



LEBANON ENERGY ADVISORY COMMITTEE (LEAC)
APRIL 18, 2024 - 4:00 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE

-
- 1. Call to Order**
 - 2. Approval of Minutes**
 - A. March 21, 2024
 - 3. Old Business**
 - A. Legislation / PUC Regulations / CPCNH / LCP updates; CPCNH Publicity Campaign
 - B. Landfill Gas to Energy Project
 - C. Municipal Solar
 - D. Rental Decarbonization Pilot Project
 - E. EV Subcommittee Report: Drive Electric Earth Day Event; Public Charging Stations; Public Outreach / education
 - F. Include energy efficiency standards as part of the City's affordable housing initiative
 - G. City Master Plan- Energy Chapter Update
 - 4. New Business**
 - A. Board Member Seats LEAC- Welcome Bill Stearns; Sherry Boschert reinstated
 - B. Possible time change for monthly LEAC meeting
 - 5. Energy & Facilities Manager Report**
 - A. Power Outages document
 - 6. Open to the Public**
 - 7. Upcoming Events**
 - A. Upper Valley Earth Day EV Expo: April 21, 12-3PM in Shaw's parking lot, West Lebanon
 - B. Presentation by Sophia Donforth, VEEP/NHEEP (NH Energy Education Project)
 - 8. Future Agenda Items**
 - 9. Adjournment**

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do

Lebanon Lebanon Energy Advisory Committee (LEAC) Agenda
April 18, 2024

so by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE(LEAC)
APRIL 18, 2024

AGENDA ITEM 2.
APPROVAL OF MINUTES:

MARCH 21, 2024

**LEBANON ENERGY ADVISORY COMMITTEE
CITY COUNCIL CHAMBERS OR
REMOTE VIA VIRTUAL PLATFORM
THURSDAY MARCH 21, 2024, 4:00PM**

MEMBERS PRESENT: Henry Bromberg (Chair)(REMOTE), Jon Chaffee (Vice Chair), Clifton Below (City Council Rep.), Sherry Boschert, Tom Benzel, James Mashal

MEMBERS ABSENT: Woody Rothe, Devin Wilkie (Alt. Council Rep)

STAFF PRESENT: Tad Montgomery (Energy & Facilities Manager), Shaun Mulholland (City Manager)

OTHERS PRESENT: Bill Stearns

1. CALL TO ORDER

Vice Chair Chaffee called the meeting to order at 4:05pm.

Chair Bromberg said was attending remotely because he is in New Mexico.

2. APPROVAL OF MINUTES – February 15, 2024

A MOTION was made by Sherry Boschert to approve the February 15, 2024 Meeting Minutes. The Motion was seconded by James Mashal.

Roll Call Vote:

Voting in Favor –Mr. Bromberg, Mr. Benzel, Ms. Boschert, Mr. Below, James Mashal, Mr. Chaffee

Voting Against – None

**The MOTION was approved (6-0).*

3. STRATEGIC PLAN DISCUSSION

A. Strategic Plan Discussion – Energy, Sustainability, & Transportation

City Manager Shaun Mulholland explained the goals of the City’s Strategic Plan.

The group discussed LEAC’s feedback on specific items and the identified sustainability objectives that can be accomplished in the next 3-5 years (for example, 5% of City’s vehicles/fleet are EVs).

City Manager Mulholland said it would be presented to the Council on April 27, so the committee has time to review the Strategic Plan and identify concrete, feasible action items. City Manager Mulholland discussed TIF funds and the possibility of EV Chargers at the Airport.

The group discussed City Manager Mulholland's highlighted comments to the Strategic Plan items, which were included in the agenda packet for this meeting.

Mr. Stearns left the meeting at 5:10pm. Mr. Below reminded him that he is not fully a member of LEAC until he completes his application and submits it to the City Clerk. Ms. Boschert said Mr. Stearns has a standing meeting at 5:00pm so she suggested LEAC may want to change the time it meets. She suggested this be added as a future agenda item.

