



**ELECTRICAL ADVISORY
COMMITTEE**
Meeting Agenda
January 10, 2024 – 4:00 p.m.

ELECTRICAL ADVISORY COMMITTEE

Glendon Brown, Chairperson
Tim Wilson, Vice Chairperson
John Anthony, Committee Member
Ann Bissell, Committee Member

ADMINISTRATION

Gerald Pirkola, Electric Utility Director

City Council Chambers: City Hall – 410 Ludington Street – Room C101 – Escanaba, MI 49829

Regular Meeting

Wednesday, January 10, 2024, at 4:00pm

CALL TO ORDER

ROLL CALL

APPROVAL OF MINUTES – October 11, 2023

APPROVAL/ADJUSTMENTS TO THE AGENDA

CONFLICT OF INTEREST DECLARATION

NEW BUSINESS

1. Election of Officers.

Explanation: The Electric Advisory Committee (EAC) elects a Chairperson and Vice Chairperson from the members of the EAC at the first meeting of each calendar year.

2. Approve – 2024 Meeting Schedule.

Explanation: The Electrical Advisory Committee shall review and approve the 2024 Meeting Schedule

3. Update - Electric Department –General Operations.

Explanation: Electric Utility Director Gerald Pirkola will provide an update on the current departmental activities.

4. Update – Escanaba Solar Project Performance.

Explanation: Administration will provide an update on the performance of the Escanaba Solar Project.

5. Discussion – Clean Energy Legislation.

Explanation: Administration will discuss the details of the recent Clean Energy Legislation with the EAC.

Agenda - January 10, 2024

6. Discussion & Recommendation – Energy Optimization Program

Explanation: Administration will discuss the Proposed 2024 Energy Optimization Program with the EAC and seek a recommendation to continue the program.

GENERAL PUBLIC COMMENT

COMMISSION/STAFF COMMENT AND ANNOUNCEMENTS

ADJOURNMENT

The City of Escanaba will provide all necessary, reasonable aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting/hearing upon five days' notice to the City of Escanaba. Individuals with disabilities requiring auxiliary aids or services should contact the City of Escanaba by writing or calling City Hall at (906) 786-9402.

Respectfully Submitted,

Gerald Pirkola
Electric Utility Director

ELECTRICAL ADVISORY COMMITTEE
City of Escanaba, Michigan
Regular EAC Meeting
Wednesday, October 11th, 2023

The Electrical Advisory Committee meeting was called to order by Chairperson Glendon Brown at 4:00 PM in Room 401 of Escanaba City Hall, 410 Ludington Street. Roll call was conducted at 4:05PM by Electric Department Clerk Jill Freeman.

PRESENT: Chairperson Glendon Brown, Vice Chairperson Ann Bissell, Committee Members John Anthony, and Tim Wilson (Late arriving at approximately 4:12PM)

ABSENT: NONE

ALSO PRESENT: Electric Utility Director: Gerald Pirkola and City Council Liaison: Ron Beauchamp

APPROVAL OF MINUTES

Ms. Bissell made a motion to approve, seconded by Mr. Anthony, **CARRIED UNANIMOUSLY**, to approve Regular Meeting Minutes from August 2nd, 2023, as submitted.

ADJUSTMENTS TO THE AGENDA

Mr. Brown asked members if there were any adjustments to the agenda hearing of none the agenda was approved as presented.

CONFLICT OF INTEREST DELCARATION

Mr. Anthony stated that if a recommendation was made regarding the Energy Optimization Program there may be a conflict of interest since he is applying for a rebate.

NEW BUSINESS

NB-1: Discussion- Electrical Advisory Committee Rules of Order

Mr. Pirkola provided members with a handout regarding the Committee Rules of Order. This was in response to Mr. Wilson's question concerning the Electric Department opting out of MIRECS. MIRECS was recently discussed with the Controller and City Manager and the decision was made to opt out of MIRECS. Mr. Pirkola said that time was crucial in letting the state know. Mr. Pirkola discussed the Rules of Procedure, and it was unanimously agreed that based off Rules of Procedure Authority/Purpose- 1.1 General 4) Energy policy and needs that are of mutual concern to the committee and City Council that EAC should have been informed on the opting out of MIRECS prior to approval being made. Mr. Brown stated that everything would apply except rate consideration. Mr. Wilson asked if there are other administrative items that wouldn't come to the EAC. Mr. Pirkola responded with yes, budgets for example. There was a brief discussion on MIRECS regarding the climate bill and that legislation may make mandatory. Mr. Brown requested some documentation or an explanation on why MIRECS is mandatory for municipalities.

