OFFICIAL PROCEEDINGS
CITY COUNCIL
ELECTRICAL ADVISORY COMMITTEE
CITY OF ESCANABA, MICHIGAN
Special Joint Meeting
Wednesday, January 13, 2016

Pursuit to a meeting notice posted January 6, 2016, the meeting was called to order by the Mayor Marc D. Tall at 6:00 p.m. in the Council Chambers of City Hall located at 410 Ludington Street.

Present: Mayor Marc D. Tall, Council Members, Patricia A. Baribeau, Ronald J. Beauchamp, Ralph B. Blasier, and Michael R. Sattem.

Absent: None.

Present: Electrical Advisory Committee (EAC) Members: Chairperson Tim Wilson, and John Mellinger.

Absent: Electrical Advisory Committee (EAC) Members: Larry Arkens, Ann Bissell, John Anthony, Glendon Brown, One vacancy and Power Plant Liaison.

Also Present: City Manager James V. O'Toole, Electric Superintendent Mike Furmanski, members of the public and media.

ADJUSTMENTS TO THE AGENDA

Mayor Tall asked to add an item regarding Power Plant Security to the meeting agenda.

Beauchamp moved, Sattem seconded, **CARRIED UNANIMOUSLY**, to approve the Joint City Council & Electrical Advisory Committee Agenda as amended.

CONFLICT OF INTEREST – None

UNFINISHED BUSINESS – None

NEW BUSINESS

Update - Electric Department – General Operations.

Electrical Superintendent Mike Furmanski gave an update on departmental operations. The following items were reviewed:

- Staff activities;
- Update on Alpha Coal Issue;
- Restrictive covenant on Power Plant Sale.

Approval – Substation Engineering Professional Services – Krause Power Engineering.

Administration sought Council approval to retain Krause Power Engineering of Chippewa Falls, WI in an amount not to exceed $280,000 for professional design services, project oversight, and construction management of the new Escanaba North Substation. This request was budgeted in the current fiscal year budget.

Electric Superintendent Mike Furmanski reviewed the project scope of work. (See Attachment – A)

NB-2 After discussion, Blasier moved, Beauchamp seconded, to retain Krause Power Engineering of Chippewa Falls, WI in an amount not to exceed $280,000 for professional design services, project oversight, and construction management of the new Escanaba North Substation.

Upon a call of the roll, the vote was as follows:

Ayes: Blasier, Beauchamp, Baribeau, Sattem, Tall
Nays: None

MOTION CARRIED.

Update – Solar Garden Project – Feasibility Study.

Electric Superintendent Mike Furmanski updated the City Council, Electrical Advisory Committee, and the Citizens of Escanaba on the progress of the solar garden feasibility study. (See Attachment – B) No action was taken.

Update – Power Plant Sale.

Manager O'Toole, and Electric Superintendent Mike Furmanski updated the City Council, Electrical Advisory Committee, and the Citizens of Escanaba regarding the sale of the plant. They advised:

- The Asset Purchase Agreement was approved by Council.
- Update on the Power Plant purchase:
  - City was waiting on the groundwater paperwork from the Michigan Department of Environmental Quality. Earliest response was expected by January 29th;
  - Restrictive covenant on Power Plant Sale;
  - Attorneys were finalizing warranty deed, title easement, and bill of sale legal documents;

Power Plant Security

Manager O'Toole advised Council authorized surveillance at the City Power Plant by Delta Force Surveillance on June 10, 2015, through December 31, 2015, for up to $36,000. Until the final Power Plant sale was concluded, he asked Council approval for an additional $10,000 to provide surveillance through February 2016.

After discussion, Blasier moved, Sattem seconded, to authorize an additional $10,000 to Delta Force Surveillance, to provide Power Plant surveillance through February 29, 2016.

Upon a call of the roll, the vote was as follows:

Ayes: Blasier, Sattem, Baribeau, Beauchamp, Tall
Nays: None

MOTION CARRIED.

