

**A REGULAR MEETING**

Of The

**TRAVERSE CITY LIGHT AND POWER BOARD**

Will Be Held On

**TUESDAY, August 23, 2016**

At

**5:15 p.m.**

In The

**COMMISSION CHAMBERS**  
(2<sup>nd</sup> 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.

Jennifer J. St. Amour  
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: 08-19-16  
4:00 p.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 August 9, 2016. (Approval recommended) (p.3)
- b. Consideration of approving a contract exception with CC Power, LLC. (Approval recommended) (Schimpke) (p.6)

#### 3. Unfinished Business

None.

#### 4. New Business

- a. Consideration of an updated organizational chart and approval of job descriptions. (Schroeder) (p.7)
- b. Consideration of authorizing professional engineering and contract management services with GRP Engineering, Inc. (Approval recommended) (Schimpke) (p.22)

#### 5. Appointments

None.

#### 6. Reports and Communications

- a. From Legal Counsel.
- b. From Staff.
  1. Paperless board meeting packets. (Arends) (p.27)
  2. Emergency purchase for Cass Road substation. (Schimpke) (p.28)
  3. System Study Update. (Schimpke) (p.31)
  4. Annual Seedling Giveaway. (Schroeder) (p.43)
- c. From Board.

#### 7. Public Comment

**TRAVERSE CITY  
LIGHT AND POWER BOARD**

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

**Board Members -**

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

Absent: Bob Spence

**Ex Officio Member -**

Present: Marty Colburn, City Manager

**Others:** Tim Arends, Karla Myers-Beman, Pete Schimpke, Kelli Schroeder, Scott Menhart, Jennifer St. Amour

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

**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, be approved:

- a. Minutes of the Regular Meeting of June 28, 2016.
- b. Appointment of Karla Myers-Beman as Officer Delegate and Kelli Schroeder as Officer Alternate Delegate to cast official votes on behalf of TCL&P at the Annual Meeting of the Municipal Employees Retirement Systems.
- c. Letter of Agreement with the Utility Workers Union of America, AFL-CIO Local No. 2955
- d. Purchase order to Power Line Supply in the amount of \$47,625.34 for materials for the pole replacements project.

CARRIED unanimously.

With consent of the Board, Chairman Geht added a verbal report on Fiber To The Premise (FTTP) under Reports and Communications as item 6b3.

**Items Removed from the Consent Calendar**

None.

**Item 3 on the Agenda being Unfinished Business**

None.

**Item 4 on the Agenda being New Business**

1. Consideration of a Project Authorization request for AMI.

The following individuals addressed the Board:

Tim Arends, Executive Director  
Scott Menhart, Manager of Telecom & Technology  
Damon Dougherty, Senior Sales Manager, GE Energy Connections

Moved by Shamroe, seconded by Taylor, that the Board approves the Advanced Metering Infrastructure Project Authorization Request and directs staff to solicit bids for the Board's future consideration of approval.

CARRIED unanimously.

**Item 5 on the Agenda being Appointments**

None.

**Item 6 on the Agenda being Reports and Communications**

- a. From Legal Counsel.

Chairman Geht welcomed Scott Howard as the alternate general counsel sitting in for W. Peter Doren.

1. Scott Howard reported a lawsuit has been filed against TCL&P and Trees, Inc. by the Estate of Zachary Adams. TCL&P will be represented by insurance attorneys in this matter; Howard and Doren will also be available for guidance. Howard stressed that any inquiries made by the public media or private individuals should be directed to himself or Doren.

- b. From Staff.

1. Karla Myers-Beman provided further analysis on the MPPA Purchase Power Commitment.
2. Pete Schimpke presented the System Project Priority Matrix
3. Tim Arends and Scott Menhart provided Fiber To The Premise (FTTP) update.

- c. From Board.

1. Tim Werner reported that the community and the City have been doing some in-fill projects with the sidewalks. He would like to see collaboration with respect to TCL&P's pole replacements project. He has concern about the placement of new poles replacing old poles where a sidewalk may be put in the future.

**Item 7 on the Agenda being Public Comment**

There being no objection, Chairman Geht declared the meeting adjourned at 6:44 p.m.

/js

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Tim Arends, Secretary  
LIGHT AND POWER BOARD

DRAFT



**TRAVERSE CITY  
LIGHT & POWER**

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**To:** Light & Power Board  
**From:** Pete Schimpke, Manager of Operations and Engineering  
**Date:** August 16, 2016  
**Subject:** CC Power LLC Exception Request

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The Board approved a blanket Construction Contract for “Electric Line Distribution Construction Contractor Services,” (“Agreement”) in the amount of \$100,000 with CC Power LLC in December 2015 for any work orders that are within the timeframe of one to five days. Staff is requesting the Board grant a one-time exception to this requirement for the Pole Replacement Project.

The purpose of this exception is to allow CC Power LLC to remove the currently estimated nine obstructed poles and eight joint use poles with Consumers Energy attachments as CC Power LLC 1) has the equipment necessary to perform the work 2) has working experience on these types of poles 3) the utility typically contracts this work 4) CC Power LLC is certified to transfer attachments of other utilities, and 5) the hourly rate provided within the Agreement is close to the internal labor and equipment rate.

This item is appearing on the Consent Calendar as staff deems it to be a non-controversial housekeeping matter, and recommends the Board approve granting a contract exception with CC Power LLC for work pertaining to the Pole Replacement Project’s obstructed and joint use poles that will exceed five work days. Approval of this item on the Consent Calendar means you agree with staff’s recommendation.

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

**MOVED BY \_\_\_\_\_, SECONDED BY \_\_\_\_\_,**

**THAT THE LIGHT & POWER BOARD APPROVES GRANTING A CONTRACT  
EXCEPTION WITH CC POWER LLC FOR THE WORK PERTAINING TO THE  
POLE REPLACEMENT PROJECT’S OBSTRUCTED AND JOINT USE POLES  
THAT EXCEED FIVE WORK DAYS.**



**TRAVERSE CITY  
LIGHT & POWER**

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**To:** Light & Power Board  
**From:** Kelli Schroeder, Manager of HR & Communications  
**Date:** August 17, 2016  
**Subject:** Organizational Chart and Position Updates

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A handwritten signature in black ink, appearing to be "Kelli Schroeder", is written over the "From:" line of the memo.

