

A REGULAR MEETING

Of The

TRAVERSE CITY LIGHT AND POWER BOARD

Will Be Held On

TUESDAY, February 23, 2016

At

5:15 p.m.

In The

COMMISSION CHAMBERS

(2nd floor, Governmental Center)
400 Boardman Avenue

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.

Stephanie Tvardek
Administrative Assistant
1131 Hastings Street
Traverse City, MI 49686
(231) 922-4940 ext. 201

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

Posting Date: 02-18-16
4:00 p.m.

AGENDA

Pledge of Allegiance

1. Roll Call

2. Consent Calendar

- a. Consideration of approving minutes of the Regular Meeting of February 9, 2016. (Approval recommended) (p. 4)
- b. Consideration of declaring capital asset items surplus. (Approval recommended) (Myers-Beman) (p. 8)
- c. Consideration of approval of the fiber fund budget. (Approval recommended) (Myers-Beman) (p. 9)
- d. Consideration of authorizing an additional \$50,000 for the energy efficiency revolving loan fund held with Venture North. (Approval recommended) (Arends) (p. 11)
- e. Consideration of adopting a Capital Improvement Decision Sequence Policy. (Approval recommended) (Arends) (p. 15)

Items Removed from the Consent Calendar

- a.
- b.

3. Unfinished Business

None.

4. New Business

- a. Consideration of solar avoided cost rate tariff and setting of a Public Hearing. (Myers-Beman/Utility Financial Solutions) (p. 18)
- b. Consideration of Pole Replacement Project Authorization Request. (Schimpke) (p. 31)

5. Appointments

None.

6. Reports and Communications

- a. From Legal Counsel.
- b. From Staff.

1. Presentation of December 31, 2015 financial statements. (Myers-Beman) (p. 34)
2. Presentation of a system study proposal. (Schimpke) (p. 42)

c. From Board.

7. Public Comment

/st

**TRAVERSE CITY
LIGHT AND POWER BOARD**

Minutes of Regular Meeting
Held at 5:15 p.m., Commission Chambers, Governmental Center
Tuesday, February 9, 2016

Board Members -

Present: Pat McGuire, Jeff Palisin, Amy Shamroe, Bob Spence, Tim Werner, Jan Geht, John Taylor

Ex Officio Member -

Present: Marty Colburn, City Manager

Others: W. Peter Doren, Scott Menhart, Karla Myers-Beman, Pete Schimpke, Kelli Schroeder, Stephanie Tvardak, Blake Wilson

The meeting was called to order at 5:15 p.m. by Chairman Taylor.

Tim Werner requested item 2c be removed from the Consent Calendar for full discussion.

Item 2 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, as amended, be approved:

- a. Minutes of the Regular Meeting of January 26, 2016.
- b. Receive and file minutes of the Customer Survey Ad Hoc Committee Meeting of February 3, 2016.
- c. *Removed from the Consent Calendar.*

CARRIED unanimously. (Spence absent).

Items Removed from the Consent Calendar

- a. Consideration of approving the updated 2016 Strategic Plan.

The following individuals addressed the Board:

Karla Myers-Beman, Controller

5:21 p.m. Bob Spence joined the meeting.

Moved by McGuire, seconded by Palisin, that the Traverse City Light & Power Strategic Plan – 2016 be adopted as presented.

CARRIED unanimously.

Item 3 on the Agenda being Unfinished Business

None.

Item 4 on the Agenda being New Business

1. 2014-15 financial audit presentation.

The following individuals addressed the Board:

Karla Myers-Beman, Controller
Alan Panter, CPA, Abraham & Gaffney, P.C.

Moved by Shamroe, seconded by Geht, that the financial statements for the fiscal year ended June 30, 2015, be accepted.

CARRIED unanimously.

2. Consideration of 2016 Six Year Capital Plan.

The following individuals addressed the Board:

Karla Myers-Beman, Controller
W. Peter Doren, General Counsel
Marty Colburn, City Manager
Scott Menhart, Manager of Telecom and Technology

Moved by Shamroe, seconded by Palisin, that the Board authorizes the Executive Director to submit the Six Year Capital Improvements Plan – 2016 as presented (or as amended) to the City Manager for review and approval of the City Commission and City Planning Commission.

W. Peter Doren clarified the motion should be either “as presented” or “as amended”. With the consensus of the second, Shamroe amended her motion as follows:

Moved by Shamroe, seconded by Palisin, that the Board authorizes the Executive Director to submit the Six Year Capital Improvements Plan – 2016 as presented to the City Manager for review and approval of the City Commission and City Planning Commission.

Moved by Geht, seconded by McGuire, to amend the Six Year Capital Improvements Plan – 2016 to strike Fiber to the Premises from the Plan.

Shamroe clarified she would consider Geht’s motion a friendly amendment, which she and Palisin support.

The motion on the table is as follows:

Moved by Shamroe, seconded by Palisin, that the Board authorizes the Executive Director to submit the Six Year Capital Improvements Plan – 2016 as amended to remove Fiber to the Premises to the City Manager for review and approval of the City Commission and City Planning Commission.

The following individuals from the public addressed the Board:

Michael Nunn
Ben Munger, 1291 Lake Ridge Circle, Ratepayer
Kris Shafer, CEO, Elevate Net, 121 E. Front Street
Jonathon Leeds, 1002 E. State Street, Ratepayer
Albert Steed, 225 Cochlin, Ratepayer
Randy Bishop, Torch Lake Township
J. Mueller, 101 N. Park Street, Ratepayer

CARRIED unanimously.

Item 5 on the Agenda being Appointments

None.

Item 6 on the Agenda being Reports and Communications

- a. From Legal Counsel.
1. W. Peter Doren reported a recent court case cited the Brown Bark case in a water lawsuit.
- b. From Staff.
1. Karla Myers-Beman reviewed the 2016-17 Fiber Optics budget.
 2. Kelli Schroeder reviewed the Customer Survey questions.

The following individuals addressed the Board:

Karla Myers-Beman, Controller

It was the consensus of the Board to remove question 36 from the survey.

Chairman Taylor suspended the Board rules to allow public comment.

The following individuals from the public addressed the Board:

Ben Munger, 1291 Lake Ridge Circle, Ratepayer
Michael Nunn

- c. From Board.
1. Bob Spence asked how the CIP decision sequence would be addressed. Chairman Taylor requested it be brought back to the Board for further discussion.

Item 7 on the Agenda being Public Comment

No one from the public commented.

There being no objection, Chairman Taylor declared the meeting adjourned at 6:46 p.m.


/st

Tim Arends, Secretary
LIGHT AND POWER BOARD

DRAFT



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director 
Date: February 12, 2016
Subject: Declaring Capital Items Surplus

As employees continue to organize with the recent completion of the Covered Storage Area a few items have been found that are no longer of use to the utility and staff is requesting the items be declared surplus.

Items are as follows:

1. Megger Thumper (used for cable fault diagnosis the equipment no longer works and the company ceased making this model)
2. Refrigerator (Kalkaska Combustion Turbine)
3. Grey wood cabinet (Steam Plant)
4. Metal rack (Service Center)
5. Homelite chainsaw (Service Center)
6. (2) Customized weed whips (Steam plant)
7. Automatic pipe threader (Steam plant)
8. Floor machine scrubber (Steam plant)
9. Steel box (Service Center - Signals)

These items need to be declared surplus in accordance with TCL&P's Capital Asset Policy which states, "Any capital asset dispositions not considered scrap should be approved for disposal by the Light and Power Board."

