

A REGULAR MEETING

Of The

TRAVERSE CITY LIGHT AND POWER BOARD

Will Be Held On

TUESDAY, April 28, 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) 932-4543

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

Posting Date: 04-24-15
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 April 14, 2015. (Approval recommended) (p. 4)
- b. Consideration of authorizing a purchase order to Power Line Supply in the amount of \$38,918.50 for optical ground wire and hardware for the West Side Transmission Line Upgrade Project. (Approval recommended) (Menhart) (p. 8)
- c. Consideration of authorizing purchase orders to G&W in the amount of \$45,651.00 and SEL in the amount of \$1,059.00, for reclosers and miscellaneous retrofit kits for the Cass Road Substation. (Arends/GRP Engineering) (p. 11)

Items Removed from the Consent Calendar

- a.
- b.

3. Unfinished Business

None.

4. New Business

- a. Consideration of declaring two transformers surplus and authorizing their sale. (Arends/GRP Engineering) (p. 13)
- b. Consideration of awarding a bid for South Substation transformers. (Arends/GRP Engineering) (p. 16)
- c. Consideration of authorizing a contract for the purchase of Hickory Hills distribution assets from Cherryland Electric. (Arends/Myers-Beman) (p. 21)
- d. Consideration of a Project Authorization Request for new service to Hickory Hills. (Arends) (p. 43)

- e. Consideration of awarding a construction contract for the West Side Transmission Line Upgrade and Hickory Hills new service Projects. (Arends/GRP Engineering) (p. 47)
- f. Consideration of authorizing a purchase order to Laminated Wood Systems in the amount of \$51,173 for two self-supporting poles to be used in the Hickory Hills Ski Area. (Arends/GRP Engineering) (p. 51)
- g. Consideration of authorizing a construction agreement for Cowell Family Cancer Center electrical cable and equipment installation. (Arends/Wilson) (p. 54)
- h. Consideration of authorizing a construction agreement for Cowell Family Cancer Center redundant feed conduit installation. (Arends/Wilson) (p. 57)
- i. Consideration of authorizing a purchase order to RESCO in the amount of \$53,710 for ATS Switchgear for the Cowell Family Cancer Center. (Arends/Wilson) (p. 61)

5. Appointments

None.

6. Reports and Communications

- a. From Legal Counsel.
- b. From Staff.
 - 1. Discussion of a financial stewardship request from the Joint Recreational Authority. (Arends) (p. 63)
- c. From Board.

7. Public Comment

/st

**TRAVERSE CITY
LIGHT AND POWER BOARD**

Minutes of Regular Meeting
Held at 5:15 p.m., Commission Chambers, Governmental Center
Tuesday, April 14, 2015

Board Members -

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

Absent: Barbara Budros

Ex Officio Member -

Absent: Penny Hill, Acting City Manager

Others: Tim Arends, Scott Menhart, Karla Myers-Beman, Tom Olney, Kelli Schroeder, Rod Solak, Stephanie Twardek, Mark Watson, Jessica Wheaton, Blake Wilson

The meeting was called to order at 5:15 p.m. by Secretary Arends.

Secretary Tim Arends opened the floor to nominations for Chairperson of the Light and Power Board:

Geht nominated John Taylor, Carruthers seconded.

Tim Arends closed the floor to nominations.

CARRIED unanimously. (Budros absent)

Tim Arends turned the meeting over to Chairman Taylor.

Chairman Taylor opened the floor to nominations for Vice Chairperson of the Light and Power Board:

McGuire nominated Jan Geht, Palisin seconded.

Chairman Taylor closed the floor to nominations.

CARRIED unanimously. (Budros absent)

With the consensus of the Board, Chairman Taylor appointed Tim Arends Secretary for the Light and Power Board.

Chairman Taylor recommended the current members of the Human Resources Ad Hoc Committee Commissioner Budros, Bob Spence, Chairman Taylor and Vice Chairman Geht as the alternate be reappointed. Carruthers moved and McGuire seconded the reappointment of the Human Resources Ad Hoc Committee which will expire in one year.

CARRIED unanimously. (Budros absent)

Spence requested item 2b 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, as amended, be approved:

- a. Minutes of the Regular Meeting of March 10, 2015.
- b. *Removed from the Consent Calendar.*

CARRIED unanimously. (Budros absent)

Item Removed from the Consent Calendar

- a. Purchase order to WECO in the amount of \$48,550 for a meter test board.

The following individuals addressed the Board:

Tim Arends, Executive Director
Karla Myers-Beman, Controller

Moved by Geht, seconded by McGuire, that the competitive bidding process be waived and that the Board authorizes the Executive Director to issue a purchase order to WECO in the amount of \$48,550 for Automated Test Platform Meter Test Board Model 4150.

CARRIED unanimously. (Budros absent)

Item 3 on the Agenda being Unfinished Business

None.

Item 4 on the Agenda being New Business

- a. Consideration of a revised Chamber Energy Optimization Loan Fund Program.

The following individuals addressed the Board:

Jessica Wheaton, Manager of Energy Services & Key Accounts
Laura Galbraith, Senior Vice President of Finance, TC Chamber of Commerce
Tim Pulliam, Keen Technical Solutions
Tim Arends, Executive Director

Moved by Spence, seconded by Palisin, that the Light & Power Board authorizes the Executive Director to enter into the Third Letter of Understanding, superseding the first two Letters of Understanding dated November 28, 2012 and June 11, 2013, respectively, for the Chamber TCL&P Energy Efficiency Revolving Loan Fund.

CARRIED unanimously. (Budros absent)

- b. Consideration of authorizing bids for Hastings Street Storage Facility.

The following individuals addressed the Board:

Tim Arends, Executive Director

Karla Myers-Beman, Controller
Bob Sommerville, AAI, Inc.
Rod Solak, Line Superintendent

Moved by McGuire, seconded by Geht, that the Board authorizes staff to seek bids for Hastings Street Storage Facility as presented, adjusted for deleting the 34kw solar array on roof and the electrical required for interphase; and further directs staff to prepare contracts with the successful bidder(s) for the Board's consideration.

CARRIED unanimously. (Budros absent)

- c. Consideration of authorizing an Agreement with the City of Traverse City regarding funding for the West Front Street Redevelopment Project.

The following individuals addressed the Board:

Tim Arends, Executive Director
Karla Myers-Beman, Controller
Tim Lodge, City Engineer

Moved by Palisin, seconded by Spence, that the Board authorizes the Executive Director to enter into an Agreement with the City of Traverse City to provide funding for the lighting portion of the West Front Street Improvement Project.

CARRIED unanimously. (Budros absent)

- d. Consideration of authorizing pay range for Operations and Engineering Manager position.

The following individuals addressed the Board:

Tim Arends, Executive Director

Moved by Spence, seconded by Geht, that the Board adopts a new salary range 6 for the position of Manager of Operations & Engineering as recommended by the Executive Director.

Roll Call:

Yes – McGuire, Palisin, Spence, Geht, Taylor
No – Carruthers

CARRIED. (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.

1. Tim Arends and staff presented TCL&P storm restoration plans.

The following individuals addressed the Board:

Rod Solak, Line Superintendent
Stephanie Tvardek, Administrative Assistant
Tom Olney, Operations Manager
Scott Menhart, Manager of Telecom & Technology
Jessica Wheaton, Manager of Energy Services & Key Accounts

2. Tim Arends discussed TCL&P taking over service to Hickory Hills from Cherryland Electric.

The following individuals addressed the Board:

Karla Myers-Beman, Controller

c. From Board.

1. Chairman Taylor discussed the Executive Director review process.
2. Jim Carruthers spoke about the upcoming LED Bulb promotion.

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 7:12 p.m.

/st

Tim Arends, Secretary
LIGHT AND POWER BOARD



**TRAVERSE CITY
LIGHT & POWER**

To: Light and Power Board
From: Scott Menhart, Manager of Telecom & Technology
Date: April 24, 2015
Subject: Optical Ground Wire Material – West Side Transmission Line Upgrade Project

Traverse City Light & Power (TCL&P) utilizes fiber optics to communicate to its substations because of the low latency the fiber provides to connect with devices in near real-time. This has become a standard for TCL&P with all substations, with the exception of Gray Substation as it has been too cost prohibited to run fiber separately out to the site.

With the recent approval of the West Side Transmission Line Upgrade Project, TCL&P can now run fiber through its ground wire to get Gray Sub communicating at the same standard as the other substations. This is an ideal solution to install this now as it is using optical ground wire, which contains the fiber inside the cable, instead of the regular ground wire that does not contain fiber. The typical ground wire would cost an estimated \$20,000 and this optical ground wire comes in at \$38,918.50; therefore, it is an additional \$18,918.50 to upgrade to this cable type. This is also the same cable and standard we used on the Grand Traverse to Cass Rd Line and on the East Hammond to Parsons Line.

It is worth noting that this section of cable will not fully bring fiber all the way into the Gray Substation, but just short of an interconnect with Wolverine. However, Wolverine has plans to finalize their line with the same type of cable as well to complete the route.

If this cable is not approved to be installed during the transmission line rebuild, and TCL&P would like to move forward with it in the future, the standard ground wire that would be installed during the rebuild would need to be removed and then replaced with this type of a cable. This would need to be done during a scheduled outage and would require construction along the length of the newly built transmission line.

Therefore, to minimize future impacts or construction along the route of the West Side Transmission Line Upgrade Project, staff recommends the Board approve the quote of \$38,918.50 for optical ground wire.

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

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 28, 2015

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

MOVED BY _____, SECONDED BY _____,

THAT THE BOARD AUTHORIZES THE EXECUTIVE DIRECTOR TO ISSUE A PURCHASE ORDER TO POWER LINE SUPPLY IN THE AMOUNT OF \$38,918.50 FOR OPTICAL GROUND WIRE AND HARDWARE FOR THE WEST SIDE TRANSMISSION LINE UPGRADE PROJECT.

March 17, 2015
14-0696.01

Mr. Tom Olney
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

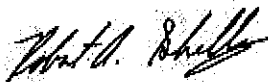
**RE: Gray Road to Hall Street Transmission Line
Optical Ground Wire Material Purchase Recommendation**

Dear Tom:

GRP Engineering, Inc. has completed our review of the Optical Ground Wire quote received for the Grey Road to Hall Street Transmission Line project. Only one quote was obtained from AFL thru Power Line Supply for this material. This was done in order to match the new material with the existing standard and material that is already installed on the TCLP system. This new material will match the optical ground wire on the Grand Traverse to Cass Rd Line as well as the East Hammond to Parsons Line. Power Line Supply (PLS) submitted quotation of \$38,918.50 for optical ground wire and hardware.

The quoted price from PLS is in line with the expected costs for this material. GRP Engineering, Inc. recommends that TCL&P accept the quotation from PLS. Please contact me should you have any additional questions regarding this evaluation and recommendation.

Sincerely,
GRP Engineering, Inc.



Robert A. Shelley, P.E.
Project Manager

cc: Traverse City Light & Power
Mr. Tim Arends



**TRAVERSE CITY
LIGHT & POWER**

To: Light and Power Board
From: Tom Olney, Operations Manager *TO*
Date: April 21, 2015
Subject: Reclosers for Cass Road Substation

The current reclosers in Cass Road Substation need to be replaced for a multitude of reasons. The existing reclosers are 35-40 years old and have become antiquated. The old technology of mechanical breakers operating in oil has been replaced with electronic switches, eliminating the possibility of an oil spill. The new reclosers are far quicker and more sensitive to faults than the existing ones, and as a result do a much better job of protecting the public as well as line workers in the event of faults on the lines. The quicker new reclosers will also do a better job of protecting the transformer windings in the event of faults. In addition to taking up much less space in the substations, providing more working clearance for linemen in the substations, the new reclosers will save money as they require much less maintenance than the oil reclosers.

GRP Engineering, Inc. (GRP) obtained a quote for three reclosers and miscellaneous retrofit kit from G&W and SEL respectively. The total cost for the purchase of three reclosers and the retrofit kits is \$46,710.00. Attached for your review is the letter from GRP recommending TCL&P accept the quote G&W and SEL. Staff concurs with GRP and recommends purchasing the three reclosers from G&W and the miscellaneous retrofit kits from SEL.

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

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

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

**MOVED BY _____, SECONDED BY _____,
THAT THE BOARD AUTHORIZES THE EXECUTIVE DIRECTOR TO ISSUE
PURCHASE ORDERS TO G&W IN THE AMOUNT OF \$45,651.00 FOR THREE
RECLOSERS, AND SEL FOR \$1,059.00 FOR MISCELLANEOUS RETROFIT KITS FOR
THE CASS ROAD SUBSTATION FOR A TOTAL COST OF \$46,710.00.**

April 23, 2015
13-0576.01

Mr. Tim Arends
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

RE: Cass Rd Substation Recloser Replacement

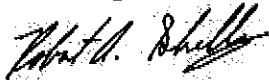
Dear Tim:

GRP Engineering, Inc. has obtained a quote from G&W Electric for three (3) reclosers. These units are scheduled to replace three (3) of the existing units at Cass Rd Substation. The existing SEL-351R controls will be reused from the existing reclosers on the new units. G&W submitted a cost of \$45,651.00 for all three reclosers. GRP also obtained a quote from SEL for a cost of \$1,059.00 for miscellaneous retrofit kit for the reuse of the controls on the new reclosers.

