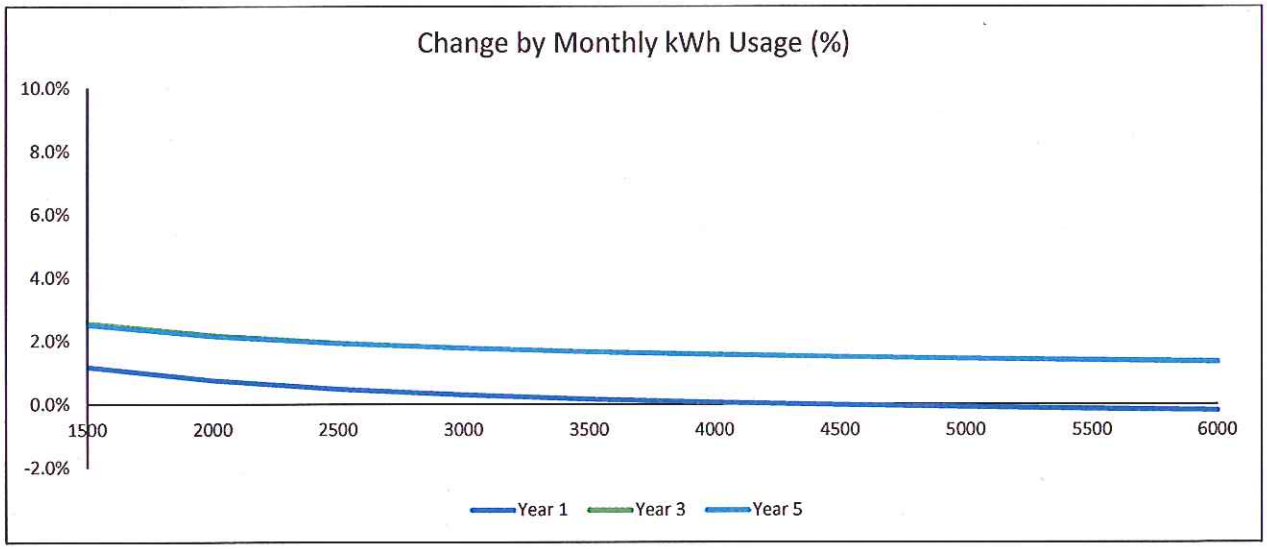
Electric Rate Design

Projected Municipal Pumping Service (MP-1) Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 19.00	$ 22.00	$ 22.00	$ 25.00	$ 25.00	$ 28.00
Energy Charge:						
All Energy	$ 0.0990	$ 0.0983	$ 0.0983	$ 0.0991	$ 0.0991	$ 0.1000
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 59,148	$ 59,135	$ 59,135	$ 60,023	$ 60,023	$ 60,923
Change from Previous		0.0%	0.0%	1.5%	0.0%	1.5%



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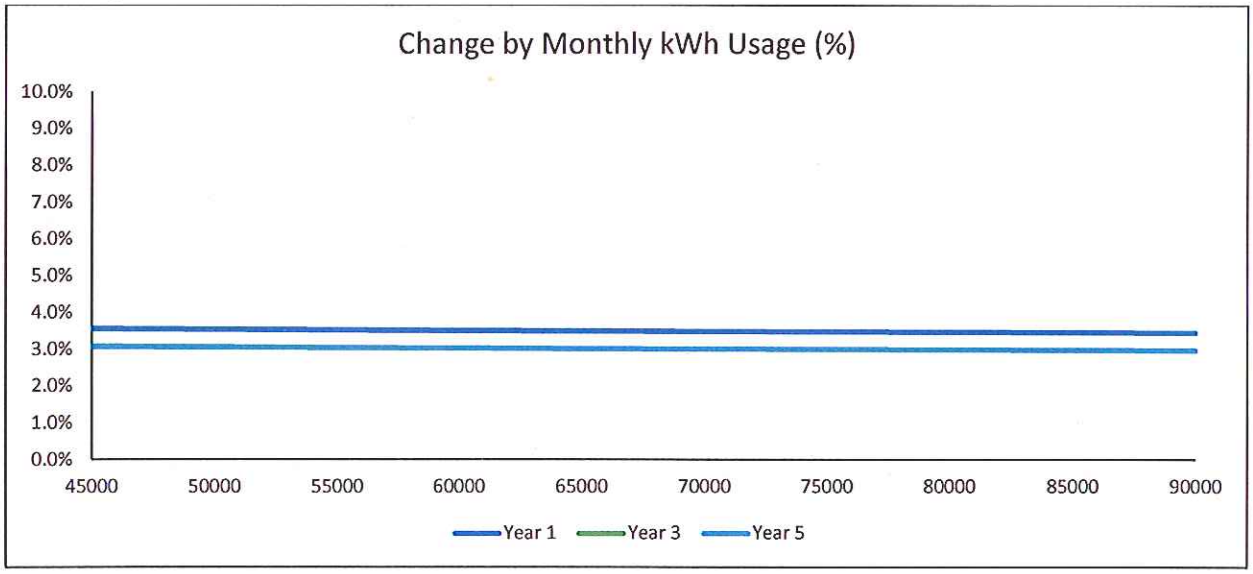
Electric Rate Design