It is staff's recommendation to declare these items surplus in accordance with TCL&P's Capital Asset Policy. 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 would be appropriate:

MOVED BY _____, SECONDED BY _____,

THAT THE BOARD DECLARES THE ITEMS DESCRIBED ABOVE AS SURPLUS.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Karla Myers-Beman, Controller *KMB*
Date: February 10, 2016
Subject: Fiber Fund Budget

In accordance with City Charter Chapter XVIII, section 179 (o), the 2016-17 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 9, 2016 board meeting and there has 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
BOARD APPROVES SUBMITTAL OF THE 2016-17 FIBER FUND OPERATING BUDGET AS
PRESENTED TO THE CITY COMMISSION FOR ITS CONSIDERATION.**

Traverse City Light & Power
Fiber Optics Fund
2016-17 Budgeted Revenues and Expenses

	FY 13/14 Actual	FY 14/15 Actual	FY 15/16 Budgeted	FY 15/16 Projected	FY 16/17 Recommended
<u>Operating revenues:</u>					
Charges for services	\$ 229,120	\$ 255,752	\$ 288,200	\$ 281,076	\$ 326,316
<u>Operating expenses:</u>					
Salaries and wages	-	49,165	31,000	56,000	72,072
Fringe benefits	-	35,167	21,000	37,000	57,632
Office & operation supplies	-	331	12,000	1,000	1,000
Supervision & maintenance	66,987	-	-	-	-
Overhead & Underground lines	19,522	4,085	-	-	-
Customer installations	2,187	-	-	-	-
Termination boxes	23,834	-	-	-	-
WIFI operations and maintenance	-	23,225	37,400	33,500	32,000
Hardware and software	-	-	-	5,400	4,000
Professional services	-	-	4,200	4,000	54,200
Legal services	-	-	2,200	2,500	2,700
City fee	11,464	12,788	14,435	14,100	16,400
Professional development	-	-	2,100	2,300	2,500
Insurance	791	1,161	1,200	1,300	1,400
Repair and maintenance	-	-	-	5,500	5,000
Vehicle rental	-	12,461	4,500	12,500	13,000
Miscellaneous	4,750	-	-	-	-
Depreciation expense	90,109	116,606	138,400	143,000	145,000
Total operating expenses	219,644	254,989	268,435	318,100	406,904
Operating income (loss)	9,476	763	19,765	(37,024)	(80,588)
<u>Non-operating revenues:</u>					
Reimbursements	21,628	296,122	30,400	38,400	38,400
Interest revenue	167	4	500	500	500
Total non operating revenues	21,795	296,126	30,900	38,900	38,900
<u>Other financing transfers:</u>					
Transfer out	-	-	-	(175,000)	(175,000)
Net income (loss)	\$ 31,271	\$ 296,889	\$ 50,665	\$ (173,124)	\$ (216,688)



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director 
Date: February 10, 2016
Subject: Energy Efficiency Revolving Loan Funding – Additional Request

At the April 14, 2015 board meeting, the board agreed to buy down the interest rate with funds previously provided to Venture North for the purpose of providing secure loans to TCL&P customers looking to finance energy efficiency projects. These upgrades not only reduce monthly utility bills for the customer, but reduce the utility's peak demand which is a financial benefit to all customers of TCL&P.

TCL&P offers the zero percent financing as a way to compete with neighboring utilities who offer the same program through Michigan Saves. Since this adoption, Venture North has issued one loan and has two more likely borrowers who will potentially exhaust the funds available within the next few months. These borrowers are well established customers with a low delinquency risk. The fund balance available to loan is \$45,000 and the outstanding requests total \$87,000 exceeding the funds available by \$42,000.

Staff recommends increasing the Energy Efficiency Revolving Loan Fund program by \$50,000 to continue the current success of the program, and by adding the additional contribution to the revolving loan fund; it provides an opportunity in the future for the funds to grow and become self-sustainable for energy efficiency projects in our community for decades to come.

If approved, staff will create a fourth letter of understanding to incorporate the additional \$50,000 contribution to the revolving loan fund. A copy of the last letter of understanding is included as a 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:

(Motion on following page)

FOR THE LIGHT & POWER BOARD MEETING OF FEBRUARY 23, 2016

MOVED BY _____, SECONDED BY _____, THAT THE BOARD AUTHORIZES THE EXECUTIVE DIRECTOR TO TRANSFER AN ADDITIONAL \$50,000 TO VENTURE NORTH TO INCREASE THE TCL&P ENERGY EFFICIENCY REVOLVING LOAN FUND PROGRAM TO A BALANCE OF \$150,000 AND MODIFY THE CURRENT LETTER OF UNDERSTANDING WITH VENTURE NORTH TO REFLECT THAT CUMULATIVE LOAN BALANCE (REFLECTED AS A LONG TERM RECEIVABLE ON TCL&P BALANCE SHEET) WITH A FOURTH LETTER OF UNDERSTANDING SUBJECT TO GENERAL COUNSEL REVIEW.



**TRAVERSE CITY
LIGHT & POWER**
Investing Our Energy In You

May 6, 2015

VENTURE NORTH FUNDING & DEVELOPMENT
202 E GRANDVIEW PARKWAY
TRAVERSE CITY, MI 49684

Re: THIRD LETTER OF UNDERSTANDING, SUPERSEDING THE FIRST TWO LETTERS OF UNDERSTANDING – Venture North TCL&P Energy Efficiency Revolving Loan Fund

This agreement supersedes the first two Letters of Understanding dated November 28, 2012 and June 11, 2013, respectively. The Traverse City Light and Power Department (“TCL&P”) is pleased to assist Venture North Funding & Development (“Venture North”), the Traverse City Area Chamber of Commerce’s (“Chamber”) sister economic development division under TraverseCONNECT, by providing funding to the Chamber in the past in the amount of \$100,000 for the Chamber TCL&P Energy Efficiency Revolving Loan Fund, now named Venture North TCL&P Energy Efficiency Revolving Loan Fund (“Program”). TCL&P and Venture North share an understanding of the importance to promote and encourage energy efficiency in the Traverse City area.

Commercial and industrial customers of TCL&P are some of the area’s largest consumers of electric power. TCL&P anticipates that with the cooperation of Venture North in the selection of projects most likely to reduce electric demand at peak times, there could be a reduction in its costs of purchased power.

By signing below, Venture North agrees to conduct the Program as described in Attachment A which is incorporated here by reference. Venture North further agrees that the funds it receives from TCL&P for the Program will be earmarked to fund qualifying electric energy optimization projects of TCL&P commercial and industrial customers only. Furthermore, if and when Venture North discontinues the Program, it agrees to return the remaining funds, including any accrued interest, to TCL&P.

Consistent with TCL&P’s strategic determination that achieving energy efficiency for commercial and industrial customers during system peak will benefit the utility, Venture North shall report to the TCL&P Board the impact of this investment on reducing energy consumption during peak demand on an annual basis.

Sincerely,

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

Venture North Funding & Development agrees to and accepts the terms detailed above this 10th day of May, 2015.

Signed: Laura Brauer
Title: Executive Director

ATTACHMENT A

Program Description

The Venture North TCL&P Energy Efficiency Revolving Loan Fund ("Program") will extend to Traverse City Light and Power ("TCL&P") commercial and industrial utility customers. The program will provide low-interest micro-loans for businesses that are investing in energy efficient measures identified through a comprehensive energy assessment or audit.