G&W and SEL are currently the standard Recloser and Control on TCLP system. GRP and TCLP have had no major issues with either G&W or SEL in the past. Therefore GRP recommends that TCLP purchase the reclosers from G&W and the retrofit kits from SEL for a total cost of \$46,710.00.

Please contact me at 616.942.7183 should you have any questions regarding these quotes.

Sincerely,
GRP Engineering, Inc.



Robert A. Shelley, P.E.
Project Engineer



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: South Substation Transformers declared surplus

As previously communicated to the Board, on January 20, 2015 load was to be transferred to the new South Substation on LaFranier Rd. However, load could not be transferred because there were voltage issues with the new transformers. After thorough investigation by GRP Engineering, Inc. ("GRP") they determined that the wrongs specs were provided to the company that built the transformers and they were unable to become fully operational. After discussions of different alternatives with GRP to resolve the issue, TCL&P management's decision on the best solution was to have new transformers built to replace the current nonoperational transformers that results in having the substation being built as designed.

As part of the correcting this situation the following steps have to be followed:

1. Staff requests the Board to declare the two transformers placed in service at the South Substation surplus in accordance with TCL&P's capital asset policy which states, "Any capital asset dispositions not considered scrap should be approved for disposal by the Light and Power Board."
2. Staff requests the Board authorize the sale of the two transformers.
3. Staff requests the Board approval for purchase of the replacement transformers.

This memo includes step 1 and 2 with a following memo requesting step 3.

In regards to the sale of the transformers, on April 21, 2015 GRP Engineering went out for bids for sale of the current transformers located at South Substation. Three bids were submitted and they are as follows:

Bidder	Amount
1. Power Asset Recovery	\$225,000.00
2. Wyandotte Municipal Services	\$601,969.00
3. Transformer Exchange	\$475,000.00

The difference between the original cost of the transformers (\$980,900) and the amount of the high bidder \$601,969 is \$378,931. This amount will be paid to TCL&P by GRP making the utility whole for the cost of the original transformers. These funds will then be applied to purchase the new transformers which is a subsequent action following the declaration of surplus and authorization of sale. If the sale is authorized, General Counsel will prepare a buy/sell agreement for the transaction between TCL&P and Wyandotte Municipal Services.

GRP will be available at the meeting to discuss the transformer error and the timeline of South Substation becoming operational. In addition, they will provide their analysis regarding the impact on the system of

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 28, 2015

not having the South Substation operational by the systems peak this summer. At the request of TCL&P, and at no cost to the utility, GRP prepared a Contingency Analysis which is included for your review.

Staff recommends the Board declare the current transformers surplus and authorize their sale of the current transformers to City of Wyandotte in the amount of \$601,969.

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

**MOVED BY _____, SECONDED BY _____, THAT THE
BOARD DECLARES THE SOUTH SUBSTATION TRANSFORMERS SURPLUS AND
AUTHORIZE THEIR SALE TO WYANDOTTE MUNICIPAL SERVICES IN THE AMOUNT
OF
\$601,969.00.**

TRAVERSE CITY LIGHT & POWER SOUTH SUBSTATION CONTINGENCY ANALYSIS

Traverse City Light & Power requested GRP Engineering, Inc. revise the 2013 South Substation Study analysis of transformer loading, circuit loading, and circuit backups with current peak loads. The first contingency analysis completed in the 2013 study reviewed substation transformers and equipment plus all mainline distribution circuits for the ability to maintain service to all customers with the loss of one substation transformer or distribution circuit breaker/recloser. This updated analysis includes simplified contingency plans to maintain service to all customers in the case of a transformer or mainline circuit loss affected by the delay in energizing South Substation.

Maximum substation equipment loading limits and maximum continuous and emergency conductor ampacity ratings were established in the 2013 South Substation Study. Substation transformers will be sized to operate at 40% of nameplate rating for normal conditions and 80% for first contingency operations. Distribution circuits will be designed to keep conductors within 50% of their thermal rating for normal system conditions under peak loading conditions and 90% for first contingency operations. These goals established in the 2013 study were utilized in this updated analysis.

The electrical system was analyzed using the peak load data from July 22, 2014 with an assumed load growth of 1.2% per year. Anticipated large load additions from the Park Place Hotel, Munson Cancer Center, Washington Place, and Buffalo Ridge Subdivision were included in the analysis. All distribution circuits and substation transformers impacted by the delay of the South Substation not coming online in 2015 were analyzed for capacity under normal operation and under a first contingency loss of equipment. The findings of the contingency analysis for these specific transformers and circuits are noted below. Additionally, updated substation transformer and distribution circuit loading graphs, plus distribution circuit backup tables are attached.

2015 Circuit Loading

Under projected 2015 loading the following circuit affected by the substation delay will be operating, at peak, over the 50% conductor capacity limit established as a guideline in the 2013 South Substation Study.

- BW22 will be loaded to 63% of the rated conductor ampacity.

This circuit loaded to 63% can be maintained indefinitely as no conductor damage will result at this level. The loading limit of 50% of rated capacity was established to allow for a simple circuit backup at system peak with no loss of conductor. BW22 has circuits it can be tied to in the event of loss of its exit cable or breaker/recloser.

2015 Circuit Backups

Mainline distribution circuit ties (backups) were reviewed for projected 2015 loading to ensure that all circuits impacted by the delay of the South Substation could be transferred in the event of

a loss of circuit exit or substation breaker/recloser. Each of the three impacted circuits, BW22, CD23, and PC31, have a backup circuit from another substation that will support the load without fully overloading any conductors, breakers, reclosers, or substation transformers.

- BW22 can be tied to BW30, CD23, and PC31.
- CD23 can be tied to BW22 or CD21.
- PC31 can be tied to BW22 or PC23.

Distribution Circuit Contingency Plans

For the loss of BW22, load should be shifted to PC31 through closing the switch on South Airport Road, east of Garfield Ave through proper switching procedures.

For the loss of CD23, load should be shifted to CD21 through closing the switch on Cass Road at Sybrandt Road through proper switching procedures.

For the loss of PC31, load should be shifted to PC21 through closing the switch on Aero Park Drive through proper switching procedures.

2015 Transformer Loading

Under projected 2015 loading with a normal system configuration, the following substation transformers affected by the substation delay will be operating, at peak, over the 40% limit established as a guideline in the 2013 South Substation Study.

- Barlow Substation transformer #1 will be operating at 75% of the rated MVA.
- Barlow Substation transformer #2 will be operating at 48% of the rated MVA.
- Cass Road Substation transformer #1 will be operating at 63% of the rated MVA.
- Cass Road Substation transformer #2 will be operating at 54% of the rated MVA.

Substation transformers were evaluated for a single contingency loss of one (1) transformer at Barlow and Cass Road Substations. The following transformers will be loaded above their rated MVA if one transformer is out of service and the substation 13.8kV bus tie breaker is closed without shifting any distribution load.

- Barlow Substation transformer #1 will be operating at 123% of the rated MVA.
- Barlow Substation transformer #2 will be operating at 123% of the rated MVA.
- Cass Road Substation transformer #1 will be operating at 116% of the rated MVA.
- Cass Road Substation transformer #2 will be operating at 116% of the rated MVA.

Substation Transformer Contingency Plans

In the event a transformer at the Barlow or Cass Substations must be taken out of service under peak load conditions, additional switching on the distribution system will be required prior to closing the substation 13.8kV transformer bus tie switch.

For the loss of Barlow Substation transformer #1, BW22 must first be tied to PC31 prior to closing the bus tie as noted above. Under this system configuration, PC31 will be loaded to 63% of conductor capacity, Parsons Substation transformer #2 will be loaded to 84% of its rated MVA, and Barlow transformer #2 will be loaded to 83%. This system configuration and loading is slightly above established limits for a first contingency outage, but not above full transformer nameplate rating.

For the loss of Barlow Substation transformer #2, BW22 must first be tied to PC31 prior to closing the bus tie as noted above. Under this configuration, PC31 will be loaded to 63% of conductor capacity, Parsons Substation transformer #2 will be loaded to 84% of its rated MVA, and Barlow transformer #1 will be loaded to 83%. This system configuration and loading is slightly above established limits for a first contingency outage, but not above full transformer nameplate rating.

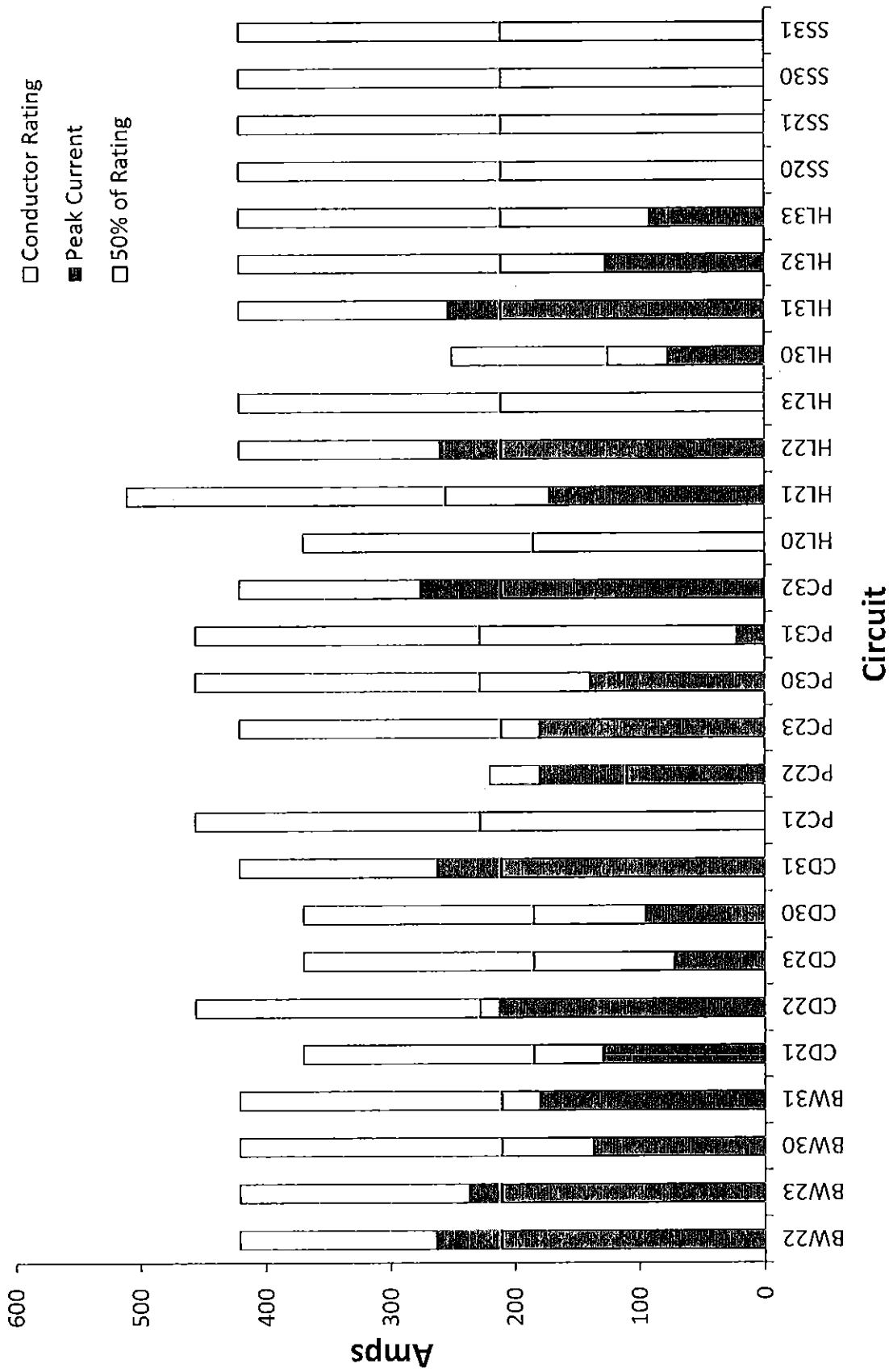
For the loss of Cass Road Substation transformer #1, CD31 must first be tied to HL23 prior to closing the bus tie. Under this configuration, HL23 will be loaded to 63% of conductor capacity, Hall Substation transformer #1 will be loaded to 51% of its rated MVA, and Cass transformer #2 will be loaded to 77%. This system configuration and loading is within established limits for a first contingency outage.

For the loss of Cass Substation transformer #2, CD31 must first be tied to HL23 prior to closing the bus tie. Under this configuration, HL23 will be loaded to 63% of conductor capacity, Hall Substation transformer #1 will be loaded to 51% of its rated MVA, and Cass transformer #1 will be loaded to 77%. This system configuration and loading is within established limits for a first contingency outage.

Summary

Substation transformers and mainline distribution circuits affected by the delay in energizing South Substation were analyzed with projected 2015 load to determine if customer load could be maintained under a first contingency outage condition. Service to all customers can be preserved under the outage condition of one substation transformer or one mainline distribution circuit out of service for 2015 without overloading any equipment. Plans to shift load to backup circuits or substation transformer are noted herein. This analysis was completed with the remainder of the system in a normal configuration. Changes to circuit configurations will impact the results of this analysis.