Projected Municipal Pumping Service (MP-2) Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 22.00	$ 32.00	$ 32.00	$ 42.00	$ 42.00	$ 52.00
Energy Charge:						
All Energy	$ 0.0920	$ 0.0950	$ 0.0950	$ 0.0977	$ 0.0977	$ 0.1004
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 174,293	$ 232,304	$ 232,304	$ 239,273	$ 239,273	$ 246,451
Change from Previous		1.0%	0.0%	3.0%	0.0%	3.0%



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Electric Rate Design

Consolidated Municipal Pumping Service at 103% Rates

		MP-2 Rate				
Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 19.00	$ 32.00	$ 32.00	$ 42.00	$ 42.00	$ 52.00
Energy Charge:						
All Energy	$ 0.10200	$ 0.0950	$ 0.10	$ 0.10	$ 0.10	$ 0.10
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)

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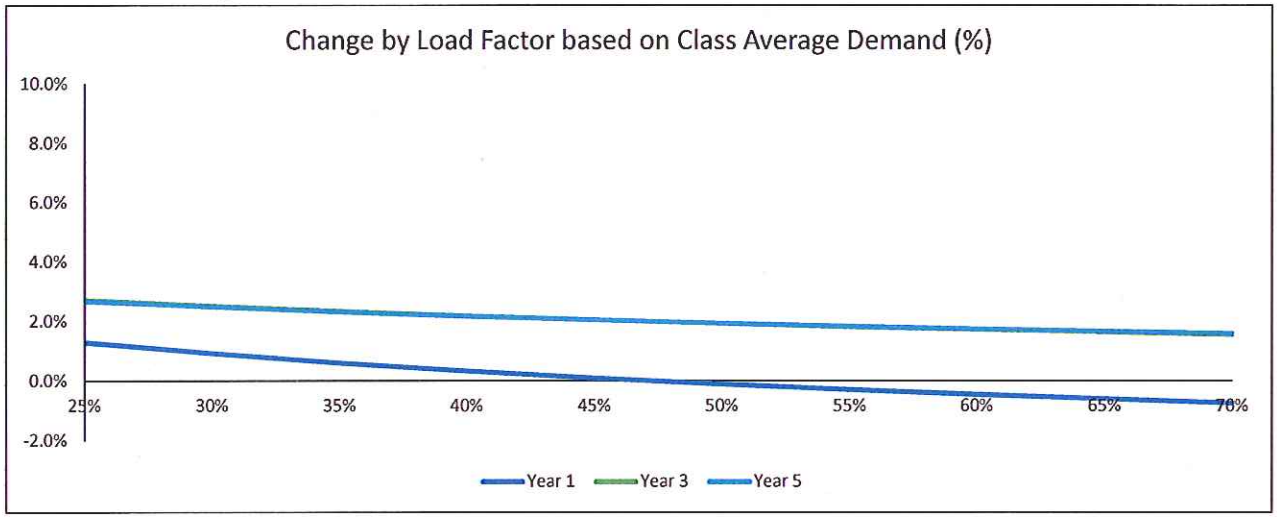
Electric Rate Design

Projected Commercial Demand/General Secondary Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
Monthly Charge	$ 15.00	$ 20.00	$ 20.00	$ 25.00	$ 25.00	$ 30.00
Energy Charge:						
All Energy	$ 0.0590	$ 0.0571	$ 0.0571	$ 0.0571	$ 0.0571	$ 0.0571
Demand Charge						
All Demand	$ 12.95	$ 13.45	$ 13.45	$ 13.95	$ 13.95	$ 14.45
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 10,197,762	$ 10,197,762	$ 10,197,762	$ 10,401,717	$ 10,401,717	$ 10,609,751
Change from Previous		0.0%	0.0%	2.0%	0.0%	2.0%