Project Selection Process

Potential applicants will be required to complete a pre-qualification application via Venture North's website. A designated Loan Review Committee will review and score qualified applications based on the following criteria:

- Must be a confirmed TCL&P commercial or industrial customer;
- Completion of a comprehensive energy assessment or audit;
- Proven reduction of electric demand at peak times;
- The businesses need for financial assistance;
- The feasibility of the proposed business activity;
- The past business experience of the applicant;
- Sufficient collateral pledged and/or guarantees;
- Capability of paying back the loan;

Terms, Interest Rates, and Fees

Loan conditions will vary based on type of project and the needs of the borrower. The following identifies the average size, term, and interest rate:

- Loan Size: Up to \$50,000
- Loan Term: Up to 5 years
- Interest Rate: between 0% and 5% - to be determined by Venture North's Loan Committee, which includes a TCL&P representative
- Customers may be required to pay a loan application fee

Administration


Venture North will provide the following administrative services for the Energy Efficiency Revolving Loan Fund:

- Promote the Venture North TCL&P Energy Efficiency Revolving Loan Fund via Venture North's website and standard Venture North marketing and communications. TCL&P will also promote the program to its customers through appropriate avenues;
- Provide pre-qualification service of potential applicants;
- Monitor and service loan(s) for the term of the note;
- Establishment of a designated, restricted bank account;
- Produce auditor ready financial statements;
- Available to report to the TCL&P Board as requested;

In consideration for the above administrative services provided by Venture North, it will retain 1.5% of the interest payments of any loan for the term of the loan. Venture North will annually invoice TCL&P 1.5% on any collected principal loan repayments for any 0% interest loans issued. All loan principal and interest payments (less the 1.5% described above) will be re-deposited into the Venture North TCL&P Energy Efficiency Revolving Loan Fund for future use.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director 
Date: February 12, 2016
Subject: Capital Improvement Decision Sequence Policy

As part of the utility's Six Year Capital Plan ("Plan") review at the last board meeting, general counsel provided a guiding document that was included within the packet material named the Capital Improvements Decision Sequence. Staff, from the direction of board member Bob Spence, has incorporated this guiding document into a new policy, Capital Improvement Decision Sequence Policy.

The purpose of this policy is for staff and the Board to use it as a guiding tool as to the stages of commitment for a capital project, the level of decisions that have to be made, steps that need to be taken for a capital project to proceed to the next stage, and when a capital project should be included or excluded from the utility's plan.

The policy is included for your review.

Staff recommends approval of the Capital Improvement Decision Sequence Policy as presented. 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 any one of these matters, other than clarifying questions, the items, individually, 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 ADOPTS THE CAPITAL IMPROVEMENT DECISION
SEQUENCE POLICY AS PRESENTED WITH AN IMMEDIATE EFFECTIVE DATE.**

Light and Power Department
City of Traverse City, MI
Adopted:

CAPITAL IMPROVEMENTS DECISION SEQUENCE POLICY

Purpose

To provide a guiding tool to staff as to the stages of commitment for a capital project and the levels of decisions that have to be made and steps that need to be taken for a capital project to proceed to the next stage.

Process

Annually during the preparation of the utility's Six Year Capital Improvement Plan ("Plan"), staff is required to evaluate and classify each proposed capital project to be included within the Plan as to the stage of commitment (defined below) the project will be at when the utility initially presents the Plan to the Board. The following are the Stages of Commitment:

1. Idea or Concern. "Are we interested in this?"
 - Staff or Board sees an opportunity or need for a capital improvement that might benefit the utility.
 - Staff internally prepares a report and analysis of that opportunity.
2. Preliminary Study. "We might want to do this."
 - Staff (or the Board authorizes) a preliminary study and rough cost estimate.
 - Possible public hearing or input.
 - Study and public input shows it to be worthwhile endeavor.
3. Capital Improvement Plan. "We want to do this, if it is approved by the City and is good for business."
 - Added to the Plan.
 - Reviewed by the City.
 - Business plan prepared if appropriate.
 - Other studies or reports as may be appropriate for that project (e.g. environmental impact).
 - Dropped from Plan if business plan or study shows problem.
4. Project Authorization. "We will do this, if it is feasible financially and engineering-wise."
 - Refined business and cost analysis.
 - Engineering design and cost estimate.
 - Critical path chart.
 - Customer contracts or market study if appropriate.
 - Referendum possibility if generation.

5. Contract. "We promise to do this."


- Procurement contract.
- Construction contract.
- Change order possibilities.

Staff shall use this policy as a guiding tool for the capital project process, but more specifically of when and when not to include a capital project in the Plan. Special circumstances may arise where this policy may not be followed at which time Staff will provide to the Board rationale for its decision.

Timothy Arends
Executive Director and Secretary
Traverse City Light and Power Board



TRAVERSE CITY
LIGHT & POWER

To: Light & Power Board
From: Tim Arends, Executive Director 
Date: February 17, 2016
Subject: Solar Avoided Cost Rate Tariff

At the November 10, 2015 Board meeting, Mark Beauchamp from Utility Financial Solutions presented on the topic of distributed generation systems. The discussion included how to value the energy generated from the solar arrays and the pros and cons of each methodology (long term marginal cost, short run marginal cost, and current cost). After the presentation the Board provided direction to have Utility Financial Solutions prepare the avoided cost rate for proposed solar projects on the long term marginal cost.

Enclosed in the packet is the presentation of the results of calculating the avoided cost from solar generation within TCL&P's distribution system utilizing the methodology of long term marginal cost. The results of the calculations are \$.0808 per kWh for residential and \$.0842 per kWh for commercial, respectively.

By calculating the rate tariff on the long term marginal cost it provides a stable price signal to the utility's customers unlike the short run marginal costs that fluctuates with the market price of power and does not provide credit for capacity value of customer's generation. Additionally, the long term marginal cost takes into account the theoretical cost of avoiding construction of generation, which is the true cost of energy in the future rather than the current cost methodology using the utility's cost of service studies demand and energy component for power supply.

As part of the solar avoided cost rate tariff, the utility is moving toward preparing the Solar Customer Generation Policy with a "buy all sell all" method to prevent any subsidization of distribution and transmission infrastructure costs. This policy is planned to be before the Board for approval at the next meeting. This rate will also be utilized for any future community solar projects within TCL&P's distribution system.

After the presentation, if the Board concurs with staff and Utility Financial Solutions in approving a new Solar Avoided Cost Rate Tariff the following motion would be appropriate.

(Motion next page)

FOR THE LIGHT & POWER BOARD MEETING OF FEBRUARY 23, 2016

MOVED BY _____, SECONDED BY _____,

THAT THE BOARD AUTHORIZES THE SECRETARY TO SET A PUBLIC HEARING FOR THE PROPOSED SOLAR AVOIDED COST RATE TARIFF TO BE HELD AT THE MARCH 8, 2016 REGULAR MEETING; AND FURTHER THAT A NOTICE OF THE PUBLIC HEARING BE POSTED ON THE UTILITY'S WEBSITE AND PLACED IN THE TRAVERSE CITY RECORD EAGLE.

Solar Avoided Cost Study Traverse City



Utility Financial Solutions, LLC
Mark Beauchamp – President
mbeauchamp@ufsweb.com

