

BOARD INFORMATION PACKET



**Board of Public Utilities
Kansas City, Kansas**

Regular Meeting of

April 19, 2023



**Gold Award
for
Competitiveness
Achievement**



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April 19, 2023

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Board of Public Utilities
Kansas City, Kansas

BOARD AGENDA

Regular Session
April 19, 2023 – 6:00 P.M.

- I. Call to Order
- II. Roll Call
 - _____ Tom Groneman, District 2
 - _____ David Haley, At Large, Position 2
 - _____ Robert L. Milan, Sr., District 1
 - _____ Rose Mulvany Henry, At Large, Position 3
 - _____ Jeff Bryant, District 3
 - _____ Mary L. Gonzales, At Large, Position 1
- III. Approval of Agenda
- IV. Approval of the Minutes of the Work Session of April 5, 2023
- V. Approval of the Minutes of the Regular Session of April 5, 2023
- VI. Public Comments
- VII. General Manager / Staff Reports
 - i. Customer Service Quarterly Update
 - ii. Miscellaneous Comments
- VIII. Board Comments
- IX. Executive Sessions
- X. Adjourn

WORK SESSION MINUTES – WEDNESDAY, APRIL 5, 2023

STATE OF KANSAS)
) SS
CITY OF KANSAS CITY)

The Board of Public Utilities of Kansas City, Kansas (aka BPU, We, Us, Our) met in Work Session on Wednesday, April 5, 2023 at 5:00 P.M. The following Board Members were present: Rose Mulvany Henry, President; Thomas Groneman, Vice President; Robert L. Milan, Secretary; Jeff Bryant, Mary Gonzales. David Haley attended via Zoom.

Also present: William Johnson, General Manager; Angela Lawson, Deputy Chief Counsel; Lori Austin, Chief Financial Officer/Chief Administrative Officer; Jeremy Ash, Chief Operating Officer; Johnetta Hinson, Executive Director Customer Service; Jerin Purtee, Executive Director Electric Supply; Steve Green, Executive Director Water Operations; Glen Brendel, Executive Director Electric Production; Maurice Moss, Executive Director Corporate Compliance; Jerry Sullivan, Chief Information Officer; Dennis Dumovich, Director of Human Resources; Dustin Miller, Director of Applications; and Robert Kamp, IT Project Manager.

A video of this meeting is on file at the Board of Public Utilities and can be found on the BPU website, www.bpu.com.

Ms. Mulvany Henry called the meeting to order at 5:00 P.M.

Roll call was taken, all Board Members were present, except for Mr. Milan, who arrived at 5:14 PM and Mr. Haley was present via Zoom, due to technical difficulties, his response was not heard.

Item #3 –Approval of Agenda

A motion was made to approve the Agenda by Mr. Bryant, seconded by Ms. Gonzales, and carried. Mr. Milan and Mr. Haley’s names were not called. The motion carried with four votes.

Item #4 –Board Update/GM Update

Mr. Groneman reported on his attendance at the Unified Government (UG) Public Works & Safety Standing Committee meeting. The committee discussed the Kansas Avenue and Central Avenue bridge projects, but nothing pertaining directly to BPU.

Mr. Haley reported on his attendance at the UG Economic Development & Finance Standing Committee meeting. The committee had discussed the Mt. Carmel development as

WORK SESSION MINUTES – WEDNESDAY, APRIL 5, 2023

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well as the Reardon Center redevelopment, the Lanier project. Both passed for consideration by the Commission.

Mr. Johnson spoke about attending a meeting regarding the Lanier project. There were three options discussed:

- The original plan, which included the removal of the Reardon Center to be replaced with apartments.
- Leave the Reardon Center where it was and the UG would need to come up with a plan to renovate and reopen. The Lanier apartment project would be built across the street from BPU.
- Remove part of the Reardon Center, and build the apartments on the same grounds, attached to the Reardon Center.

Ms. Johnetta Hinson, Executive Director Customer Service, as well as Mr. Jeremy Ash, Chief Operating Officer, and Mr. Johnson, spoke about the Community Partners meeting held on March 23rd. The group discussed ways to help their clients be successful with payment arrangements and Flex Pay. They also talked about deposits and explained the weather policy. The United Way talked about how 211kc.org and 211 could help the community find resources. The EOF had a program for seniors, but it centered around commodities. The Salvation Army spoke about their Pathway of Hope program which involved meeting with a case manager once a week with the hope of creating a two-year goal setting with the end result being that they can pay their rent, utilities, etc. The groups also talked about how they worked together to help the community.

The Board and staff discussed ways BPU and United Way could continue to get the word out about the different payment options offered by the utility.

Item #5 –2023 Spring Outage

Mr. Glen Brendel, Executive Director Electric Production, gave an update the different projects that were being addressed during the Nearman outage. (See attached PowerPoint.)

Item #7 – Adjourn

A motion was made to adjourn the Work Session at 5:52 P.M. by Mr. Bryant, seconded

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by Mr. Groneman. Due to technical difficulties, Mr. Haley’s response could not be heard. The motion carried with five votes.