TCL&P Circuit Loading 2015



1. PC21 & HL23 are backup circuits and have no load.
2. Proposed South Substation (SS) circuits to pick up load from BW22 & CD23.

**Traverse City Light & Power
South Substation Study
Circuit Backup Review**

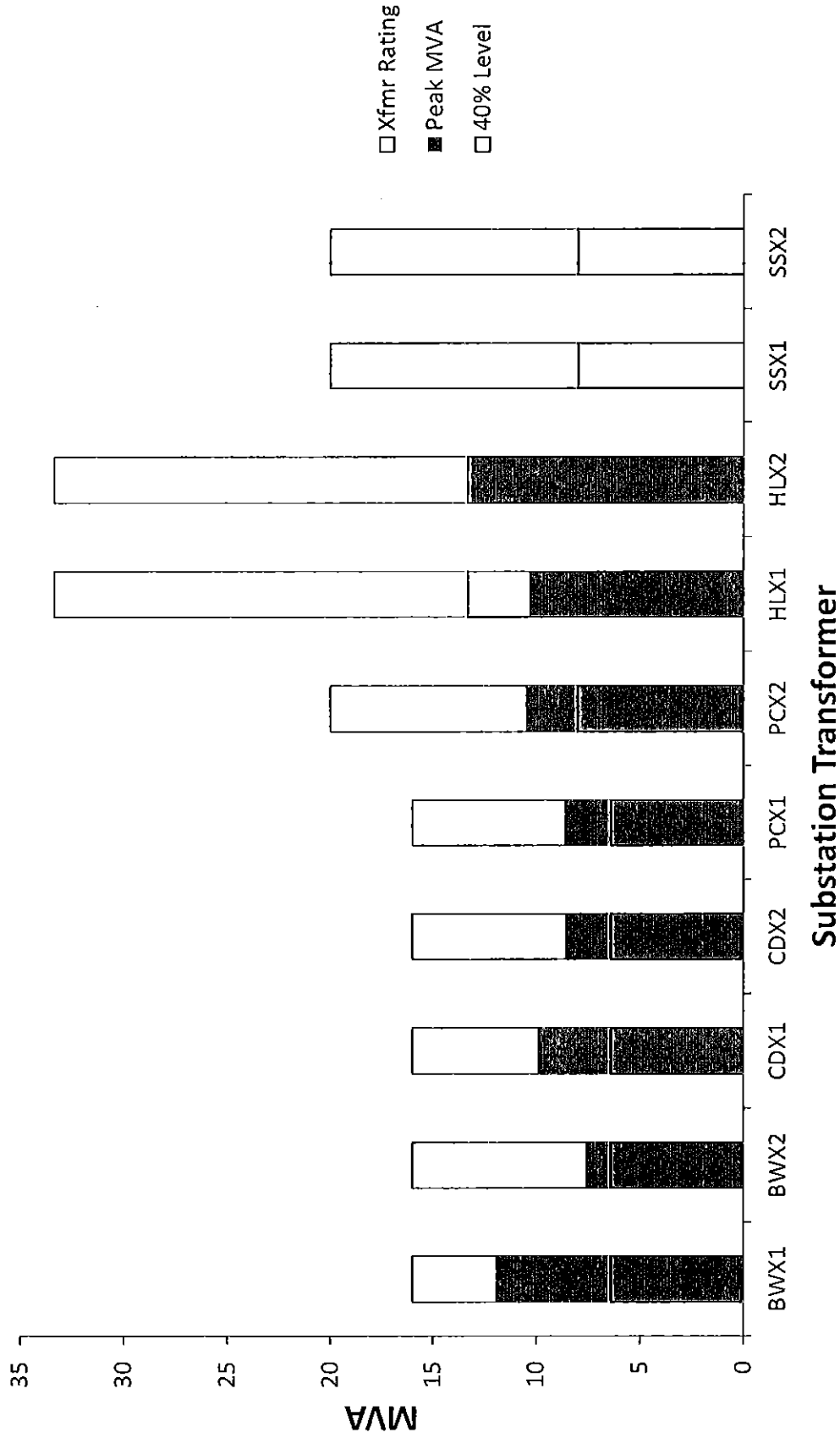
Circuit Out-of-Service	Backup Circuit	Total Load	Load Year	Backup Circuit Conductor Capacity	Backup Circuit Sub Xfmr Capacity	Notes
			2015 Recloser/ Breaker Capacity			
BW22	BW23	502	90%	119%	75%	Switch at Barlow Substation
BW22	BW30	403	72%	96%	48%	Switch at Barlow Substation
BW22	HL22	525	44%	125%	31%	Woodmere Ave, South of Carver
BW22	CD23	337	60%	91%	62%	South Airport Rd, Boardman
BW22	PC31	287	36%	63%	53%	South Airport Rd, East of Garfield
BW22	HL31	518	43%	123%	40%	Eighth & Railroad
BW23	BW22	502	90%	119%	75%	Switch at Barlow Substation
BW23	HL22	499	42%	118%	31%	Eighth St, East of Railroad
BW23	BW31	419	75%	100%	48%	Waterplant, Eastern & East Bay
BW30	BW22	403	72%	96%	75%	Switch at Barlow Substation
BW30	BW22	403	72%	96%	75%	Parsons & Airport Access
BW30	HL22	399	33%	95%	31%	**#2/0 ACSR. Hastings & Carver
BW30	PC22	320	57%	145%	54%	Parsons & Airport Access
BW31	HL31	435	36%	103%	40%	State St & Railroad
BW31	BW23	419	75%	100%	75%	Waterplant, Eastern & East Bay
CD21	CD23	203	36%	55%	62%	Cass Rd at Sybrant Rd.
CD21	HL22	391	33%	93%	31%	Cass Rd at Lake St
CD23	BW22	337	60%	80%	75%	South Airport Rd, Boardman
CD23	CD21	203	36%	55%	62%	Cass Rd at Sybrant Rd.
CD30	HL33	188	16%	45%	40%	Thirteenth & Wadsworth
CD30	CD31	360	45%	85%	54%	Thirteenth & Maple
CD31	HL33	356	30%	84%	40%	Twelfth & Wadsworth
CD31	HL23	264	22%	63%	31%	Eleventh & Wadsworth
CD31	CD30	360	45%	97%	54%	Thirteenth & Maple
CD31	HL32	391	33%	93%	40%	Munson Hospital
HL21	HL32	301	25%	71%	40%	Front & Cedar
HL22	HL31	515	43%	122%	40%	Cass, South of State St
HL22	CD21	391	70%	106%	62%	Cass Rd at Lake St
HL22	HL31	515	43%	122%	40%	Webster & Railroad
HL22	BW23	499	89%	118%	75%	Eighth St, East of Railroad
HL22	BW22	525	94%	125%	75%	Woodmere Ave, South of Carver
HL22	HL30	339	28%	135%	40%	**#2/0 ACSR. Hastings & Carver
HL23	HL33	92	8%	22%	40%	North of Eleventh & Wadsworth
HL23	CD31	264	33%	63%	54%	Eleventh & Wadsworth
HL30	HL33	170	14%	40%	40%	PMH behind Hall St Sub
HL30	HL31	332	28%	79%	40%	PMH behind Hall St Sub
HL30	HL31	332	28%	79%	40%	Front & Park St
HL31	HL30	332	28%	133%	40%	PMH behind Hall St Sub

**Traverse City Light & Power
South Substation Study
Circuit Backup Review**

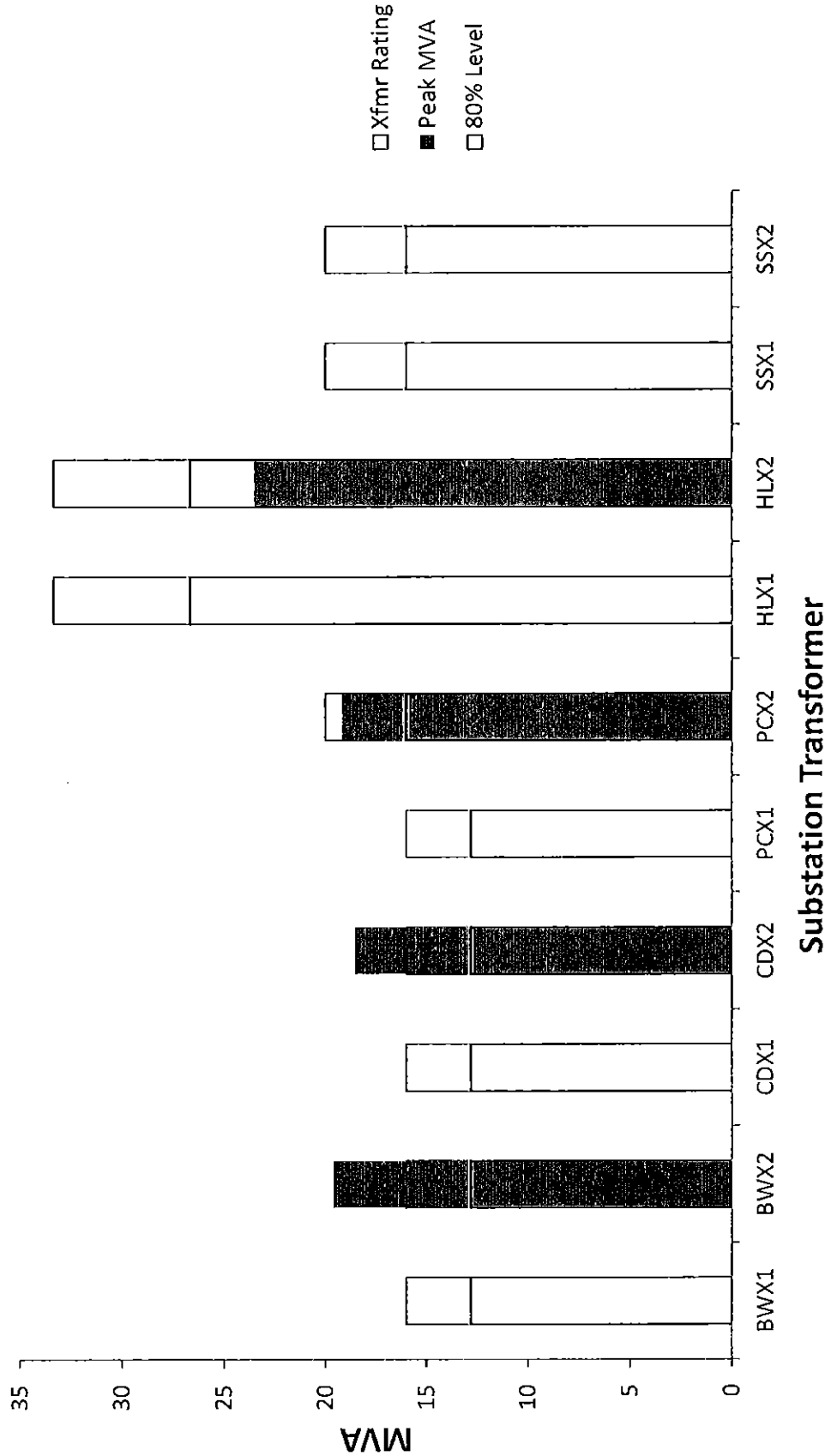
Circuit Out-of-Service	Backup Circuit	Total Load	Load Year	Backup Circuit Conductor Capacity	Backup Circuit Sub Xfmr Capacity	Notes
			2015 Recloser/ Breaker Capacity			
HL31	HL22	515	43%	122%	31%	Cass, South of State St
HL31	HL30	332	28%	133%	40%	Front & Park St
HL31	BW31	435	78%	103%	48%	State St & Railroad
HL31	HL22	515	43%	122%	31%	Webster & Railroad
HL31	BW22	518	93%	123%	75%	Eighth & Railroad
HL32	HL33	220	18%	52%	40%	PMH, Wadsworth south of Front
HL32	HL21	301	25%	59%	31%	Front & Cedar
HL33	HL30	170	14%	68%	40%	PMH behind Hall St Sub
HL33	HL32	220	18%	52%	40%	PMH, Wadsworth south of Front
HL33	CD31	356	44%	84%	54%	Twelfth & Wadsworth
HL33	CD30	188	24%	51%	54%	Thirteenth & Wadsworth
PC22	PC30	322	40%	71%	53%	Aero Park Ct
PC22	BW30	320	57%	76%	48%	Parsons & Airport Access
PC22	PC23	362	65%	86%	54%	Front St west of 3 Mile Rd
PC22	PC23	362	65%	86%	54%	Aero Park Dr
PC23	PC22	362	65%	165%	54%	Aero Park Dr
PC23	PC31	204	26%	45%	53%	Aero Park Dr
PC23	PC22	362	65%	165%	54%	Front St west of 3 Mile Rd
PC30	PC22	322	57%	146%	54%	Aero Park Ct
PC31	PC23	204	37%	49%	54%	Aero Park Dr
PC31	BW22	287	51%	68%	75%	South Airport Rd, East of Garfield

Cells highlighted in red represent high-side (138kV & 69kV) equipment and transformers which would be operating at or above 80% of nameplate rating OR low-side (13.8kV) equipment and conductors which would be operating at or above 90% of nameplate rating for these 1st contingency conditions.