4. OLD BUSINESS

A. Legislation/PUC Regulations/CPCNH Updates/ LCP updates; CPCNH Publicity Campaign

Mr. Below said House Bill 1600, which would make clear that municipal hosts under group net metering (generators up to 5 megawatts) could be used to offset the load of community power aggregations, passed in the House.

He said there may be a settlement in the net metering docket. He said there will be a status conference on April 11.

B. Landfill Gas to Energy Updates

Mr. Below gave an overview of the status of the Landfill Gas Energy project, which he said is getting closer to construction and will probably go online later this year.

C. Municipal Solar Updates

Mr. Montgomery said he and Mr. Below met with ~~OM~~ All Earth Renewables about the status of net metering in NH.

He said he, Ms. Boschert, Asst. DPW Director Chris Kilmer, and Rebecca Owens (of the Planning Department) have been ~~sitting in on the~~ participating in a Green Procurement Boot Camp at Harvard Kennedy School and learning the best practices in issuing green procurement.

D. Rental Decarbonization Pilot Project

Mr. Chaffee said they have dropped heat pumps, water heaters and weatherization from the plan, and are now proposing installing heat pumps in buildings that have already been weatherized. He said the cost of the plan is now \$1.5 million, and they hope to get the grant application for it in by April 1, 2024.

E. EV Subcommittee Report: Drive Electric Earth Day Event; Public Charging Stations; Public Outreach/Education

Ms. Boschert reminded the group about the EV Expo planned for Earth Day on April 21. She said anyone who would like to show their car should visit nhev.org to register.

She said she and Mr. Montgomery have been meeting with City Manager Mulholland to discuss using the TIF funds earmarked for economic development to add more EV chargers. She said they are planning to add at least one fast charger (Level 1) in downtown Lebanon – one possible site is Hanover Street Parking lot. She said they are also identifying sites in downtown Lebanon for Level 2 chargers. The group discussed the pros and cons of locating chargers next to transformers.

She said they have a meeting next week with the West Lebanon Revitalization Committee and the EDC about a TIF area in West Lebanon. She said their goal is to have EV charging in downtown Lebanon before the end of the year.

F. City Master Plan-Energy Chapter Update

No update

5. NEW BUSINESS

A. Collaboration with Regional Organizations for Greater Focus and Impact

No update

B. Alternate Board Member Seat on CPCNH

Ms. Boschert said she would reach out to former Chair Greg Ames and ask him to formally resign from the CPCNH so James Mashal from LEAC can be appointed.

A MOTION was made by Sherry Boschert that the LEAC recommends the appointment of James Mashal as an alternate representative to the CPCHN after Greg Ames resigns. The MOTION was seconded by Clifton Below.

Roll Call Vote:

Voting in Favor – Mr. Bromberg, Mr. Benzel, Ms. Boschert, Mr. Below, Mr. Chaffee

Voting Against – None

Mr. Mashal abstained from the vote.

**The MOTION was approved (5-0).*

C. Climate Pollution Reduction Grant

No update.

6. ENERGY & FACILITIES MANAGER REPORT

Mr. Montgomery discussed the following:

- Novo Nordisk – he said that he has talked with a facility manager there who has offered to give a tour to members of ~~other~~ LEAC and the Hartford Energy Commission.
members can also tour the facility

- Energize Upper Valley meeting is April 6 – Sign up at tinyurl.com/energizeUpperValley/UE
- CBCNH Discussion of ~~Reps~~ RECs on FAQ Forum on green power
- NH Energy Week: May 6-10 with Awards Ceremony on May 10 – anyone can nominate someone for an Award at NHenergyfuture.org

7. OPEN TO THE PUBLIC

No members of the public spoke.