ATTEST:

APPROVED:

Secretary

President



Nearman Outage 2023

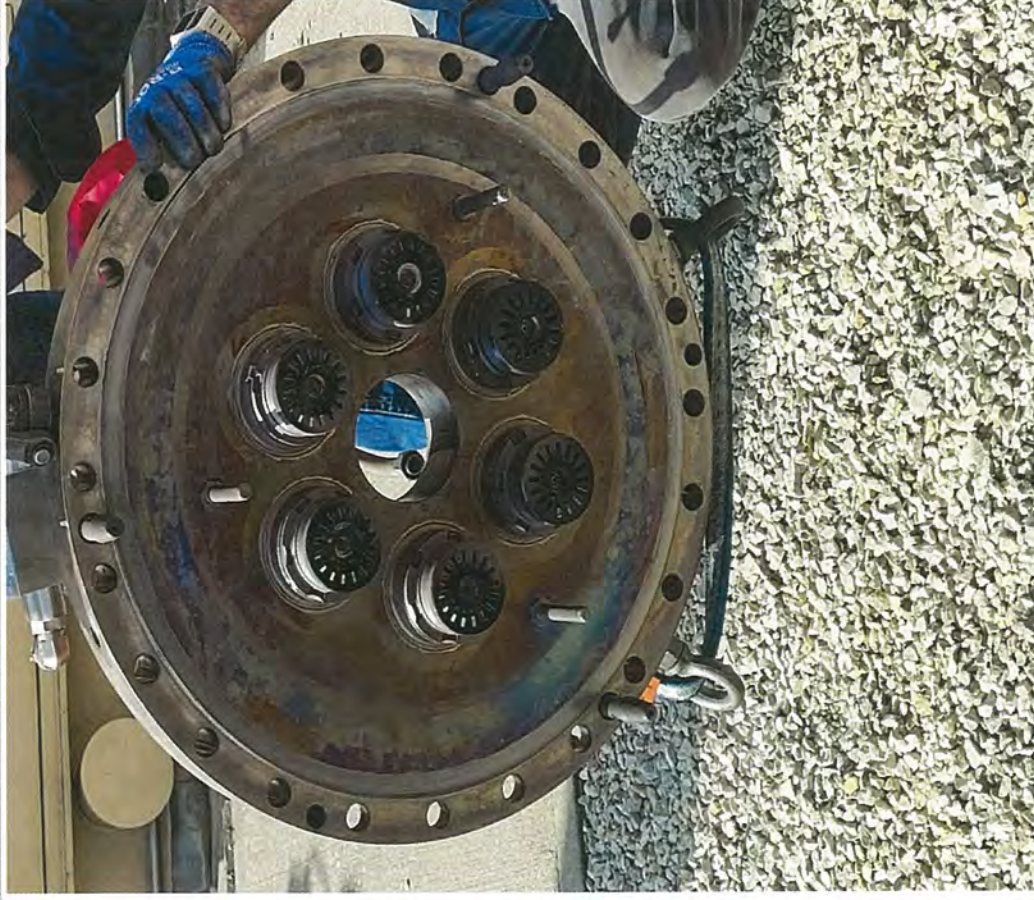


Agenda

- Safety Topic (Coordination and Planning)
- CT 4 Nozzle Refurbishment Progress
- Nearman Outage Scope
- Major Capital and Expense Work
- What and Why
- Post Outage Testing



CT4 Progress



- Off Site Primary, Secondary Nozzle, and Liner Refurbishment
- Vendor Selected (Sulzer) 3/20/23
- Purchase Order Approved 3/27/23
- Sulzer On Site 4/3/23
- Nozzles Shipped Offsite 4/5/23
- Combustion Liners ETR 4/6/23
- Estimate 6 weeks Shop Work
- ETA, Install, and Post Outage Tuning TBD
- Estimated Return to Service 4/26/23



