

**A REGULAR MEETING**

Of The

**TRAVERSE CITY LIGHT AND POWER BOARD**

Will Be Held On

**TUESDAY, November 12, 2013**

At

**5:15 p.m.**

In The

**COMMISSION CHAMBERS**  
(2<sup>nd</sup> floor, Governmental Center)  
400 Boardman Avenue

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

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) 932-4543

Posting Date: 11-8-13  
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 October 23, 2013.  
(p. 4)
- b. Consideration of authorizing a purchase order to Power Line Supply for the Parsons to Airport Access Transmission Line Project overhead and underground materials. (Arends) (p. 6)

#### **3. Unfinished Business**

None.

#### **4. New Business**

- a. Consideration of authorizing a procurement agreement with ABB Kuhlman for the purchase of two 69/13.8 KV 12/16/20 MVA transformers for the South Substation Project.  
(Arends) (p. 13)
- b. Consideration of adopting a new vision and mission statement for the utility.  
(Arends ) (p. 18)

#### **5. Appointments**

None.

#### **6. Reports and Communications**

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

1. Energy Supply Presentation – Phase #1 Transmission Issues  
(Arends/Dyer) (p.21)
2. Notice of Adoption – Elmwood Charter Township Greilickville  
Commercial Corridor Sub Area Master Plan. (p. 44)

c. From Board.

**7. Public Comment**

/kmb

**TRAVERSE CITY  
LIGHT AND POWER BOARD**

Minutes of Regular Meeting  
Held at 5:15 p.m., Commission Chambers, Governmental Center  
Tuesday, October 23, 2013

**Board Members -**

Present: Barbara Budros, Jim Carruthers, Jan Geht, Jeff Palisin, Bob Spence, John Taylor, Patrick McGuire

**Ex Officio Member -**

Present: Jered Ottenwess, City Manager

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

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

Chairman McGuire announced the Study Session scheduled to follow the Regular Meeting would be canceled and the business intended for that meeting would be conducted during the Regular Meeting.

**Item 2 on the Agenda being Consent Calendar**

None.

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

None.

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

**4(a).** Consideration of approving minutes of the Regular Meeting of October 8, 2013.

Moved by Carruthers, seconded by Taylor, that the minutes of the Regular Meeting of October 8, 2013 be approved.

CARRIED unanimously.

**4(b).** Consideration of authorizing an agreement with RTD Consulting, LLC.

The following individuals addressed the Board:

Karla Myers-Beman, Controller  
Tim Arends, Executive Director

Moved by Palisin, seconded by Spence, that the Board authorizes an amendment to the RTD Consulting, LLC contract in the amount of \$109,200, plus any out of pocket expenses for consulting services as presented.

CARRIED unanimously.

**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. Jessica Wheaton announced the Fall Clean Up Green Up event scheduled for November 3, 2013.
2. Staff and Hometown Connections gave a strategic planning presentation.

The following individuals addressed the Board:

Tim Arends, Executive Director  
Karla Myers-Beman, Controller  
Tom Olney, Operations Manager  
Rod Solak, Line Superintendent  
Scott Menhart, Manager of Telecom and Technology  
Kelli Schroeder, Human Resource Generalist  
Jessica Wheaton, Marketing and Community Relations Coordinator  
Tim Blodgett, Hometown Connections  
Steve VanderMeer, Hometown Connections

3. Tim Arends spoke regarding the legal confidential attorney-client communication provided by Mr. Howard that was distributed to the Board.

C. From Board.

None.

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

-Scott Potter, 9877 East Northern Heights, Non-Ratepayer  
-Ann Rogers, 1236 Peninsula Drive, Ratepayer

There being no objection, Chairman McGuire declared the meeting adjourned at 6:25 p.m.

FOR THE LIGHT & POWER BOARD MEETING OF NOVEMBER 12, 2013



TRAVERSE CITY  
LIGHT & POWER

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**To:** Light & Power Board  
**From:** Tim Arends, Executive Director  
**Date:** November 5, 2013  
**Subject:** Parsons to Airport Access Transmission Line Project Materials

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On October 8, 2013 the Board authorized the Parsons to Airport Transmission Line Project with Kent Power in accordance with the Restatement of Amendment No. 1 to the License Agreements for the Joint Use of Poles Between Consumers Energy Company and City of Traverse City ("Amendment No. 1") approved by the Board on August 27, 2013.

The Amendment No. 1 was issued to prevent a new line being installed within the back lot of many homes because of a change in MDOT requirements for installation of new utility lines changing from 25' to 45' of the centerline of the railroad right away. To prevent this hardship on property owners and a new line being installed, TCL&P negotiated with Consumers Energy Company to upgrade its existing transmission line through the area to accommodate TCL&P's needs. In exchange, TCL&P will upgrade the Parsons to Airport Access line for the benefit of Consumers Energy Company customers.

With the project scope change of adding the section from Parsons to Airport Access to the East Hammond Transmission Line Project additional materials are required beyond what has already been authorized for this project. GRP Engineering, Inc. has provided a memo describing its reasoning in using one vendor to obtain a materials quote, along with the material lists for the overhead transmission line and underground relocation. GRP has recommended issuing a purchase order to Power Line Supply in the amount of \$128,661.49 for the overhead and underground material costs.

These material costs will be reimbursed by Consumers Energy Company except for the conductor costs (TCL&P line) in accordance with Amendment No. 1. The estimate for the conductor material not including labor costs is \$30,785.00.

Staff concurs with GRP Engineering, Inc. and recommends the Board authorize the issuance of a purchase order for the materials described above. This item is appearing on the Consent Calendar as it is deemed by staff to be 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.

FOR THE LIGHT & POWER BOARD MEETING OF NOVEMBER 12, 2013

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 IN THE AMOUNT OF \$128,661.49 TO POWER LINE SUPPLY FOR OVERHEAD AND UNDERGROUND MATERIAL COSTS RELATING TO THE PARSONS TO AIRPORT ACCESS TRANSMISSION LINE PROJECT.**

November 6, 2013  
11-0437.01

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

**RE: Parsons Rd 69kV Line Material  
Bid Recommendation**

Dear Tim:

GRP Engineering, Inc. has completed compiling the additional material costs for the extension of the East Transmission Line between Parsons Road Substation and Airport Access Drive. This additional material was needed as the scope of the project was increased due to ROW. The material was quoted by Power Line Supply (PLS).

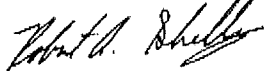
PLS was the only vendor solicited for this material for multiple reasons. First, of the three vendors originally solicited for the material bids on this project PLS was low bid. Second, this material is an adder to an existing project and therefore is being treated as a change order. This addition is approximately a 25% adder to the original bid. Lastly PLS during the original bid process submitted the most complete bid with the lowest cost on the major items (poles, wire, insulators). By submitting the most complete bid they demonstrated that they could provide all of the materials, this ability eliminates the need for staff and engineering to manage and coordinate multiple vendors, saving time and money. Power Line Supply submitted the low quote for the additional material in the total amount of \$128,661.49. This price includes standard package size costs.

Therefore GRP Engineering, Inc. recommends that TCLP move forward with Power Line Supply as the vendor for the additional material for the above mentioned project.