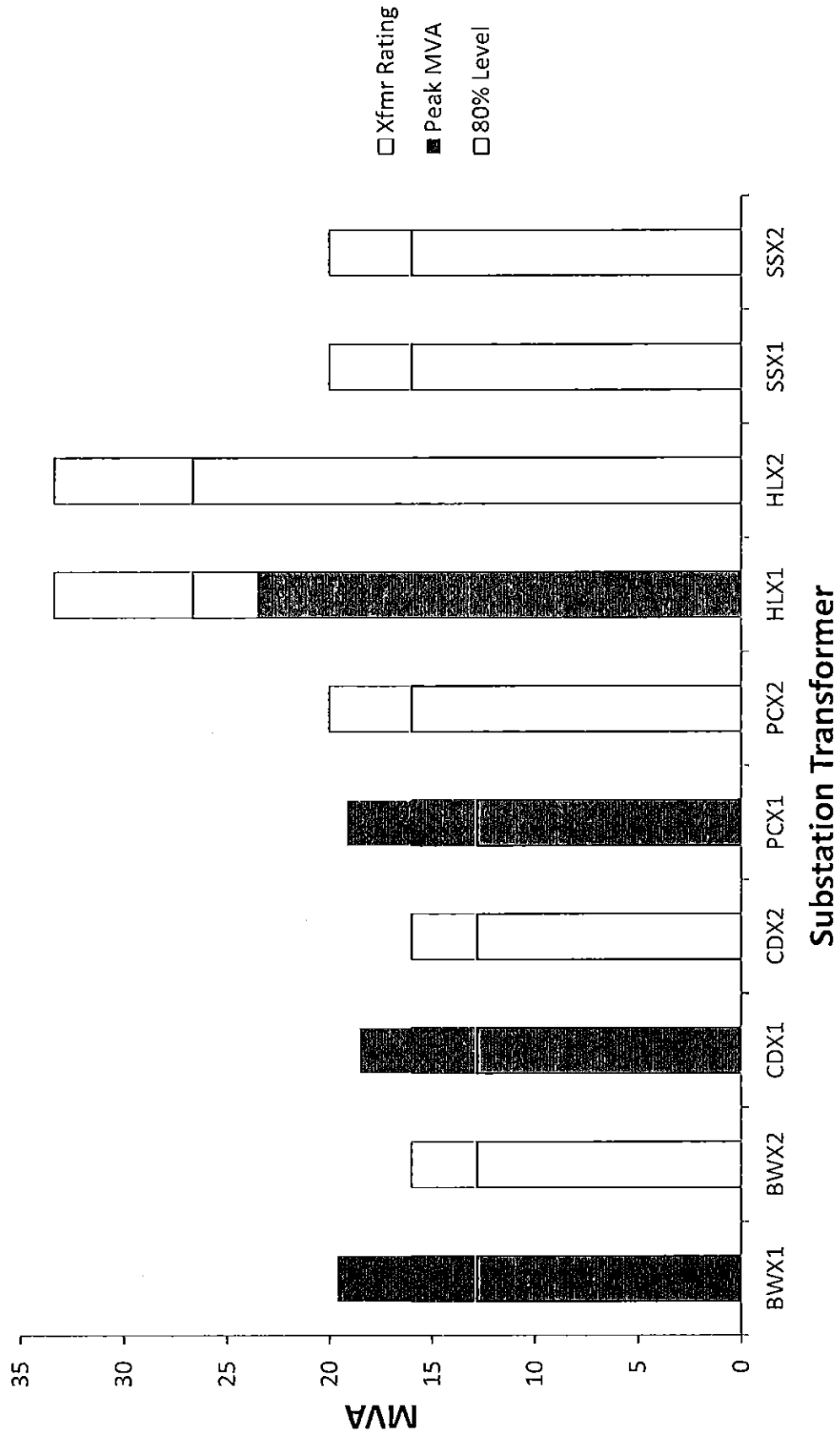
Substation Transformer Loading System Normal - Peak Conditions 2015



Substation Transformer Loading Transformer #1 Out of Service - 2015



Substation Transformer Loading Transformer #2 Out of Service - 2015



BID TABULATION

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

SOUTH SUBSTATION TRANSFORMER SALE

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

BIDDERS	BID PRICE	REMARKS
Power Asset Factory	\$ 225,000.00	
Wyandotte	\$ 601,969.00	
Transformer Exchange	\$ 475,000.00	

This is to certify that at 10:00a.m., local time on April 21, 2015, the bids tabulated herein were publicly opened and read.

GRP Engineering, Inc.

By: Michael P. McGeehan
 Michael P. McGeehan, P.E.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: South Substation Replacement Transformers

This is a continuation of the previous memo and is the last step needed from the Board to correct the incompatible transformer issue at South Substation.

On April 21, 2015 GRP Engineering, Inc. ("GRP") went out for bids for the replacement transformers located at South Substation. Three bids were submitted and they are as follows:

<u>Manufacturer</u>	<u>Base Cost with Extra Bushings</u>	<u>Evaluated Cost With Losses</u>	<u>Delivery Schedule</u>
For 12/16/20 MVA:			
ABB	\$1,330,600	\$2,782,912	42-46 weeks
Delta Star	\$1,315,675	\$2,563,496	40-46 weeks
SPX	\$1,241,409	\$2,588,060	18-22 weeks

The difference between the original cost of the transformers, \$980,900 and the amount of the low bidder \$1,241,409, is \$260,509, which will be the responsibility of TCL&P because the cost would have been incurred if the original transformers were correctly spec'd out.

Based on the most recent approved project authorization, the cost of the transformers exceed the estimated cost of \$1,000,000 by \$241,409 or 24.1 percent.

For your review, attached is GRP's letter recommending SPX along with their bid tabulation sheet and evaluation.

Staff concurs with GRP and recommends accepting the low bid from SPX in the amount of \$ 1,241,409 for an additional cost to TCL&P in the amount of 260,509.

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

(RECOMMENDED MOTION ON FOLLOWING PAGE)

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 28, 2015

**MOVED BY _____, SECONDED BY _____, THAT
THE BOARD AUTHORIZE THE CHAIRMAN AND SECRETARY TO EXECUTE A
PROCUREMENT AGREEMENT WITH SPX IN THE AMOUNT OF \$1,241,409;
SUBJECT TO APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR
AND APPROVAL AS TO FORM BY GENERAL COUNSEL.**

April 23, 2015
12-0462.01

Mr. Tim Arends
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

**RE: South Sub Transformer Purchase and Sale
Bid Recommendation**

Dear Tim:

GRP Engineering, Inc. has completed reviewing the bids submitted for purchase of the two (2) new 12/16/20MVA Transformers for the South Substation. A copy of the bid tabulation is attached for reference. All three suppliers solicited for bids replied to the bid request. SPX submitted the low bid and best lead time for the two transformers in the total amount of \$1,239,254.00 and 18-22 weeks delivery. SPX also provided a cost of \$2,155.00 for one spare bushing each for both the 69kV and the 13.8kV terminals.

As part of the evaluation process, GRP Engineering completes a total cost of ownership calculation over 30 years for each of the transformers. This calculation is based on information provided to GRP by TCLP pertaining to the cost of power, inflation rates, long term discount rates, and system loading. Based on these calculations, Delta Star's transformer would be minimally less expensive, less than 1%, to own over 30 years. Bear in mind, however, that while these calculations are good evaluation tools, they are still assumptions based on unknown values over the next 30 years.

Based on the foregoing, GRP Engineering recommends that TCLP accept the low bid from SPX for the two transformers and purchase one set of spare bushings from SPX for a total amount of \$1,241,409.00. This decision was based on current out of pocket costs and the shorter lead time.

SPX took no major exceptions to the bid documents; however, they did issue their standard terms and conditions and payment schedule. SPX also submitted an additional transformer design that did not meet the loss evaluation portion of the specification. This design was briefly reviewed by GRP, but the lower upfront costs of the transformers would be greatly outweighed by the higher costs of losses.

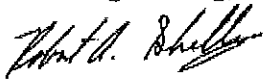
GRP Engineering has also completed its review of the bids for the sale of the two existing South Substation transformers. Three of the six bidders solicited provided proposals. Wyandotte Municipal Services submitted the highest bid for the two transformer in the amount of \$601,969.00, and GRP Engineering recommends that TCLP accept this high bid.

Please note that GRP Engineering has an interest in the outcome of these bids given the claims advanced by TCL&P relating to GRP's original transformer specification. Nonetheless, GRP

has performed this review and offers this recommendation as an independent, objective party. TCLP may, however, wish to perform its own review to determine the best solution for TCLP. It should also be noted that this matter has been tendered to GRP Engineering's insurance carrier and is in the review process.

Please contact me at 616.942.7183 should you have any questions regarding these evaluations.

Sincerely,
GRP Engineering, Inc.



Robert A. Shelley, P.E.
Project Engineer

cc: GRP Engineering, Inc.
Mr. Michael McGeehan
Plunkett Cooney
Mr. Scott Sirich

BID TABULATION

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

SOUTH SUBSTATION TRANSFORMER PROCUREMENT

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

BIDDERS	BID SECURITY	BASE BID PRICE	EVALUATED PRICE	LEAD TIME	REMARKS
ABB	5% Bond	\$1,322,050.00	\$2,782,912.00	42-46 Weeks	\$8,550.00 For Spare Bushings
Delta Star	5% Bond	\$1,313,534.00	\$2,563,496.00	40-46 Weeks	\$2,141.00 For Spare Bushings
SPX	5% Bond	\$1,239,254.00	\$2,588,060.00	18-22 Weeks	\$2,155.00 For Spare Bushings

This is to certify that at 10:00a.m., local time on April 21, 2015, the bids tabulated herein were publicly opened and read.

GRP Engineering, Inc.

By: 
 Michael P. McGeehan, P.E.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 23, 2015
Subject: Hickory Hills Electric Service from Cherryland Electric Cooperative

At the April 14, 2015 Board meeting, staff discussed the option of purchasing Hickory Hills electric service from Cherryland Electric Cooperative (CEC). Included in that discussion was the benefits of the transfer, which are 1) TCL&P will be able to provide electricity to a City owned recreational facility; 2) provide a cost savings to the City through lower rates and the ability to terminate service during the off season; 3) transfer will generate an additional revenue to the General Fund through the City Fee; and 4) enhance TCL&P's load curve as the ski area predominantly operates at night and during the off peak season (winter).

Along with the discussion of the benefits was the financial cost. These figures have changed as the result of receiving an actual bid for labor and realizing a formula error in the original estimate cost. The updated construction cost of the project to extend three phase to Hickory Hills with the actual labor bid amount is as follows:

Labor (Actual)	\$69,825
Materials (Estimate)	70,250
Contingency (15%)	21,000
Engineering Design	13,000
Staking Inspection	<u>6,000</u>

Total **\$180,075**

The cost to purchase the utility accounts and salvageable equipment is \$63,659 with a possible reduction of \$5,800 if the City agrees to surrender their allocated capital credits with CEC. This has been requested of the City and the utility is awaiting a decision from City management. The total cost at this time, which includes construction, purchase of utility accounts and salvageable equipment is \$244,234. This extends the payback period from 26 years, which was reported to you at the last board meeting to 31.6 years. However, during that time the City will save \$151,654 in utility costs and the General Fund will receive an additional \$30,482 in City Fee revenue. These amounts are based on the current utility rate structure in place.

After discussion at the last board meeting it appeared to be the consensus of the Board to move forward with transferring the service to TCL&P. Following this memo is a drafted agreement prepared by General Counsel between TCL&P and CEC. It has been reviewed by both TCL&P and CEC staff and it is now being technically reviewed by CEC's General Counsel. Staff does not have any expectation there will be any substantive changes to the agreement.

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 28, 2015

Staff recommends moving forward with transferring the Hickory Hills electric service from Cherryland Electric Cooperative to Traverse City Light and Power.

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 EXECUTE AN
AGREEMENT IN THE MAXIMUM AMOUNT OF \$63,659 WITH CHERRYLAND ELECTRIC
COOPERATIVE TO SERVE THE CITY OWNED FACILITY, HICKORY HILLS.**

4/8/15 Draft

AGREEMENT FOR SALE
OF ELECTRIC DISTRIBUTION FACILITIES
and TRANSFER OF ACCOUNTS

THIS AGREEMENT (“Agreement”) made _____, 2015, between **Cherryland Electric Cooperative** (“Cherryland”), a Michigan _____ with its principal offices at 5930 US 31 South, Grawn, Michigan 49637, as seller (“Seller”) and the **Traverse City Light and Power Department** (“TCL&P”), a Michigan municipal electric utility whose address is 1131 Hastings Street, Traverse City, Michigan 49686, as purchaser (“Purchaser”).

RECITALS:

WHEREAS, the Michigan Public Service Commission Staff, TCL&P and Cherryland filed with the Michigan Public Service Commission on _____, 2015, a Joint Petition (“Joint Petition”) pursuant to Section 4 of 1919 PA 419, as amended, MCL 460.39, and other applicable statutes, for approval of this Agreement; and

WHEREAS, Cherryland has agreed to remove or sell and TCL&P has agreed to purchase certain described electric distribution facilities and accounts on the terms and conditions herein contained.