What and Why

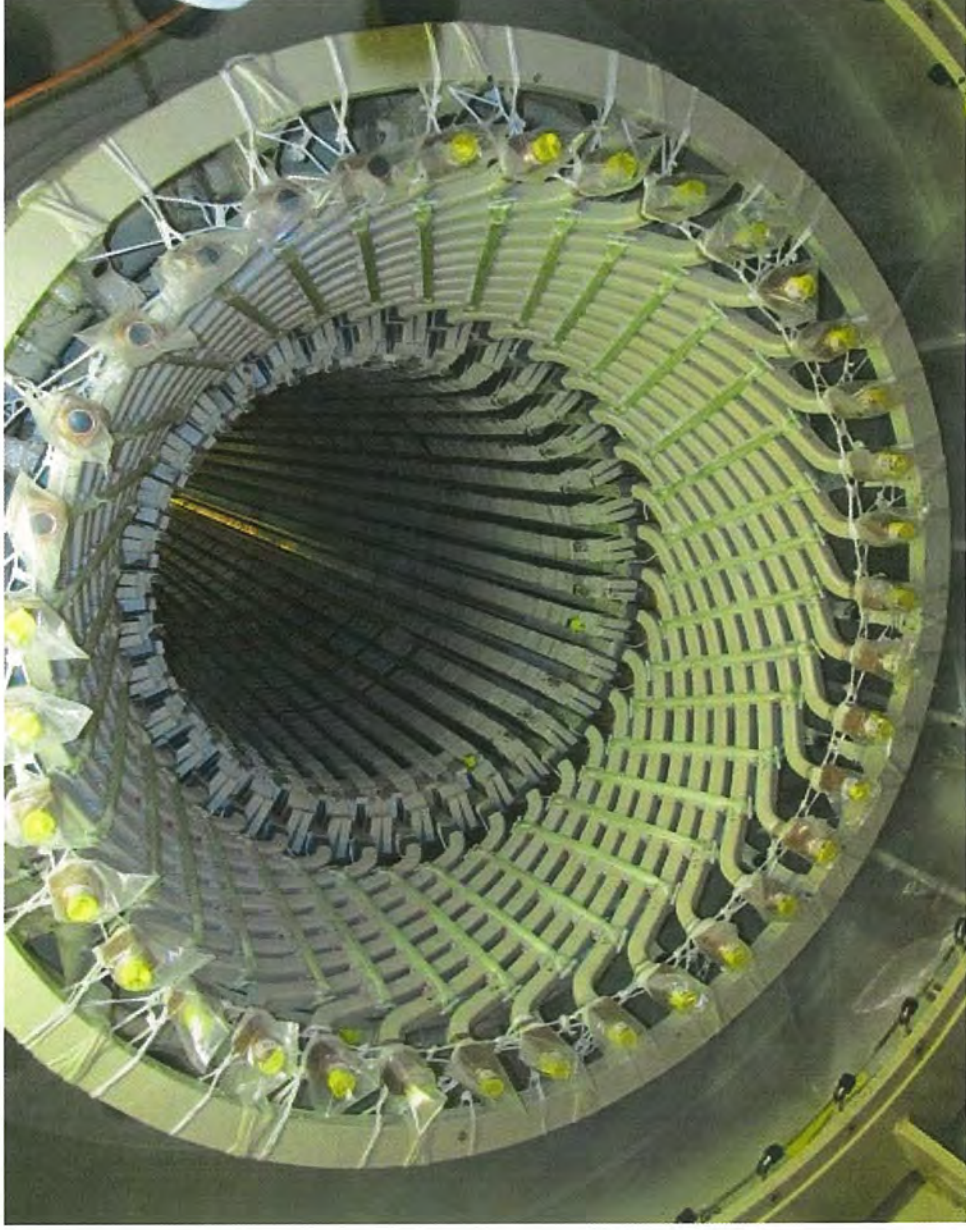


Burner Replacement

- **Warping**
- **Wear**
- **Loss on Ignition**
- **More Complete Coal Burn**



Generator Re-wedge



Stator windings are retained in the stator core by wedges.

Looseness observed in prior inspections and testing.

Causes:

- Thermal cycles
- Normal wear and tear.

Complete re-wedge recommended.



1st Layer Catalyst Replacement



Catalyst facilitates NOx

removal in the presence of ammonia.

First layer 2023, Second layer 2025, third 2027.

Replacement determined by:

- Activity testing (yearly)
- Plugging
- Masking
- Erosion
- Poisoning



Post outage testing

- Post burner replacement performance testing and tuning
- Cooling tower and flood pump PLC replacement commissioning
- Exciter controls commissioning and NERC testing
- Turbine vibration monitoring and tripping (Insurance recommendation)



Questions?

REGULAR SESSION –WEDNESDAY, APRIL 5, 2023

**STATE OF KANSAS)
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The Board of Public Utilities of Kansas City, Kansas (aka BPU, We, Us, Our) met in Regular Session on Wednesday, April 5, 2023 at 6:00 P.M. The following Board Members were present: Rose Mulvany Henry, President; Thomas Groneman, Vice President; Robert L. Milan, Secretary; Jeff Bryant, and Mary Gonzales. David Haley attended via Zoom.

Also present: William Johnson, General Manager; Angela Lawson, Deputy Chief Counsel; Lori Austin, Chief Financial Officer/Chief Administrative Officer; Jeremy Ash, Chief Operating Officer; Johnetta Hinson, Executive Director Customer Service; Steve Green, Executive Director Water Operations; Maurice Moss, Executive Director Corporate Compliance; Darrin McNew, Acting Executive Director Electric Operations; Jerin Purtee, Executive Director Electric Supply; Scott Paulsen, Supervisor Vegetation Management; Jerry Sullivan, Chief Information Officer; David Mehlhaff, Chief Communications Officer; Dustin Miller, Director of Applications; and Robert Kamp, IT Project Manager.

A video of this meeting is on file at the Board of Public Utilities and can be found on the BPU website, www.bpu.com.

Ms. Mulvany Henry called the Board meeting to order at 6:00 P.M. She welcomed all that were listening to or viewing the meeting. She informed all that the meeting was being recorded including video and audio. During the public comment section, those attending in person, wishing to speak, should use the sign-up sheet at the entry and provide their name and address. Public comments were limited to five minutes and should be addressed to the Board. Members of the public who wished to speak to the Board using Zoom needed to use the Raise Hand feature at the bottom of the application or window to signal that they wish to address the board during the public comment section. Members of the public connected by phone only, needed to press *9 to indicate they wished to address the Board in the public comment section. No confidential information should be shared, including, account information. Staff would not provide individual account information during an open meeting. As always, the public could also email or call the BPU with any concerns. Ms. Mulvany Henry introduced herself and the other Board Members along with the General Manager, and Legal Counsel.

Roll call was taken and all Board Members were present, Mr. Haley via Zoom.

Item #3 – Approval of Agenda

A motion was made to approve the Agenda by Mr. Bryant, seconded by Ms. Gonzales, and unanimously carried.

REGULAR SESSION –WEDNESDAY, APRIL 5, 2023

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Item #4 – Approval of Work Session Minutes of March 15, 2023

A motion was made to approve the minutes of the Work Session of March 15, 2023, by Ms. Gonzales, seconded by Mr. Groneman, and unanimously carried.