NB-2: General Operations Update

Mr. Pirkola discussed with members the following topics.

- Streetlight Poles
- Wood Poles
- NEVI
- AMI Update
- Purple/Blue Lights
- West Side Substation/SCADA
- Outages

Mr. Pirkola notified the members of the current departmental activities. Streetlight poles completed on Ludington St from 10th-14th street which is as far as we will go this year. Five more lights were added on Bonifas Drive. Mr. Brown was inquiring if the lights were because of the vandalism. Mr. Pirkola responded with yes and there are a lot of cameras in the park. The current total of 169 defective purple/blue lights have been changed and this will be ongoing until all defective lights are changed. The time it takes to replace lights was also discussed and Mr. Wilson was curious to know if there were any issues getting replacement lights. Mr. Pirkola replied that there have been no issues. Mr. Pirkola discussed wood poles and that 22 defective poles have been changed and that the poles that are of concern are looked at as either danger or reject. Mr. Pirkola told members that 2,150 AMI meters have been installed. The Miss Digs have decreased so the service truck is now installing AMI meters as well as the Meter Technician Mr. Madalinski. Mr. Pirkola briefly mentioned the NEVI Program and that the 1st stage is completed. We have been contacted by one customer who has successfully made it to Stage 2. The West Side Substation/SCADA has been approved by the City Council and our 1st step will take place on 10/12/2023 which will be to test the transformer. Mr. Pirkola mentioned that it is good utility practice to test transformers. With this testing it will give us a baseline of where it is at.

NB-3: Solar Project Performance Update

Mr. Pirkola turned it over to Mr. Brown who provided members with a handout (Attachment NB-3 EAC Solar Project Update through 10-11-2023). He discussed this handout with members along with Figure 1's monthly pattern. The Number 16 inverter is still intermittently shutting down, suspecting this to be a bad DC connection which will take some time to troubleshoot.

NB-4: 40101D Grant

Mr. Pirkola discussed the 40101D Grant and that it is open for RFP (request for proposal). We intend to apply for a grant up to \$300,000 to use for tree trimming, pole replacement and replacing old insulators. The deadline to apply is November 17th, 2023, and Mr. Pirkola confirmed that MMEA is aware of this deadline.

GENERAL PUBLIC COMMENT

City Council Ron Beauchamp addressed the #16 Inverter troubleshooting and gave suggestions on possible fixes.

COMMISSION/STAFF COMMENT & ANNOUNCEMENTS

Next meeting is scheduled for January 10th, 2024.

Adjournment:

Meeting was adjourned at 5:35 PM

APPROVED:

Glendon Brown, EAC Chairman

Gerald Pirkola, Electric Utility Director

1 EAC Solar Project Update Through 12-31-2023

1. Solar generation by year is summarized in the Table below:

Calendar Year	Original Project Generation, kWh	Expansion Project Generation, kWh	Total Generation, kWh
2018	335,775 (1)		335,775
2019	1,405,352		1,405,352
2020	1,488,203	314,517 (2)	1,802,720
2021	1,503,958	599,826	2,103,784
2022	1,452,203	604,822	2,057,025
2023	1,442,932	626,259	2,069,191
TOTAL	7,628,423	2,145,424	9,773,847
	(1) Original Project (1.16 MW DC) generation started 8/24/2018	(2) Expansion Project (0.51 MW DC) generation started 5/21/2020	(3) Total Generation through 12/31/2023

2. Solar generation has avoided \$474,407 in purchased energy costs for the City of Escanaba through 12/31/2023. (\$92,600 in 2023)

3. Solar generation has avoided \$126,966 in transmission costs through 12/31/2023 by reducing the City of Escanaba monthly co-incident load during the monthly ATC transmission system peak load. As summarized in the following Table, the monthly ATC system peak load occurs during daylight hours with resulting solar generation during 7 to 9 months of each year.