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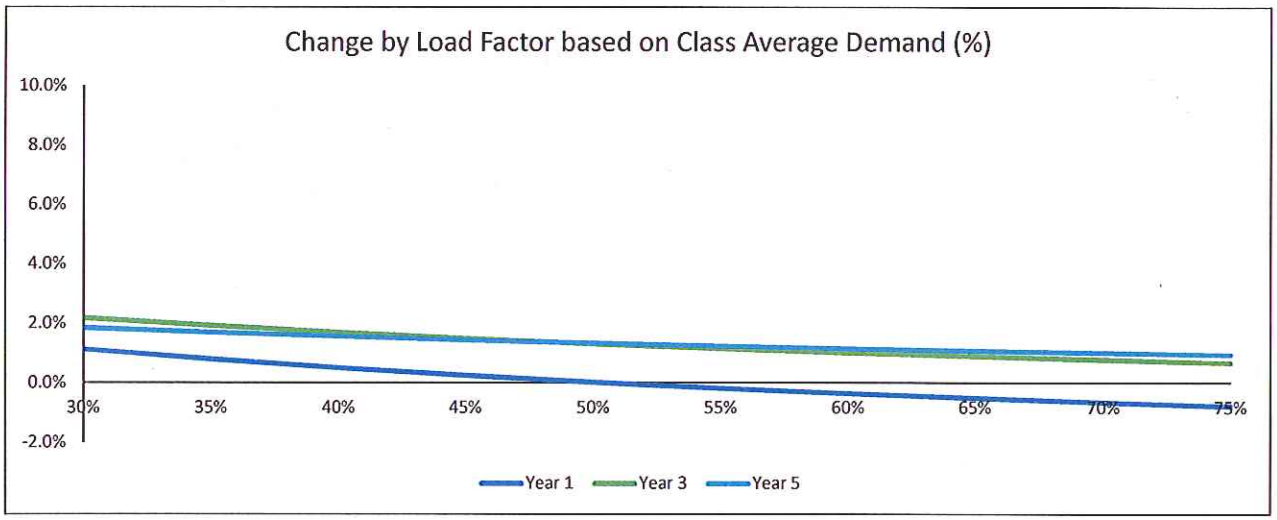
Electric Rate Design

Projected Commercial Demand Primary Metered Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
Monthly Charge	$ 16.00	$ 20.00	$ 20.00	$ 25.00	$ 25.00	$ 30.00
Energy Charge:						
All Energy	$ 0.0581	$ 0.0562	$ 0.0562	$ 0.0554	$ 0.0554	$ 0.0552
Demand Charge						
All Demand	$ 12.57	$ 13.25	$ 13.25	$ 13.95	$ 13.95	$ 14.45
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 178,810	$ 178,732	$ 178,732	$ 180,992	$ 180,992	$ 183,346
Change from Previous		0.0%	0.0%	1.3%	0.0%	1.3%



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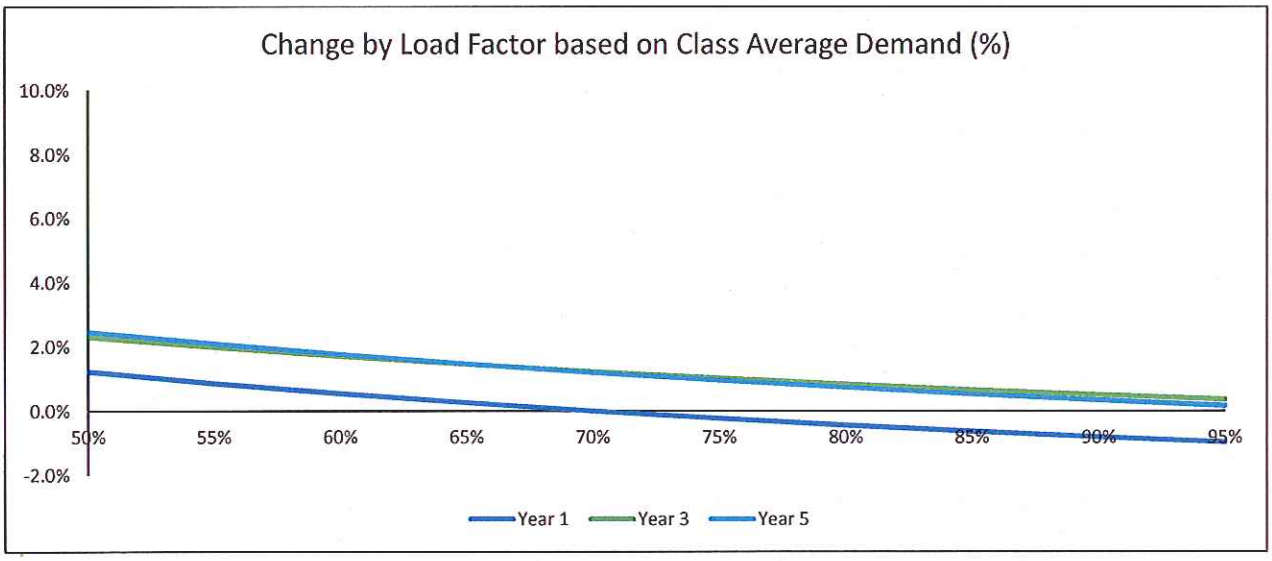
Electric Rate Design