Item #5 – Approval of Regular Session Minutes of March 15, 2023

A motion was made to approve the minutes of the Regular Session of March 15, 2023, by Mr. Bryant, seconded by Ms. Gonzales, and unanimously carried.

Item #6 – Public Comments

Mr. Ty Gorman, 2843 Parkwood Blvd., expressed his thoughts on shut-offs of electricity or water for non-payment, the removal of fees, residential rates as well as the upcoming rate hearing and topics discussed in the Work Session.

Mr. Rayan Makarem, 3730 Metropolitan, expressed Clean Air Now’s interest in participating in community outreach.

Mr. Bryant said there would be a Community Engagement Committee meeting on April 19th.

Item #7– General Manager / Staff Reports

- i. *Preliminary February 2023 Financials:* Ms. Lori Austin, Chief Financial Officer/Chief Administrative Officer, reviewed the Preliminary February 2023 Financials with the Board. (See attached PowerPoint.)

Ms. Austin responded to questions from the Board.

- ii. *Vegetation Management Plan Update:* Mr. Scott Paulsen, Supervisor Vegetation Management, and Mr. Darrin McNew, Acting Executive Director Electric Operations, reviewed the Vegetation Management program which handled keeping tree limbs from transmission lines to continue to reduce vegetation related outages. (See attached PowerPoint.)

Mr. Paulsen and Mr. McNew responded to comments from the Board.

REGULAR SESSION –WEDNESDAY, APRIL 5, 2023

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iii. *Miscellaneous Comments:* Mr. Johnson informed the Board on some upcoming events.

Mr. Jeremy Ash, Interim Chief Operating Officer, summarized the APPA Lineworkers Rodeo that had been held at the Agriculture Hall of Fame grounds. He thanked Mr. McNew’s Electric Operations team including, Mike Fergus, Director of Electric Distribution & Service and Jeremiah Waldeck, Superintendent of Distribution-Underground for doing a great job putting the event grounds together. They had 47 journeymen teams and 106 apprentices.

Item #8 – Board Comments

Mr. Groneman thanked everyone that presented. He spoke about his travels to the Lineworkers Rodeo in Colorado and said it was great to see everyone who attended this year’s event in Kansas City, KS and expressed his appreciation on a job well done.

Mr. Milan thanked the staff for the evening’s presentations. He also requested Board approval to attend the 2023 APPA National Convention in Seattle, Washington, June 18th - 21st.

A motion was made to approve Mr. Milan’s travel to the conference, by Mr. Bryant, seconded by Ms. Gonzales. Due to technical difficulties, Mr. Haley’s response could not be heard. The motion carried with five votes.

Ms. Mulvany Henry talked about attending the Lineworkers Rodeo and seeing the elements that BPU’s lineworkers dealt with. She thanked everyone for making it a great event.

Mr. Bryant spoke about the vegetation presentation and how different it was from previous ones and what a difference it had made in customer outages. He also thanked everyone for the work done on the evening’s presentations. He also thanked everyone who volunteered and came out to the Lineworkers Rodeo.

Ms. Gonzales thanked Mr. Paulsen for the vegetation update and the other presentations and gave kudos to all who helped and participated in the Lineworkers Rodeo.

Mr. Haley thanked Mr. McNew for his explanation during the vegetation update. He requested that the rate hearing information be printed on customer bills and expressed appreciation for the evenings presentations.

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Item #9 – Executive Session

Ms. Angela Lawson, Deputy Chief Counsel proposed a motion for adoption as followed:

“I move that after taking a five minute break the Board go into Executive Session for 30 minutes in the Board room to discuss confidential matters related to employment of the general manager, a personnel matter of nonelected personnel as justified under the exception in the Kansas Open Meetings Act; and that the General Manager, William Johnson and Deputy Chief Counsel Angela Lawson, be present to participate in the discussion, all others to be dismissed from the room and electronic and telephonic transmissions to cease, and that we reconvene in open session returning to both electronic and telephonic broadcasting at 7:47 P.M. to either take action in an open session or to adjourn.

A motion to go into Executive Session and reconvene at 7:47 P.M. was made by Mr. Bryant, seconded by Mr. Milan. Roll call was taken:

Mr. Groneman – yes

Mr. Haley – no

Mr. Milan – yes

Ms. Mulvany Henry – yes

Mr. Bryant - yes

Ms. Gonzales – yes

The motion carried.

Ms. Mulvany Henry asked for a clarification on Mr. Haley’s vote.

Mr. Haley voted no because he would not be able to participate. He requested future consideration to be able to participate electronically during Executive Sessions.

At 7:47 P.M. the meeting returned to Open Session.

REGULAR SESSION –WEDNESDAY, APRIL 5, 2023

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Item #10 – Adjourn

At 7:50 P.M. a motion to adjourn was made by Mr. Bryant, seconded by Mr. Groneman and unanimously carried.