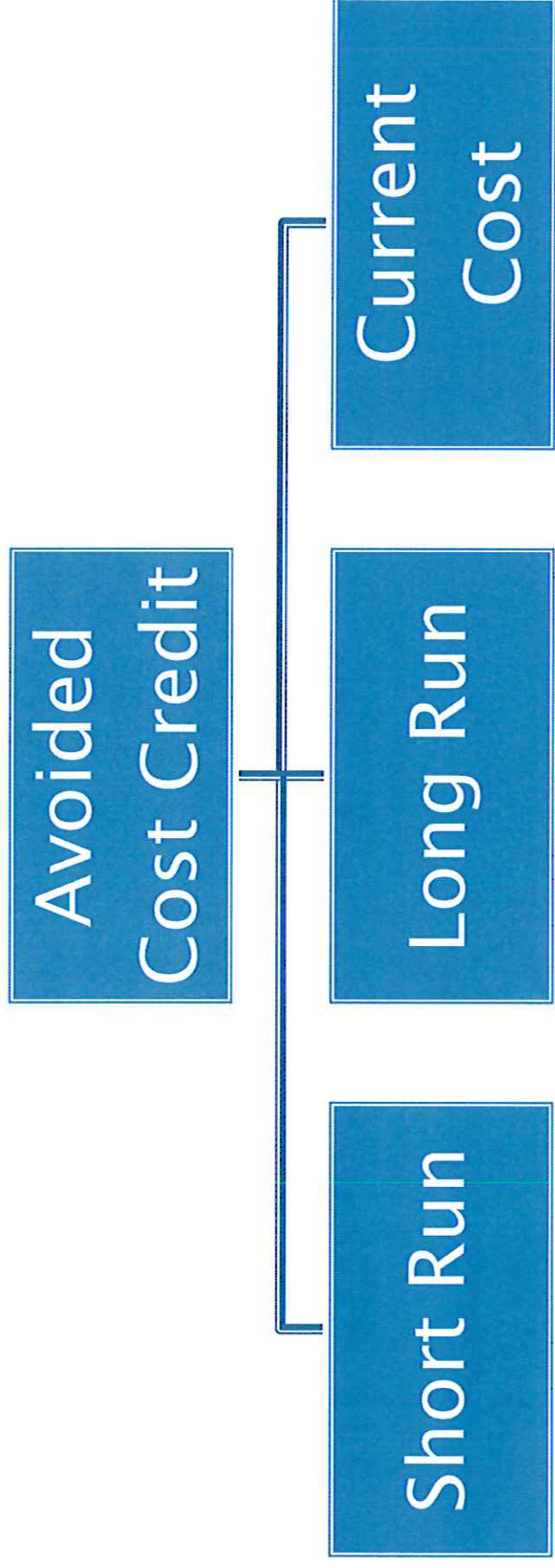
Review

- ▶ Traverse City recently retained Utility Financial Solutions to conduct studies on solar avoided cost, standby rate and revenue neutral rate design
- ▶ UFS completed an avoided cost determination for TCLP value of solar for residential to be .0808 cents per kWh and for commercial .0842 cents per kWh
- ▶ Using the prior TCLP cost of service study results, recent rate design updates and production profile for solar the long run avoided cost for Traverse City was determined



Determining the Value of Avoided Cost Credit

Three theories on how to value the avoided cost credit



Determination of Avoided Cost

Credit

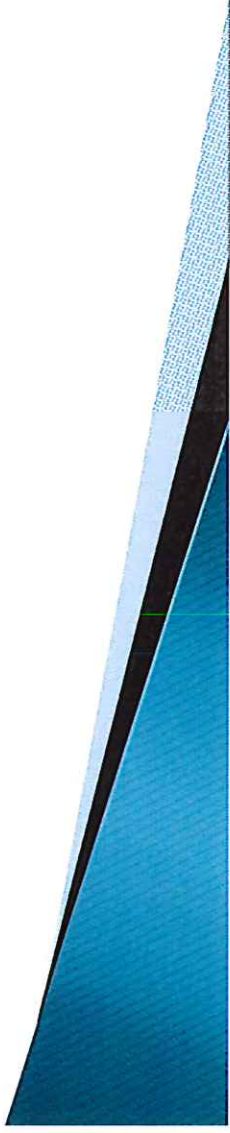
Short Run

- ▶ When customer provides power supply to the utility the avoided cost in short run is the cost that is avoided
 - Market purchase of power
 - Fuel cost savings
 - Transmission savings
- ▶ Can vary substantially in any given year
- ▶ Inconsistent price signal to customer
- ▶ May not provide credit for capacity value of customers generation



Determination of Avoided Cost Credit Long Run

- ▶ Avoided costs are determined using a theoretical cost of avoiding construction of generation
 - Capital cost of avoided generation
 - Fuel cost savings
 - Transmission savings
 - Reserve requirement

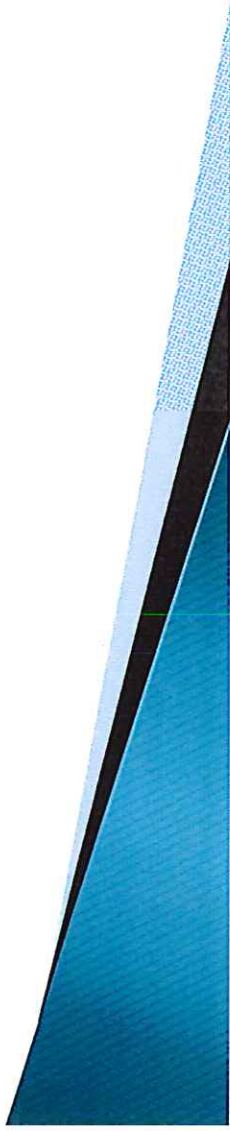


Determination of Avoided Cost

Credit

Current Cost

- ▶ Avoided cost are determined using cost of service studies both demand and energy component for Power Supply
- ▶ Uses historical investment and average costs
- ▶ Gives customer credit for both capacity and fuel costs



Traverse City Used Long-Run Marginal Cost Savings and based

- ▶ Distribution lines
- ▶ Transformers
- ▶ Substations
- ▶ Sub transmission system
- ▶ System Losses
- ▶ Power Supply from TCLP
- ▶ Solar production data was derived from NREL (National Renewable Energy Laboratory) historical irradiance data
- ▶ Natural gas prices for next generating unit were derived from www.eia.gov (US Energy Information Administration)

Residential Savings

Solar - Residential											
Month	Production			Transmission		Energy Savings		Substation and Distribution		Avoided	
	Capacity Savings	Transmission Savings	Energy Savings	Sub Transmission	Distribution Savings	Total Savings	Cost per kWh	Total Savings	Cost per kWh		
1	\$ 897.93	\$ 297.96	\$ 384.45	\$	\$ 16.70	\$ 1,772.48	\$0.1221	\$	\$ 16.70	\$ 1,772.48	\$0.1221
2	\$ 744.78	\$ 245.86	\$ 732.32	\$	\$ 31.81	\$ 1,900.28	0.0687	\$	\$ 31.81	\$ 1,900.28	0.0687
3	\$ 759.15	\$ 254.95	\$ 1,455.32	\$	\$ 63.21	\$ 2,680.95	0.0488	\$	\$ 63.21	\$ 2,680.95	0.0488
4	\$ 1,850.42	\$ 632.68	\$ 1,930.28	\$	\$ 83.84	\$ 4,858.74	0.0667	\$	\$ 83.84	\$ 4,858.74	0.0667
5	\$ 1,701.44	\$ 523.45	\$ 2,367.61	\$	\$ 102.84	\$ 5,027.76	0.0563	\$	\$ 102.84	\$ 5,027.76	0.0563
6	\$ 3,272.67	\$ 1,041.07	\$ 2,363.19	\$	\$ 102.65	\$ 7,418.97	0.0832	\$	\$ 102.65	\$ 7,418.97	0.0832
7	\$ 2,254.51	\$ 474.36	\$ 2,324.61	\$	\$ 100.97	\$ 5,594.91	0.0638	\$	\$ 100.97	\$ 5,594.91	0.0638
8	\$ 5,505.45	\$ 1,116.44	\$ 2,060.19	\$	\$ 89.49	\$ 9,847.19	0.1266	\$	\$ 89.49	\$ 9,847.19	0.1266
9	\$ 5,175.77	\$ 1,080.45	\$ 1,637.89	\$	\$ 71.14	\$ 8,976.47	0.1452	\$	\$ 71.14	\$ 8,976.47	0.1452
10	\$ 869.93	\$ 296.95	\$ 1,177.76	\$	\$ 51.16	\$ 2,565.77	0.0577	\$	\$ 51.16	\$ 2,565.77	0.0577
11	\$ 647.18	\$ 215.00	\$ 624.55	\$	\$ 27.13	\$ 1,640.30	0.0696	\$	\$ 27.13	\$ 1,640.30	0.0696
12	\$ 266.45	\$ 90.83	\$ 343.26	\$	\$ 14.91	\$ 767.51	0.0592	\$	\$ 14.91	\$ 767.51	0.0592
Total	\$ 23,945.68	\$ 6,270.02	\$ 17,401.42	\$ -	\$ 755.85	\$ 53,051.32	0.0808	\$ 4,678.35	\$ 755.85	\$ 53,051.32	0.0808