The evaluated quote spreadsheets are attached to this letter.

Please contact me at 616.942.7183 should you have any questions regarding this evaluation.

Sincerely,  
**GRP Engineering, Inc.**



Robert A. Shelley, P.E.  
Electrical Engineer



TRAVERSE CITY LIGHT & POWER  
TOTAL OVERHEAD TRANSMISSION LINE  
MATERIAL LIST

POWER LINE SUPPLY 10/24/13

ITEM NO.	Needed Quantity	ITEM DESCRIPTION	SUGGESTED MANUFACTURER	SUGGESTED PART #	PRICE
A-639	3	Switch, Air Break, 3 Phase, Gang Operated, 600A, 15kV	S&C	137412R8	\$ 11,487.71
A-661	16	Cutout, 100A, 15kV, 95KV BIL, Polymer, Type XS Extra HD	MacLean	89021R9-D-B-P	1,447.04
A-688	7	Cutout Solid Blade, 300A, 15kV	Chance	T710133T	250.27
B-010	106	Insulator, Pin, Polymer, 15kV, F-Neck, ANSI 55-4	Hendrix	HPI-15F	455.91
B-014	3	Insulator, Pin, Polymer, 15kV, C-Neck, ANSI 55-3	Hendrix	HPI-55-3	11.65
B-024	41	Insulator, Spool, Polymer, 3" X 3 1/8", 5/8" Pin, 3,000#, ANSI 53-2	Hendrix	HPI-53-2	37.47
B-040	16	Guard, Guy Guard, 8' Yellow, Polyethylene, Spiked Rivit Attachment	MacLean	J1493Y	47.31
B-126	4	Insulator, Guy Strain, Fiberglass, Clevis-Clevis Roller, 54", 21,000#	Flagg	210-54	67.01
B-250	29	Suspension, Polymer, 15kV, SML 15,000#, Clevis-Eye, Type PDI-15	Ohio Brass	401015-0215	246.35
B-283	18	Suspension, Silicone Polymer, 69kV, Y-Clevis-Ball, 41.9" Length, SML 25,000#	Ohio Brass	S025030S2010	1,391.23
B-356	51	Line Post, Silicone Polymer, 69kV, Gain Base, Design Load 4,490#	Ohio Brass	P250031S0020	12,441.81
B-702	15	Arrester, Heavy-Duty Distribution Class, 8.4kV MCOV, Polymer, Crossarm Mount	MacLean	ZHP010-0C00000	420.97
B-853	15	Guard, Bushing Animal Guard	Salisbury	GC-560	121.46
C-004	3	Bracket, Spool, 3" Spool, 5/8" Pin	MacLean	J1300	15.00
C-018	6	Anchor Shackle, 5/8"	Chance	5801	20.00
C-030	108	Pin, Crossarm, Saddle-Type, 1" Thread	Chance	14322	1,512.00
C-054	32	Clamp, 3-Bolt	Chance	7903-L	217.20
C-060	1	Support, OHGW, (2) 5/8" Bolts, 10-12" Pole Top	Chance	5433	24.63
C-061	4	Support, OHGW, (2) 5/8" Bolts, 12-14" Pole Top	Chance	5434	105.98
C-062	9	Support, OHGW, (2) 5/8" Bolts, 16" Pole Top	Hughes	2859-1-16	250.72
C-068	44	Clamp, Dead-End Shoe, Pistol Grip, #6 - #3/0 ACSR, 8,000#	Anderson	PG-46-N	237.34
C-089	30	Compression Dead-End Assembly, #795 ACSR	Anderson	SEDA-3309-SSAC	5,633.55
C-098	5	Clamp, Dead-End Shoe, Pistol Grip, .22 - .55" (1/4"-1/2"), All Grades, 18,000#, w/Clevis	Anderson	SWDE-55-C	274.46
C-118	14	Clamp, Suspension, 7/16" EHSS OHGW w/Armor Rods	Anderson	MS-82-N	277.44
C-125	66	Clamp, Suspension, 1.55-1.82", 25,000#, w/Socket Eye, High Temp	Anderson	CFSHT-182-S	4,364.52
C-211	66	Armor Rod, #795 ACSR 26/7 "Drake"	Preformed	AR-0141	2,933.10
C-215	14	Armor Rod, 7/16" UG, HS, EHS Steel	Preformed	AR-1133	312.90
C-225	4	Grip, Guy Dead-End, 3/8"-7 HS Steel	Preformed	GDE-2107	11.87
C-249	31	Wedge Clamp, Service, #2 - #6 ACSR	Blackburn	W62-1	39.67
C-255	38	Crossarm, Wood, 3-5/8" X 4-5/8" X 10', DF, Penta, REA Spec, WQC, Type 05	Brooks		1,300.99
C-260	1	Crossarm, Wood, 3-3/4" X 4-3/4" X 8' Type 03	Brooks		29.23
C-266	1	Crossarm, Dead-End, Braceless Assembly, 10,000#, 8' Composite	Pupi	DA2500-96E2-B72	179.58
C-267	4	Crossarm, Dead-End, Braceless Assembly, 4-Wires, 10,000#, 10' Composite	Pupi	DA3000-120E4-B92	990.41
C-280	39	Brace, Wood Crossarm, 60" Span, 18" Drop	Alumaform	RA6018	547.56
C-314	18	Screw, Lag 1/2" X 4"	Chance	508754	9.87
C-317_6	78	Bolt, Machine, 1/2" X 6" w/Nut	Chance	8706	42.77
C-318_10	16	Bolt, Machine, 5/8" X 10" w/Nut	Chance	8810	14.80
C-318_14	35	Bolt, Machine, 5/8" X 14" w/Nut	Chance	8814	40.65
C-318_16	13	Bolt, Machine, 5/8" X 16" w/Nut	Chance	8816	17.47
C-318_18	63	Bolt, Machine, 5/8" X 18" w/Nut	Chance	8818	123.50
C-318_20	13	Bolt, Machine, 5/8" X 20" w/Nut	Chance	8820	84.84