8. UPCOMING EVENTS

- **Upper Valley Earth Day EV Expo:** April 21st, 12-3PM in the Shaw parking lot, West Lebanon.
- **Energize the Upper Valley:** April 6th, 10AM-3PM, at the Hartford Town Hall, workshops on weatherization and home electrification with lunch in between, which is free, but registration is required: <http://tinyurl.com/EnergizeUV>
- **NH State Energy Conference:** April 10th at the Edward Cross Training Center in Pembroke. Panels & Presentations, breakfast/lunch, Energy Emporium: Vendor Hall to highlight energy efficient products and Lebanon Energy Advisory Committee (LEAC) Agenda March 21, 2024 technology; EV Ride & Drive Event: Kick the tires, look under the "Frunk" and test drive an array of EV's, many of which are listed for procurement on the State Vehicle Contract. To Register: <https://lp.constantcontactpages.com/ev/reg/qv4yh7v>

9. FUTURE AGENDA ITEMS

Mr. Mashal said he and Mr. Rothe met with Deputy City Manager David Brooks to discuss ways to use energy efficient standards for the city-owned housing project that is being planned. He said they will meet with Tom McNair next week to discuss it further.

10. ADJOURNMENT

A MOTION was made by Clifton Below to adjourn the meeting at 6:01pm. The Motion was seconded by Sherry Boschert.

Roll Call Vote:

Voting in Favor – Mr. Bromberg, Mr. Benzel, Ms. Boschert, Mr. Below, James Mashal, Mr. Chaffee

Voting Against – None

**The MOTION was approved (6-0).*

The meeting was adjourned at 6:01pm.

Respectfully Submitted,

- 1 Paula Roux
- 2 Recording Secretary

AGENDA ITEM 3
OLD BUSINESS:

**E. EV SUBCOMMITTEE
REPORT: DRIVE ELECTRIC
EARTH DAY EVENT; PUBLIC
CHARGING STATIONS;
PUBLIC
OUTREACH/EDUCATION-
EVSE**



PRODUCT SPECIFICATION

Product Line: **EVSE**

Product: **3704 Utility Pole Series**

Smart Level 2 EVSE with Automatic Cable Management, Single Utility Pole

The Model 3704 Utility Pole Series electric vehicle charger provides 208 - 240V AC up to 40A. Designed as per the SAE J1772 requirements to meet or exceed all safety codes specified by UL and NEC, the unit is engineered for exterior utility pole mounting, while meeting or exceeding all NEMA 3R specifications. The charger receives power from the utility pole, removing the need for trenching, conduits, long runs, etc. In addition, a power disconnect box is installed on the 5068-050 Mounting Frame to easily remove input power to the charger for pre-wiring or for any maintenance or cycle testing.

The charger is equipped with a state-of-the-art cable management system, which fully retracts and protects both the cable and the connector from harsh weather and vandals. The cable management system is ADA compliant and eliminates tripping hazards.

Modular in design, the charger can be configured for ID card and credit/debit processing through the addition of an RFID Card Reader, and a QR Code Reader that communicates with fobs or cellphones via mobile applications. Communication options are available for facilitating communication between the 3704 and host network for data collection purposes.



Description: The Model 3704 is a 9.6 kW utility pole-mounted EVSE charger with AutoCoil™ cable retraction, capable of providing up to 40A at 208-240VAC, single phase at 50/60 Hz. The charger provides up to 9.6 kW (208/240 VAC @ 40A) to the electric vehicle when activated. It is also available at 7.2 kW (208/240 VAC @ 30A). This unit complies with the SAE J1772 specifications for supplying electrical power to a J1772-compatible Electric Vehicle (EV). When the 3704 has been activated for a charge cycle via either an ID card or QR Code, the cable drops to the ADA height of 48 inches and the user simply pushes the button on the J1772 connector to walk the cable to the vehicle for charging.

Data Router: The charger is equipped with a Data Router providing five LEDs indicating the status of the charger.

Cable Management: The J1772 power cable and connector are stored high above when not in use, and locked in place for protection from vandals. When a valid charge activation is received, the connector drops to an ADA height of 48 inches and the user simply pushes the button on the J1772 connector to walk the cable to the vehicle for charging.