GENERAL PUBLIC COMMENT – None

COUNCIL/COMMITTEE, STAFF REPORTS – None

ADJOURNMENT

Hearing no further public comment, or further reports from the Electrical Advisory Committee or Council, the meeting adjourned at 6:32 p.m.

Respectfully submitted,

Robert S. Richards
City Clerk

Approved: _____
Marc D. Tall, Mayor

MEMORANDUM

To: Jim O'Toole

From: Mike Furmanski

Date: 08JAN16

Re: Krause Power Engineering approval

We have been using Krause Power Engineering for a number of years now on substation and other distribution system work. Their latest proposal is for the construction of the Escanaba North Substation. Their work for this substation includes:

Design the substation
Specify equipment
Equipment bid solicitation
Equipment bid evaluation
Labor bid solicitation
Labor bid evaluation
Construction oversight
Commissioning and testing

Their proposal is for an hourly fee, which is estimated to not exceed $280,000. The total project is estimated to be $2,500,000, which puts the engineering costs at 11.2% of the project, which is reasonable.

Krause Power Engineering, LLC
2029 County Highway I, Suite 1
Chippewa Falls, WI 54729
TEL 715 577 1369 FAX 715 861 3916
WEB www.krausepowerengineering.com

December 28, 2015

Mr. Mike Furmanski
City of Escanaba – City Electric Department
410 Ludington Street
Escanaba, MI 49829

RE: Proposal for Professional Services – North Substation Engineering

Dear Mr. Furmanski:

Per your request, Krause Power Engineering, LLC, is pleased to provide you the following proposal for the engineering services associated with the construction of the North Substation and the associated Electric Distribution System feeder reconstruction.

Our proposed Scope of Work includes the following:

- Develop a project budget and timeline based on the current project scope.
- File a revised Transmission Load Interconnection Application with ATC. Support the application through receipt of authorization.
- Provide requirements to a geotechnical testing firm to provide soil borings of the site, soil resistivity testing and a geotechnical engineering report for foundation and grounding grid design requirements.
- Provide a property boundary and topographic survey.
- Design the grounding grid based on the fault current and overcurrent study results we have and the soil resistivity/borings reports.
- Design the substation foundations including power transformer support and bus and switch support foundations.
- Design the structural steel elements including switch and bus support structures.
- Layout the SCADA system architecture.
- Layout the feeder cable routing and conduit provisions.
- Provide standard insurance requirement options for Owner's consideration for use in bidding documents
- Write plans and specifications, advertise and bid, review and recommend the following bid packages (includes contract development and management):
  - Power Transformer
  - Substation construction (includes physical construction and control wiring)
  - Testing and commissioning
- Conduct pre-design meetings and design review meetings with Utility staff.
- Conduct pre-construction meetings as required.
- Provide construction administration for the substation building, foundation work, electrical construction work and testing/commissioning.

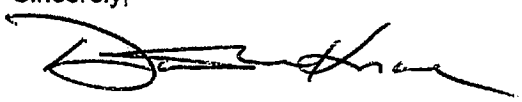
- Provide major material lists as required and assist the Utility with evaluations of materials for procurement (may be a combination of existing excess stock materials, direct purchases and bids).
- Update the Utility's arc-hazard assessment as required.
- Provide pertinent information for the update the Utility's SPCC plan (by others).
- Create relay and voltage regulator control settings files.
- Work with Utility staff for in-house construction activities.
- Create and/or update drawings as required. Provide hard copy, pdf and CADD files for records.
- Train operators/linemen in the operation of the new systems, including on-site training.
- Track estimate to actual construction costs and schedule progress.
- Review contractor applications for payment. Recommend payments as applicable.

We can begin this work with your written authorization to proceed and in accordance with our Miscellaneous Services Contract approved by the Utility on June 24, 2010, for an hourly fee estimated not to exceed $280,000.00.

If our Proposal for Professional Services is acceptable, please sign and date in the space provided below and return to Krause Power Engineering, LLC, at 2029 County Highway I, Suite 1, Chippewa Falls, WI 54729.

If you have any questions, I can be reached at 715-577-1369 or by email at dkrause@krausepowerengineering.com. Thank you for the opportunity to work with you.

