A REGULAR MEETING

Of The

TRAVERSE CITY LIGHT AND POWER BOARD

Will Be Held On

TUESDAY, August 25, 2015

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: 08-21-15 10:00 a.m.

AGENDA

Pledge of Allegiance

1. Roll Call

2. 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. Consideration of approving minutes of the Regular Meeting of July 28, 2015. (Approval recommended) (p. 4)
- b. Receive and file minutes of the HR Ad Hoc Committee Meeting of August 4, 2015. (Approval recommended) (p. 8)
- c. Consideration of appointing Kelli Schroeder as Officer Delegate and Karla Myers-Beman as Officer Alternate Delegate to cast official votes on behalf of TCL&P at the Annual Meeting of the Municipal Employees Retirement Systems. (Approval recommended) (Schroeder) (p. 9)
- d. Consideration of authorizing a purchase order to Sauber Manufacturing in the amount of \$60,906 for a single place distribution class puller/tensioner trailer. (Approval recommended) (Solak) (p. 11)

Items Removed from the Consent Calendar

a.

b.

3. Unfinished Business

None.

4. New Business

a. Consideration of authorizing a consulting agreement to InfoGeographics for GIS and electric model updates and corrections. (Menhart) (p. 14)

5. Appointments

None.

6. Reports and Communications

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

 - Strategic Plan quarterly update. (All staff) (p. 26)
 August 2, 2015 storm report. (Arends) (p. 31)
- From Board. c.

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, July 28, 2015

Board Members -

Present: Jim Carruthers, Pat McGuire, Jeff Palisin, Bob Spence, Jan Geht, John

Taylor

Absent: Barbara Budros

Ex Officio Member -

Present: Marty Colburn, City Manager

Others: Tim Arends, Scott Menhart, Karla Myers-Beman, Kelli Schroeder,

Stephanie Tvardek, Jessica Wheaton, Blake Wilson

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

5:19 pm Bob Spence joined the meeting.

Bob Spence requested item 2f be removed from the Consent Calendar for full discussion.

Pat McGuire requested items 2b and 2c be removed from the Consent Calendar for full discussion.

Item 2 on the Agenda being Consent Calendar

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

- a. Minutes of the Special Meeting of June 30, 2015.
- b. Removed from the Consent Calendar.
- c. Removed from the Consent Calendar.
- d. Declare computer equipment surplus.
- e. Software license agreement for a work order and asset management system.
- f. Removed from the Consent Calendar.

CARRIED unanimously. (Budros absent)

Items Removed from the Consent Calendar

a. Consideration of authorizing a construction agreement for a security camera system.

The following individuals addressed the Board:

Tim Arends, Executive Director

Scott Menhart, Manager of Telecom & Technology

Moved by McGuire, seconded by Palisin, that the Board authorizes the Chairman and Secretary to execute a Construction Agreement for a security camera system for TCL&P's physical locations with EPS in the amount of \$125,125, subject to approval as to substance by the Executive Director and as to form by General Counsel.

The following individuals from the public addressed the Board:

Rick Buckhalter, 932 Kelley Street, Ratepayer

CARRIED unanimously. (Budros absent)

b. Consideration of authorizing an agreement for an Interactive Voice Response System with Milsoft Utility Solutions.

The following individuals addressed the Board:

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

Moved by McGuire, seconded by Geht, that the Board authorizes the Executive Director to enter into a three year agreement with Milsoft Utility Solutions for a hosted IVR system in the amount of a one-time fee of \$5,000 with a recurring monthly fee of \$300 and a \$0.25 fee per call.

CARRIED unanimously. (Budros absent)

c. Consideration of authorizing two Letters of Agreement with the Utility Workers Union of America, AFL-CIO Local No. 295.

The following individuals addressed the Board:

Tim Arends, Executive Director Karla Myers-Beman, Controller

Moved by Spence, seconded by McGuire, that the Board authorize the Executive Director to sign the Letters of Agreement between TCL&P and the Utility Workers Union of America Local, No. 295 that outlines the stipulations of Electric System Operators on standby and provides an annual stipend to current Electric System Operators.

CARRIED unanimously. (Budros absent)

Item 3 on the Agenda being Unfinished Business

a. Consideration of a Resolution in Support of Renewable Energy in the Bay Front Plan.

The following individuals addressed the Board:

Tim Arends, Executive Director Missy Luick, City Planning Department

Moved by Geht that the Board adopts the Resolution as presented.

Motion failed due to lack of a second.

Item 4 on the Agenda being New Business

a. Consideration of a Project Authorization Request for Spruce Street Overhead to Underground Distribution Conversion Project.

The following individuals addressed the Board:

Tim Arends, Executive Director Blake Wilson, System Engineer

Moved by McGuire, seconded by Palisin, that the Board authorizes the staff to proceed with Spruce Street Overhead to Underground Distribution Conversion Project and seek the necessary board approval for expenditures.

CARRIED unanimously. (Budros absent)

Item 5 on the Agenda being Appointments

· None.

Item 6 on the Agenda being Reports and Communications

a. From Legal Counsel.

None.

- b. From Staff.
 - Navigant Consulting and Jessica Wheaton presented the Energy Optimization Program Plan Report.

6:15 pm Marty Colburn departed the meeting.

The following individuals addressed the Board:

Karla Myers-Beman, Controller Tim Arends, Executive Director

2. Karla Myers-Beman presented the 2013-2014 Annual Report.

The following individuals addressed the Board:

Tim Arends, Executive Director

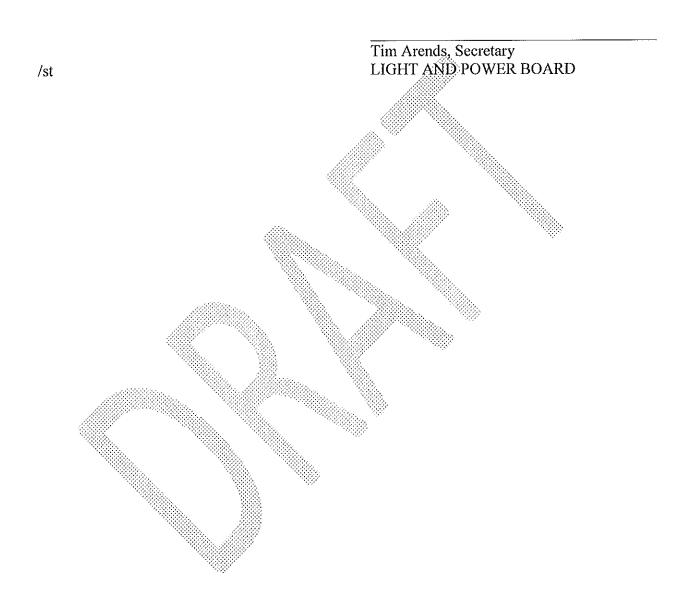
- 3. Tim Arends polled the Board to determine if a quorum would be in attendance at the City Commission Candidate Orientation scheduled for Thursday, July 30, 2015. No board members plan to attend.
- c. From Board.