Pete Schimpke, Manager of Operations & Engineering has determined a need to restructure the Engineering Department in order to increase efficiencies, fill gaps and plan for future succession. Attached for your consideration is an update to the Organizational Chart that highlights the following proposed personnel changes:

- Removal of the Energy Technician & Key Accounts Representative position. The utility recently tried recruiting for this position but was unsuccessful in finding qualified candidates.
- Addition of a new position titled System Engineer/Key Accounts which would encompass both high level engineering functions as well as the technical aspects of Energy Efficiency and Key Accounts. The utility will externally recruit for this position which is also planned for future succession into the Manager of Operations & Engineering. The position has been placed at a Grade 4, with a current salary range of \$71,803 - \$93,345 in order to attract recent Electrical Engineering graduates or those with 1-2 years' experience.
- The current position of System Engineer will change to Senior Field Technician whose duties will include supervision of the Metering Department along with acting as the Line Superintendent in his absence. This position will remain at a Grade 3, with a current salary range of \$66,112 - \$85,945.
- The current position of Field Engineering Supervisor will change to Field Supervisor whose current duties, including supervision of the Signal Department, will not change. This position will remain at a Grade 3, with a current salary range of \$66,112 - \$85,945.

Staff is recommending the above personnel changes.

In addition to the Organizational Chart, the ACT Group Salary Ranges along with job descriptions for the System Engineer/Key Accounts, Senior Field Technician and Field Supervisor positions have been included in your packet for your consideration of approval.

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

**(RECOMMENDED MOTIONS ON NEXT PAGE)**

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

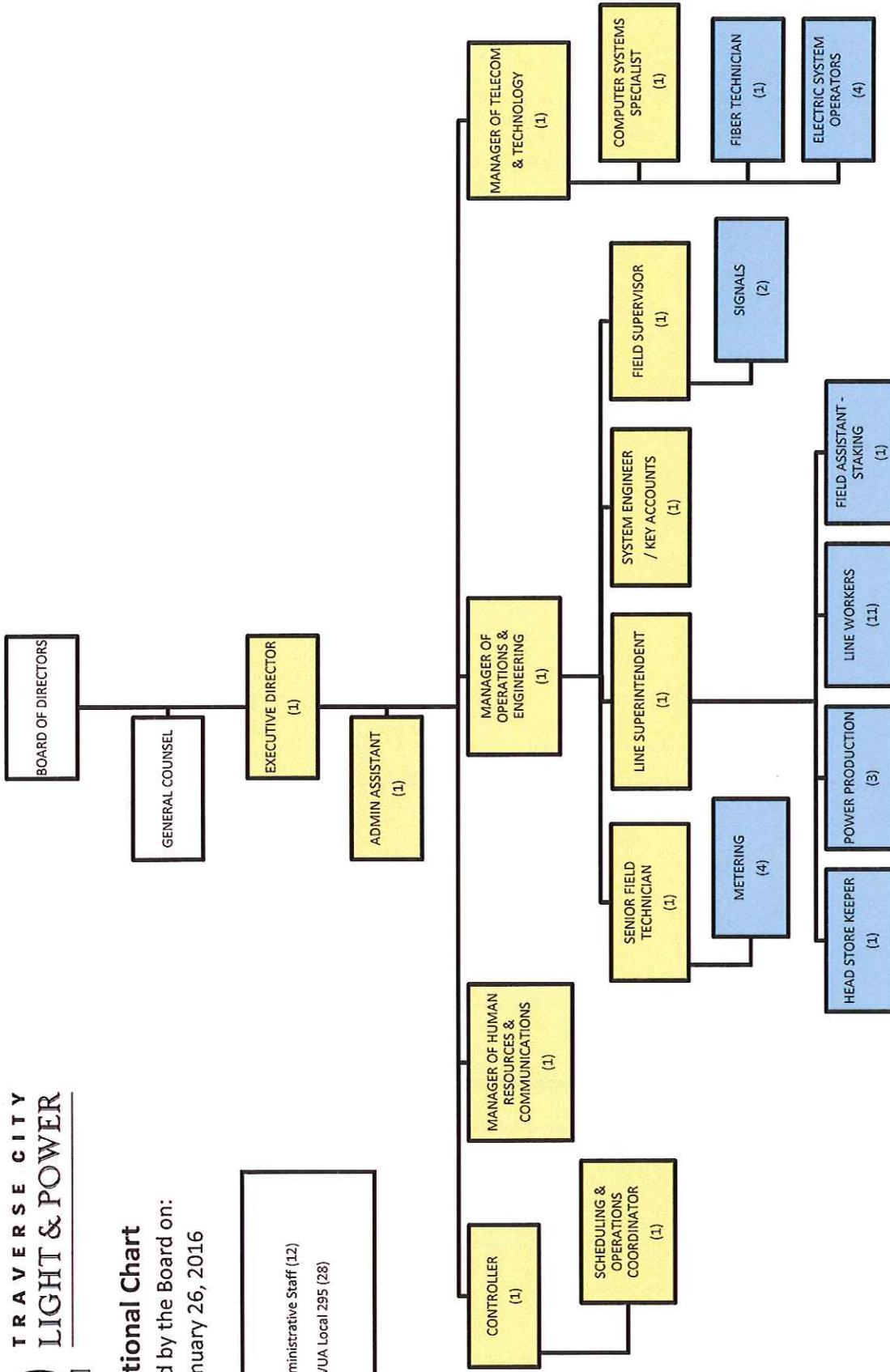
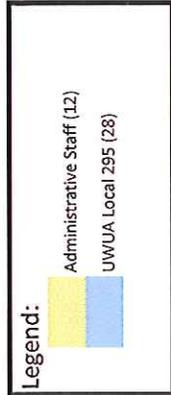
MOVED BY \_\_\_\_\_, SECONDED BY \_\_\_\_\_,

**THAT THE BOARD APPROVES THE CHANGES TO THE ORGANIZATIONAL CHART, THE ACT GROUP SALARY RANGES AND THE JOB DESCRIPTIONS FOR THE SYSTEM ENGINEER/KEY ACCOUNTS, SENIOR FIELD TECHNICIAN AND FIELD SUPERVISOR POSITIONS AS PRESENTED.**