Sincerely,



Dave Krause, P.E.

Note: This proposal may be withdrawn or modified if not accepted within 30 days of the Proposal Date.

Authorized representative:

_____ _____

Signature *Date*

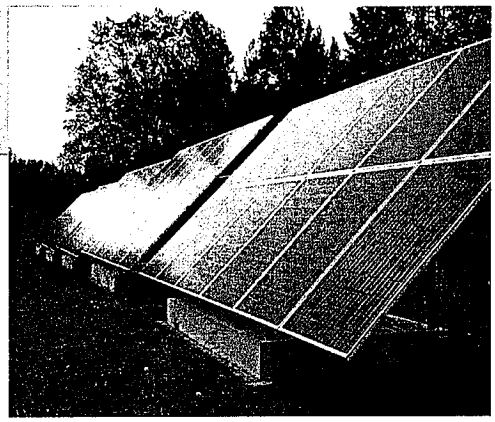
Breakdown for Karuse Power Engineering

New Northside Substation Work		Miscellaneous Services		Emergency Substation Restoration		Temporary Substation	
5/23/2010	4,414.27	6/16/2012	742.01	2/28/2015	13693.85	2/28/2015	22144.89
6/26/2010	2,154.80	7/21/2012	5397.21			3/28/2015	23332.14
8/15/2010	693.75	3/2/2013	166.25			5/2/2015	14904.53
9/18/2010	938.75	4/27/2013	316.25			6/13/2015	12471.95
10/23/2010	2,231.67	5/20/2014	391.25			8/29/2015	1031.02
1/8/2011	728.75	8/29/2015	300			10/3/2015	784.58
4/2/2011	6,322.62	10/3/2015	80				
6/19/2011	21,105.58	11/7/2015	1931.25				
8/13/2011	3,583.66						
9/17/2011	11,963.82						
10/22/2011	9,848.49						
12/3/2011	3,663.19						
1/21/2012	517.50						
3/5/2012	5,205.47						
4/7/2012	189.15						
6/16/2012	76.05						
9/29/2012	113.35						
8/29/2015	1,446.74						
10/3/2015	6,604.13						
11/7/2015	1,925.60						
12/5/2015	4,060.17						
Totals:	87,787.51		9,324.22		13,693.85		74,669.11

Grand Total for Krause: 185,474.69

Attachment - A

Solar Project Update



January 13, 2016

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•Basic Information

- The City of Escanaba area averages 4.1 Peak Sun Hours/Day.
- Panels generate power in DC. The conversion from DC to AC is about 82% efficient.
- The federal 30% tax credit has been extended to 12/31/19.
- We cannot use Renewable Energy Funds to build a community solar garden if the sale proceeds go into the Electric Fund.
- We can use Renewable Energy Funds to build a solar project if we maintain ownership of it.
- We can use general Electric Fund money to front a community solar project.

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Other information being researched

- How a solar capacity installation would impact our transmission service costs
- How a solar capacity installation would impact our capacity needs
- A reasonable net metering policy

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Other information needed

- Location for a solar project
- Energy Optimization Rebate applicability
- RFP strategy – lots of options
  - Mounting – post or ballasted?
  - Tracking – single, dual, or none?
  - EPC?
  - Panel supplier?

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Sample Calculation

- Assuming 1000 watts of panel capacity
- 1000 watts * 4.1 peak sun hours/Day * 365 days * .82 DC – AC efficiency = 1,227 kWh per year
- With no panel degradation, 1000 watts of panel capacity would produce 30,675 kWh over 25 years
- Assuming a more realistic 0.5% loss of generation capacity per year after the first year of service, 1000 watts of capacity will produce 28,910 kWh over 25 years
- Assume Capacity costs $2/watt, for a total of $2000 for this example
- 25 year levelized cost is: $2000/28,910 kWh = $0.0692/kWh
- Simple payback at $0.10/kWh would happen in year 17

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Next Steps

- Continue researching
  - Location
  - EO rebates
  - RFP
  - Transmission cost impact
  - Capacity needs impact
  - Net metering policy

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