Calendar Year	Solar Generation During Monthly ATC Peak Load	
	Number of Months	Months
2019	8	Feb, Apr – Oct
2020	8	Mar – Oct
2021	7	Apr – Oct
2022	8	Feb, April - Oct
2023 (thru Nov) (1)	9	Feb - Oct

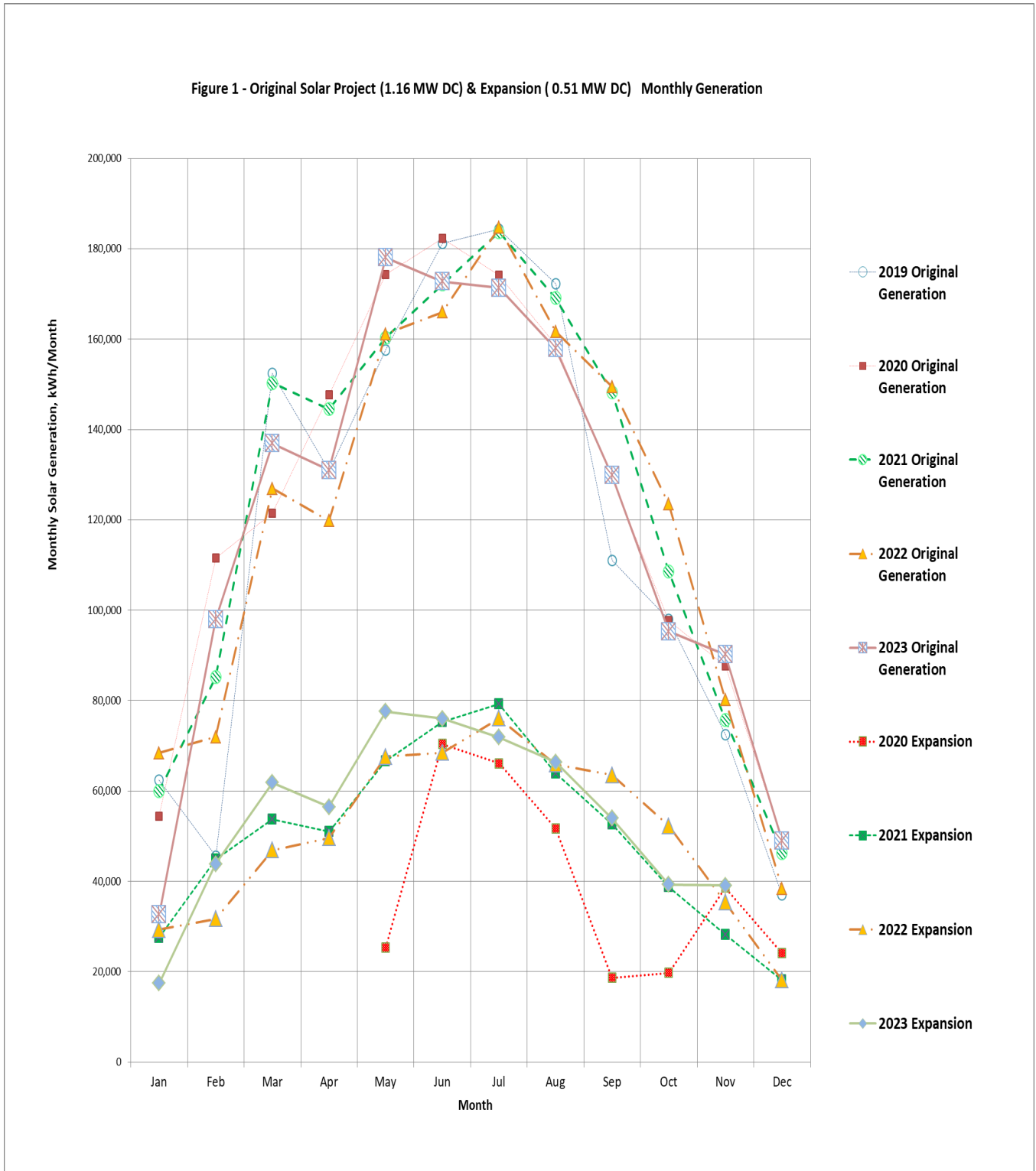
(1) ATC has not released the December 2023 hourly load data table yet, on their ATC Oasis website.

In 2023, the avoided transmission cost was \$35,383, or \$0.0171 per kWh of solar generation.

The ATC system monthly peak loads follow a consistent recurring pattern:

- On Non-holiday workdays (Monday – Friday)
- In a narrow time range

4. As shown in Figure 1 below, the monthly solar generation for the Original and Expansion Project follow a consistent monthly pattern.



5. Solar Project operations update:

a. No significant operating problems have been experienced with the Original project equipment in 2022, and 2023.

b. The only operating problems experienced in 2022 and 2023 with the Expansion Project relate to the periodic brief shutdowns of Inverter #16.