# Organizational Chart

As approved by the Board on:  
Tuesday, January 26, 2016



**Traverse City Light & Power**  
**ACT Group Salary Ranges**  
**Effective August 24, 2016**

<b>Grade</b>	<b>Minimum</b>	<b>Midpoint</b>	<b>Maximum</b>	<b>Position</b>
<b>1</b>		<b>\$41,791</b>	<b>\$47,241</b>	Administrative Assistant
				Scheduling & Operations Coordinator
<b>2</b>	<b>\$52,539</b>	<b>\$60,420</b>	<b>\$68,301</b>	Computer Systems Specialist
				Field Supervisor
<b>3</b>	<b>\$66,112</b>	<b>\$76,029</b>	<b>\$85,945</b>	Senior Field Technician
				Manager of HR & Communications
<b>4</b>	<b>\$71,803</b>	<b>\$82,574</b>	<b>\$93,345</b>	Line Superintendent
				System Engineer/Key Accounts
<b>5</b>	<b>\$80,560</b>	<b>\$92,644</b>	<b>\$104,728</b>	Controller
				Manager of Telecom & Technology
<b>6</b>	<b>\$95,000</b>	<b>\$110,000</b>	<b>\$125,000</b>	Manager of Operations & Engineering

## **TRAVERSE CITY LIGHT & POWER JOB DESCRIPTION**

### **SYSTEM ENGINEER / KEY ACCOUNTS**

**Supervised By:** Manager of Operations and Engineering  
**Supervises:** No supervisory responsibility  
**Status:** Exempt

**Position Summary:**

Under the direction of the Manager of Operations and Engineering performs complete electric system analysis and makes recommendations for proper utilization of system assets. Takes the lead in the planning, design and project management of generation, transmission, distribution, metering and utility services. Develops major project scheduling processes to ensure the meeting of project commitments, including completion dates and dollar expenditures. Performs technical work for the TCL&P Energy Efficiency initiative. Serves as TCL&P's primary contact for Key Accounts.

**Essential Job Functions:**

An employee in this position may be called upon to do any or all of the following essential functions. These examples do not include all of the duties which the employee may be expected to perform. To perform this job successfully, an individual must be able to perform each essential function satisfactorily.

1. Utilize Milsoft's WindMil computer analysis program to perform any and all special planning studies as business conditions dictate.
2. Calculate various electrical parameters, including those associated with distributed generation, to verify elements are properly modeled in WindMil.
3. Perform complete electric transmission and distribution system analysis including but not limited to voltage analysis, load flow analysis, short circuit studies, sectionalizing studies on the distribution system, and the coordination of transmission and substation relays internal to the TCL&P system and with other utilities. Perform these analyses on a short term and long term basis.
4. Develop comprehensive N-1 contingency plans for outage conditions such as loss of a feeder, loss of a substation, and/or loss of a transmission line. Work with the TCL&P Field Technicians to identify and make recommendations for contingency planning for critical loads and customers.
5. Produce comprehensive written reports presenting the results of the long term studies. These reports shall include budgetary costs, net present value (NPV) when required for capital rationing, and time-lines for implementation.

6. Produce electric system long term projected load growth models by circuit, by substation transformer, by substation, and by transmission line to determine required projects for system reinforcement.
7. Program substation protective devices which includes but is not limited to circuit feeders, recloser settings, differential relaying, over/under voltage and frequency relays, and all transmission line relaying.
8. Perform the duties of lead technical person for the TCL&P Energy Efficiency initiative. Assess customer energy efficiency opportunities by performing energy audits at customer facilities by connecting temporary instrumentation inside customer facilities. Write concise audit reports presenting findings and recommendations.
9. Establish strong relationships with TCL&P's large customers. Design and implement a Key Accounts Program to add customer value of the TCL&P services.
10. Analyze power quality issues at customer points of interconnection and inside the customer's facility.
11. Keep abreast of changes in electric generation, transmission and distribution regulations through attendance at conferences and meetings, contacts with other professionals, reading literature and participating in professional organizations.
12. Participate in the future planning of generation capacity resources, and transmission and distribution facilities.
13. Assist with ensuring proper adherence to safety regulations and practices and participate in the accident prevention program.
14. Establish and maintain effective relationships and use good judgment, initiative and resourcefulness when dealing with customers, employees, project contractors, and representatives of other governmental units, professional contacts, City administrators, elected officials, and the public.
15. Perform other duties as assigned.

**Required Knowledge, Skills, Abilities and Minimum Qualifications:**

The requirements listed below are representative of the knowledge, skills, abilities and minimum qualifications necessary to perform the essential functions of the position. Reasonable accommodations may be made to enable individuals with disabilities to perform the job.

- Education requirements include a Bachelor's degree in Electrical Engineering with an electric power emphasis, EIT registration within two (2) years of employment is required. Registration as a Professional Engineer (PE) four (4) years after EIT certification or start of employment whichever is later is also a requirement.
- State of Michigan Vehicle Operator's license.

- Thorough understanding of electric generation, transmission, distribution and metering principals.
- Thorough knowledge of per unit electrical calculations and symmetrical components theory and practicality required.
- Working knowledge of substation DC Control schematics and AC 3-line diagrams.
- Knowledge and understanding of transients and harmonics.
- Skill in designing and developing electric generation, transmission and distribution systems.
- Knowledge of the NESC, NEC and other codes and regulations.
- General knowledge and understanding of business management, contract administration and project management is required.
- Skill in utilizing a variety of electrical testing and control devices.
- Ability to analyze complex engineering problems and make sound decisions.
- Ability to use office equipment such as telephone, calculator, photocopier, fax, personal computer and software applications including CAD, GIS, spreadsheet, word processing and database usage.
- Ability to effectively communicate orally and in writing, make presentations and interact and communicate in a positive and professional manner with other employees, contractors, vendors, Board members, customers and the public.
- Demonstrated ability to critically assess situations and solve problems, and to work effectively under stress, within deadlines and changes in work priorities.
- In addition to the above-mentioned requirements, this position requires the ability to read, write, speak and understand the English language as necessary for the position; the ability to follow written and oral instruction; and be physically and mentally able to perform the essential duties of their position. Regular, consistent and predictable attendance is also required.

**Physical Demands and Work Environment:**

The physical demands and work environment characteristics described here are representative of those an employee encounters while performing the essential functions of the job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to stand, walk, sit, use hands and fingers, talk and hear. The employee must be able to squat, stoop or kneel. The

employee must occasionally lift materials of moderate weight. The employee is regularly required to communicate in person and by telephone, read regular and small print, have limited mobility in an office setting, use manual dexterity to type and enter data, and use sight to read and prepare documents and reports.