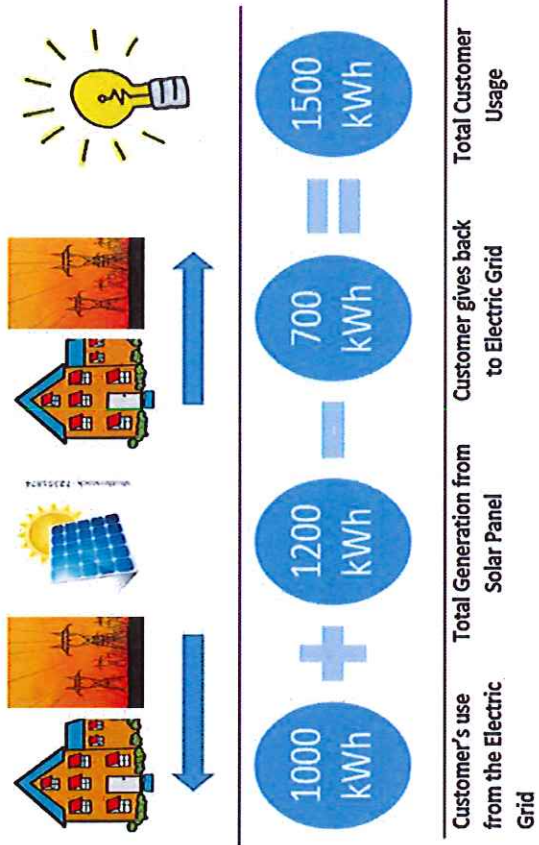
Commercial Savings

Solar - Commercial										
Month	Production		Transmission		Energy Savings		Substation and Distribution		Avoided Cost per kWh	
	Capacity Savings	Transmission Savings	Energy Savings	Sub Transmission Savings	Distribution Savings	Total Savings	Avoided Cost per kWh	Total Savings	Avoided Cost per kWh	
1	\$ 897.93	\$ 297.96	\$ 384.45	\$ 175.43	\$ 66.62	\$ 1,822.41	\$0.1256	\$ 1,822.41	\$0.1256	
2	\$ 744.78	\$ 245.86	\$ 732.32	\$ 145.51	\$ 126.90	1,995.37	0.0722	1,995.37	0.0722	
3	\$ 759.15	\$ 254.95	\$ 1,455.32	\$ 148.32	\$ 252.19	2,869.92	0.0522	2,869.92	0.0522	
4	\$ 1,850.42	\$ 632.68	\$ 1,930.28	\$ 361.52	\$ 334.49	5,109.38	0.0701	5,109.38	0.0701	
5	\$ 1,701.44	\$ 523.45	\$ 2,367.61	\$ 332.42	\$ 410.27	5,335.19	0.0597	5,335.19	0.0597	
6	\$ 3,272.67	\$ 1,041.07	\$ 2,363.19	\$ 639.39	\$ 409.50	7,725.82	0.0866	7,725.82	0.0866	
7	\$ 2,254.51	\$ 474.36	\$ 2,324.61	\$ 440.47	\$ 402.82	5,896.76	0.0672	5,896.76	0.0672	
8	\$ 5,505.45	\$ 1,116.44	\$ 2,060.19	\$ 1,075.62	\$ 357.00	10,114.70	0.1301	10,114.70	0.1301	
9	\$ 5,175.77	\$ 1,080.45	\$ 1,637.89	\$ 1,011.21	\$ 283.82	9,189.15	0.1486	9,189.15	0.1486	
10	\$ 869.93	\$ 296.95	\$ 1,177.76	\$ 169.96	\$ 204.09	2,718.70	0.0611	2,718.70	0.0611	
11	\$ 647.18	\$ 215.00	\$ 624.55	\$ 126.44	\$ 108.22	1,721.39	0.0730	1,721.39	0.0730	
12	\$ 266.45	\$ 90.83	\$ 343.26	\$ 52.06	\$ 59.48	812.08	0.0627	812.08	0.0627	
Total	\$ 23,945.68	\$ 6,270.02	\$ 17,401.42	\$ -	\$ 3,015.41	\$ 55,310.88	0.0842	\$ 55,310.88	0.0842	



Metering & Billing Method

Determine Customer Usage



- ▶ Customer billed on total facilities electric usage
- ▶ Utility credits customer on the total solar production
- ▶ Metering required:
 - Meter on solar unit
 - Meter on facility

Residential Option


Residential Charge per kW of Solar Installation	
Average Residential Rate	\$ 0.11025
Avoided Cost	0.0808
Lost Revenues per kWh	0.0295
Annual kWh production from 1 kW of Solar	1,095
Annual Under-Recovery from Solar	\$ 32.29
Additional Monthly Charge per kW of installed Solar	
	\$ 2.69

- ▶ Additional Charge per Month per installed kW. Example: 5 kW Solar unit would be Charged \$13.45(\$2.69 x 5)





TRAVERSE CITY
LIGHT & POWER

To: Light & Power Board
From: Tim Arends, Executive Director 
Date: February 15, 2016
Subject: Project Authorization Request – Pole Replacement

Staff has prepared a packet of information and is requesting authorization from the TCL&P Board for staff to proceed with the development, design and construction of the Pole Replacement Project. This project was approved in the TCL&P Six Year Capital Improvements Plan in the year 2016-17.

Staff will be available and prepared to answer any questions regarding the project.

Staff recommends Board approval of the project authorization for the Pole Replacement Project and seeks the necessary board approvals for expenditures in order to complete the project in calendar year 2016.

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

**MOVED BY _____, SECONDED BY _____, THAT THE
BOARD APPROVE AS PRESENTED THE POLE REPLACEMENT PROJECT AND DIRECTS
STAFF TO SOLICIT MATERIAL QUOTES FOR THE BOARD'S CONSIDERATION OF
APPROVAL.**

PROJECT AUTHORIZATION REQUEST



TRAVERSE CITY
LIGHT & POWER

Project Name: Pole Replacements

Budgeted in CIP: Yes

Dollar Amount Budgeted: \$650,000 (2016-17 year)

Date of Board Presentation: February 23, 2016

Objective: Target Completion date of November 1, 2016

Project Description:

The project consists of replacing approximately 300 substandard poles and related materials such as cross arms, pins, insulators, etc. throughout the utility's distribution system. The utility's crew will be handling the removing and disposal of the current substandard poles in place and replacing them with newly purchased poles and related material. The utility will be replacing the poles by major circuits starting with PC-22, BW-22 and CD-30

Project Purpose and Necessity:

The utility hired American Energy Services to evaluate each pole within the utility's service area to verify pole integrity within the distribution system, because the condition of wood poles deteriorates over time due to factors such as weather, insect, bird and rodent damage or mechanical impact.

The scope of the work encompassed visual inspection looking for rotting, cross arm damage, broken pins and insulators and any other items that may jeopardize the integrity of the pole or electrical system. Any poles that failed the visual inspection test or have been in service longer than ten years required a sonic/sound test. Any poles that did not meet the visual inspection or sonic/sound test requirements were reported to the utility with the recommendation for them to be replaced.

The results of the testing encompasses approximately 300 poles that have to be replaced along with related cross arms, pins and insulators, etc. based on the pole location.

It is important these poles are replaced, because once a pole's condition has deteriorated to a certain extent it could potentially fail under adverse weather conditions and place the reliability and safety of the distribution system at risk. Additionally, these substandard poles can lead to a cascading failure effect on nearby poles, and from both a public safety and economic perspective, these could be very impactful on the community. The damage caused from a cascading failure is far more impactful than a single pole failure. They tend to have longer outages with the risk of people coming into contact with downed wires and other equipment that may be energized.



PROJECT AUTHORIZATION REQUEST

Project Benefits:

The benefit of replacing the substandard poles is mitigating the risk of outages on the utility's distribution system resulting from pole failures. By mitigating the risk of outages it promotes the utility's ability to provide safe and reliable power to the utility's customers and allow the utility to remain in compliance with the strategic plan goal of ensuring Average Service Availability Index remains above 99.97%.