Projected Primary Service High Load Factor Rates

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 50.00	$ 100.00	$ 100.00	$ 150.00	$ 150.00	$ 200.00
Energy Charge:						
Winter On Peak	$ 0.0660	$ 0.0643	$ 0.0643	$ 0.0626	$ 0.0626	$ 0.0604
Winter Off Peak	$ 0.0550	$ 0.0523	$ 0.0523	$ 0.0506	$ 0.0506	$ 0.0484
Summer On Peak	$ 0.0680	$ 0.0643	$ 0.0643	$ 0.0626	$ 0.0626	$ 0.0604
Summer Off Peak	$ 0.0550	$ 0.0523	$ 0.0523	$ 0.0506	$ 0.0506	$ 0.0484
Demand Charge:						
All Demand	$ 11.00	$ 12.25	$ 12.25	$ 13.50	$ 13.50	$ 15.00
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 7,521,378	$ 8,020,595	$ 8,020,595	$ 8,142,735	$ 8,142,735	$ 8,268,623
Change from Previous		0.0%	0.0%	1.5%	0.0%	1.5%



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Electric Rate Design

Consolidated Primary Interruptible Rates

		PHLF Rate				
Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 50.00	$ 100.00	$ 100.00	$ 150.00	$ 150.00	$ 200.00
Energy Charge:						
Winter On Peak	$ 0.0660	$ 0.0643	$ 0.0643	$ 0.0626	$ 0.0626	$ 0.0604
Winter Off Peak	$ 0.0600	$ 0.0523	$ 0.0523	$ 0.0506	$ 0.0506	$ 0.0484
Summer On Peak	$ 0.0680	$ 0.0643	$ 0.0643	$ 0.0626	$ 0.0626	$ 0.0604
Summer Off Peak	$ 0.0600	$ 0.0523	$ 0.0523	$ 0.0506	$ 0.0506	$ 0.0484
Demand Charge:						
All Demand	$ 11.00	$ 12.25	$ 12.25	$ 13.50	$ 13.50	$ 15.00
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)

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Electric Rate Design

Metal Melting

Rates	Current	Year 1	Year 2	Year 3	Year 4	Year 5
Monthly Facilities Charge:						
All Customers	$ 40.00	$ 55.00	$ 55.00	$ 70.00	$ 70.00	$ 85.00
Energy Charge:						
Winter On Peak	$ 0.06400	$ 0.06360	$ 0.06360	$ 0.06320	$ 0.06320	$ 0.06280
Winter Off Peak	$ 0.05000	$ 0.04760	$ 0.04760	$ 0.04720	$ 0.04720	$ 0.04680
Summer On Peak	$ 0.06700	$ 0.06360	$ 0.06360	$ 0.06320	$ 0.06320	$ 0.06280
Summer Off Peak	$ 0.05000	$ 0.04760	$ 0.04760	$ 0.04720	$ 0.04720	$ 0.04680
Demand Charge:						
All Demand	$ 8.48	$ 10.00	$ 10.00	$ 11.00	$ 11.00	$ 12.00
Power Cost Adjustment:						
All Energy	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)	$ (0.0019)
Revenue from Rate	$ 1,762,762	$ 1,771,503	$ 1,771,503	$ 1,806,813	$ 1,806,813	$ 1,842,123
Change from Previous		0.5%	0.0%	2.0%	0.0%	2.0%