While performing the duties of this job, the employee regularly works both indoors and outdoors and regularly drives a motor vehicle between work sites. While on project sites, the employee is occasionally exposed to fumes or airborne particles, outside weather conditions, moving mechanical equipment and the potential threat of electric shock. The noise level in the office work environment is usually quiet to moderate, but may become loud on project sites.

## **TRAVERSE CITY LIGHT & POWER JOB DESCRIPTION**

### **SENIOR FIELD TECHNICIAN**

**Supervised By:** Manager of Operations & Engineering  
**Supervises:** Meter Department Employees  
**Status:** Exempt

**Position Summary:**

Under the direction of the Manager of Operations and Engineering, performs electric distribution system load analysis and makes recommendations for proper utilization of system assets. Assists in the planning, design and project management of transmission, distribution, metering and utility services. Develops major project scheduling processes to ensure the meeting of project commitments, including completion dates and dollar expenditures.

**Essential Job Functions:**

An employee in this position may be called upon to do any or all of the following essential functions. These examples do not include all of the duties which the employee may be expected to perform. To perform this job successfully, an individual must be able to perform each essential function satisfactorily.

1. Perform field design for large and complex proposed distribution projects, in particular downtown underground projects. Develops material lists for the projects including estimating costs and construction time. Acquire permits and easements as required for the project.
2. Prepare and administer all phases of bid, award, contract and construction for large distribution system projects.
3. Perform project management services for large distribution projects by coordinating the actions and schedules of TCL&P line crews, consulting engineers, and outside line crews.
4. Supervise the day-to-day operations of the Meter Department.
5. Actively participate in the development and maintenance of distribution construction standards.
6. Perform electric load flow analysis on the distribution systems to identify present and future system deficiencies.
7. Create detailed system switching procedures to ensure switching is performed in a safe manner to protect the public, line crews and other personnel and equipment.
8. Provide ongoing essential technical leadership to the TCL&P System Operators and especially during storm management and service restoration.

9. Serve as Line Superintendent in the absence of the full time Line Superintendent.
10. Recommend electric distribution system configurations for optimal use of assets.
11. Develop electric distribution system models that includes projected load growth to determine required projects for system reinforcement.
12. Develop and maintain the TCL&P Project Priority Matrix used to evaluate and prioritize potential system improvement projects.
13. Develop project management models to reflect critical path project components including, actual expenditure tracking versus the plan.
14. Identify and make recommendations for contingency planning for critical loads and customers.
15. Complete engineering plans and design work required to expand or adjust service capacity. Complete supportive documentation, reports and drawings.
16. Keep abreast of changes in electric generation, transmission and distribution regulations through attendance at conferences and meetings, contacts with other professionals, reading literature and participating in professional organizations.
17. Participate in the future planning of transmission and distribution facilities.
18. Assist with ensuring proper adherence to safety regulations and practices and participates in the accident prevention program.
19. Establish and maintain effective relationships and use good judgment, initiative and resourcefulness when dealing with customers, employees, project contractors, and representatives of other governmental units, professional contacts, City administrators, elected officials, and the public.
20. Perform other duties as assigned.

**Required Knowledge, Skills, Abilities and Minimum Qualifications:**

The requirements listed below are representative of the knowledge, skills, abilities and minimum qualifications necessary to perform the essential functions of the position. Reasonable accommodations may be made to enable individuals with disabilities to perform the job.

- Associate degree in Electrical Engineering (power emphasis) or Computer Science preferred. Plus a minimum of six (6) to ten (10) years working with electrical distribution systems.

- State of Michigan Vehicle Operator's license.
- Good understanding of electric generation, transmission, distribution and metering principals.
- Skill in designing and developing electric distribution systems.
- Knowledge of the NESC, NEC and other codes and regulations.
- General knowledge and understanding of business management, contract administration and project management is required.
- Skill in utilizing a variety of electrical testing and control devices.
- Ability to analyze complex technical problems and make sound decisions.
- Ability to use office equipment such as telephone, calculator, photocopier, fax, personal computer and software applications including CAD, GIS, spreadsheet, word processing and database usage.
- Ability to effectively communicate orally and in writing, make presentations and interact and communicate in a positive and professional manner with other employees, contractors, vendors, Board members, customers and the public.
- Demonstrated ability to critically assess situations and solve problems, and to work effectively under stress, within deadlines and changes in work priorities.
- In addition to the above-mentioned requirements, this position requires the ability to read, write, speak and understand the English language as necessary for the position; the ability to follow written and oral instruction; and be physically and mentally able to perform the essential duties of their position. Regular, consistent and predictable attendance is also required.

**Physical Demands and Work Environment:**

The physical demands and work environment characteristics described here are representative of those an employee encounters while performing the essential functions of the job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to stand, walk, sit, use hands and fingers, talk and hear. The employee must be able to squat, stoop or kneel. The employee must occasionally lift materials of moderate weight. The employee is regularly required to communicate in person and by telephone, read regular and small print, have limited mobility in an office setting, use manual dexterity to type and enter data, and use sight to read and prepare documents and reports.

While performing the duties of this job, the employee regularly works both indoors and outdoors and regularly drives a motor vehicle between work sites. While on project sites, the employee is occasionally exposed to fumes or airborne particles, outside weather conditions, moving mechanical equipment and the potential threat of electric shock. The noise level in the office work environment is usually quiet to moderate, but may become loud on project sites.

August 2016

# TRAVERSE CITY LIGHT & POWER JOB DESCRIPTION

## FIELD SUPERVISOR

**Supervised By:** Manager of Operations & Engineering  
**Supervises:** Traffic Signal Technicians  
Contract Tree Crews  
**Status:** Exempt

### Position Summary:

Under the general direction of the Manager of Operations & Engineering, directs the mapping and facilities management functions of the Engineering Department. Responsible for creating and distributing accurate up-to-date mapping and informational databases; meeting with customers, developers, contractors and other agencies; designing new and upgraded services and developing material lists and cost estimates. Responsible for the direct supervision of the Traffic Signal Technicians and contract tree trimmers.

### Essential Job Functions:

An employee in this position may be called upon to do any or all of the following essential functions. These examples do not include all of the duties which the employee may be expected to perform. To perform this job successfully, an individual must be able to perform each essential function satisfactorily.