NOW THEREFORE, in consideration of the purchase price to be paid and the mutual promises, representations, warranties and undertakings hereinafter set forth, Seller and Purchaser agree as follows:

ARTICLE I
PURCHASE AND SALE

1.01 Personal Property Transferred. Subject to the terms and conditions in this Agreement, Seller agrees to sell to Purchaser, and the Purchaser agrees to purchase from Seller on the Closing Date and pursuant to a Bill of Sale in form and substance acceptable to Purchaser, the following described electric distribution facilities currently on the Hickory Hills Property (which are referred to collectively as the "Personal Property"):

<u>Asset to be Transferred to TCL&P</u>	<u>Quantity</u>
#1/0 al 220 Mil 15kV UG Cable, Feet	990
#1/0 al 260 Mil 25kV UG Cable, Feet	4971
#4/0 al Qpx 600V UG Cable, Feet	138
#350 al Qpx 600V UG Cable, Feet	10
#4/0 al Tpx 600V UG Cable, Feet	81
15kV Junction Box	2
Meter Bases/sockets	6

The Hickory Hills Property is shown on the map attached hereto and made a part hereof as Attachment A.

1.02 Easements. Seller agrees to assign and sell to Purchaser, and Purchaser agrees to purchase from Seller on the Closing Date certain easement rights listed in Attachment B attached hereto (hereinafter collectively referred to as the "Easements"), but only as to those parts of the Easements that are on the Hickory Hills Property.

1.03 Personal Property Removed. All other personal property of Seller not described in paragraph 1.01 shall be removed from the Hickory Hills Property within ____ days from the date of closing and the ground restored to a natural condition. The personal property to be removed includes, but is not limited to, the following:

<u>Assets to be Removed by Cherryland</u>	<u>Quantity</u>
Poles, 35' and Under	4
Poles, 40' & 45'	3
Anchor Guys	4

Cross Arms	10
Brackets, small	4
Grounds	7
Insulator Strings	9
Cutouts	12
Lightning Arrestors	18
Wire, #8 ACW, Feet	4116
10 KVA Polemount Transformer	6
15 KVA Polemount Transformer	4
25 KVA Polemount Transformer	2
150 KVA Polemount Transformer	2
Meters, Type 2	4
Meters, Type 3	2

1.04 Accounts. The following retail electric service accounts shall be transferred by Seller to Purchaser at or before Closing Date:

<u>Cherryland Account #</u>	<u>SERV Map Loc</u>	<u>Description & Position Relative to Lodge</u>	<u>Service Type</u>
6312310	8	2000 Randolph, South	3 Phase 240/120 delta grounded center
7940210	9M	Snow guns/slope lighting, Lodge area	3 Phase 480/277V Gnd Wye
6312510	9N	Lodge/lighting, Lodge area	3 Phase 240/120 delta grounded center
6312410	9R	2000 Randolph, North West	3 Phase 240/120 delta grounded center
3567500	9S	Water fall (well?) electric, North East	3 Phase 240/120 delta grounded center
4875800	9T	Water pump, South East	3 Phase 480/277V Gnd Wye

1.05 Purchase Price. For the Personal Property, Easements and Accounts to be sold, conveyed and assigned hereunder, Purchaser agrees to pay Seller, and Seller agrees to accept from Purchaser, the amount of Fifty-Seven Thousand Eight Hundred Fifty-Nine Dollars (\$57,859) (“Purchase Price”); payable on the Closing Date.

1.06 Capital Credits. The above Purchase Price is contingent upon the City of Traverse City (“City”) surrendering to Seller its capital credits in connection with the

electric service to Hickory Hills. Those capital credits have a present day value of approximately \$5,800. If the City does not surrender those capital credits to Seller, the Purchase Price shall be \$63,659.

ARTICLE II
DELIVERY OF TITLE AND POSSESSION

2.01 Closing Date. The Closing Date shall be on or before _____, 2015.

2.02 Transfer of Title. At such time of day on the Closing Date as Seller shall have delivered to Purchaser a duly executed Bill of Sale with respect to the Personal Property and duly executed effective assignments with respect to the Easements to be conveyed to Purchaser hereunder, title to all Personal Property and Easements shall pass to Purchaser.

2.03 Transfer of Retail Electric Service Customers.

(a) Modifications. The date on which actual delivery of possession shall occur shall be the ("Possession Transfer Date"). Prior to the Possession Transfer Date of Personal Property, Seller shall perform the necessary modifications to separate the electric distribution facilities constituting the Personal Property to be sold hereunder and that to be removed. In addition to the modification work to be done by Seller prior to the Possession Transfer Date, Purchaser and Seller shall each, prior to such applicable Possession Transfer Date, perform any additional necessary preparations/modifications needed for Purchaser to be able to take over and integrate the Personal Property covered thereby into Purchaser's existing electric distribution system and operations on the Possession Transfer Date. All costs and expenses of each party's modifications and/or preparations needed for turnover to Purchaser of the Personal Property on the Possession Transfer Date shall be borne by the party performing the same as set forth above.

(b) Possession Transfer Date. The date and time of day as may be mutually agreed upon shall be set forth in the parties' written designation of the Possession Transfer Date. This date shall be within ____ days of the Closing Date. Seller will cease providing electric service to the Accounts, and Purchaser shall commence providing electric service to the Accounts on the Possession Transfer Date.

2.04 Mortgage Release. Purchaser acknowledges that the Personal Property and Easements to be sold and conveyed hereunder are encumbered by a mortgage dated _____, now held by _____, Trustee, as amended and supplemented. Promptly after execution of this Agreement, Seller shall apply for release and discharge of said Personal Property and Easements from said mortgage which release shall be in form and substance acceptable to Purchaser and which release may be conditioned upon the parties' obtaining the approval contemplated by Section 3.01. In the event Seller is unable to secure such release and discharge by a date which is five (5) days prior to Closing Date, Closing shall not be delayed but the terms of payment provided by Section 3.03 with respect to escrow of the consideration payable under this Agreement shall be applicable.

ARTICLE III CLOSING AND PAYMENT

3.01 Michigan Public Service Commission Approval. This Agreement is contingent upon Cherryland obtaining such approval(s) of the Michigan Public Service Commission, in form and substance satisfactory to Purchaser and Seller, as each may reasonably consider necessary to carry out the transactions contemplated thereby. Cherryland agrees to prepare such an approval request and submit such request in draft form to TCL&P for its comments and agreement as promptly as practicable after the execution of this

Agreement. Cherryland shall submit the agreed form of approval request to the Michigan Public Service Commission as promptly as practicable after the parties reaching agreement on the form and content thereof.

3.02 Closing Location. The Closing of this Agreement including the payment of the Purchase Price to Cherryland (including any delivery to the Escrow Agent on Cherryland's behalf, if required hereunder), delivery of the Bill of Sale for the Personal Property and delivery of releases for the Easements, all as contemplated by this Agreement (the "Closing"), shall take place at the offices of _____, Michigan _____, on the Closing Date.

3.03 Payment. At the time of the Closing, Purchaser shall deliver to Seller its check in the amount of the Purchase Price in full payment for the purchase of the Personal Property, Easements and Accounts pursuant to this Agreement. However, if Seller shall not have obtained the mortgage release contemplated by Section 2.04 by a date which is five (5) days prior to the Closing Date, Purchaser shall deliver its certified check in the amount of the Purchase Price to an escrow agent to be selected by Purchaser and reasonably acceptable to Seller which escrow shall be required to be maintained until the Purchaser shall have received the release and approval.

3.04 Taxes and Fees on Sale and Conveyance of Property. In addition to the Purchase Price, any current personal or real property taxes shall be prorated between the parties according to local custom. All past due taxes shall be paid by Seller. Any real estate transfer taxes shall be paid by Seller. Any recording fees shall be paid by Purchaser.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF PURCHASER

4.01 Organization, Good Standing and Power of Purchaser. The Traverse City Light & Power Department is a Michigan municipal electric utility duly organized under the laws of the State of Michigan and Charter of Traverse City and has all requisite power to own or lease its properties and to carry on its business in the manner and in the place where such properties are owned or leased and its business is now being conducted.

4.02 Authority and Capacity of Purchaser. Purchaser has all requisite municipal corporate power, authority and capacity to enter into this Agreement and the transactions contemplated by this Agreement and, subject to the approval of this Agreement contemplated by Section 3.01, to perform its obligations hereunder and thereunder. The execution, delivery and performance of this Agreement and the transactions contemplated by this Agreement have been duly authorized, approved and adopted by all necessary municipal corporate action of the Purchaser and no other municipal corporate proceedings on the part of the Purchaser are necessary to authorize this Agreement or to consummate the transactions contemplated, other than the approval contemplated by Section 3.01. This Agreement has been duly and validly certified, executed, acknowledged and delivered by Purchaser and, subject to the approval of this Agreement and the transactions contemplated herein, as contemplated by Section 3.01, will constitute the valid and binding agreement of Purchaser.

4.03 Effect of Agreement. Purchaser warrants that neither the execution and delivery of this Agreement nor the consummation by Purchaser of the transactions contemplated herein will require, except as contemplated by Section 3.01, any consent, approval,

authorization or permit of, or filing with or notification to, any governmental or regulatory authority.

4.04 Inspection. Purchaser acknowledges that it has examined and/or investigated and/or has had the opportunity to examine and/or investigate the quantity, quality and condition of the Personal Property to be sold hereunder, and is satisfied with the same as of the date hereof. Purchaser shall have the right to re-inspect such Personal Property prior to the Possession Transfer Date.

4.05 Survival. The terms of this Article shall survive closing.

ARTICLE V
REPRESENTATIONS AND WARRANTIES OF SELLER

5.01 Organization, Good Standing and Power of Seller. Seller is a cooperative duly organized, validly existing and in good standing under the laws of the State of Michigan. Seller warrants that it has all requisite power to own or lease its properties and to carry on its business in the manner and in the place where such properties are owned or leased and its business is now being conducted.

5.02 Authority and Capacity of Seller. Seller has all requisite corporate power, authority and capacity to enter into this Agreement and the transactions contemplated by this Agreement and to perform its obligations hereunder and thereunder. The execution, delivery and performance of this Agreement and the transactions contemplated by this Agreement have been duly authorized, approved and adopted by all necessary corporate action of Seller, including the approval of its Board, and no other corporate proceedings on the part of Seller are necessary to authorize this Agreement or to consummate the transactions contemplated, except the approval contemplated by Section 3.01. This Agreement has been duly and validly certified, executed, acknowledged and delivered by

Seller and, subject to the approval of this Agreement and the transactions contemplated herein, will constitute the valid and binding agreement of Seller, enforceable against Seller in accordance with its terms.

5.03 Effect of Agreement. Neither the execution and delivery of this Agreement nor the consummation by Seller of the transactions contemplated herein will (a) conflict with or result in any breach of any provision of the Articles of Incorporation or Bylaws of Seller or (b) except as contemplated by Section 3.01, require any consent, approval, authorization or permit of, or filing with notification to, any governmental or regulatory authority.

5.04 Title to Properties; Absence of Liens and Encumbrances.

(a) Personal Property. No portion of the Personal Property to be acquired by Purchaser on the Closing Date shall be subject to any governmental decree or order to be sold or is being condemned, expropriated or otherwise taken by any governmental authority or entity with or without payment of compensation thereof, nor has any such condemnation, expropriation or taking been proposed. Except with respect to the mortgage described in Section 2.04, Seller has good and valid title to all the Personal Property, in each case, free and clear of all title defects or objections, liens, claims, charges, security interests or other encumbrances of any nature whatsoever.

(b) Easements. None of the Easements to be assigned to Purchaser on the Closing Date shall be subject to any governmental decree or order to be sold or is being condemned, expropriated or otherwise taken by any governmental authority or entity with or without payment of compensation thereof, nor has any such condemnation, expropriation or taking been proposed. Except with respect to the mortgage described in

Section 2.04, Seller's title to all such Easements is in each case, free and clear of all liens, charges, security interests or other encumbrances of any nature whatsoever and Seller's title to any such Easements has not been and is not now the subject of any objection, claim or proceeding calling into question whether Seller has good and valid title to such Easement.

5.05 Taxes. Seller has correctly filed all tax returns required to be filed and has paid all taxes required to be paid with respect to the Personal Property and the Easements. No deficiencies for any taxes have been proposed, asserted or assessed against Seller with respect to the Personal Property or the Easements that have not been fully paid. There are no liens for taxes (other than for current taxes not yet due and payable) on the Personal Property or the Easements.

5.06 Easements. The Easements set forth on Attachment B are a true, complete and accurate list of all easements, rights of way, or other interests in real property which are held by Cherryland in connection with the electrical distribution facilities within the Hickory Hills Property which are the subject of this Agreement, and all such Easements are assignable to Purchaser without restrictions or limitations in connection with this Agreement and the transactions contemplated herein.