Both the Original inverter wiring box and inverter powerhead have been replaced. While annoying, the brief inverter shutdowns are probably resulting in negligible loss generation (i.e., less than 1% lost generation potential).

6. A key future activity will be updating the total avoided cost for each kWh of solar generation. The total avoided costs include the following components:

a. Avoided purchased energy from NextEra currently costing \$0.04502/kWh

b. Reduced transmission costs by lowering Escanaba's monthly co-incident load during 7 to 9 of the monthly ATC transmission system peak loads. (\$0.0171/kWh of solar generation in 2023)

c. Reduced capacity requirements. MISO in the last 2 years has transitioned from annual-peak load based capacity requirement to a **Seasonal Resource Adequacy** requirement.

d. Contributions to annual REC requirements. In 2023, the solar facility produced 2,069 MWh's of potential RECs for Escanaba's renewable energy requirements.

The avoided cost analysis determines the solar generation credit applied to the monthly utility billing for those that purchased (i.e., leased) solar panels in Escanaba's Original Solar Project.

2a Summary of New Michigan Energy Legislation (Passed in November, 2023)

1. Renewable Energy Requirements:

Each Utility must submit a renewable energy plan to MPSC (Michigan Public Service Commission) by February 27, 2025.

Years	
2024 to 2029	15%
2030 to 2034	50%
2035 +	60%

Municipal electric utilities may meet the Renewable Energy Requirements by:

- Generating renewable energy for sale to customers. For example, the Escanaba (1.29 MW AC) Solar Facility supplied 1.6% of Escanaba’s electricity sales in the Fiscal Year 22-23.
- Purchasing renewable energy and capacity through a PPA.
- Purchasing renewable energy credits or certificates (i.e., REC’s) within MISO until 2035.

Renewable energy sources include:

- Solar
- Wind
- Geothermal
- Existing hydroelectric dams
- Woody Biomass
- Landfill gas

2. Clean Energy Requirements:

- By 2035 80%
- By 2040 100%

Clean Energy is generated by:

- Nuclear facilities
- Combined Cycle Natural Gas with 90% carbon capture and sequestration
- Natural Gas RICE Unit with 90% carbon capture and sequestration

- Hydrogen fueled generation (Note trials using 25% by volume hydrogen with natural gas were successfully conducted in 2022 on the RICE units at the A. J. Mihm power plant in L’Anse, Michigan.)

Municipal Utility Clean Energy compliance plans must be submitted by July 1, 2028 to MPSC.

3. Renewable and Clean Energy Requirements for a utility, will be based on the previous three year average electricity sales.

4. Energy Storage standards for the state regulated utilities:

- MPSC, within a year, to provide a study on long-term and multiday energy storage technologies and benefits.
- 2.5 GW energy storage in Michigan by 2030
- Utilities must submit an annual report to MPSC starting December 31, 2024, documenting centralized and distributed electricity storage systems in their service area.

5. Customer distributed generation, e.g., rooftop solar, can now be up to 10% of each utility’s 5 year average peak load. The earlier 3% limit had been a major issue for UPPCO customers wanting to install solar generation.

6. MPSC by 12/1/24 must publish a report on Michigan UP unique issues in electric generation and options for compliance:

- RICE units
- Transmission, and
- Demand

7. MPSC has authority to approve:

- Solar projects greater than 50MW capacity
- Wind & Battery Storage great than 100 MW capacity

This removal of local zoning control of large scale Solar and Wind projects is probably the most politically divisive issue in the new legislation.

2b Renewable Energy Certificate (REC)

1. Renewable Energy Certificates (REC's) are a market-based instrument that certifies the bearer owns 1 megawatt-hour (MWH) of electricity generated from a renewable energy source. The REC is separate from the energy fed into the electric grid.

2. The REC may be sold as an energy commodity.

3. Generation technologies that qualify as producers of REC's include:

- Solar
- Wind
- Low Impact Hydropower (e.g., small run-of-the-river facilities)
- Landfill gas fueled generation
- Biomass fueled generation (e.g., L'Anse Power Plant)

4. In states with a Renewable Energy Portfolio Standard, a REC's purchase enable a utility to meet its minimum renewable energy requirements without having to install that renewable generating capacity itself.