1. Perform all functions necessary for the physical accounting of facilities constructed, including the development of drawings and maps, as part of the expansion of the distribution system.
2. Perform field design of proposed projects and develop material lists for the projects, including estimating cost and construction time. Prepare and acquire necessary permits and easements.
3. Prepare and administer all phases of bid, award, contract and construction. Closely supervise contracted services; which may include tree trimming services.
4. Develop methods for capturing field data and providing it to persons responsible for updating electric distribution facilities maps. Audit and evaluate existing field data and maps to insure accuracy of existing infrastructure.
5. Create and maintain databases developed from the above systems to allow for the digital representation of system models for the planning of future facility expansion. Provide analysis of the existing and future system models. Utilize AutoCAD and ArcGIS to complete mapping tasks.

6. Supervise the day to day operations of the Traffic Signal Technicians and contract tree trimmers.
7. Provide support and installation assistance for various systems such as SCADA, metering at TCL&P and customer facilities, or wherever technical support is needed.
8. Assist and work closely with the Manager of Operations & Engineering and Line Superintendent in daily operations.
9. Keep abreast of changes in the electric utility industry through attendance at conferences and meetings, contacts with other professionals, reading literature and participating in professional organizations.
10. Assist with ensuring proper adherence to safety regulations and practices and participates in the accident prevention program.
11. Establish and maintain effective relationships and use good judgment, initiative and resourcefulness when dealing with customers, employees, project contractors, and representatives of other governmental units, professional contacts, City administrators, elected officials, and the public.
12. Perform other duties as assigned.

**Required Knowledge, Skills, Abilities and Minimum Qualifications:**

The requirements listed below are representative of the knowledge, skills, abilities and minimum qualifications necessary to perform the essential functions of the position. Reasonable accommodations may be made to enable individuals with disabilities to perform the job.

- Associate's degree in electrical engineering or computer science preferred, plus three years experience in working with electrical distribution systems.
- State of Michigan Vehicle Operator's License.
- Working knowledge of electric distribution system design and layout.
- Working knowledge of National Electric Safety Codes, OSHA regulations, and other codes and regulations governing power distribution.
- Working knowledge of utility system planning, operations and safety.
- Skill in designing and developing new electric connections and systems.
- Skill in utilizing a variety of electrical testing and control devices.

- Ability to use office equipment such as telephones calculator, photocopier, fax, personnel computer and software applications including word processing, spreadsheet, database, CAD and GIS.
- Ability to effectively communicate orally and in writing, make presentations and interact and communicate in a positive and professional manner with other employees, contractors, vendors, Board members, customers and the public.
- Demonstrated ability to critically assess situations and solve problems, and to work effectively under stress, within deadlines and changes in work priorities.
- In addition to the above-mentioned requirements, this position requires the ability to read, write, speak and understand the English language as necessary for the position; the ability to follow written and oral instruction; and be physically and mentally able to perform the essential duties of their position. Regular, consistent and predictable attendance is also required.

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**TRAVERSE CITY  
LIGHT & POWER**

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**To:** Light & Power Board  
**From:** Pete Schimpke, Manager of Operations and Engineering *PJS*  
**Date:** August 17, 2016  
**Subject:** 2016 Distribution Circuit Rehabilitation Circuit BW-31 Project Professional Engineering Services

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At the April 12, 2016 regular meeting, the Board approved the 2016 Distribution Circuit Rehabilitation Circuit BW-31 Project Authorization Request ("Project"). The next action is consideration of professional engineering services for the Project. Attached is a proposal from GRP Engineering, Inc. ("GRP") for your consideration of approval.

GRP will provide line design, contract administration, and project management services from the projects inception to its completion.

Staff recommends approval of the proposal as presented. If after Board discussion you agree with staff's recommendation the following motion would be appropriate:

**MOVED BY \_\_\_\_\_, SECONDED BY \_\_\_\_\_,  
THAT THE BOARD AUTHORIZES THE CHAIRMAN AND SECRETARY TO ENTER  
INTO AN AGREEMENT WITH GRP ENGINEERING, INC. FOR PROFESSIONAL  
ENGINEERING AND CONTRACT MANAGEMENT SERVICES RELATED TO THE  
2016 DISTRIBUTION CIRCUIT REHABILITATION CIRCUIT BW-31 PROJECT IN  
THE NOT TO EXCEED AMOUNT OF \$74,750; SUBJECT TO APPROVAL AS TO  
SUBSTANCE BY THE EXECUTIVE DIRECTOR, AND AS TO FORM BY GENERAL  
COUNSEL.**

August 13, 2016

Mr. Peter Schimpke, PE  
Manager of Engineering & Operations  
Traverse City Light & Power  
1131 Hastings St.  
Traverse City, MI 49686

**RE: Engineering Services Proposal  
BW31 Circuit Rebuild**

Dear Peter:

GRP Engineering, Inc. is pleased to present this proposal to Traverse City Light & Power (TCL&P) for engineering services associated with the rebuild of Barlow Substation Circuit BW31. This circuit has been slated for rebuild due to age, outages, conductor and hardware condition.

Overall project scope includes rebuilding of circuit BW31 including the following:

- 2.34 miles of three-phase primary line
- 2.85 miles of single-phase primary line
- 4.0 miles of secondary conductor (*estimated*)
- Service drops and transformers, as determined during the field inventory.
- All primary poles and secondary poles, as determined during the field inventory.
- All new line hardware, guying, anchoring, grounding, and miscellaneous assemblies.

Underground line sections on this circuit are not included in the proposal. An aerial map of the circuit is included with this proposal. Estimated total construction cost is \$816,000.

**Circuit BW31 Rebuild Scope of Services**

- Conduct field review meeting with TCL&P staff.
- Inventory all units for retirement.
- Complete engineering design for each pole including provisions for joint-use where applicable.
- Coordinate design with Consumers Energy for any attachments.
- Prepare new construction and removal staking sheets.
- Prepare plan view layout drawings.
- Prepare construction assembly drawings meeting TCL&P standards.
- Prepare new construction and removal unit lists for contractor bidding.

- Prepare full project material list.
  - Assist TCL&P with material procurement including bidding, evaluation and award.
  - Prepare stringing sag charts for all new overhead conductor.
  - Prepare construction specifications.
  - Prepare full set of bidding documents.
  - Coordinate and assist on site with bid opening, evaluation and contract award.
  - Prepare construction contract including contractor's bid, bonds and insurance.
- 
- Conduct on-site pre-construction meeting.
  - On-site representation for material counting and delivery to the contractor.
  - Construction stake the line project ahead of line construction crews.
  - On-site representation during construction at critical times. *(23 full days included)*
  - Monitor and verify construction compliance with engineering drawings and specifications and all NESC requirements.
  - Prepare project "punch list" following completion of construction.
  - Process of all contractor invoicing and change orders. *(if required)*
  - Notify joint-use communication companies during the construction process.
  - Prepare all necessary contract close-out documents.