5.07 Disclaimer of Warranties. It is expressly understood and agreed that except as provided to the contrary in this Article, all of the Personal Property and Easements to be sold and conveyed hereunder will be sold and conveyed to Purchaser AS-IS, WHERE-IS, WITH ALL FAULTS as of the Closing Date. Seller makes no representations or warranties other than those expressly made herein as to the quality, quantity, condition, freedom from defects or hazards of any kind, USABILITY OR FITNESS FOR ANY

PARTICULAR PURPOSE OR MERCHANTABILITY THEREOF or as to any other matter with respect thereto.

5.08 Survival. The terms of this Article shall survive closing.

ARTICLE VI INDEMNIFICATION

6.01 Indemnification by Seller. Seller shall retain liability for all personal injury or accidents or events relating to the Personal Property and/or real property hereunder, which accidents or events occurred prior to the Possession Transfer Date with respect to such Personal Property, Accounts and/or Easements, regardless of whether a claim or suit relating to such accident or event is made or brought before or after such Possession Transfer Date.

Seller shall indemnify and save Purchaser harmless from all claims, actions, damages, expenses and liabilities for injuries to any persons or damage to any property which may occur before such time as a result of or in any manner connected with said Personal Property, Accounts and/or Easements.

6.02 Indemnification by Purchaser. Purchaser shall assume all responsibility for the Personal Property and Easements sold hereunder as of the possession transfer to it on the Possession Transfer Date, and shall indemnify and save Seller harmless from all claims, actions, damages, expenses and liabilities for injuries to any persons or damage to any property which may occur after such time as a result of or in any manner connected with said Personal Property, Accounts and/or Easements. Nothing herein is intended to relieve Seller from liability for accidents or events connected with Personal Property, Accounts and/or Easements to be sold hereunder which accidents or events occurred prior to the Possession Transfer Date on which custody to and possession of such Personal Property

and/or Easements passes to Purchaser hereunder, regardless of whether a claim or suit relating to such accident or event is made or brought before or after the Possession Transfer Date.

6.03 Survival. The terms of this Article shall survive closing.

ARTICLE VII MISCELLANEOUS

7.01 Successors and Assigns. This Agreement may not be assigned without the written consent of the other party. In the event of any consented assignment permitted under this Section, the terms, conditions and obligations of this Agreement are binding upon, and shall inure to the benefit of, the respective successors and assigns of the parties hereto.

7.02 Entire Agreement. This Agreement and the related orders and actions of the Michigan Public Service Commission constitute the entire agreement between the parties and supersedes all prior representations, understanding, negotiations and agreements between the parties with respect to the subject matter hereof. The terms and conditions of this Agreement shall not be changed, superseded or supplemented except in writing, signed by the parties hereto.

7.03 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Michigan.

7.04 Waivers. No action taken pursuant to this Agreement, including without limitation any extension of any Possession Transfer Date, by or on behalf of any party, shall be deemed to constitute a waiver by the party taking such action of compliance with any representations, warranties, covenants or agreement contained herein. The waiver by any party hereto of a breach of any provision of this Agreement shall not operate or be construed as a waiver of any subsequent breach.

7.05 Expenses. Whether or not the sales and transactions contemplated by this Agreement are consummated, each of the parties hereto shall pay the fees and expenses of its respective counsel and other experts, and all other expenses incurred by such party incident to the negotiations, preparation and execution of this Agreement.

7.06 Notices. All notices, requests, demands and other communications which are required or may be given under this Agreement shall be in writing and shall be deemed to have been duly given upon the earlier of delivery if delivered personally, or upon receipt if sent by registered or certified mail, return receipt requested, postage prepaid, or on the second next business day after deposit if sent by recognized overnight delivery service, or upon transmission if sent by email or facsimile transmission (with request of assurance of receipt in a manner customary for communications of such type) as follows:

(a) If to Purchaser:

Timothy J. Arends, Executive Director
Traverse City Light & Power Department
1131 Hastings Street
Traverse City, MI 49686
tarends@tclp.org

with a copy to:

W. Peter Doren, General Counsel
Sondee, Racine & Doren, PLC
310 W. Front Street, Suite 300
Traverse City, MI 49684
doren@sondeeracine.com

(b) If to Seller:

Cherryland Electric Cooperative
5930 US 31 South
Grawn, MI 49637

with a copy to:

7.07 Section and Other Headings. The section and other headings contained in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

7.08 Best Efforts. The parties hereto shall use their respective best efforts to perform all of the obligations and satisfy all of the conditions to which such party is subject pursuant to this Agreement. Each party shall keep the other apprised of any inquiries made of such party by any governmental agency or authority or members of their respective staffs with respect to this Agreement and the transactions contemplated hereby.

7.09 Counterparts. This Agreement may be executed in two counterparts, each of which shall be deemed to be an original and both of which together shall be deemed to be one and the same instrument.

IN WITNESS WHEREOF, Seller and Purchaser have caused the execution of this Agreement by a duly designated officer as of the date and year first above written.

CHERRYLAND ELECTRIC COOPERATIVE

By: _____

Its: _____

TRAVERSE CITY LIGHT AND POWER DEPARTMENT

By: _____

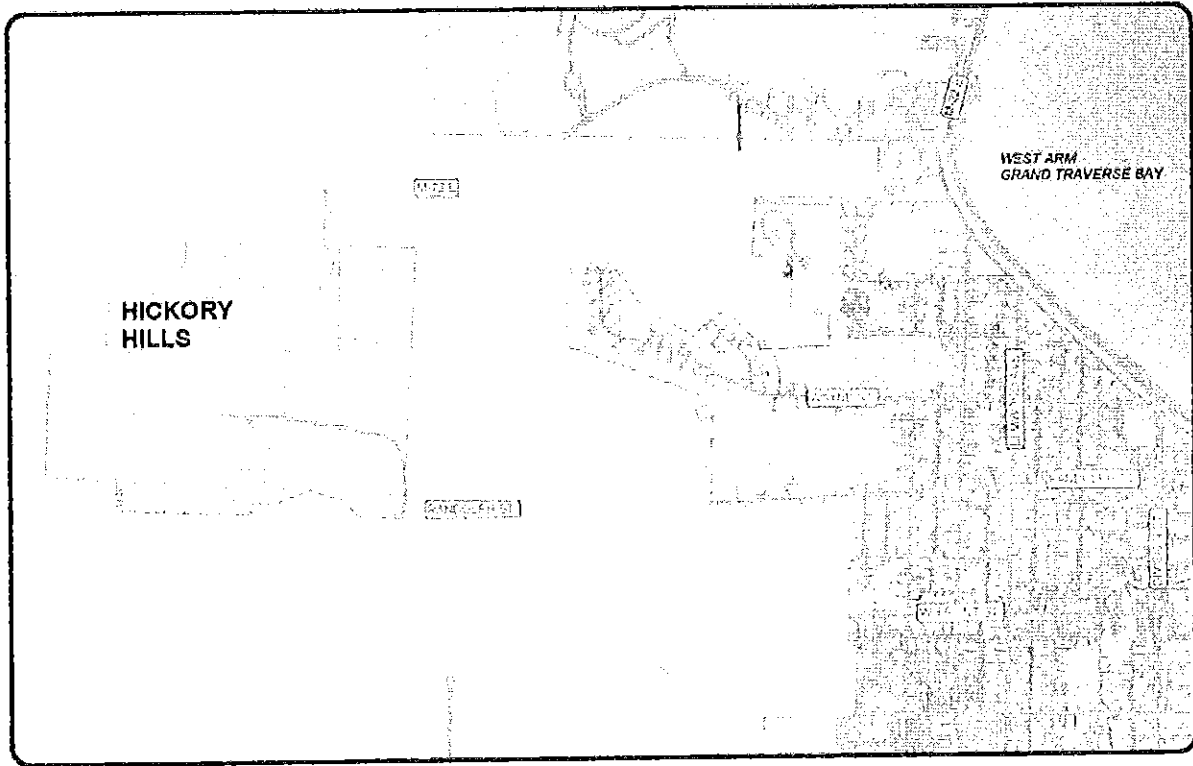
Its: _____

Attachments:

A – Hickory Hills Property map

B – List of Easements

Attachment A
(to be replaced by or supplemented with
legal description)



Attachment B

Page	Liber	Grantor	Date	Release type	Easement area
431	467	Garthe	10/8/1951	Full Release	E1/2 of SE1/4 of NW1/4 Sec 5 -
431	468	Mansville	10/27/1938	Full Release	Lot 1 sec 5
431	470	Kaleua	5/27/1948	Partial Release	W1/2 of Gov lot 2 and NE1/4 sec 5
431	471	Breithaupt	5/1/1948	Partial Release	E1/2 of Gov lot 3 sec 5
431	473	Brown	10/3/1938	Partial Release	e1/2 of lot 3, sec 5
431	482	Beers trust	2/16/1939	Partial Release	E 15a of sw1/4 of nw1/4 and w1/2 of se1/2 of nw1/4 sec 5 - 35a
431	485	Zimmerman	11/22/1940	Partial Release	E 15a of sw1/4 of nw1/4 and w 20a of SE1/4 of the nw1/4 sec 5



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Karla Myers-Beman, Controller
Date: April 23, 2015
Subject: Hickory Hills Distribution Underground Line Project Authorization

Attached is a project authorization for the Hickory Hills Distribution Underground Line. The purpose of the project authorization is to proceed with development, design and construction of the Hickory Hills Underground Line Project.

Details for this project have been included in your packet at various stages of the meeting, including the agreement authorization (item A under New Business), awarding the construction contract (item E under New Business), and the attached project authorization document providing details on the proposed underground line.

Staff recommends Board approval of the Hickory Hills Distribution Underground Line Project.

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 STAFF TO PROCEED WITH THE HICKORY HILLS
DISTRIBUTION UNDERGROUND LINE PROJECT AND SEEK THE NECESSARY BOARD
APPROVAL FOR EXPENDITURES.**

Project Name: Hickory Hills Distribution Underground

Date of Board Presentation/Consideration: April 28, 2015

Budgeted in Capital Plan: Yes **CIP:** \$370,000

Objective: Target Completion date of November 1, 2015

Project Description: Extend TCL&P's three-phase distribution system into the Hickory Hills Ski Area from Wayne Street and connect load presently served by Cherryland Electric Cooperative (CEC).

Project Purpose and Necessity: It will provide the opportunity for TCL&P to service the city's ski facility, Hickory Hills. Additionally, it will enhance the utility's load curve as it predominately operates at night and during the off-peak season.

Project Benefits: It is in the city's best interests to have TCL&P provide this city service to this department. It will provide the city with a lower utility rate thus reducing operating expenses to the ski operations. Additionally, five percent of revenue will be paid to the city's general fund as provided by the city charter which further benefits the city as a whole.

Other Alternatives: Originally it was planned to replace the single-phase line on Randolph St with a three-phase line and extend service to Hickory Hills Ski Area, however, it was later determined to be more cost efficient to extend service to Hickory Hills Ski Area from Wayne St. in conjunction with the West Side Transmission Line Upgrade Project.

Timing of Project: Recent discussions emerged between TCL&P and CEC and terms in a preliminary agreement, subject to board approval, were amenable to CEC to allow TCL&P service the city owned ski facility, Hickory Hills.

Project Timeline: Bidding of material and construction contractor will commence over the spring with a summer start date with completion in late fall.

Preliminary Engineering Cost Estimate: \$163,560 for new transformers, construction of the underground line and up to \$63,659 for purchase of accounts from CEC, easements and on-site usable equipment. Construction estimate is attached.

Financing Method: No bonding or borrowing is required. Current cash reserves will be utilized.

Additional Revenues: None other than utility billing revenue.

Impact on O&M Expenses: Not a significant impact. The lines approximately 3,900 feet will be newly constructed and would fall within the normal maintenance of the Utility's maintenance program. The purchased equipment is aged but in good working condition; however, it will eventually need replacement.

Staff Recommendation: Construct the underground line from the Wayne St area into the Hickory Hills Ski Area.