ATTEST:

APPROVED:

Secretary

President



February 2023 Preliminary Financial Results

April 5, 2023



Financial Results

2023 Billed kWh (YTD Jan - Feb)

| Electric | (CY) 2023 YTD | (PY) 2022 YTD |
|-------------|--------------------|--------------------|
| Residential | 104,375,975 | 103,280,507 |
| Commercial | 162,344,768 | 155,156,212 |
| Industrial | 86,266,967 | 83,905,418 |
| | 352,987,710 | 342,342,137 |
| | | 3.1% |



All customer classes usage were above 2022 levels

Residential – Up 1% Commercial – Up 5% Industrial – Up 3%





Financial Results

2023 Billed CCF's (YTD Jan - Feb)

| | (CY) 2023 YTD | (PY) 2022 YTD |
|-------------|------------------|------------------|
| Water | | |
| Residential | 565,664 | 553,404 |
| Commercial | 393,216 | 376,109 |
| Industrial | 295,226 | 293,610 |
| | 1,254,106 | 1,223,123 |
| | | 2.5% |

All customer classes usage were above 2022 levels

Residential – Up 2% Commercial – Up 5% Industrial – Up 1%





Financial Results

Revenues – February 2023

| | (CY) 2023 February | (PY) 2022 February | Budget 2023 February | (CY) 2023 February |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|
| Electric | \$ 27,386 | \$ 25,231 | \$ 25,629 | \$ 27,386 |
| Water | 4,331 | 4,086 | 4,261 | 4,331 |
| Combined | \$ 31,717 | \$ 29,317 | \$ 29,890 | \$ 31,717 |
| | | | | 6.1% |

Actual Compared to 2023 Budget

- Electric – Up 7%
- Water – Up 2%
- Combined – Up 6%

Financial Results

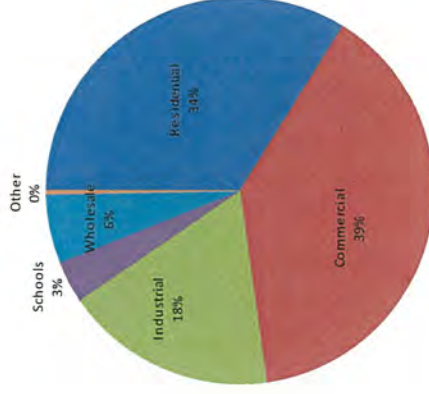
Revenues – 2023 YTD

| | (CY) 2023 YTD | (PY) 2022 YTD | Budget 2023 YTD | (CY) 2023 YTD |
|----------|------------------|------------------|--------------------|------------------|
| Electric | \$ 54,649 | \$ 49,412 | \$ 50,659 | \$ 54,649 |
| Water | 8,519 | 8,081 | 8,369 | 8,519 |
| Combined | \$ 63,168 | \$ 57,493 | \$ 59,028 | \$ 63,168 |
| | | | | 7.0% |

**Dollars in millions

Variance – YTD comparing Budget to Actual for 2023

| | | | |
|------------------|--------------|---------------|--------------|
| Electric: | Up 8% | Water: | Up 2% |
| Residential | \$ 688K | Residential | \$ 77K |
| Commercial | \$ 2.0M | Commercial | \$ 114K |
| Industrial | \$ 439K | Industrial | \$ 50K |
| Schools | \$ 395K | Wholesale | (\$17K) |
| Wholesale | (\$575K) | | |





Financial Results

Operating Expenses – February 2023

| | (CY) 2023 February | (PY) 2022 February | Budget 2023 February | (CY) 2023 February |
|----------|-----------------------|-----------------------|-------------------------|-----------------------|
| Electric | \$ 19,055 | \$ 16,547 | \$ 18,990 | \$ 19,055 |
| Water | 2,913 | 2,876 | 3,292 | 2,913 |
| Combined | \$ 21,968 | \$ 19,423 | \$ 22,282 | \$ 21,968 |
| | | | | 13.1% |
| | | | | -1.4% |

Actual Compared to 2023 Budget

Electric – Up 1%

Water - Down 12%

Amortized 2/6th of the 2022 ERC Under Recovery in February 2023 - \$2,453,957

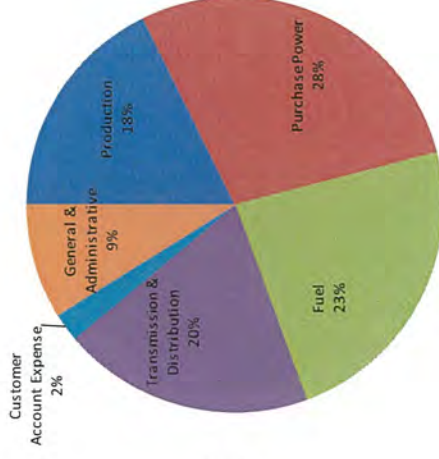
Operating Expenses – 2023 YTD

| | (CY) 2023 YTD | (PY) 2022 YTD | Budget 2023 YTD | (CY) 2023 YTD |
|----------|------------------|------------------|--------------------|------------------|
| Electric | \$ 38,345 | \$ 35,410 | \$ 39,288 | \$ 38,345 |
| Water | 6,047 | 5,803 | 6,582 | 6,047 |
| Combined | \$ 44,392 | \$ 41,213 | \$ 45,870 | \$ 44,392 |
| | | | 7.7% | -3.2% |

**Dollars in millions

Actual Compared to 2023 Budget

- Electric - Down 2%
- Water - Down 8%
- Combined – Down 3%





Financial Results

Operating Expenses – 2023 YTD less Depreciation

| | (CY) 2023 YTD | (PY) 2022 YTD | Budget 2023 YTD | (CY) 2023 YTD |
|----------|------------------|------------------|--------------------|------------------|
| Electric | \$ 32.489 | \$ 30.309 | \$ 33.512 | \$ 32.489 |
| Water | 4.650 | 4.431 | 5.185 | 4.650 |
| Combined | \$ 37.139 | \$ 34.740 | \$ 38.697 | \$ 37.139 |
| | | | 6.9% | -4.0% |