TRAVERSE CITY LIGHT & POWER  
TOTAL OVERHEAD TRANSMISSION LINE  
MATERIAL LIST

POWER LINE SUPPLY 10/24/13

ITEM NO.	Needed Quantity	ITEM DESCRIPTION	SUGGESTED MANUFACTURER	SUGGESTED PART #	PRICE
C-318_22	28	Bolt, Machine, 5/8" X 22" w/Nut	Chance	8822	72.56
C-318_5	100	Bolt, Machine, 5/8" X 5" w/Nut	Chance	8805	100.00
C-320_16	6	Bolt, Machine, 7/8" X 16" w/Nut	Chance	C2050255	87.10
C-320_18	42	Bolt, Machine, 7/8" X 18" w/Nut	Chance	C2050256	287.42
C-320_20	122	Bolt, Machine, 7/8" X 20" w/Nut	Chance	C2050257	978.49
C-324_4.5	2	Bolt, Carriage, 3/8" X 4.5" w/Nut	Chance	863412	1.12
C-324_7	18	Bolt, Carriage, 3/8" X 7" w/Nut	Chance	8637	12.39
C-328_28	8	Bolt, Double Arming, 5/8" X 28" w/Nuts	Chance	8877	26.75
C-330_24	50	Bolt, Double Arming, 7/8" X 24" w/Nuts	Chance	PSDA782400	501.61
C-335_12	7	Bolt, Eye, 5/8" X 12" w/ Nut	Hughes Bros.	2719.612-6	21.15
C-335_14	2	Bolt, Eye, 5/8" X 14" w/ Nut	Chance	29964	6.30
C-335_16	1	Bolt, Eye, 5/8" X 16" w/ Nut	Chance	29966	94.44
C-337_20	2	Bolt, Curved Shoulder Eye, 5/8" X 20" w/Nut, 12400#	Hughes	2721.620-6	134.95
C-338_20	7	Bolt, Curved Shoulder Eye, 3/4" X 20" w/Nut, 18350#	Hughes	2721.720-6	179.23
C-353	108	Nut, Locknut, 1/2"	Chance	3511	25.08
C-354	376	Nut, Locknut, 5/8"	Chance	3512	60.69
C-364	27	Nut, Eye, 5/8"	Chance	6502	41.00
C-368	4	Nut, Thimble Eye, 5/8"	Chance	6519	14.06
C-377	78	Washer, Round 1-3/8" Dia., 9/16" Hole	Chance	6803	4.19
C-382	451	Washer, 2-1/4" X 2-1/4" X 3/16" Square, 11/16" Hole	Chance	6813	24.25
C-385	23	Washer, 3" X 3" X 1/4" Square Curved Washer, 11/16" Hole	Chance	682312	20.03
C-389	4	Washer, 4" X 4" X 1/4" Square Curved Washer, 11/16" Hole	Hughes Bros.	SCW4-60	9.12
C-391	132	Washer, 4" X 4" X 1/4" Square Curved Washer, 15/16" Hole	Hughes Bros.	SCW4-80	217.16
C-403	4	Clevis, Clevis-Eye, 90°	Anderson	CE	68.73
C-408	40	Clevis, Y-Clevis-Ball, 3/4" Pin, ANSI 52-3/52-5 Socket, 30,000#	Anderson	YBC-30	296.77
C-411	12	Clevis, Socket-Clevis, 7/8" Opening, 5/8" IN, 30,000#	Anderson	SC-30	142.97
C-413	10	Clevis, Clevis, 5/8" Pin, 7/8" Opening, 30,000#	Anderson	CCC-30	159.89
C-425	9	Link, 15", OPTGW	AFL	ODELP15	270.97
C-563	350	Pre-Formed Ties, Wraplock, #336.4 ACSR 18/1, F-Neck, ANSI 55-4	Preformed	WTF-0121	1,407.53
C-661	35	Spool Tie, #336.4 ACSR, ANSI 53-2	Preformed	SPL-1360-P	135.48
C-686	9	Clamp, Dead-End Shoe, 37/37/551 OPTGW, w/Clevis	AFL	ODE2639555G	1,776.19
C-700	6	Grip, Service, Dead End, #2 TX Neutral	Preformed	SG-4504	4.13
D-001	803	Wire, #6 CU Solid, Bare, Soft Drawn	Southwire		325.16
D-016	110	Cable, #2 CU Strand, Bare, Soft Drawn	Southwire		105.47
D-019	45	Cable, #4/0 CU Strand, Bare, Soft Drawn	Southwire		138.69
D-020	120	Cable, 250 MCM CU Strand, Bare, Soft Drawn	Southwire		445.01
D-027	2,410	Cable, #4 CU Strand, Bare, Medium Hard Drawn	Southwire		1,606.67
D-060	353	Cable, #6 CU, Solid, Covered Line Wire	Southwire		159.42
D-207	135	Cable, #2 7/1 ACSR, "Sparate"	Southwire		43.55
D-209	60	Cable, #1/0 6/1 ACSR, "Raven"	Southwire		33.66
D-228	4,457	Cable, 795 kcmil 26/7 ACS, "Drake"	Southwire		11,885.33

TRAVERSE CITY LIGHT & POWER  
TOTAL OVERHEAD TRANSMISSION LINE  
MATERIAL LIST

POWER LINE SUPPLY 10/24/13

ITEM NO.	Needed Quantity	ITEM DESCRIPTION	SUGGESTED MANUFACTURER	SUGGESTED PART #	PRICE
D-843	459	Strand, 7/16", 7-Str, Extra High Strength Steel, 20,800#, Class C, Galvanized	National Strand		407.18
E-001	8	Ground Rod, 5/8" X 8' Copper Clad	MacLean	J8338-13	74.84
E-050	8	Clamp, Ground Rod, Bronze, 5/8"	MacLean	J8492	9.89
E-091	9	Clamp, Cable - Tank Lug, #8-#2/0, Bronze	Anderson	GTCS-34A	21.58
E-100	313	Staples, Coppercoated, Down Lead, Rolled/Diamond Point, #6 CU Stranded	MacLean	J6494	280.00
E-116	18	Clip, Bonding, For 3/4" Bolt	Hughes Bros.	2727.7	17.42
F-021	11	Clamp, Grounding Clamp, 5/8" w/ Nut	MacLean	J1163	181.33
F-022	5	Clamp, Grounding Clamp, 3/4" w/ Nut	MacLean	J1164	11.13
F-025	2	Connector, Compression, #1/0, 2 ACSR to #2, 4, 6 ACSR or #2, 4, 6 CU	Blackburn	WR189	0.75
F-026	52	Connector, Compression, #2/0, 1/0 ACSR to #2, 4, 6 ACSR or #2, 4, 6 CU	Blackburn	WR289	30.75
F-027	10	Connector, Compression, #2/0, 1/0 ACSR to #2/0, 1/0 ACSR or #2/0, 1/0, 2, 4, 6 ACSR	Blackburn	WR279	6.04
F-031	3	Connector, Compression, #336 ACSR to #2/0, 1/0, 2, 4, 6 ACSR or #2/0, 1/0, 2, 4, 6 ACSR	Blackburn	WR715	11.39
F-032	19	Connector, Compression, #336, 4/0 ACSR to #336, 4/0 ACSR or #4/0 CU	Blackburn	WR775	62.52
F-033	1	Connector, Compression, #477, 336, 4/0 ACSR to #2/0, 1/0, 2, 4 ACSR or #2/0, 1/0, 2, 4, 6 ACSR	Blackburn	WR815	2.56
F-035	8	Connector, Compression, #477, 336, 4/0 ACSR to #336 ACSR	Blackburn	WR875	74.37
F-059	66	Connector, Compression, Crimp-It, #6 Sol, #4 Str CU to #6 Sol/Str CU	Burndy	YC4C6	32.01
F-060	21	Connector, Compression, Crimp-It, #6 Sol, #4 Str CU to #4 Sol/Str CU	Burndy	YC4C4	30.89
F-061	4	Connector, Compression, Crimp-It, #2 Sol, #2 Str CU to #8 Sol - #4 Str CU	Burndy	YC2C4	3.23
F-1185	3	Stirrup, WR Compression Style, Single Connector, #477 - #226 ACSR, #2 Solid Bail	Blackburn	WRQ698	38.96
F-1192	28	Stirrup, WR Compression Style, Dual Connector, #477 - #336 ACSR, #2/0 Solid Bail	Blackburn	WRS819	990.24
F-1258	3	Connector, Bolted, Vise-Type, Min 2-#1 Sol CU to Max 2-#4/0 Str CU, Bronze	Anderson	GC-5040	14.42
F-136	3	Connector, Loop Sleeve Compression, 795 ACSS 2617 "Drake"	Hubbell	40122SSAC	251.77
F-145	18	Hot Line Clamp, AL-AL or CU, #6-#1/0	Anderson	C-1520P	148.65
F-181	38	Clamp, Guide, Wood Pole, OPTGW	AFL	OGW469/561	217.78
F-182	3	Service Loop Coil Bracket, OPTGW	AFL	FC-430-CB-MN	731.77
F-183	6	Connector, OPTGW	AFL	OCK3737551	357.29
F-186	35	Clamp, Bonding, .551" To .292", 2 Bolt	AFL	OBC5512922	694.35
F-572	6	Connector, Bolted, Cable to Flat, Bronze	Anderson	TLD	62.00
F-573	12	Connector, Bolted, #2 Sol - #350 Cable to Flat, Double, Bronze	Anderson	TLD-52	124.00
F-782	6	Connector, Compression, Terminal, AL, #1/0 ACSR to Flat Pad	Anderson	VAUL-1/0-12BN	105.38
F-784	12	Connector, Compression, Terminal, AL, 336, 4 ACSR to Flat Pad	Anderson	ACF	255.74
F-789	6	Connector, Compression, Terminal, AL, #795 to 2 Hole	Anderson	ACF-1000C	216.71
G-240	3	Splice Box Enclosure, Round, Steel, OPTGW, 144 Fiber max, One splice tray (12 fiber)	AFL	SB01	1,933.52
G-242	6	Splice Sleeve, OPTGW	AFL	SPS-60	80.71
H-793	1	Fuse Link, Type K, 3 Amp	Kearney	31003	3.56
H-796	1	Fuse Link, Type K, 10 Amp	S&C	265010	2.92
H-806	3	Fuse Link, Type K, 100 Amp	S&C	265100	17.19
I-105	5	Wood Pole, 55-2, SYP, PENTA			5,550.00
I-242	1	Wood Pole, 100-H3, DF, PENTA			10,370.00
I-249	1	Wood Pole, 105-H3, DF, PENTA			11,100.00
		TOTAL			\$ 104,487.78