**TRAVERSE CITY LIGHT & POWER
HICKORY HILLS UNDERGROUND SERVICES
CONSTRUCTION COST ESTIMATE - SALVAGE CABLE & EQUIPMENT**

ITEM	ITEM DESCRIPTION	UNITS	LABOR	MATERIAL	TOTAL	EXTENDED TOTAL
1	Plowing #2 AL Cable (3Ø Circuit Feet)	3900	\$5.00	\$4.50	\$9.50	\$37,050
2	Sectionalizing Cabinet	3	\$700.00	\$600.00	\$1,300.00	\$3,900
3	1Ø Padmount Transformer	1	\$450.00	\$1,500.00	\$1,950.00	\$1,950
4	3Ø Padmount Transformer	5	\$700.00	\$8,000.00	\$8,700.00	\$43,500
5	Elbows, Terminations, & Arresters	59	\$125.00	\$75.00	\$200.00	\$11,800
6	Equipment Grounding	9	\$365.00	\$125.00	\$490.00	\$4,410
7	Miscellaneous OH & UG Construction	1	\$1,000.00	\$350.00	\$1,350.00	\$1,350
8	3Ø Riser Pole	2	\$2,800.00	\$1,500.00	\$4,300.00	\$8,600
9	Site Restoration	Lot	\$3,500.00	\$500.00	\$4,000.00	\$4,000
10	Demolition & Removals	Lot	\$8,000.00	\$0.00	\$8,000.00	\$8,000
11	Insurance & Bonding	Lot	\$1,000.00	\$0.00	\$1,000.00	\$1,000

Subtotal	\$125,560
Contingency (15%)	\$19,000
Engineering Design	\$13,000
Staking & Inspections	\$6,000
Total Estimated Project Cost	\$163,560

Notes:

1. All costs are estimated as 2015 construction costs.
2. Project scope includes installation of new three-phase underground from Wayne Street within the existing transmission line corridor to the Hickory Hills ski area, plus new padmount transformers to serve the existing six three-phase services within Hickory Hills. Estimate is based on salvaging all possible sections of existing underground cable and two existing cabinets.
3. The cost estimate submitted herein is based on time-honored practices within the construction industry. As such, the Engineer does not control the cost of labor, materials, equipment or a contractor's method of determining prices and competitive bidding practices or market conditions. The estimate contained represents our best judgement as design professionals using current information available at the time of preparation. The Engineer cannot guarantee that proposals, bids and/or construction costs will not vary from this cost estimate.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: West Side Transmission Line Upgrade Project – Construction Contract

On April 21, 2015, three bids were submitted, opened and reviewed for the construction contractor to be used in the West Side Transmission Line Upgrade Project approved by the Board on October 28, 2014. This submission included a later alternate, the Hickory Hills Underground Line Project, subject to project authorization at this meeting. The bid results are as follows:

Contractor	West Side Transmission Line Upgrade Project	Hickory Hills Underground
1. CC Power, LLC	\$612,959.00	\$69,825.00
2. Kent Power	\$1,350,000.80	\$114,638.75
3. Newkirk Electric, Inc.	\$2,041,031.39	\$109,987.00

GRP Engineering, Inc. (“GRP”) has evaluated the bids for the construction contractor and recommends CC Power, LLC, low bidder at \$612,959. The bid is 23.4% below the original estimated cost of \$800,000 for the West Side Transmission Line Upgrade Project; the \$69,825 bid amount is 26.2% over the estimated cost of \$55,310 for the alternate Hickory Hills Underground Line Project. Included within the West Side Transmission Line Upgrade Project contract is \$29,810 for distribution transfers for Cherryland Electric Cooperative (“CEC”) that will be reimbursed to TCL&P. This reimbursement is authorized through the Joint Pole Attachment License Agreement between TCL&P and CEC.

GRP has advised staff that the low bidder is acceptable and has the ability and resources to complete the project. Attached is GRP’s letter recommending CC Power, LLC for your review. GRP will be available at the meeting to discuss the bidding process and how the lowest bid compared to the original project budget estimates.

Staff concurs with GRP’s recommendation to accept the bid from CC Power, LLC in the amount of \$682,784 and recommends the Board authorize the Executive Director to execute a construction agreement with CC Power, LLC in the amount of \$612,959 for the West Side Transmission Line Upgrade Project and \$69,825 for the Hickory Hills Underground Project.

(RECOMMENDED MOTION NEXT PAGE)

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 28, 2015

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 EXECUTE A CONSTRUCTION AGREEMENT IN THE AMOUNT OF \$682,784 WITH CC POWER, LLC FOR THE WEST SIDE TRANSMISSION LINE UPGRADE PROJECT IN THE AMOUNT OF \$612,959 AND THE HICKORY HILLS UNDERGROUND LINE PROJECT IN THE AMOUNT OF \$69,825; SUBJECT TO APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND TO FORM BY GENERAL COUNSEL.

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

April 22, 2015
14-0696.01

Mr. Tom Olney
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

**RE: Gray Road to Hall Street Transmission Line
Contractor Bid Evaluation & Recommendation**

Dear Tom:

GRP Engineering, Inc. has completed reviewing the bids submitted on April 21, 2015 for construction of the Gray Road – Hall Street Transmission Line Project. Of the four contractors solicited for bids, three (3) bids were received. CC Power, LLC submitted the low bid for the project in the amount of \$612,959.00. A complete bid tabulation is attached to this letter.

Estimated construction labor cost was \$800,000, therefore CC Power's bid is well below the estimated amount. Their bid also includes \$29,810.00 for distribution transfers for Cherryland Electric Cooperative that will be reimbursed to TCL&P.

CC Power, LLC has submitted a complete and conforming bid although the subcontractor list was provided after bid opening. The list of subcontractors has been reviewed by TCL&P staff and no exceptions were noted. All other bidders also failed to submit their list of subcontractors as required by the bid documents. GRP Engineering, Inc. sees no reason not to accept their bid in the full amount for this project.

Please contact me should you have any questions regarding this evaluation.

Sincerely,
GRP Engineering, Inc.



Michael P. McGeehan, P.E.
Project Manager

cc: Traverse City Light & Power
Mr. Tim Arends

BID TABULATION

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

GRAY ROAD TO HALL STREET TRANSMISSION LINE

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

BIDDERS	BID SECURITY	TOTAL CONTRACTOR BASE BID PRICE	HICKORY HILLS UG ALTERNATE #1	REMARKS
CC Power P.O. Box 2028 Kalkaska, MI 49646	10% Bond	\$612,959.00	\$69,825.00	Low Bid
The Hydaker-Wheatlake Company 420 N. Roth Street Reed City, MI 49677				No Bid
Kent Power 90 Spring St Kent City, MI 49330	10% Bond	\$1,350,000.80	\$114,638.75	
Newkirk Electric, Inc. 1875 Roberts Street Muskegon, MI 49442	10% Bond	\$2,041,031.39	\$109,987.00	

This is to certify that at 11:00a.m., local time on Tuesday, April 20, 2015, the bids tabulated herein were publicly opened and read.

GRP Engineering, Inc.

By: 

Michael P. McGeehan, P.E.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: West Side Transmission Line Upgrade Project– Laminated Wood Systems

There is only one manufacture, Laminated Wood Systems, for the two unguyed angle structures needed within the Hickory Hills area for the West Side Transmission Line Upgrade Project. Total cost for these structures is \$51,173. The original engineering estimate was \$40,000 which represents an \$11,173 increase over budget.

Staff recommends accepting the single source quote from Laminated Wood Systems in the amount of \$51,173.

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

**MOVED BY _____, SECONDED BY _____, THAT
THE BOARD AUTHORIZE THE EXECUTIVE DIRECTOR TO ISSUE A PURCHASE
ORDER IN THE AMOUNT OF \$51,173 TO LAMINATED WOOD SYSTEMS FOR TWO
UNGUYED ANGLE STRUCTURES FOR THE WEST SIDE TRANSMISSION LINE
UPGRADE PROJECT.**



Laminated Wood Systems, Inc.

P.O. Box 386 • Seward, Nebraska 68434
PH 402-643-4708 • FAX 402-643-4374

E-Lam® Quotation

Date: April 2, 2015

To: Robert Shelley

Reference: TCLP 04022015

Company: GRP Engineering

Project: _____

E-mail: rshelley@grp-engineering.com

Phone Number: (616) 942-7183

LWS Contact Terese Pirl		Terms Net 30 days	Salesperson ElectroTech	
Freight Terms Freight included		Pole Delivery Unloading Customer unloading	Hardware Packaged Kit (per structure)	
Wood Species Southern Yellow Pine	Incised None	Pole Treatment Penta and oil		Number of Laminated Wood Poles 2

Thank you for your recent request for a quote on laminated wood utility poles for the above referenced project. Please review all information on this quotation. Prices include the proposed pole size and corresponding hardware. Preliminary drawings will be provided within 5 business days after receipt of an order. Pricing is based on all poles listed in this quotation being ordered and manufactured together.

Estimated lead time from date of final drawing approvals for delivery to begin: 8 weeks

Quantity	Item	Weight Each (lbs)	Price Each	Total Price
1	PELR-H9-108.5C185	11,856	\$19,123.00	\$19,123.00
1	PELR-H22-109.5WC245	20,289	\$32,050.00	\$32,050.00
			Total:	\$51,173.00

Pricing does not include applicable taxes including, but not limited to, Federal, State, Municipal sales, use, excise, or similar taxes. Any applicable taxes will be added at time of invoice unless the customer provides a valid sales tax exemption certificate.

If treated, each pole will be treated in accordance with AWPA specification C1, C4, M2 and especially U1-12 Commodity Specification D and T1-12 Section D, Laminated Wood Pole Sections. Retention and penetration shall meet the requirements of U1-12 table 6.5, use category 4C and T1-12 table D9.

PRELIMINARY MATERIAL LIST FOR:

Traverse City Light & Power

Designed by: MJY

4/1/15

2:50 PM

NOTES:

The preliminary drawings will be complete within 5 business days after receipt of an order.
Engineering Contact: Robert Shelley – rshelley@grp-engineering.com

Unguyed 10-degree Angle Pole - 90 ft. AGL

1 EA -

POLE CLASS = PELR-H9-108.5C185

WIDTH = 12.25 in.

TOP DEPTH = 13 in.

BOT. DEPTH = 38.5 in.

TOT. LENGTH = 108.5 ft.

TAN. LENGTH = 18.5 ft.

EMB. DEPTH = 18.5 ft.

FND. DIAM. = 5.0 ft.

SOIL CLASS = 7

FOUND. SYS. = 2 - ETB-8

OF HOLES = 19

Hardware:

1 - 2855.6-16 SW Support

3 - PS-12-14-17 shims

2 - 1" x 22" bolts

2 - 1" x 24" bolts

2 - 1" x 26" bolts

6 - 1" locknuts

6 - 4" sq. washers for 1" bolts

Unguyed 35-degree Angle Pole - 85 ft. AGL

1 EA -

POLE CLASS = PELR-H22-109.5WC245

WIDTH = 14.25 in.

TOP DEPTH = 16 in.

BOT. DEPTH = 56.375 in.

TOT. LENGTH = 109.5 ft.

TAN. LENGTH = 24.5 ft.

EMB. DEPTH = 24.5 ft.

FND. DIAM. = 6.0 ft.

SOIL CLASS = 6/7

FOUND. SYS. = 2 1/2 - ETC-8

OF HOLES = 23

Hardware:

4 - DET-FD15 tees

2 - 7/8" x 22" bolts

2 - 7/8" x 26" bolts

2 - 7/8" x 28" bolts

2 - 7/8" x 30" bolts

8 - 7/8" locknuts

8 - 4" sq. washers



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: Cowell Family Cancer Center Project – Electrical Cable and Equipment Installation

On April 21, 2015, three bids out of four solicited bidders were submitted, opened and reviewed for the electrical cable and equipment installation for the Cowell Family Cancer Center Project (“Center”). This electrical cable and equipment installation is for the redundant feed to allow the Center to be fed from a second circuit if the primary circuit feed was unable to provide electricity. Its primary purpose is to reduce the Center’s risk or exposure of a power outage. This was a requirement by Munson for TCL&P to serve the Center. Following is a summary of the bid submissions:

Vendor	Amount
1. CC Power, LLC	\$43,730.00
2. Kent Power	\$52,631.42
3. Newkirk Electric, Inc.	\$96,379.00

GRP recommends awarding the bid to the low bidder CC Power, LLC in the amount of \$43,730.

Staff concurs with GRP’s recommendation to accept the bid from CC Power, LLC, in the amount of \$43,730 and recommends the Board authorize the issuance of a contract for the electrical cable and equipment installation.

For your review, attached is GRP’s letter recommending CC Power, LLC.

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 EXECUTE A
CONSTRUCTION AGREEMENT IN THE AMOUNT OF \$43,730.00 WITH CC POWER, LLC
FOR THE COWELL FAMILY CANCER CENTER PROJECT; SUBJECT TO APPROVAL AS
TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND TO FORM BY GENERAL
COUNSEL.**

April 22, 2015
13-0576.01

Mr. Blake Wilson
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

**RE: Cancer Center Underground Feeds
Electrical Contractor Bid Evaluation & Recommendation**

Dear Blake:

GRP Engineering, Inc. has completed reviewing the bids submitted on April 21, 2015 for the electrical cable and equipment installation portion of the Cancer Center Underground Feeds Project. Of the four contractors solicited for bids, three (3) bids were received. CC Power, LLC. submitted the low bid in the amount of \$43,730.00. A complete bid tabulation is attached to this letter.

CC Power, LLC has submitted a complete and conforming bid. GRP Engineering, Inc. sees no reason not to accept their bid in the full amount for this project.

Please contact me should you have any questions regarding this evaluation.

Sincerely,
GRP Engineering, Inc.



Michael P. McGeehan, P.E.
Project Manager

cc: Traverse City Light & Power
Mr. Tim Arends

BID TABULATION

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

**CANCER CENTER UNDERGROUND FEEDS
 ELECTRICAL CABLE & EQUIPMENT INSTALLATION**

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

BIDDERS	BID SECURITY	TOTAL CONTRACTOR BASE BID PRICE	REMARKS
CC Power P.O. Box 2028 Kalkaska, MI 49646	10% Bond	\$43,730.00	Low Bid
The Hydraker-Wheatlake Company 420 N. Roth Street Reed City, MI 49677			No Bid
Kent Power 90 Spring St Kent City, MI 49330	10% Bond	\$52,631.42	
Newkirk Electric, Inc. 1875 Roberts Street Muskegon, MI 49442	10% Bond	\$96,379.00	

This is to certify that at 1:00a.m., local time on Tuesday, April 20, 2015, the bids tabulated herein were publicly opened and read.