None.

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 7:14 p.m.



TRAVERSE CITY LIGHT AND POWER BOARD

Minutes

Human Resources Ad Hoc Committee
Held at 12:00 p.m., Light and Power Service Center
Wednesday, August 4th, 2015

Committee Members -

Present: Jan Geht, Bob Spence, John Taylor

Absent: Barbara Budros

Others: John Racine

The meeting was called to order at 1:00 p.m. by Chairman Spence.

Moved by Geht, seconded by Spence, that the committee enter into closed session to discuss potential settlement offers to resolve a union grievance.

CARRIED unanimously.

1. Consideration of a possible settlement of union grievance related to the termination of Mr. Wheaton and Mr. Adams

Committee members discussed potential options for resolving the grievance, including if/how to gather additional information outside of the stage 3 hearing.

2. Public Comment

No one from the public commented.

There being no objection, Committee Chairman Spence declared the meeting adjourned at 2:05 p.m.

John Taylor, Chairman

/st

John Taylor, Chairman LIGHT AND POWER BOARD



To:

Light & Power Board

From:

Kelli Schroeder, Manager of HR & Communications /

Date:

August 19, 2015

Subject:

MERS Annual Meeting - Delegates

The Municipal Employees Retirement System (MERS) holds their Annual Meeting each year in the fall. Their 2015 meeting is set for October 8 - October 9, 2015 at the Amway Grand Plaza in Grand Rapids, Michigan.

The MERS Plan Document provides that our Employees' Delegate and Alternate Delegate shall be selected by secret ballot of the employees who are members of the Retirement System. This year Mark Rumbaugh was elected as Employee Delegate.

The Employer appoints an Officer Delegate and Officer Alternate Delegate to attend this meeting. Please appoint Kelli Schroeder, Manager of HR & Communications, as Officer Delegate and Karla Myers-Beman, Controller, as Alternate Delegate.

Attached please find the MERS 2015 Annual Meeting Delegate and Alternate Certification form appointing the Officer Delegate and Alternate. This form also indicates the Employees' selection for Delegate.

This item is appearing on the Consent Calendar as staff deems it to be a non-controversial item. Approval of this item on the Consent Calendar means you agree with staff's recommendation to appoint a MERS delegate and alternate.

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	·
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THAT KELLI SCHROEDER, MANAGER OF HR & COMMUNICATIONS, AND KARLA MYERS-BEMAN, CONTROLLER, BE APPOINTED OFFICER DELEGATE AND OFFICER ALTERNATE DELEGATE RESPECTIVELY, FOR THE 2015 ANNUAL MEETING OF THE MUNICIPAL EMPLOYEES RETIREMENT SYSTEM; AND FURTHER THAT THE EXECUTIVE DIRECTOR BE AUTHORIZED TO EXECUTE THE CERTIFICATION OF DELEGATES.



Municipal Employees' Retirement System of Michigan 1134 Municipal Way • Lansing, MI 48917 800.767.MERS (6377) • Fax: 517.703.9707 www.mersofmich.com

2015 Officer and Employee Delegate Certification Form

MERS 69th Annual Conference | October 8-9, 2015 | Amway Grand Hotel, Grand Rapids

Please print clearly • Retain a copy for your records

IMPORTANT: A voting delegate registered to attend the **MERS Annual Conference** is **NOT** confirmed to have voting rights until this form has been received by MERS.

The voting delegate representative must be a MERS member, defined as an **active employee on payroll** who is enrolled in either a MERS Defined Benefit Plan, Defined Contribution Plan or Hybrid Plan.

If you are not attending MERS Annual Conference, you do not need to submit this form.

1. Officer (and alternate) delegate information

The officer delegate (or alternate) shall be a MERS member who holds a department head position or above, exercises mar	agement
responsibilities, and is directly responsible to the legislative, executive, or judicial branch of government.	

Officer Delegate name

Kelli Schroeder, Manager of HR & Communications

Officer Alternate name

Karla Myers-Beman, Controller

2. Employee (and alternate) delegate information

The employee delegate (or alternate) shall be an employee member who is not responsible for management decisions, receives direction from management and, in general, is not directly responsible to the legislative, executive, or judicial branch of government.

Employee Delegate name

Mark Rumbaugh

Employee Alternate name

Stephanie Tvardek

Employee delegate and alternate listed above were elected to serve at the 2015 MERS Annual Conference by secret ballot election conducted by an authorized officer on August 10 ______, 2015.

3. Certification

NOTE: Certification should be signed by a member of the governing body or chief administrative officer, or the chief judge for a participating court, and municipality number provided in space at the bottom of certification box.

I certify that the officer delegate and alternate selections are true and correct, and the secret ballot election results for employee delegate and alternate are true and correct.

		1	T = 1 11		
Employer/municipality name*		Municipality number*	Email address	3	
Traverse City Light & Power		2811	kschroed	ler@tclp.org	g
Employer address	Emp	oloyer city		Employer state	Employer zip code
1131 Hastings Street	T	raverse City		MI	49686
Signature of authorized authority*	Prin	ted name			
	T	imothy Arends			
Title of authorized authority*			Date		
Executive Director					

Form 6459 20150602 10

^{*} Required field

FOR THE LIGHT & POWER BOARD MEETING OF AUGUST 25, 2015



To:

Light & Power Board

From:

Rod Solak, Line Superintendent

Date:

August 12, 2015

Subject:

Single Place Distribution Class Puller/Tensioner Trailer Purchase

TCL&P has budgeted \$60,000 in the 2014-15 capital improvements plan for the purchase of a single place distribution class puller/tensioner trailer ("stringing trailer"), a trailer that will be utilized to pull wire for internal distribution circuit rebuild projects.