When the button is released, the cable stops. Before plugging into the vehicle, the button can be depressed again if more cable is required. When the connector is removed from the vehicle, the cable automatically retracts to the stored position.

Power Management: The charger provides up to 9.6 kW (208/240 VAC @ 40A) to the electric vehicle when activated. It is also available at 7.2 kW (208/240 VAC @ 30A). Power is continually monitored and the charger disconnects power to the vehicle if the voltage deviates from the acceptable range, or if the load current exceeds the maximum level. The charger can also receive *Load Shed* commands via host communication networks, signaling it to reduce power by either percent of total or to designated current levels, including simulated Level 1 (7A).

The 3704 also includes a Random Start feature. In the event of a deep voltage sag or momentary power outage, it delays its restart for a random time period of between two to five minutes after the power has been restored. Once the charger restarts, it *ramps up* to the required maximum power at a rate of 1A/second. This prevents power surges when restoring power to multiple chargers.

Communication Options: A Gateway Module with a cellular host connection can be installed internally to facilitate two-way communication with the host network. The 3704 communicates to the internal Gateway directly, or multiple chargers can use Zigbee to talk to one charger/Gateway using the ZigBee Mesh protocol, allowing wireless connections. ZigBee networks are secured by 128-bit symmetric encryption keys, so security is assured.

The Gateway Module then connects to an external network via a Cellular modem. The Cellular modem securely transmits encrypted payment data to and receives authorizations from external PCI-compliant processors. Communication can also link the EVSE network with third-party network management providers for reporting and call center support.

Label Description: **3704 EVSE for Utility Poles**

Product Code: **3704-A04xx**

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Marketing: DS

Engineering: GC

Date: 7/20/20

Date: 7/20/20

EVSE LLC, 89 PHOENIX AVE., ENFIELD, CT 06082 PHONE (860) 745-2433

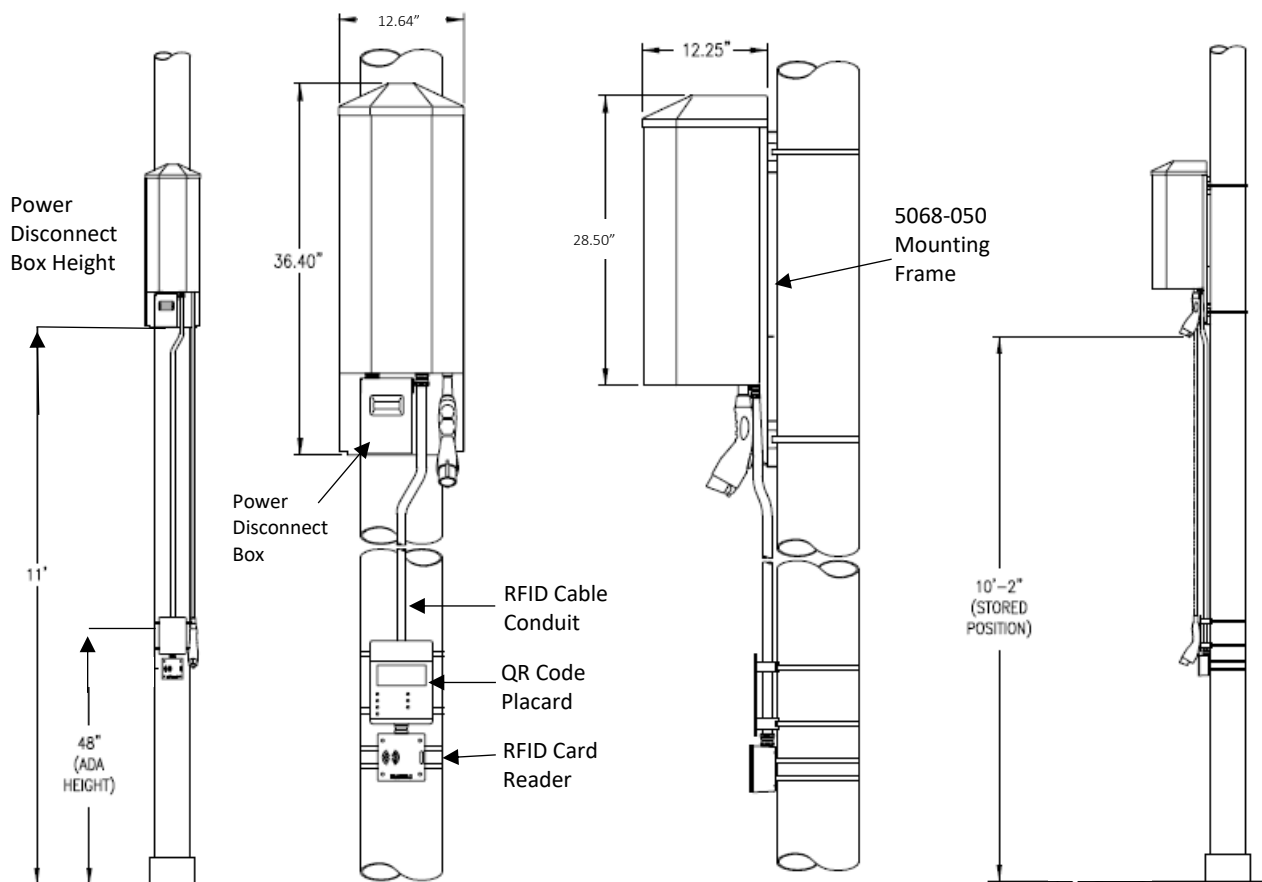
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Safety:

- Tamper Resistent -** The J1772 power cord and connector are typically stored 11 feet above and are locked mechanically in the storage position to prevent vandalism.
- Extension -** The cable initially lowers to an ADA height, and by pressing the switch on the J1772 connector, the cable is driven out to the desired length.
- Jam Resistent -** If you pull the charging cable while it is retracting or if the cable gets caught on anything, cable retraction will stop. The cable will make one additional attempt to retract. Thereafter, pressing and releasing the switch on the J1772 connector will restart the cable retraction process.
- Spark Resistent -** Electrical power is not applied to the power connector until the J1772 connector is fully inserted into the power inlet on the Electric Vehicle and communication between the vehicle and charger has been established. When the switch is pressed on the J1772 connector, voltage is instantly removed.
- Shock Resistent -** The Model 3704 EVSE is equipped with a Ground Fault Circuit Interrupter (GFCI) which will disconnect the electrical voltage from the power cord and connector, should current leakage to ground exceed 20 mA. The GFCI circuit is automatically tested at the start of each charge sequence. The GFCI will attempt three re-closures to see the ground fault cleared before reporting a problem.
- Over Current -** The Model 3704 EVSE, when in use, continuously monitors the current being delivered to the EV. Should the current exceed 32A for 15 seconds, the Model 3704 EVSE will disconnect the power to the EV before the breaker trips. After disconnecting, the 3704 will auto-reset.
- Low-Line -** The source voltage to the Model 3704 EVSE is continuously monitored while in use. Should the voltage drop below 180 VAC, the EVSE will disconnect the voltage to the EV to prevent damage to the EV's electronic circuits. When the voltage returns to above 200 VAC, the power will be restored to the EV.
- Cold Load Start –** If power fails while the Model 3704 EVSE is connected and charging an EV, charging will automatically resume when power is restored. No user intervention is required. The charging will however, be randomly delayed from 2 to 5 minutes to prevent the power grid from incurring a large power surge.
- Plug-Out Detection -** The model 3704 EVSE is equipped with a Plug Out Detection circuit that identifies when the connector is attached to the electric vehicle. This allows the EVSE to immediately remove electric power from the electric vehicle before the connector is totally removed from the vehicle inlet.
- Disconnect Switch -** The separate 5068-050 Mounting Frame is equipped with a disconnect switch for locally shutting off power in the event the unit needs to be serviced or inspected.