- For 2024, Escanaba will need to purchase approximately **19,900 MWH's of REC's**.
- The Escanaba Solar Facility Averages approximately 2,080 MWH per year of solar generation. **Escanaba needs to obtain REC's for this generation.**
- 2020 MPSC Summary of Renewable Generation in the U.P.

Utility	Generation Type	Number	Capacity, MW
UPPCO	Hydro	4	26.1
Wisc. Electric Power	Hydro	10	77.8
Wisc. Public Service	Hydro	1	7.5
City of Crystal Falls	Hydro	1	1
City of Marquette	Hydro	1	3.2
City of Norway	Hydro	1	6
Cloverland Electric Co-op	Hydro	3	57
DTE – Energy Garden Wind Farm	Wind	-	100
L'Anse Warden Elec Co., LLC	Bio Mass	1	20
Renewable World Energies, LLC	Hydro	2	2

2c Existing NextEra Energy & Capacity Contracts Review

1. Energy Contract

- Last updated in February, 2021
- Load following contract through May, 2033
- Contract Pricing (\$/MWh)
- MISO Year is June 1 to May 31
- Limits City owned solar facilities to 4 MW (AC) in total capacity. The existing Airport solar facility has a 1.29 MW(AC) capacity.
- In 2019, NextEra proposed a modified Energy Contract option with 50% renewables with an added cost of \$0.62/MWH. The City did not select this contract option.

MISO Year	\$/MWH
22/23	44.79
23/24	45.02
24/25	45.34
25/26	45.47
26/27	45.69
27/28	45.92
28/29	46.15
29/30	46.38
30/31	46.62
31/32	46.85
32/33	47.08

2. Capacity Contract

- Last updated in January, 2020
- Capacity Contract Pricing (\$/MW Yr.)
- Contract through May, 2030
- Capacity supplied by the NextEra Point Beach Nuclear Facility in Two Rivers, WI, within MISO Zone 2 as is Escanaba.
 - Unit 1 600 MW started in Dec., 1970
 - Unit 2 600 MW started in May, 1973
- Current Operating permits expire:
 - Unit 1 October, 2030
 - Unit 2 March, 2033
- NextEra has applied to the Nuclear Regulatory Commission for a 20 year extension of the operating licenses. The extension is awaiting NRC approval.
- Adjacent to the Point Beach facility, NextEra started up a 150 MW solar facility (Two Creeks Solar Park) in November, 2020.

MISO Year	Capacity, MW	\$/MWYr
22/23	27	45,000
23/24	26	46,200
24/25	25	42,240
25/26	24	42,120
26/27	23	42,120
27/28	23	42,120
28/29	23	42,120
29/30	23	42,120

2d Summary of New Energy Waste Reduction Plans Legislation (Nov 2023)

- 1.** Utilities must adopt an Energy Waste Reduction Plan in 2025 and update every 4 years after 2025.

- 2.** Plans should promote efficient electrification measures such as:
 - Cold climate air source heat pumps
 - Electric Clothes Dryer
 - Ground source heat pump
 - High-efficiency electric cooking equipment (e.g., induction ranges)
 - Heat pump or high efficiency electric water heaters

- 3.** City Council reviews and approves the Energy Waste Reduction plan.

- 4.** Each utility must offer a low-income Energy Waste Reduction (EWR) plan:
 - 25% EWR expenditures must be directed to the low-income portion of the program by 1/1/2029.

2e Key Actions Taken & Planned Next Steps to Comply with New Michigan Energy Legislation

1. Follow Michigan Municipal Electric Association (MMEA) reporting and guidance on compliance.

- Attended MMEA webinar on new energy legislation on December 6, 2023
- Use MMEA for annual MPSC reporting (e.g., annual reporting on renewable energy requirements)

2. Explore cost and availability of REC's for 2024 (Minimum 19,845 MWH) from other U.P. utilities (e.g., City of Norway, Cloverland Electric Co-op, etc.)

3. Contact NextEra and seek proposal to provide REC's for 2024 through 2035.

- Initial conference call with Jonathan Horn, our NextEra representative, occurred on December 12, 2023 to review legislative requirements and discuss future options.
- January 25, 2024 conference call planned to discuss NextEra proposal progress.
- NextEra Energy Resources has a subsidiary:

Clean Energy Solutions for Municipal Utilities and Electric Cooperatives which seems to address our future needs. Trip Bristow is the Executive Director for **Clean Energy Solutions**.

- A brochure for Clean Energy Solutions is included in the meeting documents.