TRAVERSE CITY LIGHT & POWER  
EAST HAMMOND SUBSTATION 69KV LINE  
UNDERGROUND RELOCATION  
MATERIAL LIST

ITEM NO.	ESTIMATED QUANTITY	ITEM DESCRIPTION	SUGGESTED MANUFACTURER	SUGGESTED PART #	PRICE
F-796	3	Connector, Compression, Terminal, CU/AL, #500 to 2 Hole NEMA PAD	3M	40166	\$ 33.86
F-566	2	Connector, Bolted, #8 Sol - #2/0 Str Cable to Flat, Single, Bronze	Anderson	TLS-32	8.13
F-574	18	Connector, Bolted, #1/0 Sol - #500 Cable to Flat, Double, Bronze	Anderson	TLD-62	212.44
F-064	4	Connector, Compression, Crimp-It, #1/0 Sol - #2/0Str CU to #1/0 Sol - #2/0 Str CU	Burdwy	YC26C26	7.25
E-033_2	4	Exothermic Weld, Cable to Ground Rod, 2/0 Str. to 3/4", Two Conductors	Cadweld	GT1-182G	29.41
E-259	360	Conduit, 6" PVC SCH 40, 10' Lengths (Total Footage Listed)	Carlton		1,384.62
E-399	1	Elbow, 6", 45°, 60" Radius, Fiberglass with (2) PVC Couplings (SF21)	Champion	60CHW842D	177.12
C-324_4.5	8	Bolt, Carriage, 3/8" X 4.5" w/Nut	Chance	863412	4.92
C-352	8	Nut, Locknut, 3/8"	Chance	3510	1.49
G-202	1	Boxpad, Polymer-Concrete 63" x 69" x 36", For PMH 9/11 Switchgear	Concast	FC-63-69-36	880.22
H-427	2	Fault Current Indicator, LED Indication Unit	Fisher-Pierce	1547B-39739	666.22
E-1525	2	Conduit Seal, 6", 4 Ports, (4) #2 - #1500	Homac	PS 6	82.98
D-393	1,000	Cable, Power, Tape Shield, 750 MCM CU 133% EPR 15kV	Kerite/Okonite		15,286.81
B-165	2	Bracket, 0° Extension, Three-Phase, 3-Holes per Phase, 48" x 13"	MacLean	G3MA014813AD	1,183.30
E-008	4	Ground Rod, 3/4" X 10' Copper Clad, Threaded	MacLean	J9170	82.24
E-178	12	Conduit Support Strap, 6"	Minerallac		115.82
D-1040	2	Lubricant, Cable Pulling, Water-based, Non-flammable, Winter-grade, Gallon Pail	Polywater	Polywater J	44.88
B-853	12	Guard, Bushing Animal Guard	Salisbury	21116	97.20
D-018	80	Cable, #2/0 CU Strand, Bare, Soft Drawn	Southwire		161.83
D-021	60	Cable, 350 MCM CU Strand, Bare, Soft Drawn	Southwire		318.70
D-060	20	Cable, #6 CU, Solid, Covered Line Wire	Southwire		135.77
D-088	350	Cable, 500 MCM CU Strand, RHW/USE 600V	Southwire		3,258.50
					\$ 24,173.71

FOR THE LIGHT & POWER BOARD MEETING OF NOVEMBER 12, 2013



TRAVERSE CITY  
LIGHT & POWER

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**To:** Light & Power Board  
**From:** Tim Arends, Executive Director  
**Date:** November 7, 2013  
**Subject:** South Substation Transformers



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On November 5, 2013, bids were opened and reviewed for two 69/13.8KV Power Transformers for the South Substation Project approved by the board February 14, 2012. TCL&P received two bids, with an additional bid arriving eight minutes after the bid opening time. Per the requirements set forth in the bid proposal of the date and time it had to be received, the bid was returned unopened to the vendor.

In the initial project authorization only one transformer was included in the budget, because of the Load Study prepared and presented to the Board by GRP Engineering there was an additional transformer added to the South Substation Project. An updated project authorization request has been incorporated into your board binders.

Following are the bids received:

<u>Manufacturer</u>	<u>Base Cost with Extra Bushings</u>	<u>Evaluated Cost With Losses</u>	<u>Delivery Schedule</u>
<b>For 12/16/20 MVA:</b>			
ABB Kuhlman	\$980,900	\$1,297,416	30 weeks
Waukesha Electric	\$1,041,784	\$1,354,898	18-22 weeks
Delta Star	Tardy Bid (returned unopened)		

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

Staff concurs with GRP Engineering and recommends accepting the low bid from ABB Kuhlman in the amount of \$980,900.

If the Board concurs with staff's recommendation, the following motion would be appropriate.