Timing of Project:

Due to the potential risk of these poles failing, this project is of high priority for 2016.

Project Timeline:

Bidding of materials will occur in spring with internal labor performing the construction starting in April 2016.

Preliminary Engineering Cost Estimate:

Materials (approximately 310 poles & associated hardware)	\$	180,000
Labor (3-man crew with bucket truck & digger truck)	\$	385,000
Engineering & Administrative & Construction Inspections	\$	45,000
Contingency (15%)	\$	90,000
Total	\$	700,000

Financing:

No bonding or borrowing is required. Current cash reserves have been allocated within the Six Year Capital Improvements Plan.

Additional Revenues:

None.

Impact on O&M Expenses:

No immediate impact, the utility will have to continue to monitor and test the distribution poles within the system in the future.

Staff Recommendation:

Replace the substandard poles identified by American Energy Services.



**TRAVERSE CITY
LIGHT & POWER**

To: Light and Power Board
From: Karla Myers-Beman, Controller *KMB*
Date: February 8, 2016
Subject: Quarterly Financial Report

Enclosed in your packet are the second quarter financial statements for the Electric and Fiber Funds.

Electric Utility Fund

As of December 31, 2015 (50% through the fiscal year) operating revenues are 48.7% of budgeted operating revenues. Overall revenues have decreased compared to prior year because of the modifications made to the PCR formula and decrease in the wholesale cost of power.

Total operating expenses are at 48.32% of budget year-to-date, or very nearly on-budget, with purchase power costs at 49.26% and public service costs at 38.92% lower than expected due to energy optimization funds not fully expended. General administration expenses at 40.09% lower than expected because of expenses expected to be incurred later in the fiscal year.

Net income through the first quarter is \$1,168,210, which is approximately a \$1.9 million decrease over the prior year.

Cash flows shows approximately \$4.9 million expended in capital assets, primarily for West Side Transmission Line project, Pine and State Street Underground project, South Substation replacement transformers, and the Covered Storage Building project.

Fiber Fund

Revenues in the Fiber Fund are 41.43% of budgeted operating revenues while expenses are 58.62% of budget year-to-date. Salaries and related fringe benefits are at 100.6% and 111.34% of budget, because more time is being allocated to fiber maintenance during the fiscal year than expected. WIFI operations and maintenance is at 63.84% of budget relating to Merit Network expense incurred this quarter relating to internet feed for the WIFI system, a primary expense of this line item. The Fund has a net loss or change in net position of \$(37,838).

It is planned the Fiber Fund will begin reimbursements to the Electric Utility Fund for the initial investment of the backbone fiber network.

TRAVERSE CITY LIGHT AND POWER

(A Component Unit of the City of Traverse City, Michigan)

ELECTRIC FUND STATEMENT OF NET POSITION DECEMBER 31, 2015

ASSETS				LIABILITIES AND NET POSITION
Current assets				
Cash and cash equivalents	\$	4,755,632		Accounts payable
Investments		15,225,827		Accrued expenses and other liabilities
Receivables				Customer deposits
Customer, less allowances of \$279,103 for uncollectible accounts (Light and Power Fund)		2,748,660		Unearned revenue
Accrued interest		50,681		Compensated absences
Taxes		12,650		Due to primary government
Other		905,425		
Inventories		1,639,346		Total current liabilities
Prepaid expenses		54,882		
Total current assets		25,393,104		Long-term liabilities
Non-current assets				Compensated absences
Other postemployment benefit asset		1,149,539		Net pension liability
Long-term advances - due from primary government		2,866		Total long term liabilities
Asset held for sale		378,931		
Land and land improvements		1,395,691		Total liabilities
Construction in progress		9,962,468		
Capital assets being depreciated, net		43,128,879		Net position
Total non-current assets		56,018,374		Invested in capital assets
Total assets		81,411,478		Unrestricted
Deferred outflow		639,314		Total net position
Total cash and investments		\$ 19,981,459		
				Invested in capital assets
				Unrestricted
				Total net position
				\$ 69,544,586

TRAVERSE CITY LIGHT AND POWER
(A Component Unit of the City of Traverse City, Michigan)

ELECTRIC FUND
SCHEDULE OF REVENUES AND EXPENSES - BUDGET AND ACTUAL (UNAUDITED)
FOR THE PERIOD ENDED DECEMBER 31, 2015

	Month to Month Comparison			Year to Year Comparison			Amended Budget	Budget to Year to date Comparison		% of budget
	Month to date Actual	Month to date Prior Year	Month to date Difference	Year to date Actual	Year to date Prior Year	Year to date Difference		Year to date Actual	Favorable (Unfavorable)	
Operating revenues - sales										
Residential	\$ 569,414	\$ 691,094	\$ (121,680)	\$ 3,018,745	\$ 3,538,699	\$ (519,954)	\$ 6,338,000	\$ 3,018,745	\$ (3,319,255)	47.63%
Commercial	1,261,019	1,466,831	(205,812)	7,537,166	8,596,982	(1,059,816)	15,766,500	7,537,166	(8,229,334)	47.80%
Industrial	744,984	(540)	745,524	4,971,790	4,994,957	(23,167)	10,040,000	4,971,790	(5,068,210)	49.52%
Public authority	17,390	20,952	(3,562)	177,532	188,501	(10,968)	286,000	177,532	(108,468)	62.07%
Street lighting	16,695	16,559	135	98,763	98,061	702	195,000	98,763	(96,237)	50.65%
Yard lights	8,014	6,798	1,216	47,763	38,791	8,972	82,000	47,763	(34,237)	58.25%
Total operating revenues - sales	2,617,515	2,201,695	415,821	15,851,759	17,455,991	(1,604,231)	32,707,500	15,851,759	(16,855,741)	48.47%
Other operating revenues										
Forfeited discounts	4,166	9,077	(4,911)	33,001	38,826	(5,824)	60,000	33,001	(26,999)	55.00%
Merchandise and jobbing	3,486	13,872	(10,386)	35,181	56,752	(21,572)	187,000	35,181	(151,819)	18.81%
Sale of scrap	4,648	10,628	(5,980)	26,637	24,978	1,659	35,000	26,637	(8,363)	76.11%
Recovery of bad debts	-	-	-	26	30	(4)	200	26	(174)	13.25%
MISO income	249,625	195,947	53,678	1,881,152	1,323,762	557,390	2,900,000	1,881,152	(1,018,848)	64.87%
Miscellaneous	2,568	1,315	1,253	23,026	23,855	(829)	39,000	23,026	(15,974)	59.04%
Total other operating revenues	264,493	230,838	33,655	1,999,024	1,468,203	530,821	3,221,200	1,999,024	(1,222,176)	62.06%
Nonoperating revenues										
Rental income	1,476	1,475	1	35,537	19,911	15,626	44,350	35,537	(8,813)	80.13%
Pole rental income	-	-	-	4,388	4,741	(353)	34,600	4,388	(30,212)	12.68%
Reimbursements	139,283	6,116	133,166	2,162,247	25,887	1,903,611	102,800	2,162,247	1,134,447	2,103.66%
Interest income	(9,473)	40,439	(49,912)	84,981	139,646	(74,665)	250,000	84,981	(165,019)	33.99%
Gain/loss on sale of assets	5	1,100	(1,095)	564	1,100	(536)	25,000	564	(24,436)	2.26%
Total nonoperating revenues	131,291	49,131	82,160	341,717	211,285	130,432	456,750	341,717	(115,033)	74.81%
Total revenues	3,013,299	2,491,663	531,635	18,192,500	19,135,479	(942,979)	36,385,450	18,192,500	(18,192,950)	50.00%
Generation expense										
Non purchase power expenses	44,831	27,371	17,460	1,109,918	184,403	(925,515)	3,171,100	1,109,918	2,061,182	34.98%
Capacity costs	24,000	-	24,000	72,000	-	72,000	672,000	72,000	600,000	10.71%
MISO	(119,147)	(83,159)	(35,988)	58,445	(70,381)	128,826	257,800	58,445	199,355	22.67%
Lansing Bridge	524,171	472,328	51,844	3,038,085	2,786,094	251,991	3,091,000	3,038,085	52,915	98.29%
Stoney Corners	311,001	245,991	65,010	1,551,399	1,313,600	237,799	3,257,000	1,551,399	1,705,601	47.63%
M-72 Wind Turbine	4,319	-	4,319	18,736	-	18,736	42,000	18,736	23,264	44.61%
Combustion Turbine	230,546	203,233	27,313	1,690,081	1,774,353	(84,271)	4,714,000	1,690,081	3,023,919	35.85%
Campbell Coal Plant	594,680	499,189	(104,509)	2,611,006	2,523,105	87,901	4,580,000	2,611,006	1,968,994	57.01%
Belle River Coal Plant	388,881	482,092	(93,211)	2,587,965	2,709,051	(121,086)	4,564,000	2,587,965	1,776,035	59.30%
Landfill Gas	46,035	39,411	6,625	271,386	239,108	32,278	1,127,000	271,386	855,614	24.08%
Bilateral contracts	3,740	3,731	9	151,259	155,401	(4,142)	2,357,000	151,259	2,205,741	6.42%
Purchase power expenses	1,808,227	1,862,815	(54,587)	12,050,362	11,430,331	620,031	24,461,800	12,050,362	12,411,438	49.26%