Bids have been obtained for the purchase of this trailer. Requests were sent out and were received as follows:

Bidder	Bid Price
Brooks Brother Trailers	No Bid
Sherman-Reilly	No Bid
Sauber Manufacturing	\$60,906
TSE International	\$12,917
DCD Soles IIC	\$20,500 (Head on

PCR Sales, LLC \$29,500 (Used equipment)

Staff recommends approval of the Sauber Manufacutring ("Sauber") bid. The unit bid from Sauber complies with all bid specifications, was demonstrated by TCL&P staff and proves to be the best fit for the needs of the department. The low bid from TSE International did not comply with any of the bid specifications (with the exception of the specification to include a complete set of engineering drawings, and all applicable warranties with bid) and was for a non-trailer mounted unit. A non-trailer mounted unit must be mounted on the pole for use which is a more labor intensive set up process. A trailer mounted unit, such as the unit quoted by Sauber, is a self-contained piece of equipment that also includes its own power supply for the tensioning wheel. The unit quoted by TSE International would require hydraulic hook ups from a truck or separate power source.

The next lowest bid from PCR Sales, LLC was for a reconditioned piece of equipment from 1992. The bid did not comply with 19 of the 34 required bid specifications including the request for a 10 year structural, parts and labor warranty for all components, a 3 year total parts and labor coverage and 1 year power source warranty. PCR Sales is only offering a 6 month warranty. Sauber is providing the requested warranties as part of their bid and new, the Sauber trailer is expected to last 20-25 years through normal use.

FOR THE LIGHT & POWER BOARD MEETING OF AUGUST 25, 2015

This item is appearing on the Consent Calendar as it is deemed non-controversial. Staff recommends issuing a purchase order to Sauber Manufacturing for the purchase of a single place distribution class puller/tensioner trailer. 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 B	OARD AUTHORIZES THE EXECUTIVE DIRECTOR TO ISSUE A
PURCHASE (ORDER TO SAUBER MANUFACTURING IN THE AMOUNT OF \$60,906
FOR A SINCI	LE PLACE DISTRIBUTION CLASS PHILLER TENSIONER TRAILER



Project Name: Single Place Distribution Class Puller/Tensioner Trailer

THE PROPERTY OF THE PROPERTY OF THE PARTY OF	Annual Control of the	A grant of the state of the sta	The second of the second secon		
BIDDER	RID SENT	RID SECTIBITY	TOTAL CONTRACTOR	OPTIONAL ITEMS	
		DID SECONILI	BASE BID PRICE	QUOTED	REMARKS
Sauber Manufacturing				\$6,220 for rope and	
MikeHahn@SauberMfg.com	7/17/2015	Not Required	\$ 60,906.00	cassette and capstan	Brand New Equipment
Brooks Brothers Trailers					
philchandler76@hotmail.com	7/17/2015	Not Required	· \$		No Bid
TSE International				\$6,644 for Briggs &	5
sales@tse-international.com	7/17/2015	Not Required	\$ 12,917.00		
Sherman-Reilly				-	
sjernigan@sherman-reilly.com	7/17/2015	Not Required	٠,		Pig ON
			\$29,500 or \$15,000 as	\$10,800 feet 200,200,200,200,200,200,200,200,200,200	
PCR Sales, LLC	_	Not Required	tensioner only	cooled engine installed	Used Eauipment - 1992
This is to certify that at	2:00:00 PM	, local time on	Friday, July 31, 2015	, the bids tabulated herein were publicly opened and read.	re publicly opened and read.

Traverse City Light & Power

Blake Wilson, System Engineer

FOR THE LIGHT & POWER BOARD MEETING OF AUGUST 25, 2015



To:

Light and Power Board

From:

Scott Menhart, Manager of Telecom & Technology

Date:

August 19, 2015

Subject:

GIS and Electric Model Updates and Corrections

TCL&P has made tremendous strides over the last few years in having an accurate GIS electric model. This base GIS model is utilized across every aspect of the organization and has become a critical component to the success of TCL&P. This model is now the base for the following systems, applications, and processes that are used daily at TCL&P: work order and asset management (currently Azteca's Cityworks), engineering design (ESRI's ArcGIS), engineering and analysis (Milsoft's Windmil), outage management (Milsoft's Dispatch), locating and staking, fiber planning, mapping for field personnel (digital and paper), capital improvement analysis and recommendation, and sharing pertinent utility infrastructure with various parties. Essentially, this model is running the vast majority of TCL&P on some level and has significant future expansion plans. An example of this would be tying our outages to an online outage map for customers to view in real-time.

Staff has done and continues to do a great job in keeping TCL&P's electric model maintained. However, there are some areas where the model is lacking information and needs to be updated in order to be maintained. This has resulted in negative impacts on the aforementioned systems and processes. An example of this would be that we have disconnected elements within the model. This means that some of our assets, or even customers, are not associated with the model. This particular example causes issues during power outages as when our Operators log the call in our outage management system, it does not show up on our systems as on outage. This became very evident during our recent storm as we had customers that had reported a power outage continuously monitoring the outage web viewer, but their location never appeared on the map. This prompted them to call in repeatedly to inform us that they were still out of power as they thought we had missed their location.

The first phase of the process was to identify the inconsistences within the model and staff has since completed this phase. Utilizing this data, staff has now worked closely with InfoGeographics, our GIS contractor, to put a plan together to correct the inconsistences and get the missing data into the system. The attached outlines this plan in detail and has a cost of \$88,500.

FOR THE LIGHT & POWER BOARD MEETING OF AUGUST 25, 2015

the Board agrees with staff's	s recommendation, the following motion would be appropriate:	,
MOVED BY	, SECONDED BY	,
THAT THE BOARD AUT	THORIZES THE CHAIRMAN AND SECRETARY TO EN	ITER
INTO A CONSULTING A	AGREEMENT FOR GIS AND ELECTRIC MODEL UPDA	ATES
AND CORRECTIONS W	ITH INFOGEOGRAPHICS IN THE AMOUNT OF \$85,00	0;
SUBJECT TO APPROVA	L AS TO SUBSTANCE BY THE EXECUTIVE DIRECTO)R
AND AS TO FORM BY G	ENERAL COUNSEL.	