**(RECOMMENDED MOTION ON FOLLOWING PAGE)**

FOR THE LIGHT & POWER BOARD MEETING OF NOVEMBER 12, 2013

**MOVED BY \_\_\_\_\_, SECONDED BY \_\_\_\_\_,  
THAT THE BOARD AUTHORIZES THE CHAIRMAN AND SECRETARY TO EXECUTE A  
PROCUREMENT AGREEMENT WITH ABB KUHLMAN IN THE AMOUNT OF \$980,900 FOR  
TWO TRANSFORMERS FOR THE SOUTH DISTRIBUTION SUBSTATION; SUBJECT TO  
APPROVAL AS TO SUBSTANCE BY THE EXECUTIVE DIRECTOR AND APPROVAL AS TO  
FORM BY GENERAL COUNSEL.**

November 6, 2013  
12-0462.01

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

**RE: South Sub Transformer  
Bid Recommendation**

Dear Tim:

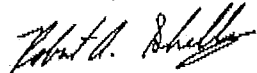
GRP Engineering, Inc. has completed reviewing the bids submitted for the two (2) 12/16/20MVA Transformers for the proposed South Substation. Two of the three bidders solicited for bids replied to the bid request. However, one of the bidders, Delta Star, did not submit a bid on time and therefore the bid was not opened and returned to the bidder. ABB submitted the low bid for the two transformers in the total amount of \$973,700.00. ABB also provided a cost of \$7,200.00 for one spare bushing each for both the 69kV and the 13.8kV terminals.

Therefore GRP Engineering, Inc. recommends that TCLP accept the low bid from ABB for the two transformers and purchase one set of spare bushings from ABB for a total amount of \$980,900.00.

ABB took no major exceptions to the bid documents however they did issue their standard terms and conditions. The evaluated bid spreadsheets are attached to this letter.

Please contact me at 616.942.7183 should you have any questions regarding this evaluation.

Sincerely,  
**GRP Engineering, Inc.**



Robert A. Shelley, P.E.  
Electrical Engineer

# 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	EXTRA BUSHINGS	EVALUATED COST	REMARKS
DELTA STAR					NO BID
SPX / WAUKESHA	5%	\$1,038,234.00	\$3,550.00	\$1,354,898.00	
ABB / KUHMAN	5%	\$973,700.00	\$7,200.00	\$1,297,416.60	

This is to certify that at 10:00a.m., local time on Thursday, November 5, 2013, the bids tabulated herein were publicly opened and read.

**GRP Engineering, Inc.**

By: *Michael P. McGeehan*

Michael P. McGeehan, P.E.



BID EVALUATION FOR :

ONE 12/16/20 MVA TRANSFORMER W/ LTC FOR  
SOUTH SUBSTATION  
TRAVERSE CITY, MICHIGAN

BID DATE : 11/5/2013


	DELTA STAR	ABB Kuhlman	WAUKESHA/SPX
ITEM NO.1 (12/16/20 MVA)	No Bid	\$486,850.00	\$519,117.00
ITEM 2 (5 year warranty)		\$0.00	\$0.00
ITEM 3 (Spare 69kV Bushing)		\$4,400.00	\$2,244.00
ITEM 4 (Spare 15kV Bushing)		\$2,800.00	\$1,306.00
PLACE OF MANUFACTURE		Crystal Springs, MS	Waukesha, WI Goldsboro, SC
DELIVERY TIME		30 wks	18-22 wks
PROJECTED DELIVERY		6/15/2014	4/15/2014
BID BOND		Yes	Yes
KV -BIL. of BUSHINGS HV/LV/HOXO		350/150/150	350/110/110
LTC MANUFACTURE		REINHAUSEN RMV II	WAUKESHA UZD
LTC INTERRUPTERS		VACUUM	RESISTIVE
LTC MAJOR MAINTENANCE		500,000	N/A
LTC CONTACT LIFE		1,000,000	500,000
IMPEDANCE: POSITIVE/ ZERO		8.0% / 7.6%	8.0% / 7.6%
COIL WINDING MATERIAL:		COPPER	COPPER
VACUUM FILL REQUIRED:		No	No
LOSSES: NO LOAD		9.69	9.50
LOAD @10.0 MVA (50% Loading)		34.60	34.40
TOTAL LOSSES		44.29	43.90
LOSS COSTS: NO LOAD @ \$5,870/KW *		\$56,880.30	\$55,765.00
LOAD @ \$2930/KW +		\$101,378.00	\$100,792.00
TOTAL LOSS COST		\$158,258.30	\$156,557.00
* Costs Based on \$0.067 kWh for 10 yrs			
+ Costs Based on \$0.067 kWh for 10 yrs w/ 50% use factor			
COOLING CLASS:		ONAN/ONAF/ONAF	ONAN/ONAF/ONAF
COOLING EQUIPMENT:		6 RAD / 48 FANS	4 RAD / 24 FANS
SOUND LEVELS: 1' / 6'		69 db / 72 db	NA / 65db
OIL: GALLONS		4,010	5,260
CORE & COIL WEIGHT: lbs.		34,600	41,983
TOTAL WEIGHT: lbs		94,100	111,981
SHIPPING WEIGHT (HEAVIEST PIECE): lbs		84,500	100,421
OIL PRESERVATION SYSTEM		NITROGEN	NITROGEN
BASE DIMENSIONS		12'-7" X 6'	13'-1" X 6'-2"
PAYMENT TERMS (Net 30)		90%/10%	30%/30%/30%/10%
BID VALID FOR		60 DAYS	30 DAYS
TOTAL EVALUATED PRICE (12/16/20 MVA)	No Bid	\$652,308.30	\$679,224.00
EVALUATED COST DIFFERENTIAL			\$26,915.70

The bid was for two transformers, however the evaluation is based on one transformer. Total cost would therefore be doubled.



**TRAVERSE CITY  
LIGHT & POWER**

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**To:** Light & Power Board  
**From:** Tim Arends, Executive Director   
**Date:** November 6, 2013  
**Subject:** Proposed New Vision and Mission Statements for TCL&P

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As part of the overall strategic planning process, a committee consisting of Board Chairman Pat McGuire, Vice Chairman John Taylor, Jessica Wheaton and I met recently to review the current vision and mission statements and brainstorm new options that may better reflect the utility today based on the ideals of the current board and expectations of the utility's customers and city residents.

The full Board received a copy of the current vision and mission statements, along with the new options proposed by the committee, and were asked to provide feedback on those options, or to include any thoughts they may have.

Attached are the various vision and mission statements that were proposed by the committee, along with various board members thoughts, ideas or selections. Based upon the input received, staff recommends the following statements for the Board's consideration:

Vision Statement ..... "To build the long-term value of TCL&P for the benefit of the City, its residents and customers"

Mission Statement ..... "The Mission of TCL&P is to provide the Public Power benefits of safety, lower rates, high reliability, local control and exceptional customer services to the City, its residents and customers."

If the Board is in agreement with staff's recommendation, the following motions would be appropriate:

***(TWO MOTIONS FOR THIS AGENDA ITEM ON THE FOLLOWING PAGE)***

**VISION STATEMENT**

MOVED BY \_\_\_\_\_ SECONDED BY \_\_\_\_\_  
THAT THE LIGHT AND POWER BOARD ADOPTS THE FOLLOWING VISION  
STATEMENT: "TO BUILD THE LONG-TERM VALUE OF TCL&P FOR THE BENEFIT  
OF THE CITY, ITS RESIDENTS AND CUSTOMERS."