**Dollars in millions

Electric:
 Purchased Power \$500K
 Fuel (\$3.8M)
 Production (\$1.4M)
 T&D (\$966K)
 G&A (\$184K)

Water:
 Production (\$254K)
 T&D (\$214K)
 G&A (\$36K)

Variance – YTD comparing Budget to Actual 2023



Financial Results

Change in Net Position – February 2023

| | (CY) 2023 February | (PY) 2022 February |
|----------|-----------------------|-----------------------|
| Electric | \$ 4.104 | \$ 4.533 |
| Water | 0.630 | 0.384 |
| Combined | \$ 4.734 | \$ 4.917 |

| | Budget 2023 February | (CY) 2023 February |
|----------|-------------------------|-----------------------|
| Electric | \$ 2.557 | \$ 4.104 |
| Water | 0.239 | 0.630 |
| Combined | \$ 2.796 | \$ 4.734 |



**Dollars in millions



Financial Results

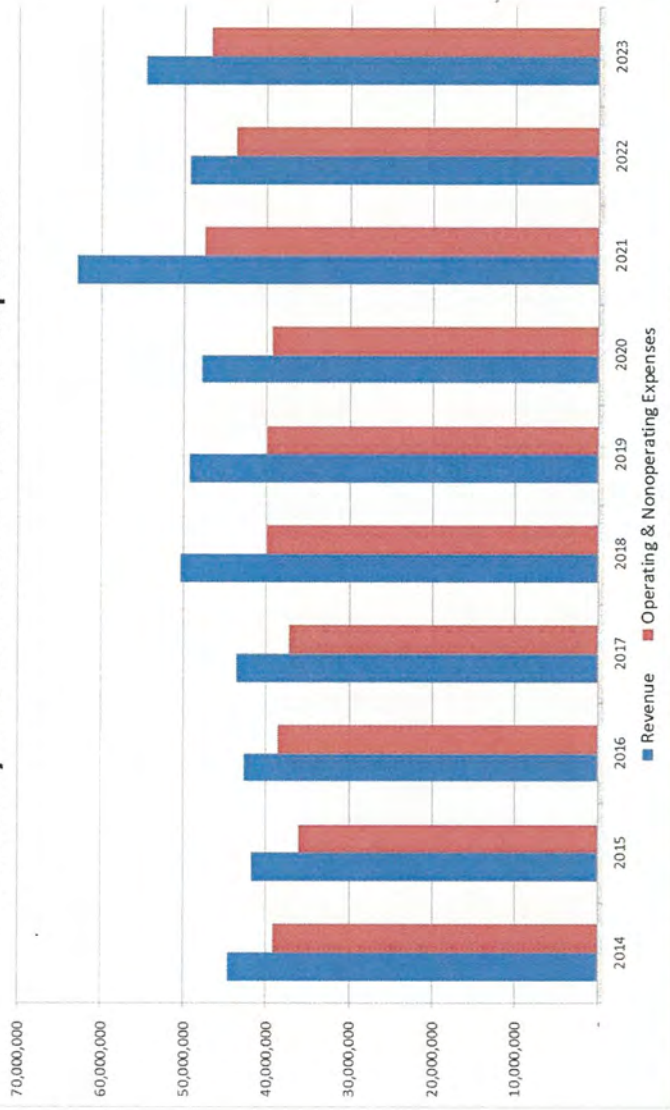
Change in Net Position – 2023 YTD

| | (CY) 2023 YTD | (PY) 2022 YTD | Budget 2023 YTD | (CY) 2023 YTD |
|----------|------------------|------------------|--------------------|------------------|
| Electric | \$ 7.784 | \$ 5.706 | \$ 3.272 | \$ 7.784 |
| Water | 1.194 | 1.335 | 0.600 | 1.194 |
| Combined | \$ 8.978 | \$ 7.041 | \$ 3.872 | \$ 8.978 |