Staff recommends the Board approve the quote for \$88,500 to update the electric GIS model. If

FURTHER AUTHORIZING THE EXECUTIVE DIRECTOR TO EXECUTE WORK ORDERS FOR SERVICES AND ADMINISTER AMENDMENTS AND CHANGE ORDERS THAT ARE IN THE BEST INTEREST OF THE LIGHT AND POWER DEPARTMENT.

EnfoGeographics

21 July 2015

Scott Menhart
Manager of Telecom and Technology
City of Traverse City
400 Boardman Ave
Traverse City MI 49684

Re: TCLP Milsoft-GIS Database Enhancements Proposal

Scott,

Over the past several years, Traverse City Light and Power (TCLP) and InfoGeographics, Inc. (IGI) have worked together on a number of initiatives to improve the Utility's electric system GIS database. Having made significant progress with these efforts, TCLP now wishes to undertake additional activities to enhance the electric system database to ensure compatibility for use with Milsoft software applications for electric engineering, operations, and customer service.

This letter proposal is divided into two sections. The first outlines the tasks and associated scopes of work, and estimated costs to address TCLP GIS database enhancements as identified in reports generated by Milsoft's WindMil data import tools. These tasks are presented in a logical order, but can be performed as is deemed most efficient; especially when/where collaboration with TCLP staff may be necessary for completion. The second section highlights efforts and costs associated with other, miscellaneous tasks identified by TCLP and IGI over the past few years.

ArcGIS vs Milsoft Environment

TCLP has the option to enhance and maintain the electric system database information in one of two ways, 1) within the native GIS - ArcSDE database environment using ArcGIS for Desktop already in place at TCLP or 2) perform conversion processes to migrate the GIS ArcSDE database content into Milsoft type databases, and then use the additional Milsoft WindMil Map extension for ArcGIS for Desktop to enhance and maintain this information.

IGI is of the opinion that sticking with its current ArcGIS-based solution (with periodic exports to Milsoft) provides the most advantages to TCLP over the short and longer term. There are several factors influencing this opinion:

- First, TCLP, the City, and Grand Traverse County are all "Esri Shops". This means data in Esri format can be easily shared among these groups without translation.
- Second, TCLP staff (as well as those at the City and County) are already fully trained and productive within the ArcGIS Environment. In fact, this user community extends well beyond the City and County and includes many other Esri users within the region. Milsoft expertise on the other hand is not readily available.

InfoGeographics, Inc.

TCLP Milsoft-GIS Database Enhancements

CinfoGeographics

- Third, Esri, more than any other GIS company, offers a full/broad suite of desktop, server, and web/mobile GIS technologies. These technologies can be used to support any number of applications both specific to electrical utilities and otherwise. Milsoft, on the other hand, is utility-specific. And, because TCLP and the City currently share an Esri ELA, TCLP has access to all of these technologies!
- Fourth and finally, cost! IGI believes it will be more cost effective in both the short and longer terms to stick to its ArcGIS-based solution using periodic updates/exports to Milsoft.

This is not to diminish to downplay Milsoft's role at TCLP. In fact, IGI views Milsoft's products such as WindMil and OMS DisSPatch as critical to TCLP. It's really about using the best tool to support the particular job. For general purpose GIS that means Esri; for electrical system-specific applications and modelling that means Milsoft.

Reconciliation of Milsoft WindMil Data Import Reports

Provided that TCLP opts to enhance and maintain the electric system database in its current ArcGIS state, IGI recommends that TCLP take an iterative approach to reconciling the electric system database errors in the native GIS environment, employing a process to 1) identify potential GIS data errors via the Milsoft WindMil data import tools, 2) reconcile identified GIS data errors within the TCLP ArcSDE database using core ArcGIS for Desktop tools, and 3) repeat the process as necessary and as part of ongoing TCLP GIS electric system data maintenance.

Based on review of the provided Milsoft WindMil data import reports, the content is well defined via the Milsoft output of specific system reports as well as the targeting of associated GIS data features in error. IGI has divided and categorized the Milsoft reports content into "Type 1 Tasks" and "Type 2 Tasks" which are dependent on the perceived level of efforts and staffing necessary to reconcile associated errors.

Type 1 Tasks

Type 1 Tasks are associated with identified GIS database errors which can be addressed by IGI staff with guidance from TCLP Engineering staff where applicable. The following Milsoft WindMil data import reports specifics are considered to fall under these Type 1 Tasks. Cost estimates for each subtask are presented in ranges and summarized in the cost table towards the end of this document.

Please note tasks marked with an asterisk (*) may require field verification by TCLP staff.

Task 1.1 – Check Rated Input Voltage *

Description: 2 transformers identified by Milsoft report, verify rated input voltage.

Assumptions: N/A

Assumptions: 14)

InfoGeographics, Inc.

TCLP Milsoft-GIS Database Enhancements

EnfoGeographics

Task 1.2 - Invalid Open Wye-Delta

Description: 2 transformers reported in Milsoft *InvalidOpenWye-Delta.xls* report, verify rated input voltage.

Assumptions: N/A

Task 1.3 - OH Lines Missing Equipment Database Definitions

Description: 37 OH lines reported in Milsoft *OHLinesMissingDefs.xls* report, assign valid definitions.

Assumptions: Provided TCLP can supply standard conductor information for standard configurations such as "service lines generally use 4 AWG All Aluminum Steel Reinforced wire", this should be relatively easy.

Task 1.4 - Transformers kVA Rating 0.0 *

Description: The *ZeroKvaTransformers.xls* report supplied by Milsoft has 554 records listing transformers missing impedance values (stated in kVA). However, IGI believes not all of these are errors. Nonetheless, IGI will investigate each one.

Assumptions: 80% (443) of these can be identified and assigned kVA values utilizing TCLP sources for pole top photos, service card index, asbuilts, etc. The remaining 20% (111) may require field checks.

Task 1.5 – Inconsistent Configuration of Elements

Description: 175 elements reported in Milsoft *IncosistentConfiguration.xls* report, review and reconcile.

Assumptions: Reported elements look to all be phasing-related and while tedious, should be relatively easy to fix.