**MISSION STATEMENT**

MOVED BY \_\_\_\_\_ SECONDED BY \_\_\_\_\_  
THAT THE LIGHT AND BOARD ADOPTS THE FOLLOWING MISSION STATEMENT:  
"THE MISSION OF TCL&P IS TO PROVIDE THE PUBLIC POWER BENEFITS OF  
SAFETY, LOWER RATES, HIGH RELIABILITY, LOCAL CONTROL AND  
EXCEPTIONAL CUSTOMER SERVICES TO THE CITY, ITS RESIDENTS AND  
CUSTOMERS."

## Vision

1. To enhance the local quality of life by securing our energy future **(Current) (Geht)**
2. To build the long-term value of TCL&P for the benefit of the City and its residents **(Committee option I; Spence – add “customers”; McGuire; Carruthers )**
3. To maximize benefit to the City and its residents while representing the values of our community as they pertain to energy **(Committee option II)**

**(Budros – “To meet Traverse City’s energy needs and secure Traverse City’s energy future”)**

## Mission Statement

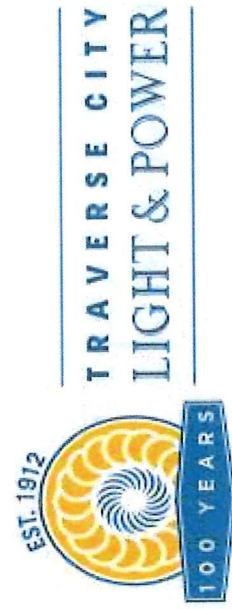
1. TCL&P is a customer focused utility which provides safe, reliable, competitively priced energy and related services in an environmentally conscious manner. **(Current) (Geht)**
2. It is the mission of TCL&P that it provides the Public Power benefits of lower rates, high reliability, local control and exceptional customer service to the City and its residents. **(Committee; Spence – add “customers”; McGuire; Carruthers – delete “It is” change “that it provides” to “is to provide” and change “service” to “services”)**

**(Budros – “As a locally controlled public power electric utility, it is TCL&P’s mission to provide safe, reliable, low cost energy in an environmentally conscious manner.”)**

# **Board Information and Goals Development For Traverse City Light and Power**

**November 12, 2013**

**Robert T. Dyer, P.E.  
RTD Consulting, LLC  
2771 Monument Rd.  
Suite 29, Box 337  
Jacksonville, FL 32225**



# Program Overview

- Six to eight month process
- Approximately one hour per month
- Interactive format
- Four different presenters on various topics are planned
- Guidelines to management for resource planning

# Topics to be Covered

- The Operating Environment
- Transmission
- The need for new Generation
- Environmental Requirements and Local issues
- Financial, cost, revenue requirements and other related issues
- The Generation planning process
- Independent vs. participation with others
- The development of goals and guidelines

# Presenters of Topics

- The Operating Environment-Bob Dyer President RTD Consulting.
- Transmission-Bob Dyer President RTD Consulting.
- The need for new Generation-Bob Dyer President RTD Consulting.
- Environmental Requirements and Local issues-Bob Dyer President RTD Consulting.
- Financial, cost, revenue requirements and other related issues- Mark Beauchamp, President of Utility Financial Solutions.
- The Generation planning process-Howard Axelrod, PhD, President of Energy Strategies.
- Independent vs. participation with others-Dave Walters, General Manager MPPA
- The development of goals and guidelines- Bob Dyer and Howard Axelrod.



# What is the expected outcome from this process?

- A better understanding of the various issues that will have to be considered in resource planning.
- What issues that the Board needs to address.
- What issues that are out of the influence of the Board.
- Identify any specific goals that should be incorporated into the planning process.
- A very high level overview to facilitate conceptual understanding.

# Question on the Process?

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RTD Consulting, LLC 11/5/2013

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# The Operating Environment

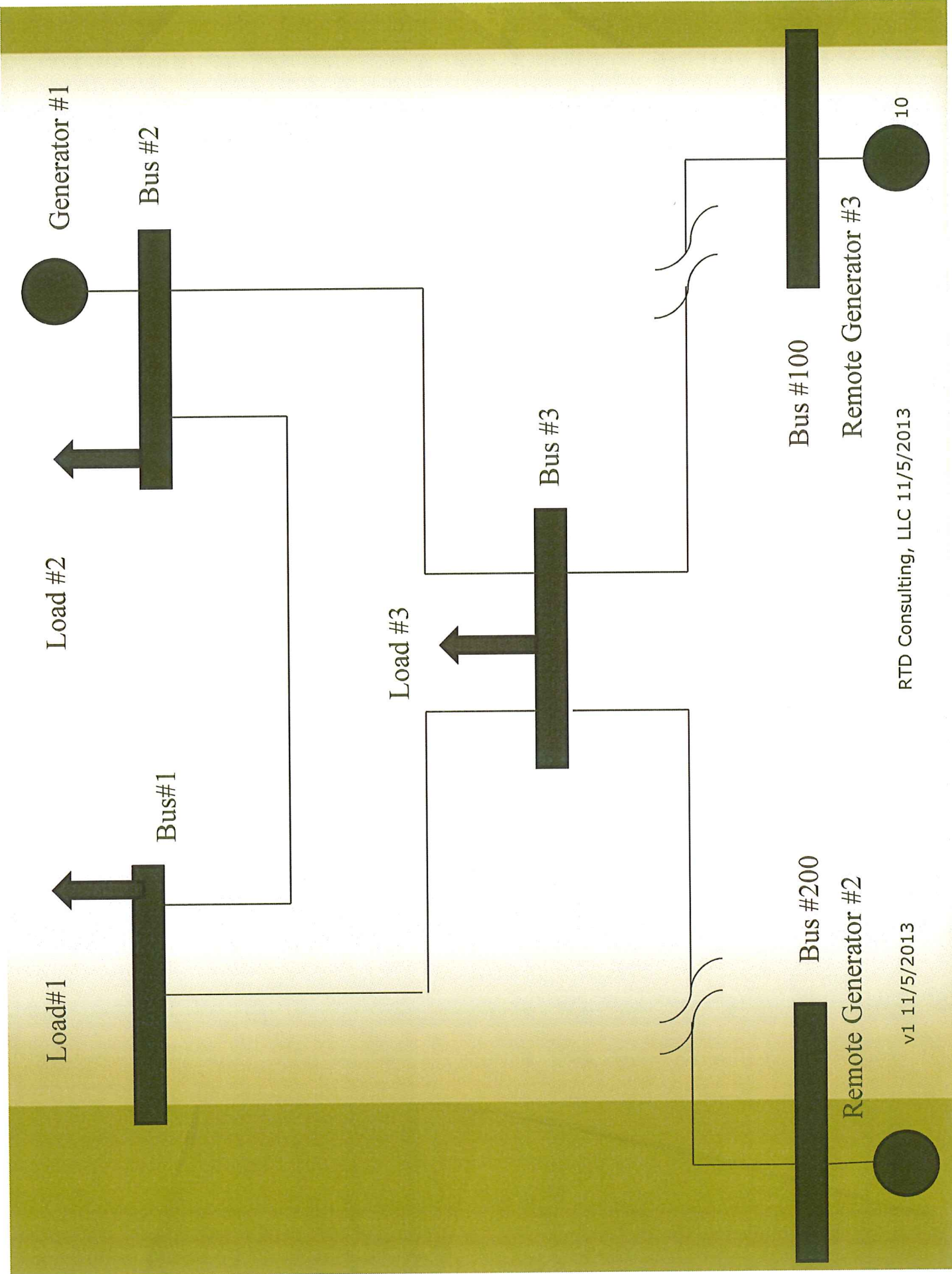
- What is meant by the operating environment?
  - How does TCLP connect to the neighboring utility world?
  - Why does this structure exist?
  - What are the advantages/disadvantages are there?
  - Why is knowing this important in determining future power supply options?
  