**Dollars in millions

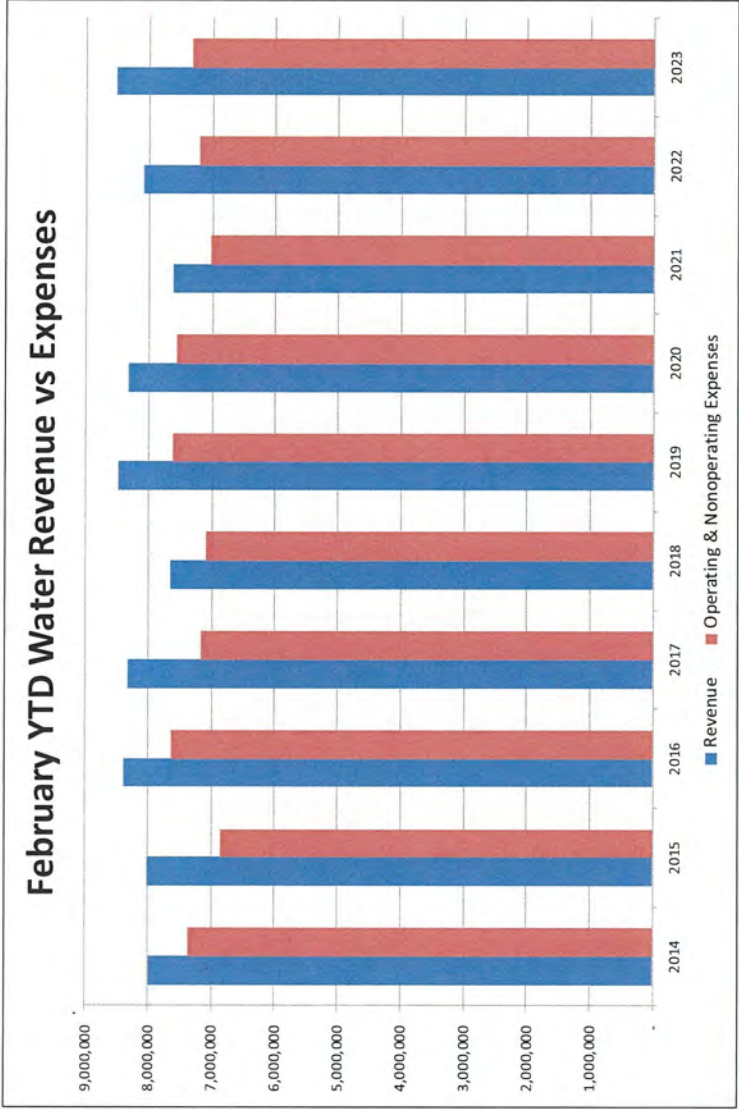
Financial Results – 10 Year Trend

February YTD Electric Revenue vs Expenses

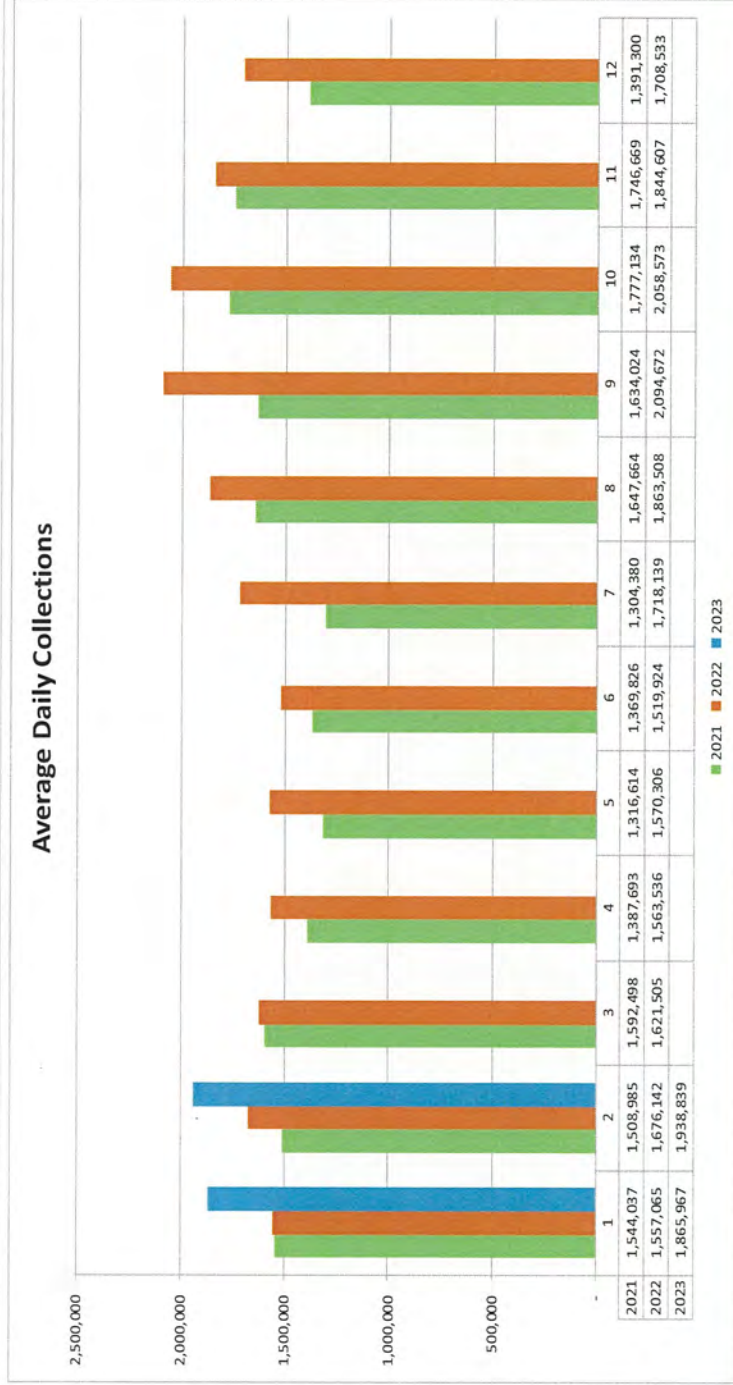




Financial Results - 10 Year Trend

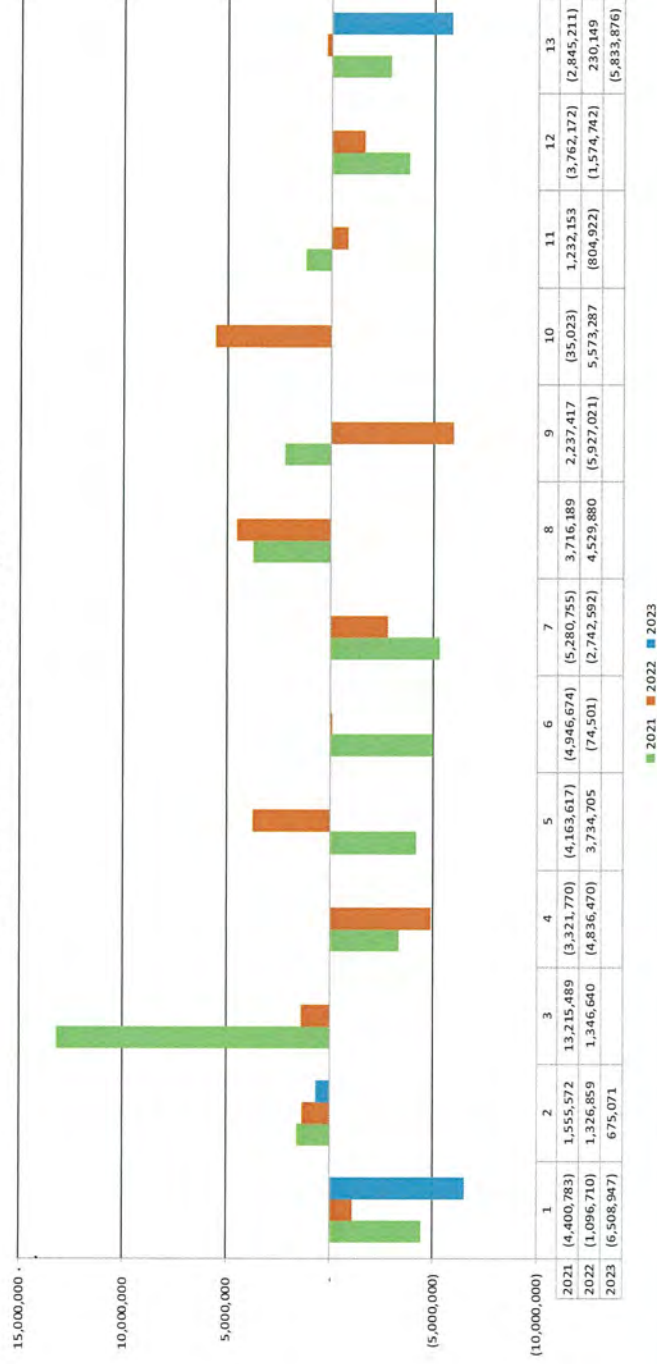


Financial Results



Financial Results