TRAVERSE CITY LIGHT AND POWER

(A Component Unit of the City of Traverse City, Michigan)

ELECTRIC FUND
 SCHEDULE OF REVENUES AND EXPENSES - BUDGET AND ACTUAL (UNAUDITED)
 FOR THE PERIOD ENDED DECEMBER 31, 2015

	Month to Month Comparison			Year to Year Comparison			Budget to Year to date Comparison			
	Month to date	Month to date	Month to date	Year to date	Year to date	Year to date	Amended	Year to date	Favorable	% of
	Actual	Prior Year	Difference	Actual	Prior Year	Difference	Budget	Actual	(Unfavorable)	budget
Distribution	\$ 420,396	\$ 232,218	\$ 188,178	\$ 1,949,109	\$ 1,509,627	\$ 379,482	\$ 3,976,150	\$ 1,949,109	\$ 2,027,041	49.02%
Transmission	29,623	31,492	(1,869)	185,178	174,240	10,938	359,300	185,178	174,122	51.54%
Customer accounting	42,725	41,049	1,676	243,129	239,184	3,945	521,500	243,129	278,371	46.62%
Public service	58,383	35,981	22,402	264,452	291,452	(27,000)	679,400	264,452	414,948	38.92%
General administration expense	83,470	47,814	35,655	361,488	333,333	28,156	901,800	361,488	540,312	40.09%
Other expenses										
Insurance	5,099	4,675	424	30,686	28,139	2,547	63,000	30,686	32,314	48.71%
City fee	125,000	125,000	-	750,000	750,000	-	1,801,000	750,000	1,051,000	41.64%
Depreciation	179,828	168,932	10,896	1,078,970	1,013,592	65,378	2,150,000	1,078,970	1,071,030	50.18%
Total expenses	2,797,582	2,577,347	220,235	17,024,291	16,014,300	1,009,991	35,231,050	17,024,291	18,206,759	48.32%
Change in net position	\$ 215,717	\$ (95,683)	\$ 311,400	\$ 1,168,210	\$ 3,121,179	\$ (1,952,970)	\$ 1,154,400	\$ 1,168,210	\$ 13,810	

TRAVERSE CITY LIGHT AND POWER
(A Component Unit of the City of Traverse City, Michigan)

ELECTRIC FUND
SUPPLEMENTARY INFORMATION
FOR THE PERIOD ENDED DECEMBER 31, 2015

SALES	KWH month	KWH year to date	Monthly revenue	Year to date revenue	Current month	Prior year month	Revenue/Sales monthly variance	Year to date	Prior year to date	Revenue/Sales year to date variance
Residential Sales	4,377,383	27,022,175	\$ 470,214	\$ 2,963,202	\$ 0.1074	\$ 0.1235	\$ (0.0161)	\$ 0.1097	\$ 0.1213	\$ (0.0116)
Commercial Sales	10,195,273	71,807,816	1,109,772	7,767,344	0.1089	0.1229	(0.0140)	0.1082	0.1223	(0.0141)
Industrial Sales	9,192,260	62,925,450	758,245	5,132,074	0.0825	0.0975	(0.0150)	0.0816	0.0992	(0.0176)
Yard and Street Lights	44,669	669,318	8,545	132,025	0.1913	0.1865	0.0048	0.1973	0.1856	0.0117
Total Sales	23,809,585	162,424,759	\$ 2,346,776	\$ 15,994,845						

Note: Revenues do not agree to income statement because of monthly accruals.

PURCHASED POWER	KWH month	KWH year to date	Monthly cost	Year to date cost	Cost per kWh for the month	Cost per kWh for the year to date
Lansing Bridge	10,016,000	58,944,000	\$ 524,171.35	\$ 3,038,084.57	\$ 0.052	\$ 0.032
MISO Account	(2,921,600)	(3,416,700)	(54,196.53)	110,501.64	0.019	(0.032)
MISO - BWL			15,519.42	15,519.42		
MISO - MPPA			1,591.55	11,151.20		
Wolverine	not applicable	not applicable	(82,061.93)	(78,726.79)	not applicable	not applicable
Transmission	not applicable	not applicable	(119,147.49)	58,445.47	not applicable	not applicable
Subtotal	(2,921,600)	(3,416,700)			0.041	(0.017)
Bilateral Contract	-	8,176,000	3,740.39	151,258.83	#DIV/0!	0.019
Campbell #3	7,230,778	39,864,814	394,680.41	2,611,055.60	0.055	0.065
Belle River	5,489,163	34,801,982	305,547.63	2,087,965.38	0.056	0.060
Combustion Turbine	2,018,666	19,551,135	230,545.77	1,690,081.36	0.114	0.086
Landfill Gas	762,613	4,508,677	46,035.28	271,385.87	0.060	0.060
Stoney Corners	2,736,483	13,650,672	311,001.29	1,551,398.88	0.114	0.114
M-72 Wind Turbine	61,703	267,652	4,319.21	18,735.63	0.070	0.070
MPPA Capacity Costs (market)	not applicable	not applicable	24,000.00	72,000.00	not applicable	not applicable
Total	25,393,806	176,348,232	\$ 1,724,893.84	\$ 11,550,411.59	\$ 0.068	\$ 0.065

TRAVERSE CITY LIGHT AND POWER

(A Component Unit of the City of Traverse City, Michigan)

ELECTRIC FUND STATEMENT OF CASH FLOWS FOR THE PERIOD ENDED DECEMBER 31, 2015

Cash flows from operating activities	
Cash received from customers	\$ 18,282,551
Cash payments to employees	(2,313,691)
Cash payments to suppliers for goods and services	(13,173,849)
Cash payments of City fee	(1,113,259)
Net cash provided by operating activities	<u>1,681,752</u>
Cash flows from noncapital financing activities	
Cash payments from funds	19,441
Customer deposits paid	14,136
Rental income received	39,925
Reimbursements received	216,247
Net cash provided by noncapital financing activities	<u>289,749</u>
Cash flows from capital and related financing activities	
Proceeds from assets held for sale	601,969
Purchase of capital assets	(4,995,397)
Net cash used by capital and related financing activities	<u>(4,393,428)</u>
Cash flows from investing activities	
Sale of investments	(2,005,425)
Interest and dividends	84,981
Net cash provided by investing activities	<u>(1,920,444)</u>
Net decrease in cash and cash equivalents	(4,342,371)
Cash and cash equivalents, beginning of year	<u>9,098,003</u>
Cash and cash equivalents, end of year	<u>\$ 4,755,632</u>