3704 Mechanical Drawings:



Specifications

Electrical Input:

Power Input: 9.6 kW (or 7.2 kW)
 Voltage Input: 208-240 VAC 50/60Hz
 Current Input: 40A (or 30A)
 Stand By Power: Less than 10W typical

Electrical Output:

Power Output: 9.6 kW (or 7.2 kW)
 Voltage Output: 208-240 VAC
 Current Output: 40A (or 30A)
 Charging Connector: SAE J1772 EV Connector on an 25' retractable cord

Safety:

Compliance: IEC/UL/CSA C22.2 NO. 61010-1, UL2594, UL2231-1&2, NEC Article 625, SAE J1772
 EMC Compliance: FCC Part 15 Class A, Canadian ICES-003
 Surge Protection: 6KV @ 3000A
 Ground Fault: Internal 20 MA CCID with auto re-closure (three attempts)
 Ground Wire Detection: Continuous Monitoring
 Over Current Protection: 42A
 Plug Out Detection: Power terminates as per SAE J1772

Communications:

Cellular (Host) FCC ID: XMR201808EC25AF, IC: 10224A-201808EC25AF
 Zigbee (Charger to Charger) FCC ID: MCQ-PROS2B, IC: 1846A-PRO S2B

Environmental:

Enclosure: NEMA 3R
 Vandal Proof: Cable is locked when stored and typically mounted 11 feet up on the pole
 Operating Temp: -22°F to 122° F (-30° C to 50° C)
 Operating Humidity: Up to 95% non-condensing

General:

Dimensions 28.50 in (h) x 12.64 in (w) x 12.25 in (d)
 Weight 33 lbs.
 Mounting Use 5068-050 Mounting Frame

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE(LEAC)
APRIL 18, 2024

AGENDA ITEM 4
OLD BUSINESS:

E. DRAFT LETTER TO SAU88 SCHOOL BOARD MEMBERS

DRAFT LETTER FROM EV SUBCOMMITTEE TO SAU 88 SCHOOL BOARD MEMBERS:

Dear SAU 88 School Board members,

I am writing on behalf of the Electric Vehicle Subcommittee of the City of Lebanon's Energy Advisory Committee. We'd like to offer our collaboration in helping SAU 88 transition from gas and diesel buses to clean, cost-saving electric buses. There has never been a better time, because of government incentives that cover most of the up-front expenses.

Why move to electric school buses?

- Fueling costs for electric school buses are 40%-70% lower than for diesel (depending on price fluctuations), according to the federal Alternative Fuels Data Center (AFDC);
- Maintenance costs are 60% lower, according to the World Resource Institute's Electric School Bus Initiative;
- Overall operating costs average 14 cents/mile vs. 49 cents/mile for diesel, which translates to an average savings of \$6,000-\$8,000 per school bus per year (AFDC and South Burlington, Vt.);
- Electric buses have no tailpipes, meaning the driver and students are breathing clean air instead of diesel exhaust, potentially reducing school absenteeism due to respiratory problems;
- Even accounting for the grid's generation of electricity, the lifecycle greenhouse gas emissions for e-buses in the Northeast United States averages 0.75 pounds per mile, compared with 3.3 pounds with diesel or 3.4 pounds with propane buses, and
- Electric buses are quiet and popular with bus drivers and student passengers.

How can the Lebanon Energy Advisory Committee's Electric Vehicle Subcommittee help SAU 88?

- Not all electric school buses are alike. Some brands perform much better in winter than others. Our expertise can help guide SAU's decisions;
- As of November 2023 there were 64 electric school buses spread around all New England states except New Hampshire, and more than 26,000 nationwide. The City of Boston has committed to making all 750 of its school buses electric. We can tap their experience to help guide SAU 88.
- The federal Clean School Bus Rebate Program has been funding up to \$345,000 for the purchase of each electric school bus and charging infrastructure to the winning grant applicants, and the IRS elective pay program could refund up to \$40,000 per bus and up to 30% of the cost of the charging station. But these incentives won't last forever. The EV Subcommittee could help draft a grant application for SAU 88 to be ready for the next round of funding applications.