**Deliverables**

Deliverables will include:

- Distribution line construction staking sheets and assembly drawings (8.5"x11") pdf format.
- Distribution line construction plan view drawings (11"x17") in pdf format.
- Construction bid documents & specifications (8.5"x11") in pdf format.
- New construction and removal unit list (8.5"x11") in MSEXcel & pdf format.
- Material list (8.5"x11") in MSEXcel & pdf format.
- Conductor stringing sag charts (8.5"x11") in pdf format.
- Record drawings, staking sheets, and final inventory in the formats listed above.

**Proposed Project schedule:**

Project Kickoff	August 29, 2016
Design Complete	December 15, 2016
Bid Opening	January 18, 2017
Construction Start	March 1, 2017
Construction End	August 1, 2017

**GRP Engineering, Inc. proposes to complete the engineering services for the BW31 Circuit Rebuild project on an hourly basis for a not-to-exceed fee of \$74,750, including all expenses.** 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. The proposal is based on an estimated construction timeframe of 22 weeks. Should construction be extended and require additional days of on-site observation, they will be billed in addition to the maximum fee: Rates based on a 10-hour day are:

Project Manager	\$1,450
Design Engineer	\$900
Technician	\$700

This proposal does not include easement acquisition services including property owner meetings. TCL&P will handle PSA's and notifications to property owners on the BW31 circuit of the design and construction phases during the project. This proposal is based on rebuilding the line in the same centerline and not establishing new centerline or pole locations.

All services performed for Traverse City Light & Power within this scope will be billed on a monthly basis. Should additional services be required outside the scope of this proposal, GRP Engineering, Inc. will complete those tasks on an hourly basis via 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 regarding this proposal.

Sincerely,

**GRP Engineering, Inc.**



Michael P. McGeehan, P.E.  
President

Enclosures

**GRP ENGINEERING, INC.**  
**HOURLY BILLING RATES**

Employee Title	Engineer Level	Hourly Rate Range
Senior Project Manager	8	\$125 - \$150
Project Manager	7	\$105 - \$120
Senior Engineer	6	\$90 - \$105
Project Engineer	4 - 5	\$80 - \$90
Engineer	2 - 3	\$70 - \$80
Entry Level Engineer	1	\$50 - \$70
Engineering Technician		\$40 - \$50
Engineering Support		\$30 - \$43
Administrative Support		\$35 - \$50

Expenses will be invoiced at cost including, but not limited to, mileage, meals, lodging, printing and reproduction.

All subcontracted services will be invoiced at cost, with no additional markup.

Rates are valid through December 31, 2017



TRAVERSE CITY  
LIGHT & POWER

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**To:** Light & Power Board  
**From:** Tim Arends, Executive Director  
**Date:** August 17, 2016  
**Subject:** Paperless Board Meetings

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Staff would like to seek direction from the Board on whether they would be interested in moving forward with paperless board meetings.

Staff believes there would be several efficiencies/benefits gained through moving toward this process:

1. Information would be instantaneously provided to the Board instead of having to wait for delivery of the paper packet.
2. Allow for notification and quicker access to updated board information keeping everyone updated on the latest developments or changes.
3. Software/applications have the ability for notes to be saved on your personal copy of the board packet for reminders of points that need to be brought up at the meeting. A board member can have the capability to share these notes with other board members through a software/application program.
4. Allow for easier review of the board packet. Instead of having a large binder to review the board packet you can easily review it on a hardware device and take it whenever and wherever you go.
5. It would save the utility funds by eliminating employees' labor hours in processing and delivering the paper packets along with office supply costs relating to paper, copier and ink.

If the Board would like to pursue paperless board meetings staff would perform further research on software/applications that may be advantageous in management of the board packet information. Some of the steps taken would include researching even if a software/application is necessary and if it does seem advantageous, the advantages/disadvantages of software/applications such as Boardworks, BoardVantage, BoardPad, Board Sync or Convене.

Along with researching software/applications staff would investigate the best option for hardware (laptops or tablets) to be utilized.



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**To:** Light and Power Board  
**From:** Tim Arends, Executive Director  
**Date:** August 16, 2016  
**Subject:** Emergency Purchase for Cass Road Substation

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On Tuesday, August 9, 2016, TCLP line crews de-energized the Cass Road substation transformer #1 (T1) by opening the Siemens high side (69 kV) circuit switcher (CD-129) which feeds T1. Load normally carried by T1 was transferred to either transformer #2 (T2) at Cass Road or to circuits from other substations via distribution line connections. This de-energization was required so new reclosers could be installed on the circuits being fed by T1 and the new reclosers were installed without incident. On Friday, August 12th, TCLP tried to restore normal system configuration by closing CD-129 but it did not close. Various field checks were made but CD-129 still would not close. It should be noted that this same circuit switcher has a slow SF<sub>6</sub> gas leak which is periodically fixed by TCLP line crews and this leak has been present for about one year. Although slow SF<sub>6</sub> leaks are not uncommon they are obviously an issue that eventually needs resolution. TCLP has no spare circuit switchers.

Monday's activities included several phone calls to Siemens (sales, technical support, repair, & the factory), local supplier Anixter, RESCO, Consumers Energy, Wolverine Power Supply Cooperative, and GRP Engineering. Effort was given to see if TCLP could purchase from another utility the same circuit switcher or an equivalent made by another manufacturer. No switches were available. It should be noted that even if a spare switch was available from another utility the "fitness for service" of such a spare switch would need to be questioned.

In parallel with the searches mentioned above, TCLP worked with Siemens manufacturing and successfully decreased delivery time for a new switch from mid-November to the last week in September for only a \$1,000 increase in cost. Also, in parallel with the spare switch search, TCLP held discussions with the Siemens nationwide repair group. No repair crews would be available for at least a few weeks so Siemens is working with TCLP via phone calls.

Based primarily on the factors discussed above, TCLP determined the most prudent decision was to order the new circuit switcher and pay the \$1,000 premium. Other factors considered were: This circuit switcher is the TCLP standard, two such circuit switchers are installed at the new South Substation, two are planned for the Parsons Substation and two are planned for Barlow Substation. Plus, as mentioned above, TCLP has no spares.