GRP Engineering, Inc.

By: 

Michael P. McGeehan, P.E.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: Cowell Family Cancer Center Project – Redundant Feed Conduit Installation

On April 21, 2015, two bids out of solicited six potential bidders were submitted, opened and reviewed for the conduit installation for the Cowell Family Cancer Center Project (“Center”). This conduit installation is for the redundant feed to allow the Center to be fed from a second circuit if the primary circuit feed was unable to provide electricity. Its primary purpose is to reduce the Center’s risk or exposure of a power outage. This was a requirement by Munson for TCL&P to serve the Center. Within the bid documents there were two alternatives, one with partial trench and directional bore and the other a complete directional bore. Following is a summary of the bid submissions:

Vendor	Partial Bore/Trench	Complete Bore
1. Roemer Utility Service	No bid	\$72,693.10
2. Severance Electric	\$42,541.50	\$52,916.50

GRP recommends awarding the bid as a complete bore project to Severance Electric in the amount of \$52,916.50. It is their recommendation based upon the high volume of pedestrian and vehicular traffic, plus the magnitude of site restoration for a partial bore to proceed with the complete bore.

Additionally, a portion of this expense was considered a non-discountable item in the Electric Service Agreement for Cowell Family Cancer Center and requires the Center to reimburse the utility \$12,925 for this cost. The \$12,925 was determined by taking \$5.50 charge times the length of the installation, approximately 2,350 feet. This charge is in accordance with the utility’s Underground Service Policy.

Staff concurs with GRP’s recommendation to accept the bid from Severance Electric in the amount of \$52,916.50 and recommends the Board authorize the issuance of a contract for the conduit installation.

For your review, attached is GRP’s letter recommending Severance Electric.

(RECOMMENDED MOTION ON THE FOLLOWING PAGE)

FOR THE LIGHT & POWER BOARD MEETING OF APRIL 28, 2015

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 EXECUTE A CONSTRUCTION AGREEMENT IN THE AMOUNT OF \$52,916.50 WITH SEVERENCE ELECTRIC FOR THE CONDUIT INSTALLATION FOR THE COWELL FAMILY CANCER CENTER PROJECT; SUBJECT TO APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND TO FORM BY GENERAL COUNSEL.

April 22, 2015
13-0576.01

Mr. Blake Wilson
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

**RE: Cancer Center Underground Feeds
Conduit Contractor Bid Evaluation & Recommendation**

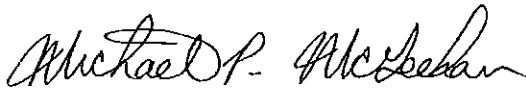
Dear Blake:

GRP Engineering, Inc. has completed reviewing the bids submitted on April 21, 2015 for the conduit installation portion of the Cancer Center Underground Feeds Project. Of the six contractors solicited for bids, two (2) bids were received. Bids were accepted for conduit installation via open trench with a small amount of directional boring or all directional boring. Severence Electric Co., Inc. submitted the low bid for both options. A complete bid tabulation is attached to this letter.

Total project labor and material bid prices are approximately \$192,000 based on conduit installation via all directional boring. Estimated project cost is \$195,000. Due to high volume of pedestrian and vehicular traffic, plus the magnitude of site restoration, we recommend proceeding with conduit installation via directional bore. Therefore, GRP Engineering, Inc. sees no reason not to accept Severence Electric's bid including the directional boring alternate for this project.

Please contact me should you have any questions regarding this evaluation.

Sincerely,
GRP Engineering, Inc.



Michael P. McGeehan, P.E.
Project Manager

cc: Traverse City Light & Power
Mr. Tim Arends

BID TABULATION

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

**CANCER CENTER UNDERGROUND FEEDS
 CONDUIT INSTALLATION**

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

BIDDERS	BID SECURITY	BASE BID PRICE (TRENCH & D.BORE)	ALTERNATE (ALL DIRECTIONAL BORING)	REMARKS
Doug's Underground 8350 Townline Rd Kingsley, MI 49649				No Bid
Five Star Drilling 8553 Blackman Rd Kingsley, MI 49649				No Bid
Freedom Utility Placement 9430 N. Twin Lake Rd NE Mancelona, MI 49659				No Bid
Roemer Utility Service P.O. Box 124 Boyne City, MI 49712	10% Bond	No Bid	\$72,693.10	
Severence Electric 7076 E. N Avenue Kalamazoo, MI 49048	10% Bond	\$42,541.50	\$52,916.50	Low Bid
Western Tel-Com 4273 58th Street Holland, MI 49423				No Bid

This is to certify that at 11:00a.m., local time on Tuesday, April 20, 2015, the bids tabulated herein were publicly opened and read.

GRP Engineering, Inc.

Michael P. McGeehan

By: _____
 Michael P. McGeehan, P.E.



**TRAVERSE CITY
LIGHT & POWER**

To: Light & Power Board
From: Tim Arends, Executive Director
Date: April 22, 2015
Subject: Cowell Family Cancer Center Project – ATS Switchgear

On April 21, 2015, three bids were submitted, opened and reviewed for the ATS switchgear needed for the Cowell Family Cancer Center Project (“Center”). This switch will allow the Center to be fed from a second circuit if the primary circuit feed was unable to provide electricity. Its primary purpose is to reduce the risk or exposure of a power outage to the Center.

GRP Engineering Inc. has evaluated the bids for the ATS switchgear and recommends the middle bidder RESCO in the amount of \$53,710, 5.8% below the internal generated estimated cost of \$57,000. GRP recommends RESCO over the low bidder because this particular ATS switchgear is a G&W dead front and it has no exposed energized parts and full SCADA responsibilities whereas the low bidder ATS switch is a S&C live –front PMH-9 ATS and has exposed energize parts and only provides remote status and programming capabilities. Additionally, these characteristics of the G&W dead front are important because it will be serving critical load that requires a high degree of reliability.

Vendor	Amount
1. Champion Charter	\$51,871
2. RESCO	\$53,710
3. U&I Products	\$54,139

Additionally, this expense was considered a non-discountable item in the Electric Service Agreement for Cowell Family Cancer Center and will be reimbursed by the Center.

Staff concurs with GRP’s recommendation to accept the bid from RESCO, in the amount of \$53,710 and recommends the Board authorize the issuance of a purchase order for the ATS Switch.

For your review, attached is GRP’s letter recommending RESCO.

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 EXECUTIVE DIRECTOR TO ISSUE A PURCHASE ORDER TO
RESCO IN THE AMOUNT OF \$53,710 FOR ATS SWITCHGEAR TO BE USED IN THE
COWELL FAMILY CANCER CENTER PROJECT.**

April 22, 2015
13-0576.01

Mr. Blake Wilson
Traverse City Light & Power
1131 Hastings Street
Traverse City, MI 49686

**RE: Cancer Center Underground
ATS Switch Quote Evaluation & Recommendation**

Dear Blake:


GRP Engineering, Inc. has completed our evaluation of the padmount automatic transfer switch quotes received for the Cancer Center Underground project. Of the three vendors invited to submit quotes for purchase, all responded with complete quotations. List of quotes from all vendors is shown below.

<u>Vendor</u>	<u>Price</u>	<u>Delivery</u>
Champion-Charter	\$51,871.00	12 weeks
RESCO	\$53,710.00	16 weeks
U&I Products	\$54,139.00	19 weeks

Champion quoted an S&C live-front PMH-9 ATS switchgear while the other two vendors quoted G&W dead-front SF6 gas-insulated switchgear. Although the G&W switchgear is more expensive, it is a more reliable switchgear due to its deadfront (no exposed energized parts) design. Additionally, the controller has full SCADA capabilities, where the S&C only provides remote status and programming capabilities. The quoted delivery times are within the service date requirements for the backup circuit.

GRP Engineering, Inc. recommends that TCL&P accept the quotation from RESCO for the G&W deadfront switchgear since this will be serving critical load and requires a high degree of reliability. Please contact me should you have any additional questions regarding this evaluation and recommendation.

Sincerely,
GRP Engineering, Inc.



Michael P. McGeehan, P.E.
Project Manager

cc: Traverse City Light & Power
Mr. Tim Arends

The City of Traverse City and Charter Township of Garfield
Recreational Authority

324 Munson Avenue
Traverse City, MI 49686
(231) 929-3696

April 21, 2015

Mr. John Taylor, Chair
Traverse City Light and Power Board of Directors
1131 Hastings Street
Traverse City, MI 49686

Re: West Transmission Line Project and Special Projects at Hickory Meadows

Dear Mr. Taylor and Members of the Board of Directors:

At its meeting of October 28, 2014, the Traverse City Light & Power Board authorized the West Transmission Line Upgrade Project, a segment of which runs through the Hickory Meadows natural area owned by the joint Traverse City and Garfield Township Recreational Authority.

As you know, it was the hope of the Authority and Hickory Meadows supporters that the transmission line would instead be permanently rerouted outside of the public parkland. Following the decision to rebuild the line in place and recognizing that decision will have both short- and long-term ramifications for the land and for park users, the TCL&P board expressed an understanding that, in utilizing the easement through the park, TCL&P is now also one of the stewards of this special place.

In that light, at that same October 28 meeting, the TCL&P board expressed a desire to conduct the transmission line project and its remediation in as environmentally conscious a manner as possible, as well as a willingness to support some special stewardship initiatives that would benefit the park and the community in general.

Regarding the transmission line project itself, the Authority wants to thank TCL&P staff for their diligence in preparing for the project in the months that have followed. Staff have been receptive and responsive to questions and input from the Authority, the citizen-driven Hickory Meadows Advisory Committee, and the Authority's land stewards from the Grand Traverse Conservation District, including hosting a meeting and providing several staff to review and help finalize a best-practices strategy for conducting and remediating the line work at Hickory Meadows. It will be a difficult and disruptive project, but we appreciate every effort that has been made to soften the impact on the natural area.

Regarding stewardship, these same parties have worked to develop the attached list and budget for your consideration. The list contains well-known priority items that the Authority would like to bring about over a period of years, but which have fallen outside of available budget resources. Activities include invasive species control, the expansion of ADA-accessible

Mr. John Taylor, Chair, &
Traverse City Light and Power Board of Directors
April 21, 2015
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pathways and other trail improvements, native plant restoration, improved fishing habitat, and improved parking.

Taken as a whole and in concert, these improvements would provide great long-term benefit to the park and the many users who enjoy this public resource on a daily basis.

Thank you for your consideration, and please don't hesitate to contact the Authority with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ross Biederman". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Ross Biederman
Board Chair

e-copy: Recreational Authority Board of Directors
 Tim Arends, Traverse City Light and Power Executive Director
 Hickory Meadows Advisory Committee
 Grand Traverse Conservation District

Future Projects at Hickory Meadows

*All costs are approximate.

- 1) Invasive species control – \$5,000/year over the course of 5 years – Total \$25,000

Extensive garlic mustard surveying and control has been done in previous years, but funding is limited. Other priority species that have received treatment in the past include wild parsnip, leafy spurge, glossy buckthorn, and Japanese barberry. Additional invasive woody species, such as autumn olive, honeysuckle and black locust, are becoming more widespread at Hickory Meadows and are in need of control. The invasive species management plan for the property calls for surveys every 3-5 years in order to detect new high-priority species. Good headway has been made in controlling further spread of high-priority invasives, but securing additional funding will be crucial.

- 2) ADA accessible pathways – \$35,000 (\$1.04/sq ft)

To create loops of a 6' wide, ADA compliant, crushed limestone pathway in both East and West meadows. This would connect to the already established trail from Randolph parking. To only complete 6' wide crushed limestone pathway from Randolph to Wayne St. would be \$12,000. This was started in 2012, but not completed due insufficient funds.

- 3) Native plant community restoration – \$10,000+ (pending on scale of project)

Adding more native plant diversity into the area would support pollinators, insects, birds, and other wildlife. Some work has occurred in the understory by the Wayne Street access and in the woodlot between the two big meadows, but a continued effort is needed. The Hidden Meadow would be a great place for a native meadow restoration site.

- 4) Maintenance of existing trails – \$1,000/year for 5 years – \$5,000 total

Many of the trails are used by the TC cross country club and 5K events. Erosion makes several of them uneven and a tripping hazard unless maintained.

- 5) Construction of new trails – \$5,000

Expanding the trail network to connect with Hickory Hills will provide more recreational opportunities. It is within the management plan to seek ways of connecting trails.

- 6) Maintenance dredge of pond – \$10,000 (rough estimate - waiting for bid)

The pond is filling in with cattails. A maintenance dredge would open it back up to provide better fishing opportunities.

- 7) New or expanded Randolph St. Parking Area (City property) – ranging from \$5,000 for immediate repairs up to \$25,000 for an expanded asphalt lot

Parking lot is currently shared with Hickory Hills and owned by the City. The lot is heavily used and often overcrowded. Drainage issues are a continual problem, causing erosion and the accrual of sediments on the Hickory Meadows trailhead. This makes ADA accessibility to that path very difficult unless maintained often. An ADA parking spot should also be implemented with an accessible path leading to trailhead.

Total Project Costs: \$95,000 – \$115,000