Task 1.6 – Devices w/o Connected Children

Description: 74 devices (fuses) reported in Milsoft *DevicesNoChildren.xls* report, review and reconcile to have downline child elements connected to them.

Assumptions: N/A

Task 1.7 – Distinguish UG Primary and Secondary Conductor Definitions

Description: Unidentified number, potential definitions to be applied in mass based upon ArcGIS for Desktop query (may require ArcSDE database modifications).

Assumptions: Reconciliation may be done by query/find/replace or application of valid equipment database definitions.

Cinfo Geographics

Task 1.8 - Assign Valid Equipment Definitions to Overcurrent Devices *

Description: Unidentified number of Fuse and Feeder features, potential identification of based upon GIS query, reconcile as necessary by assigning definitions.

Assumptions: Identification of < 100 overcurrent devices in need of reconciliation.

Subtask 1.8.1 – GIS Mapping of System Overcurrent Devices

Description: Perform GIS mapping of system Reclosers and Sectionalizers with valid equipment definitions in GIS (will require TCLP to identify valid source information, may require ArcSDE database modifications).

Assumptions: 25 system Reclosers and 5 Sectionalizers to be mapped and assigned equipment definitions utilizing TCLP sources for pole top photos, service card index, as-builts, etc.

Task 1.9 - Disconnected Model Elements *

Description: 8,219 elements reported in Milsoft *DisconnectedElements.xls* report, review and reconcile.

Assumptions: Features include 6 capacitor banks, 90 switches, 110 fuses, 190 open points, 380 transformers, approximately 1,400 overhead lines, approximately 1,850underground lines, as well as 4,200 meters.

Task 1.10 – GIS Data Phasing Mismatches

Description: Unidentified number of associated feature classes and associated features, likely to involve overhead/underground primary/secondary lines, fuses, open points, switches, transformers, pedestals, meters, etc. Review and reconcile.

Assumptions: Phase dictated by feeder/connected overhead/underground primary line features, partially reconciled by "Disconnected Model Elements" task above.

Task 1.11 - Incomplete GIS Data in Model *

Description: Unidentified number, potential identification of based upon GIS query and analysis, review and reconcile where possible.

Assumptions: TCLP has knowledge of targeted areas where GIS model is incomplete, to be partially reconciled by "Disconnected Model Elements" task above.

Can fo Geographics

Type 2 Tasks

Type 2 Tasks are associated with identified GIS database errors which are likely to be addressed by TCLP Engineering staff (with potential assistance by IGI staff where deemed appropriate). The following Milsoft WindMil data import reports specifics are considered to fall under these Type 2 Tasks.

Please note the estimates associated with these tasks currently total \$0. This is because IGI foresees TCLP staff taking the lead on these efforts, with the GIS Support Block detailed below to be used for miscellaneous support for this task.

Please also note tasks marked with an asterisk (*) may require field verification by TCLP staff.

Task 2.1 – Milsoft WindMil Equipment Database Field Population/Configuration

Description:

- OH Conductor Equipment
- UG Conductor Equipment
- Zsm Equipment
- Construction Equipment
- Overcurrent Device Device Equipment
- Transformer Conductor Equipment
- Regulator Equipment

Assumptions: N/A

Task 2.2 – Zero Distance Between Conductors

Description: Unidentified number, apply proper construction definitions for OH and UG line features.

Assumptions: N/A

Task 2.3 – Transformers Missing Impedance Definitions *

Description: 241 transformers reported in Milsoft

TransformersMissingDefs.xls report, review and reconcile where possible.

Assumptions: N/A

Task 2.4 - Switch/Device - Open/Close Status Verification *

Description: 200 switches and 205 open points present in GIS, reconcile Open/Close status as necessary per phasing of each.

Assumptions: Potentially reconciled, in part, by "Devices w/o Connected Children" and "Assign Valid Equipment Definitions to Overcurrent Devices" tasks above.

EnfoGeographics

Work scopes to reconcile the Type 1 Tasks and Type 2 Tasks are considered broad in nature (and in some cases unknown), but in general, IGI will utilize existing information sources deemed appropriate (hardcopy and digital) at TCLP wherever possible and the majority of reconciliations will utilize the core functionality of ArcGIS for Desktop currently in place at TCLP.

GIS Support Block

Because the Type 1 Tasks and Type 2 Tasks defined in this proposal are subject to many variables (availability of specific and accurate source information at TCLP, additional or unknown scopes for reconciliation of some of the identified errors within the Milsoft's data import reports, etc.), IGI recommends that a block of GIS support time be budgeted for this project. This GIS support block would be based on the 2015 IGI Rate and Expense Table which follows the Project Cost Table below. This GIS support block will only be utilized, if and when necessary, for unexpected or additional efforts that exceed those as proposed for Type 1 Tasks and Type 2 Tasks (as deemed applicable by TCLP) in the Project Cost Table below. GIS support time will not be incurred without proper approval from TCLP Manager of Telecom and Technology.



Additional TCLP GIS Model Enhancements

Separate, but related to a portion of the Type 1 Tasks as defined above, additional enhancements have been identified by TCLP and IGI via the ongoing initiatives to improve the TCLP electric system GIS database (GIS work order integration, pole inventory analysis, etc.). These enhancements may directly affect the GIS model as it will be utilized in the Milsoft environment. IGI recommends that TCLP consider the following enhancements for inclusion as part of this overall initiative to improve the GIS electric system model and prepare it for use in the Milsoft environment. Please note that the following enhancements are not listed in any specific order and may require TCLP staff expertise for support and field verifications.

Enhancement 1 - GIS Data Development

This enhancement may be associated with the Type 1 Task of "Incomplete GIS Data in Model" and will address such items of detail which may have been overlooked during general model development and maintenance. Below are some of the items which will be addressed in this enhancement task.

- Mapping missing system features such as streetlights and any missing associated transformers, OH/UG secondary, etc.
- Reconcile missing relationships between streetlights and poles.
- Mapping missing risers on OH to UG transitions.
- Reconcile missing relationships between risers and poles.
- · Reconcile missing relationships between UG lines and conduits.
- Reconcile estimated 5,450 pole features without a valid subtype.

Assumptions: IGI estimates approximately 1-2 weeks of work. Subject to change based upon quantity of found data.