The charges from Anixter were \$40,206.00 which is beyond the monetary spending limit set by the Board for the Executive Director. The Board approved purchasing policy does allow for emergency purchases by the Executive Director beyond the monetary spending authority, with conditions.

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

This communication to the Board is made to comply with the reporting requirement as identified in the Purchasing Policy (relevant section attached).

### C. EMERGENCIES

1. **Emergency Defined.** Emergency is defined as a threat to the public safety or welfare, or where timely action is required to restore electric service or avoid reduction of electric service or an anticipated outage.
2. **Executive Director Authority.** The Executive Director is authorized to enter into such contracts, purchase orders and service orders without Board approval in the amount necessary to alleviate or avoid an emergency. The Executive Director may delegate in writing to a Department Head authority to authorize that Department Head to exercise his or her emergency authority.
3. **Reporting.** When the Executive Director engages in an emergency transaction beyond the monetary spending limit of the Executive Director, he shall report such activity as soon as possible to the Board members and place the matter on the agenda of the next regular or special TCL&P Board Meeting for the information of the Board.

*Edward E. Rice*

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Edward E. Rice  
Secretary  
Traverse City Light & Power Board



# **System Study & 6-Year Plan Update**

**TCLP  
Board Meeting  
August 23, 2016**



## **System Study & 6-Year Plan Update**

- On August 4<sup>th</sup> GRP engineering completed a comprehensive Distribution System Study
- The study actually included some Substation & Transmission considerations
- TCLP Staff worked closely with GRP to develop a load forecast that considered normal load growth (very low) plus known new projects. Looked out 5 & 10 years.



## **System Study & 6-Year Plan Update**

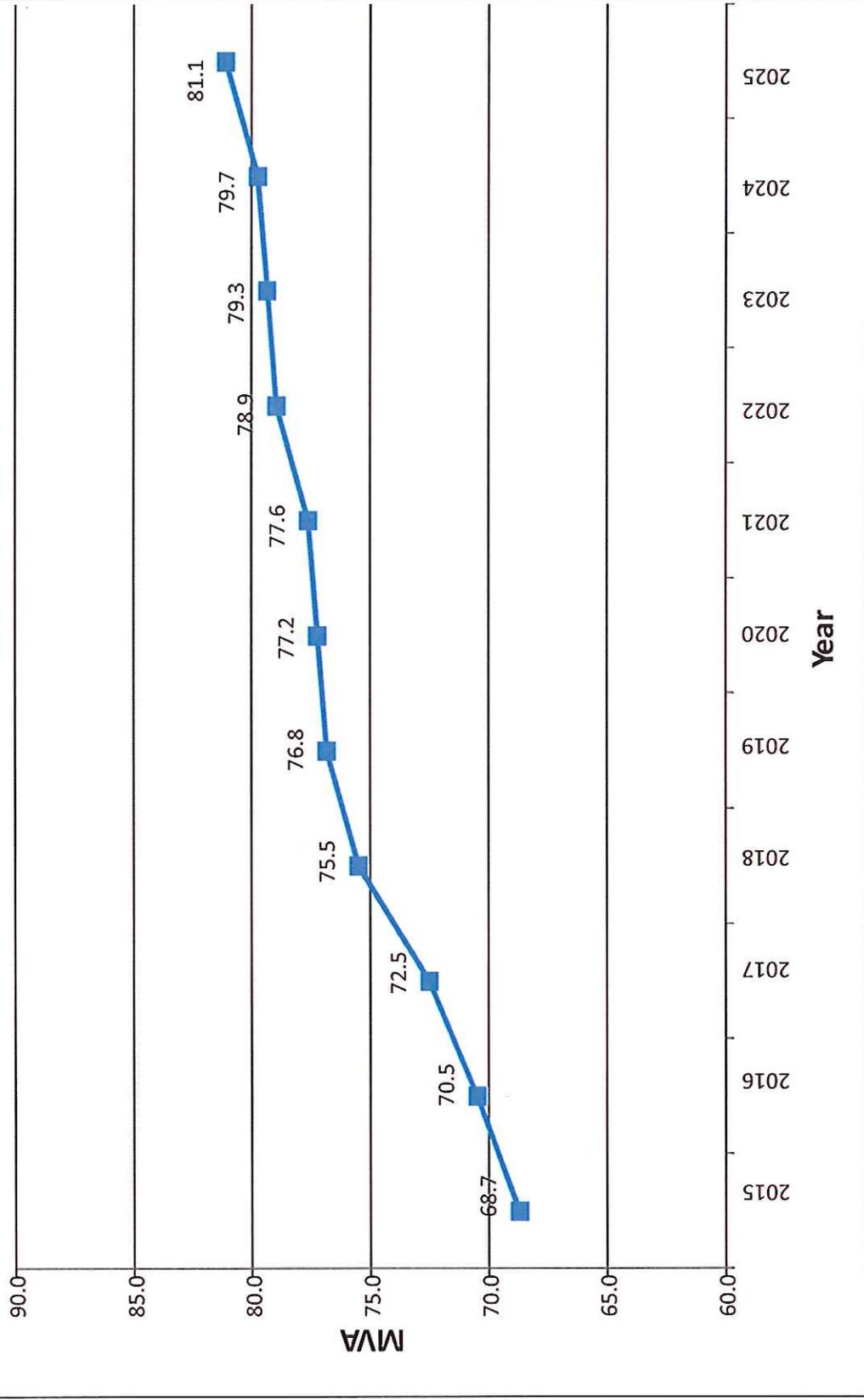
- The analysis was performed for normal system conditions and first contingency conditions for substations and distribution circuits
- Equipment should not be overloaded for either condition



## **System Study & 6-Year Plan Update**

- 2015 peak load data was used as a basis since the study was started & almost complete prior to 2016 peak load season.
- The 2015 load was increased at 0.5% per year plus new large loads were added
- Some of the new large loads are Hotel Indigo, Costco, the Cowell Family, and a known confidential industrial expansion.