As you probably know, Advance Transit has begun shifting to electric buses and has installed charging infrastructure in its bus barns. Advance Transit's Executive Director Adams Carroll will be at the Earth Day EV Expo that we organized for Sunday, April 21 and likely would be happy to describe their experience so far with electric buses.

May we set up a Zoom session with one or more of you to discuss the next steps in exploring electric school buses for SAU 88? We look forward to hearing from you.

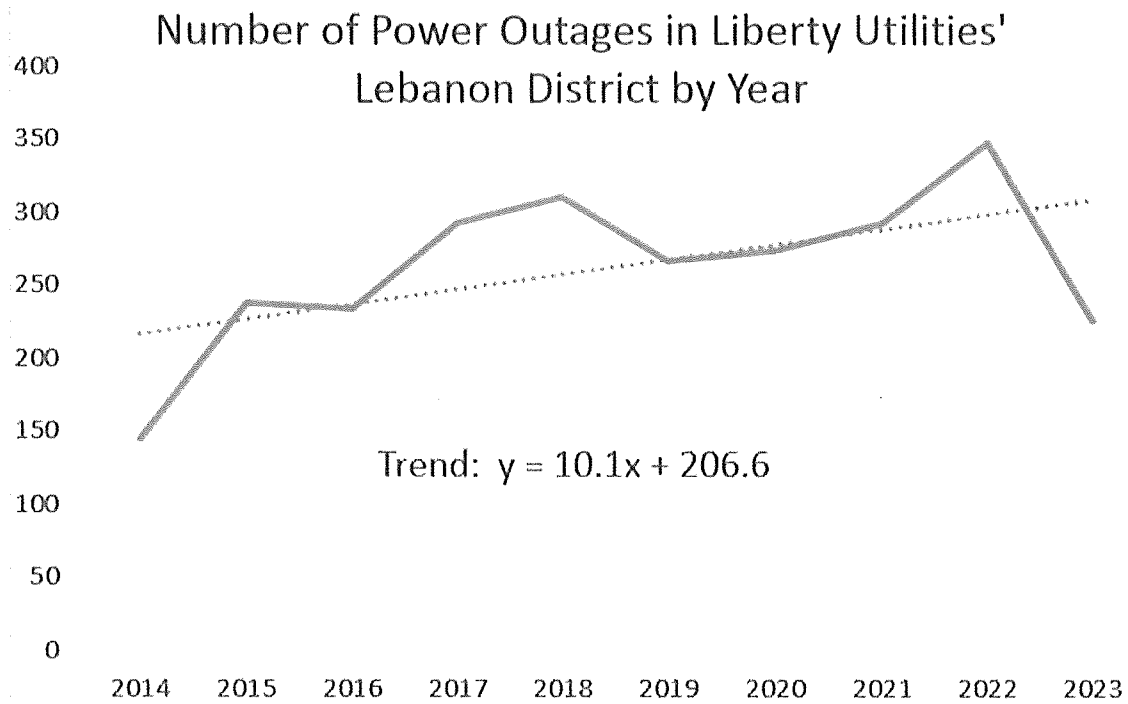
Sincerely,

Sherry Boschert, chair
EV Subcommittee, Lebanon Energy Advisory Committee

AGENDA ITEM 5
Energy & Facilities Manager Report:

**NUMBER OF POWER
OUTAGES IN LIBERTY
UTILITIES LEBANON DISTRICT
BY YEAR DOCUMENT.**

A.



Number of Power Outages in Liberty Utilities' Lebanon District by Year	
Year	
2014	145
2015	238
2016	233
2017	293
2018	311
2019	267
2020	273
2021	292
2022	347
2023	225
10 YEAR TOTAL:	2,624

7. Open to the Public

8. Upcoming Events