Enhancement 2 – Integration of Pole Inspections Data

This enhancement will add value to the 2014 Pole Inspections data as compiled by American Energy Services (AES). AES completed a system-wide pole inventory and inspections project in 2014 and has supplied TCLP with "mapping grade" GPS point locations data for all TCLP poles as a deliverable. This data contains valuable information in regard to pole inspections, pole types/classes, associated appurtenance information such as streetlights and the presence of other shared utility services (cable, phone, etc.), as well as structural or defect criticality ratings for pole maintenance where applicable. Due to positional discrepancies between the AES and TCLP pole locations, the AES data is of limited use to TCLP.

IGI proposes to reconcile the AES data to spatially fit the TCLP poles features and collaborate with TCLP staff in regard to migrating or relating specific AES inspections

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TCLP Milsoft-GIS Database Enhancements



information from one dataset to the other via spatial join or establishment of a relationship class to an AES 2014 inspections table. Please note that this task may require ArcSDE database modifications to accommodate additional AES inspections information in the TCLP poles feature class schema and/or the creation of an associated relationship class and 2014 AES inspections table.

Enhancement 3 - Analysis and Reconciliation of Meter Address Data

Put directly, there are problems with the completeness, accuracy, and manner in which meters are modelled within TCLP's GIS database. First, TCLP models its meters using two different sets of tables. This is the result of a partially completed cleanup in 2013. Second, IGI believes there are "orphaned" meter address table records present due to the disassociation of meter numbers with GIS meter features. IGI proposes fixing both these issues at one time by 1) completing the transition to the new meter tables, 2) modifying existing editing protocols, 3) utilizing existing GeoC-based scripts to identify and correct meter orphans, and 4) standardizing addresses.

Enhancement 4 – Integration of 2014 Orthophotography/Oblique Imagery

This enhancement involves the installation and configuration of recent 2014 orthophotography and oblique Pictometry imagery (acquired for the City of Traverse City and Grand Traverse County), onto the TCLP server(s) for use in GIS and Engineering operations. These data sources are more accurate and up-to-date than those currently used by TCLP staff (including older Google Maps/Street View data) and are readily available for use at TCLP. IGI believes that these data sources will serve as valuable resources for TCLP staff and will introduce efficiencies in planning and engineering workflows, especially for desktop-based field verification operations.

Enhancement 5 - Field-based Editing using Collector for ArcGIS

With the assistance of IGI, TCLP has developed and deployed Portal for ArcGIS. This onpremise solution facilitates ArcGIS Online functionality within TCLP's secured network environment. Working together, TCLP and IGI staff are configuring Explorer for ArcGIS. This app will allow TCLP staff to access and view GIS data from the field via TCLP's VPN over WiFi or cellular using supported devices.

IGI recommends "taking this to the next level" by allowing TCLP staff to not only view TCLP's GIS data but also edit this data from the field in a connected or disconnected environment. The vehicle for this is called *Collector for ArcGIS*. This app runs on iOS (iPad/iPhone), Android, or Windows devices and can be customized to fit the specific needs of TCLP. IGI proposes working with TCLP to enable this transformative technology.

Ginfo Geographics

Project Timeframe

IGI realizes that completing this project in a timely manner is a priority for TCLP. If approved, IGI will develop a project schedule in conjunction with TCLP and is prepared to assist with this project as soon as possible. Based upon 1) a start date of August 3, 2015 and 2) a general commitment of two days per week over the life of the project, IGI estimates the vast majority of these tasks could be completed by the end of February, 2016. Every effort will be made to accelerate the conduct of the project schedule whenever possible.

Project Cost Estimates

IGI's cost estimates for the proposed project can be found in the Project Cost Table below. All expenses are billed at cost and included in the figures for these tasks. Any changes to this letter proposal and the scopes of work will be made in writing and signed by both parties. Billing will be performed monthly on a percentage of task complete basis with payment terms of net 30 days.

TCLP Milsoft-GIS Database Enhancements Project Cost Table

Project Task	Estimated Cost
Reconciliation of Milsoft WindMil Data Import Reports	
Task 1.1 – Check Rated Input Voltage	\$50 - \$150
Task 1.2 – Invalid Open Wye-Delta	\$50 - \$150
Task 1.3 – OH Lines Missing Equipment DB Definitions	\$380 - \$760
Task 1.4 – Transformers kVA Rating 0.0	\$1,500 - \$3,000
Task 1.5 – Inconsistent Configuration of Elements	\$2,000 - \$2,500
Task 1.6 – Devices w/o Connected Children	\$750 - \$1,000
Task 1.7 – Distinguish UG Pri. and Sec. Conductor Defs	\$1,000 - \$2,500
Task 1.8 – Assign Valid EQ Defs. to Overcurrent Devs.	\$950 - \$1,520
Subtask 1.8.1 – GIS Mapping of System Overcurrent Devs.	\$750 - \$1,520
Task 1.9 – Disconnected Model	\$25,000 - \$35,000
Task 1.10 – GIS Data Phasing Mismatches	\$3,000 - \$4,000
Task 1.11 – Incomplete GIS Data in Model	\$3,000 - \$5,000
Type 2 Tasks	\$0
Type 1 Tasks and Type 2 Tasks Subtotal	\$ 38,430 - \$57,100

Cinfo Geographics

Additional TCLP GIS Model Enhancements	
Enhancement 1 – GIS Data Development	\$ 3,800 - \$7,600
Enhancement 2 – Integration of Pole Inspections Data	\$ 3,000 - \$3,500
Enhancement 3 – Analysis/Reconciliation of Meter Address Data	\$ 2,500 - \$3,600
Enhancement 4 - Installation of 2014 Orthophotography/Oblique Imagery	\$ 1,500 - \$3,000
Enhancement 5 – Field-based Editing using Collector for ArcGIS	\$ 2,700 - \$3,700
Additional TCLP GIS Model Enhancements Subtotal	\$ 13,500 - \$21,400
GIS Support Block (optional)	\$ 10,000
Project Total Range	\$ 61,930 - \$88,500

InfoGeographics 2015 Consulting Rates and Expenses

The following information presents hourly costs for ad hoc work as assigned and approved by TCLP.