TRAVERSE CITY LIGHT AND POWER

(A Component Unit of the City of Traverse City, Michigan)

FIBER FUND

**STATEMENT OF NET POSITION
DECEMBER 31, 2015**

ASSETS	LIABILITIES AND NET POSITION	
Current assets		
Cash and cash equivalents	\$ 246,838	\$ 392
Accounts receivable	4,171	330
Inventory	5,956	14,270
Prepaid expenses	<u>35</u>	<u>-</u>
Total current assets	<u>257,000</u>	<u>14,992</u>
Non-current assets		
Construction in progress	25	1,007
Capital assets being depreciated, net	<u>1,610,080</u>	<u>26,765</u>
Total non-current assets	<u>1,610,105</u>	<u>42,764</u>
Total assets	<u>1,867,105</u>	<u>1,610,105</u>
Deferred outflow	<u>1,586</u>	<u>215,821</u>
		<u>\$ 1,825,926</u>

TRAVERSE CITY LIGHT AND POWER

(A Component Unit of the City of Traverse City, Michigan)

**FIBER FUND
STATEMENT OF REVENUES, EXPENSES AND
CHANGES IN NET POSITION
FOR THE PERIOD ENDED DECEMBER 31, 2015**

	Amended Budget	Year to date Actual	Favorable (Unfavorable)	Percentage of Budget
Operating revenues				
Charges for services	\$ 288,200	\$ 119,388	\$ (168,812)	41.43%
Merchandising and jobbing	-	129	129	#DIV/0!
Total operating revenues	288,200	119,517	(168,683)	#DIV/0!
Operating expenses				
Salaries and wages	31,000	31,186	(186)	100.60%
Fringe benefits	21,000	23,381	(2,381)	111.34%
Supplies	12,000	29	11,971	0.24%
WiFi Operations and maintenance	37,400	23,878	13,522	63.84%
Professional and contractual	6,400	-	6,400	0.00%
Insurance	2,100	-	2,100	0.00%
Professional development	1,200	-	1,200	0.00%
Vehicle Rental	4,500	8,035	(3,535)	178.55%
City fee	14,435	-	14,435	0.00%
Depreciation	138,400	70,846	67,554	51.19%
Total operating expenses	268,435	157,355	111,080	58.62%
Operating income	19,765	(37,838)	(57,603)	
Nonoperating revenues				
Reimbursements	30,400	-	(30,400)	0.00%
Change in net position	50,165	(37,838)	(88,003)	-75.43%
Net position, beginning of year	1,863,764	1,863,764	-	
Net position, end of year	\$ 1,913,929	\$ 1,825,926	\$ (88,003)	



TRAVERSE CITY
LIGHT & POWER

To: Light & Power Board
From: Pete Schimpke, Manager of Operations & Engineering *PS*
Date: February 17, 2016
Subject: GRP Electric System Study & 6-Year Plan Engineering Services Proposal

Attached for your information is a proposal from GRP Engineering to perform a comprehensive Electric System Study & 6-Year Plan (Study). The Study will included analysis of current conditions as well as five (5) and ten (10) year assessments using expected TCLP load growth.

This study will help to ensure that the TCLP electric system not only maintains its current level of reliability but also help identify areas where reliability can be further improved. Improvements identified in this Study will be given serious consideration by Staff for inclusion in the TCLP 6-Year Plan.

In addition, GRP will include a review of the reliability for the top ten (10) load and critical customers continuing our commitment to Key Account Customers. The study will also include a review of the use of our distribution capacitors which has not been recently done.

The deliverables include a written report, drawings presenting proposed improvements, estimated project costs, and a final presentation to the TCLP Board if desired.

February 4, 2016

Mr. Tim Arends
Executive Director
Traverse City Light & Power
1131 Hastings St.
Traverse City, MI 49686

**RE: Electric System Study & 6-Year Plan
Engineering Services Proposal**

Dear Tim:

GRP Engineering, Inc. is pleased to present this proposal to Traverse City Light & Power (TCL&P) for engineering services to complete an Electric System Study & 6-Year Plan. The study is being completed to insure system capacity is maintained, reliability is improved, and upgrades are completed in a logical fashion.

The scope of this electric system study is to review the distribution system from the substation breakers through the transformer level for equipment and conductor capacity issues, plus voltage issues under several system scenarios for both current system loads and projected 5 and 10 year load growth. Furthermore, the study will include a review of the reliability for the top ten load and critical customers plus a review of VAR loading and capacitor placement. Loading on secondaries and services will not be analyzed as part of this study. The study will be completed through the use of TCL&P's electric system model in Milsoft's WindMil Engineering Analysis Software. WindMil will be utilized to perform system load flow analysis under normal and 1st contingency conditions, including equipment and conductor loading, capacitor placement, and circuit load balancing.

The results of the system analysis will be utilized to verify and adjust the current 6-year capital project plan. The report will include drawings depicting system capacity issues, recommendations, and cost estimates for system improvement projects.

Electric System Study Scope of Services

The scope of services for the Electric System Study & 6-Year Plan includes the following:

- Conduct study review meeting with TCL&P staff.
- Interview TCL&P staff to document recent history of electrical distribution system operational issues, outages, and potential growth areas.
- Retrieval of system winter and summer peak circuit loads.

- Create working system model from base provided by TCL&P including adding source data, conductor characteristics, construction codes, and transformer impedances. Base model must include customers correctly connected to transformers.
- Integration of customer billing peak load data into model.
- Establish TCL&P electric system operating philosophy including maximum conductor and equipment loading limits and voltage limits. Conductor thermal loading limits will be the basis for continuous and emergency conductor ampacity ratings.
- Analyze and review system for capacity issues and voltage issues. Analysis will include conductor and equipment loading levels, voltage drop, capacitor placement, and load balancing.
- Perform load growth scenario for 5 & 10 years based on allocation of historical load data. Complete voltage drop and capacity analysis for each load growth case for several system scenarios including loss of a major circuit and loss of a substation transformer
- System analysis will include circuit review utilizing all major circuit ties.
- Analyze system reliability for both top ten load customers and top ten critical customers.
- Preparation of drawings depicting conductor loading conditions under each load case and recommended conductor changes.
- Prepare construction cost estimates for recommended projects.
- Present preliminary electric system report including proposed revisions to the 6-year capital project plan, drawings, and proposed conductor and equipment changes to TCL&P staff. Revise report as required by the TCL&P.
- Conduct final presentation to the TCL&P Board.

Deliverables

Deliverables at the end of the study include the following:

- Report outlining system analysis and recommended upgrades over the next five years. Three (3) copies of the report and drawings will be provided along with one electronic copy.
- Cost estimates for recommended projects.
- Drawings illustrating system capacities at current and 5-year load growth.
- Drawings depicting locations of recommended projects to complete in the 6-year plan.

Proposal is based on TCL&P providing their Milsoft WindMil system model including consumers correctly connected to transformers which will be utilized for loading analysis, plus a distribution system map in either AutoCAD or ESRI shape file format for creating conductor loading drawings. Review of generation facilities, power purchase, and rates is not included in this study.

GRP Engineering, Inc. proposes to complete the Electric System Study & 6-Year Plan engineering services for a lump sum fee of \$34,000. All services performed for the TCL&P within this scope will be billed on a monthly basis. Should additional services be required outside the scope of this proposal, we will complete those tasks on an hourly basis based on the attached rate sheet.

We appreciate the opportunity to submit this proposal and look forward to being of service to you. Please contact me should you have any questions.

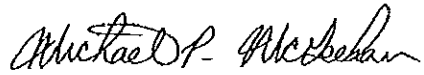
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Petoskey MI 49770
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Sincerely,

GRP Engineering, Inc.



Michael P. McGeehan, P.E.
President

Enclosures

cc/enc: TCL&P
Mr. Pete Schimpke

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