- We hear things like:
  - Reserve obligations
  - Reliability issues
  - Transmission constraints/bottle necks
  - Capacity markets/Energy markets
  - Remote generation vs. local generation

# To answer these questions some context is needed!

- How did the TCLP system operate before MISO (current operations)?
- This overview will help put into context why MISO came about and how it affected the operations of TCLP!
- It will help to see and understand some of the issues that will need to be addressed in future generation decisions.

# Pre-Midcontinent Transmission Independent System Operator (MISO)




- Loads were served by local generation, purchases or remotely owned generation.
- Reserve obligations were established by contract.
- Remote generation required agreements from area utilities.
- Access to economy markets were limited by your neighbor.
- Load and generation plus or minus purchases/sales had to balance at all times. This is a control area and requires 24/7 operating staff.
- Small systems like TCLP were Transmission dependent systems and had to rely on FERC to resolve must disputes with Transmission owners.
- Most small systems developed agreements with Joint Action agencies to increase their abilities to work with larger IOU systems.

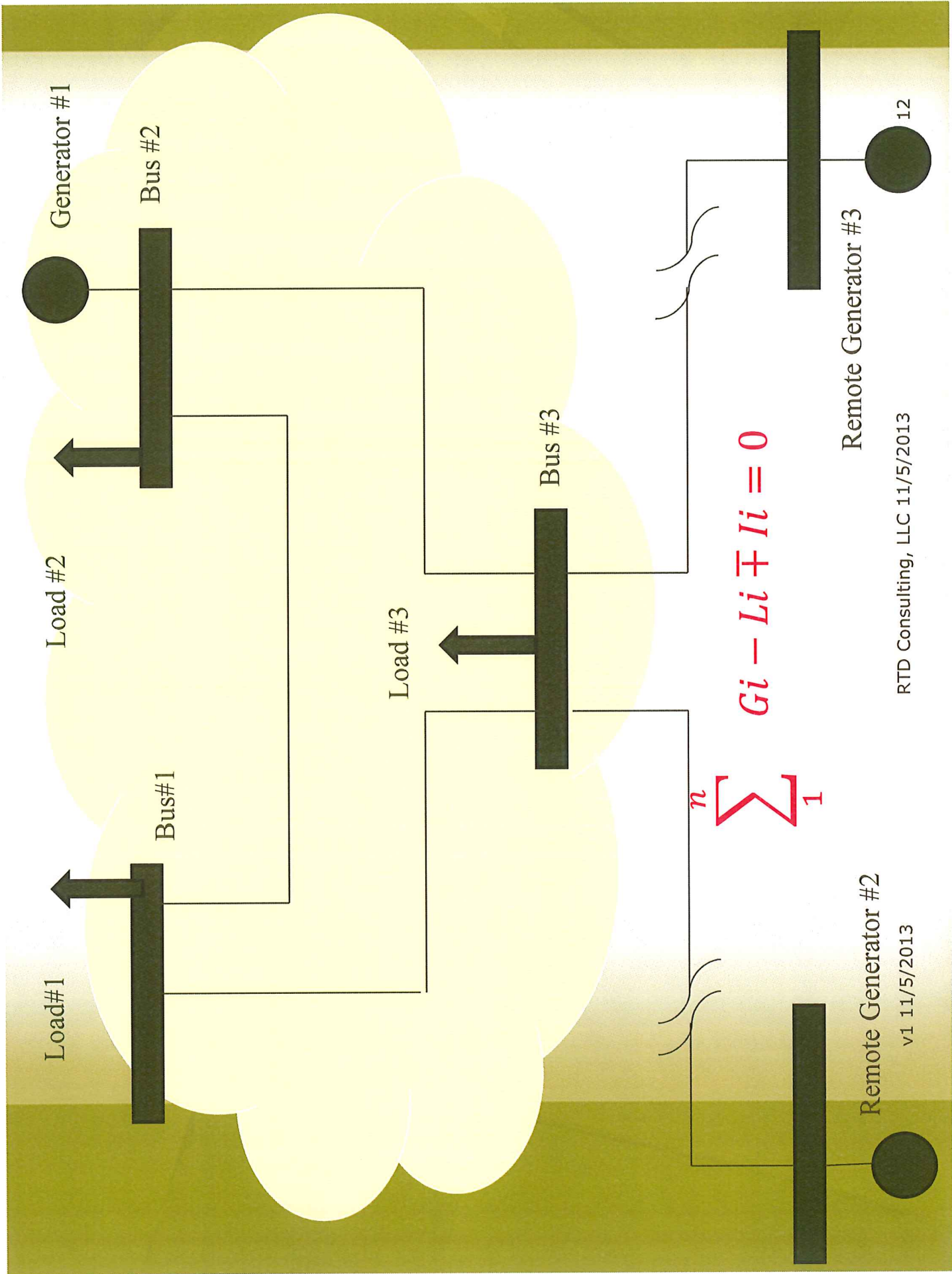


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## A Picture is worth a Thousand words!

- This is called a "one-line diagram of a power system.
- Bus or Substation (Transformers are not modeled here). 
- Substations are connected to other substations via transmission lines. \_\_\_\_\_
- Customers are connected to substations and are shown as a load "L" 
- Generators are connected to Buses and shown as "G" 
- The "cloud" represents a "Load Control Area"





# Some Observations

- Reliability was more of a local/regional issue.
- Contractual relationships existed to share reserves.
- Access to transmission was limited to what you owned or contractually obtained from your neighbor.
- Access to lower cost generation was limited to what was available from your interconnected neighbor.
- Often access was tied to purchase of generation that was higher than someone you were not connected to was offering.
- These relationships were generally confrontational.