# TCL&P Projected System Load





## System Study & 6-Year Plan Update

- The Study primary focused on (for both current and future):
  - Conductor & equipment capacity
  - Voltage issues
  - Key Customer reliability
  - Critical customer reliability
  - Circuit ties
  - Capacitor location



## System Study & 6-Year Plan Update

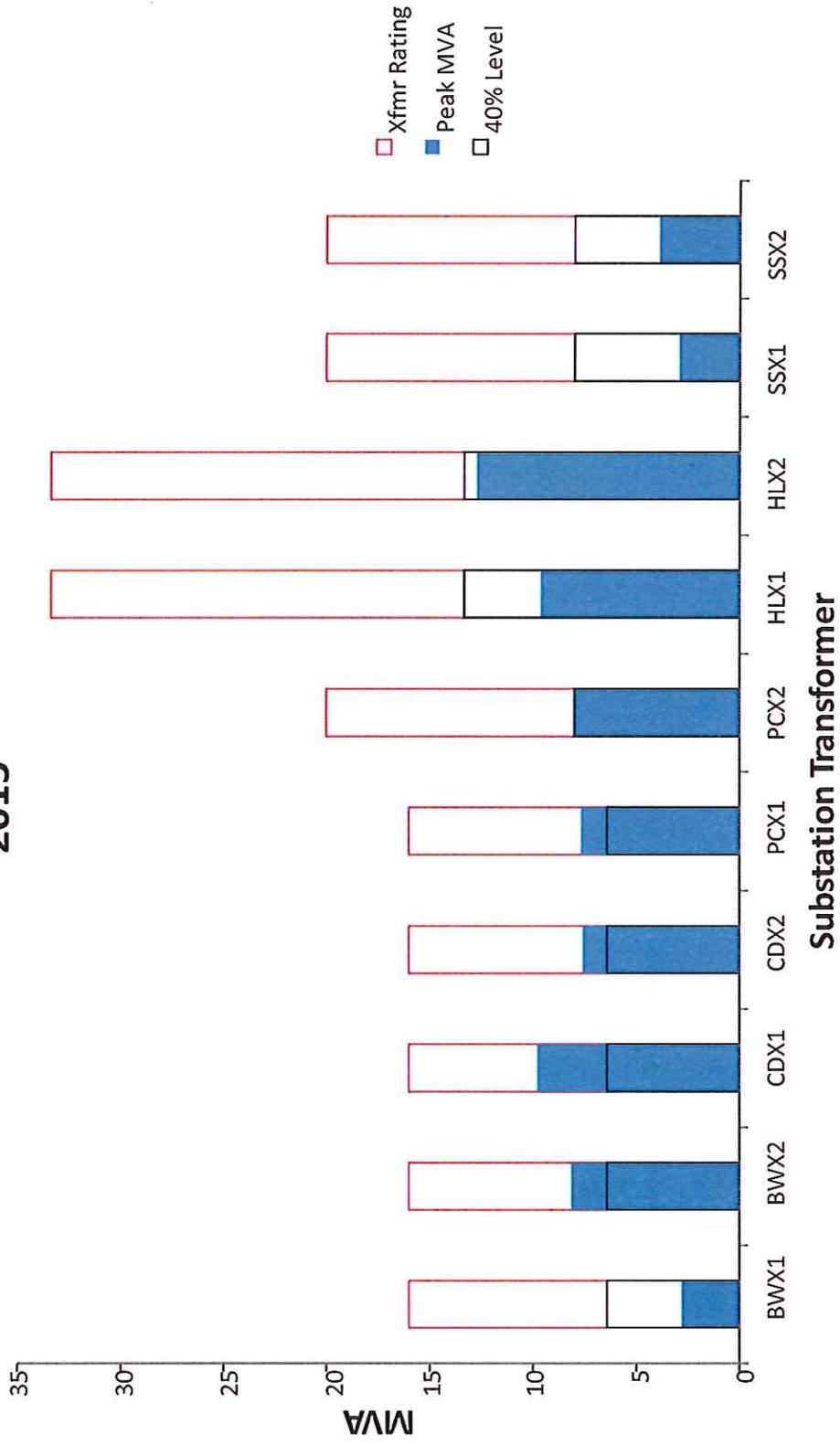
- Study “Hi Level” Results
  - 22 substation projects
  - 3 transmission projects
  - 22 distribution projects
- These projects will be evaluated using the recently completed TCLP Project Priority Matrix to assist in finalizing the upcoming Capital Improvement Plan (CIP)



## System Study & 6-Year Plan Update

- Typical identified projects:
  - Upgrade mainline distribution lines
  - Upgrade distribution tie points
  - Rebuild short sections of transmission lines

# Substation Transformer Loading System Normal - Peak Conditions 2015



# System Study & 6-Year Plan Update

## 2015 Loading (MVA)

Substation	Trans.	Rating (MVA)	Rating (MVA)	% Max
Barlow	#1	12/16	2.8	17%
Barlow	#2	12/16	8.2	51%
Cass	#1	12/16	9.8	61%
Cass	#2	12/16	7.6	47%
Parsons	#1	12/16	7.7	48%
Parsons	#2	12/16/20	8.0	40%
Hall	#1	20/26.7/33.3	9.6	29%
Hall	#2	20/26.7/33.3	12.7	38%
South	#1	12/16/20	2.9	15%
South	#2	12/16/20	3.9	20%



## System Study & 6-Year Plan Update

- Key Accounts & Critical Accounts
  - TCLP has backup circuit ties to 90% of its critical and 70% of its top ten customers.
  - Only two critical customers and large load customers are located on circuits with high outage rates. Three of these customers are on circuit BW-31 which is scheduled for a re-build starting late summer 2016.



## System Study & 6-Year Plan Update

- Typical Key Account and Critical Customers reliability improvements are adding switches in strategic locations to transfer the customer to an uninterrupted source. This improvement is very low cost
- On the other hand providing back-up to Tyson will be costly. Alternatives are still being evaluated



**TRAVERSE CITY  
LIGHT & POWER**

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**To:** Light & Power Board  
**From:** Kelli Schroeder, Manager of HR & Communications  
**Date:** August 17, 2016  
**Subject:** Earth Day Seedling Giveaway

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A handwritten signature in black ink, appearing to be "Kelli Schroeder", is written over the "From:" line of the header.

Since 1988, TCL&P has been distributing seedlings as part of its annual Earth Day tradition to demonstrate its continued commitment to improving the environmental quality of life in our community. In total, roughly 153,000 seedlings have been dispersed through the annual Earth Day event as well as other programs and partnerships with local elementary schools and organizations such as the Grand Traverse Conservation District.

At this time, staff would like the Board's input on whether TCL&P should continue this annual tradition. The annual costs associated with this community event range anywhere from \$950 - \$1,250 depending on the number and size of the seedlings. Typically, TCL&P will purchase 1000 seedlings annually.