GIS Consultant \$ 95 / hour Senior GIS Consultant/Programmer \$ 125 / hour

Conclusion

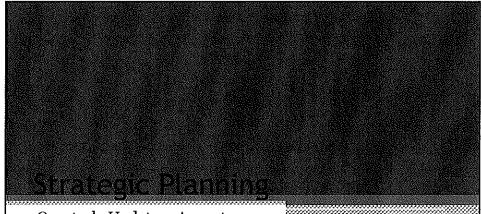
InfoGeographics feels this project will vastly improve TCLP's electric system GIS data model, set the stage for successful integration and use of this data in Milsoft applications, and improve the efficiency of operations and data maintenance. InfoGeographics has the experience and knowledge to exceed expectations for this project. If you have any questions or comments, please contact me at any time. If you are in agreement with the terms of this proposal, please sign and date in the block provided below, and InfoGeographics will work with TCLP to institute a suitable Purchase Order or other form of approval. InfoGeographics looks forward to continuing to contribute to your success with GIS.

Best Regards,

, Traverse City Light & Pow
Date:

InfoGeographics, Inc.

TCLP Milsoft-GIS Database Enhancements



Quarterly Update - August 2015





Financial Stability

- Provide transparent communications on the financial health of the organization to customers through an annual report by March 31, 2015.
 - COMPLETED
- Enhance public engagement through quarterly performance reporting to the Board and public (on-going).
 - IN PROGRESS
- Develop a board policy to provide guidance as to the appropriate utility contribution for city projects above the Charter required annual contribution.
 - IN PROGRESS
- Review current workplace flows for efficiency enhancement through new developed process and procedures that will provide a proper planning environment and execution process for utility projects.
 - IN PROGRESS
- Develop and implement rate structures to promote financial stability along with energy conservation.
 - IN PROGRESS



Power Supply Strategy

- Create a long-term plan designed to implement programs and/or incentives
 that will manage load growth aimed at reducing on-peak demand by July
 31, 2015. Energy efficiency programs will be implemented to achieve the
 maximum energy efficiency outcomes for the dollar amounts budgeted for
 the benefit of all ratepayers.
 - COMPLETED
- · Implement recommendations from the IRP report.
 - IN PROGRESS
- Investigate generation opportunities that complement the power supply mix.
 - IN PROGRESS
- · Develop a plan for meeting state guidelines on the new Energy Plan 2015.
 - IN PROGRESS



System Reliability & Power Quality

- Annually review, enhance and develop system maintenance programs ensuring Average Service Availability Index ("ASAI") remains above 99.970%.
 - IN PROGRESS
- Develop a rating system to prioritize capital system improvements, to be updated annually.
 - IN PROGRESS
- Coordinate construction projects between TCL&P, other city departments, and other utilities.
 - IN PROGRESS
- Formalize written switching and tagging procedures as recommended by Hometown Connections.
 - PLANNED FOR FUTURE



Technology

- · Enhance video security monitoring at TCL&P's facilities.
 - IN PROGRESS
- · Implement a new work order management system.
 - IN PROGRESS
- Install and implement an Integrated Voice Response (IVR) system for outage management.

- IN PROGRESS
- Fully implement MilSoft Outage Management and Engineering Analysis Program.
 - IN PROGRESS
- Update the utility's Supervisory Control and Data Acquisition (SCADA) system to current technology.
 - IN PROGRESS



Technology continued

- Complete a study analyzing implementation reasons for the Advanced Metering Infrastructure (AMI) Pilot.
 - IN PROGRESS
- Safeguard the utility from cyber threats to stay current with industry standards (on-going).
 - IN PROGRESS
- · Create emergency technology back-up procedures.
 - IN PROGRESS
- Research and implement technology that will effectively communicate pertinent utility information with customers.
 - IN PROGRESS



High Quality Workforce

- Continue engaging in efforts towards employee professional development and
 performance management in order to ensure that the workforce has the knowledge,
 skills and abilities to evolve in their positions and are accountable in the work being
 performed (on-going).
 - IN PROGRESS
- Align work tasks, processes, and knowledge and skill requirements with both current and future needs of the organization.
 - IN PROGRESS
- Enhance employee engagement on issues facing the utility through communication efforts that are transparent and effective.
 - IN PROGRESS



High Quality Workforce continued

- Modernize recruitment strategies, selection techniques and retention efforts to ensure that the utility is successful in attracting and retaining qualified candidates.
 - PLANNED FOR FUTURE
- Promote employer and worker awareness of, commitment to, and involvement with safety to effect positive change in the workplace culture through cooperative efforts and strong leadership.
 - IN PROGRESS



Customer Satisfaction

- · Maintain a customer satisfaction rating above 95%.
 - IN PROGRESS
- · Maintain customer rates lower than other utilities in the area.
 - IN PROGRESS
- Enhance the utilities communications efforts and community involvement by implementing the Communications Strategy.

- IN PROGRESS
- Continually analyze new and current value-added programs to meet or exceed the customer expectations of its utility.
 - IN PROGRESS
- Evaluate and implement services focused on assisting the unique needs of the utility's key account customers by December 31, 2015.
 - IN PROGRESS

FOR THE LIGHT & POWER BOARD MEETING OF AUGUST 25, 2015



To:

Light & Power Board

From:

Tim Arends, Executive Director

Date:

August 20, 2015

Subject:

August 2, 2015 Storm Update

Unlike the ice-storm in March of 2012 with outages primarily due to fallen limbs, this recent event resulted in numerous downed trees, some massive in size. The total number of customer outages as a result of this extensive damage was approximately 6,075 at its peak immediately following the storm. As crews worked to fix the primary circuits, roughly 70% of outages were restored within the first 24 hours and the percentage continued to increase as crews then focused efforts on secondary services and feeder lines. Full restoration occurred late Friday afternoon with the exception of two that were awaiting an electrician to service the equipment attached to their home prior to TCL&P performing the reconnect.

Mutual aid was dispatched to assist TCL&P crews from Lowell Light & Power, Marquette Board of Light & Power, Lansing Board of Water & Light, Grand Haven Board of Light & Power and Zeeland Board of Public Works for a total of seven additional line crews. Furthering the restoration efforts, Penn Line Services provided three tree crews to assist TCL&P with the clearing of fallen trees and limbs throughout the City.