# In the Mid 1990's Things started to change!

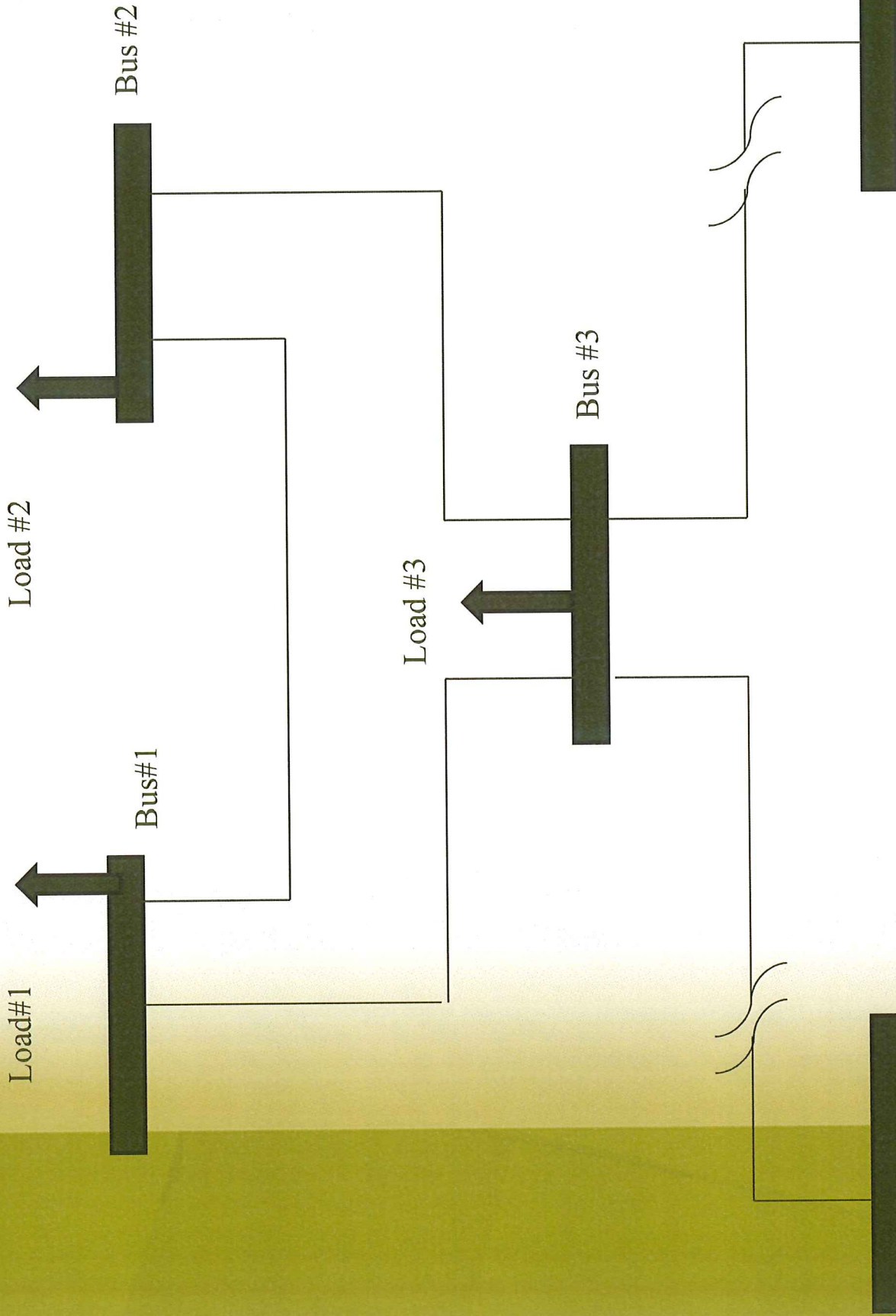
- FERC issued a number of rulings:
  - Comparability Standard
  - Open access to transmission
  - Separation of Market functions from Transportation functions
  - Competition was being introduced
- The power system was beginning to operate in ways it was not designed
- New problems emerged as to who could get the rights to use the systems i.e. first come first served, longer term transaction over short term transaction, who would pay the most, etc.
- Games were being played by innovative marketers (ENRON) unreal prices started to show up-\$6000/MWh were seen

# MISO: Today's Operating Environment

- Load and generation are separated into two separate requirements.
- You do not have to input generation equal to your load! You may offer more or less.
- You will pay the Locational Marginal Price (LMP) for all loads served. (Unless you have behind the meter generation).
- Energy market is a "Real time" and "Day Ahead" markets.
- Available transmission will affect cost of delivered energy. Transmission outages may increase the LMP of delivered energy.
- There are available methods to mitigate these adverse costs. Financial Transmission Rights (FTR's)

# MISO Today's Operating Environment continued

- If your generation is selected, you will be paid the LMP or the "Bid" price which ever is greater.
- Reserves are based on an Annual calculation and market price for capacity. Supply and demand will affect the cost of reserves.
- LMP for energy is at the marginal price and is subject to frequent and significant price fluctuations.
- There is a need to have a knowledgeable Energy Service capability available to stay abreast of the market rules and insure timely submissions of required information. Currently TCLP is using LWBL for this function.



Load#1

Load #2

Bus#1

Bus #2

Load #3

Bus #3

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Generator #1

Bus #2



Bus#1



Load #3

Bus #3



Remote Generator #3



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Remote Generator #2



v1 11/5/2013

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# Some Observations

- The balance of Load and Generation has moved from the local system to the entire MISO. (70Mw vs. 100,000MW+)
- The Load and Generation parts come together in a financial way when you pay what you owe(Load) and receive the revenue for the Generation that was sold.
- MISO is a good source of information on reliability for TCLP.
- Inadequate resources for the local area of TCLP does not mean the "lights will go out".
- Inadequate resources subjects TCLP to "market prices" and potentially more volatility both in required capacity and energy and limited ways to hedge this exposure.
- Resource planning needs to be incorporated to what is happening regionally. If local resources are not cost competitive with market resources, running them will increase cost.

# Some Observations continued

- Unlike the pre-MISO history, most operating issues are set out in the MISO Tariff and Business Practices Manuals.
- Planning for the future is less contentious but no less complex.
- The planning process is governed by the Business Practices within MISO.
- The tariff, approved by FERC governs the Business Processes.



## What are the Lessons learned?

- Everyone in MISO pays the same cost for delivered energy except for congestion cost and losses.
- Additional Transmission, substations and requirements to interconnect new generation is approved by MISO.
- The cost of the studies to determine if the request is acceptable is paid for by the system making the request.
- TCLP has to comply with the Tariff requirements of MISO.
- Unique goals/Requirements for TCLP, unless they are behind the meter, have no weight unless provided for within the Tariff.

# Transmission

- Future resources must be connected to the grid regardless of their location.
- This connection requires approval of MISO and this process for obtaining approval is contained in the Business Practice Manual for Generator Interconnection.
- Adequate capacity is required for connection. The identified resource additions i.e. transmission lines and transformers have to be paid for by the transmission owner. These costs are generally passed on the parties requesting the interconnection.
- What TCLP contracts for will become a resource that is bid in the resource market. The load will still be subject to congestion and losses.
- Working with MISO, TCLP will get some indication of the potential for congestion charges.
- If exposed to congestion charges, TCLP may choose to hedge the cost by buying FTR's. This is a way to mitigate but not eliminate congestion cost.

# Some Observations

- Participating with others will not avoid interconnection cost!
- Remote generation may or may not increase congestion cost.
- MISO is still responsible for insuring the adequacy of the system for overall reliability.
- TCLP will have little effect on sighting of transmission.
- Local generation, behind the MISO node (behind the meter) is not subject to MISO rules. It would have to be justified locally on economics not reliability.
- Local generation will reduce congestion cost and this would be a factor in the economic justification.
- Currently TCLP sees two to three months where congestion cost is noticeable.