The total cost to the utility is estimated at \$393,000. This number includes equipment costs and the manpower costs associated with the mutual aid crews as well as TCL&P employees working long hours to restore power as quickly as possible. As a comparison, the March 2012 storm cost the utility \$384,000.

Throughout this event, Facebook proved to be a great communication tool in keeping customers informed. Staff utilized it for posting updates, linking to the outage map and responding to customer questions. Prior to the storm we were at 746 page "Likes", however, following full restoration, this number reached 1,055. We will continue to encourage customers to "LIKE US" in an effort to reach more customers with this effective communication tool.

Management and union employees worked together to get power restored as quickly as possible and subsequently have met to discuss what went well and what could be improved to ensure a successful storm restoration the next time an event such as this occurs. Staff will work towards improving the process and updating the Storm Restoration Manual to include these changes.



David Walters, General Manager Grand Haven Board of Light & Power 1700 Eaton Drive Grand Haven, MI 49417

Dear Dave,

On behalf of Traverse City Light & Power (TCL&P), its Board of Directors and its customers, I would like to thank you, Kip Martin and David Dora of Grand Haven Board of Light & Power (BL&P) for your assistance during the major storm that occurred on Sunday, August 2, 2015.

With over 5,000 of TCL&P's 12,500 customers without power at the peak of the storm, and the extent of the damage with the numerous downed trees and branches, we were looking at a potentially long recovery period. But thanks to the hard work of your crewmembers and the work of other utility and tree crews, we were able to restore power back to our customers within five days.

Our residents and business owners have been nothing but complimentary about the efforts put forth to restore power to our area. If we can ever provide you with assistance, please feel free to call. I can assure you we will strive to assist you in the same manner and professionalism in which you helped us.

Again, thank you to all of the BL&P employees that helped TCL&P in our time of need. We are truly grateful.

Sincerely,

Timothy Arends
Executive Director

Traverse City Light & Power



Dick Peffley, Interim General Manager Lansing Board of Water & Light 1232 Haco Drive Lansing, MI 48912

Dear Dick,

On behalf of Traverse City Light & Power (TCL&P), its Board of Directors and its customers, I would like to thank you and Frank Croley, Jack Houghtaling, Jayne Hoxie, Greg Klump, Randy Parsons and Ted Sayen of Lansing Board of Water & Light (LBWL) for your assistance during the major storm that occurred on Sunday, August 2, 2015.

With over 5,000 of TCL&P's 12,500 customers without power at the peak of the storm, and the extent of the damage with the numerous downed trees and branches, we were looking at a potentially long recovery period. But thanks to the hard work of your crewmembers and the work of other utility and tree crews, we were able to restore power back to our customers within five days.

Our residents and business owners have been nothing but complimentary about the efforts put forth to restore power to our area. If we can ever provide you with assistance, please feel free to call. I can assure you we will strive to assist you in the same manner and professionalism in which you helped us.

Again, thank you to all of the LBWL employees that helped TCL&P in our time of need. We are truly grateful.

Sincerely,

Timothy Arends

Executive Director

Traverse City Light & Power



Greg Pierce, General Manager Lowell Light & Power 127 N Broadway Lowell MI, 49331

Dear Greg,

On behalf of Traverse City Light & Power (TCL&P), its Board of Directors and its customers, I would like to thank you, Justin Mutschler and Mark Droog of Lowell Light & Power for your assistance during the major storm that occurred on Sunday, August 2, 2015.

With over 5,000 of TCL&P's 12,500 customers without power at the peak of the storm, and the extent of the damage with the numerous downed trees and branches, we were looking at a potentially long recovery period. But thanks to the hard work of your crewmembers and the work of other utility and tree crews, we were able to restore power back to our customers within five days.

Our residents and business owners have been nothing but complimentary about the efforts put forth to restore power to our area. If we can ever provide you with assistance, please feel free to call. I can assure you we will strive to assist you in the same manner and professionalism in which you helped us.

Again, thank you to all of the Lowell Light & Power employees that helped TCL&P in our time of need. We are truly grateful.

Sincerely,

Timothy Arends

Executive Director

Traverse City Light & Power



Paul Kitti, Executive Director Marquette Board of Light & Power 2200 Wright Street Marquette, MI 49855

Dear Paul,

On behalf of Traverse City Light & Power (TCL&P), its Board of Directors and its customers, I would like to thank you and Patrick Aho, Drew Ahonen, Jonny Betz and Nathan Chaperon of Marquette Board of Light & Power (MBLP) for your assistance during the major storm that occurred on Sunday, August 2, 2015.

With over 5,000 of TCL&P's 12,500 customers without power at the peak of the storm, and the extent of the damage with the numerous downed trees and branches, we were looking at a potentially long recovery period. But thanks to the hard work of your crewmembers and the work of other utility and tree crews, we were able to restore power back to our customers within five days.

Our residents and business owners have been nothing but complimentary about the efforts put forth to restore power to our area. If we can ever provide you with assistance, please feel free to call. I can assure you we will strive to assist you in the same manner and professionalism in which you helped us.

Again, thank you to all of the MBLP employees that helped TCL&P in our time of need. We are truly grateful.

Sincerely,

Timothy Arends
Executive Director

Traverse City Light & Power



William Cook, Jr., General Manager Zeeland Board of Public Works 350 E. Washington Avenue Zeeland MI, 49464

Dear Bill,

On behalf of Traverse City Light & Power (TCL&P), its Board of Directors and its customers, I would like to thank you, Michael Burgess and Neal Dobbin of the Zeeland Board of Public Works (BPW) for your assistance during the major storm that occurred on Sunday, August 2, 2015.

With over 5,000 of TCL&P's 12,500 customers without power at the peak of the storm, and the extent of the damage with the numerous downed trees and branches, we were looking at a potentially long recovery period. But thanks to the hard work of your crewmembers and the work of other utility and tree crews, we were able to restore power back to our customers within five days.

Our residents and business owners have been nothing but complimentary about the efforts put forth to restore power to our area. If we can ever provide you with assistance, please feel free to call. I can assure you we will strive to assist you in the same manner and professionalism in which you helped us.

Again, thank you to all of the BPW employees that helped TCL&P in our time of need. We are truly grateful.

Sincerely,

Timothy Arends

Executive Director

Traverse City Light & Power