Historical Monthly Cash Comparison





Financial Results

Cash Position

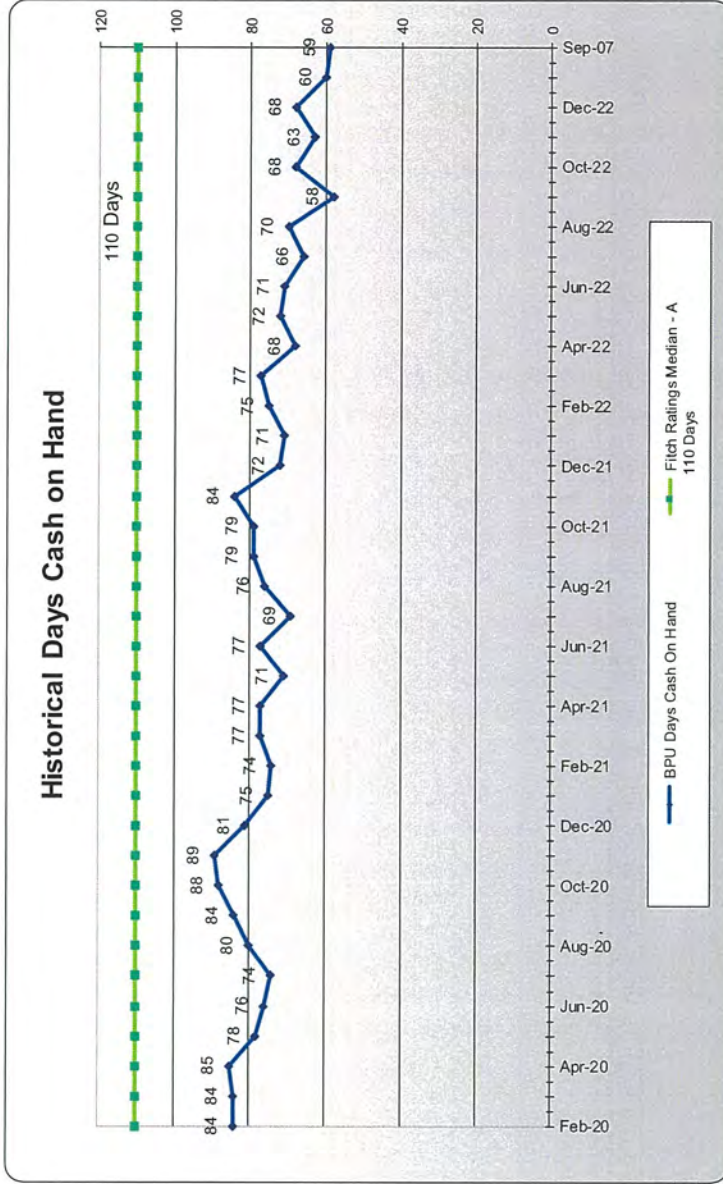
Combined (E&W)
Days Cash-on-Hand

| | (CY) 2023 February | (PY) 2022 February | 2023 January |
|----|-----------------------|-----------------------|-----------------|
| \$ | 38.21 | \$ 44.62 | 38.94 |
| | 59 | 75 | 60 |

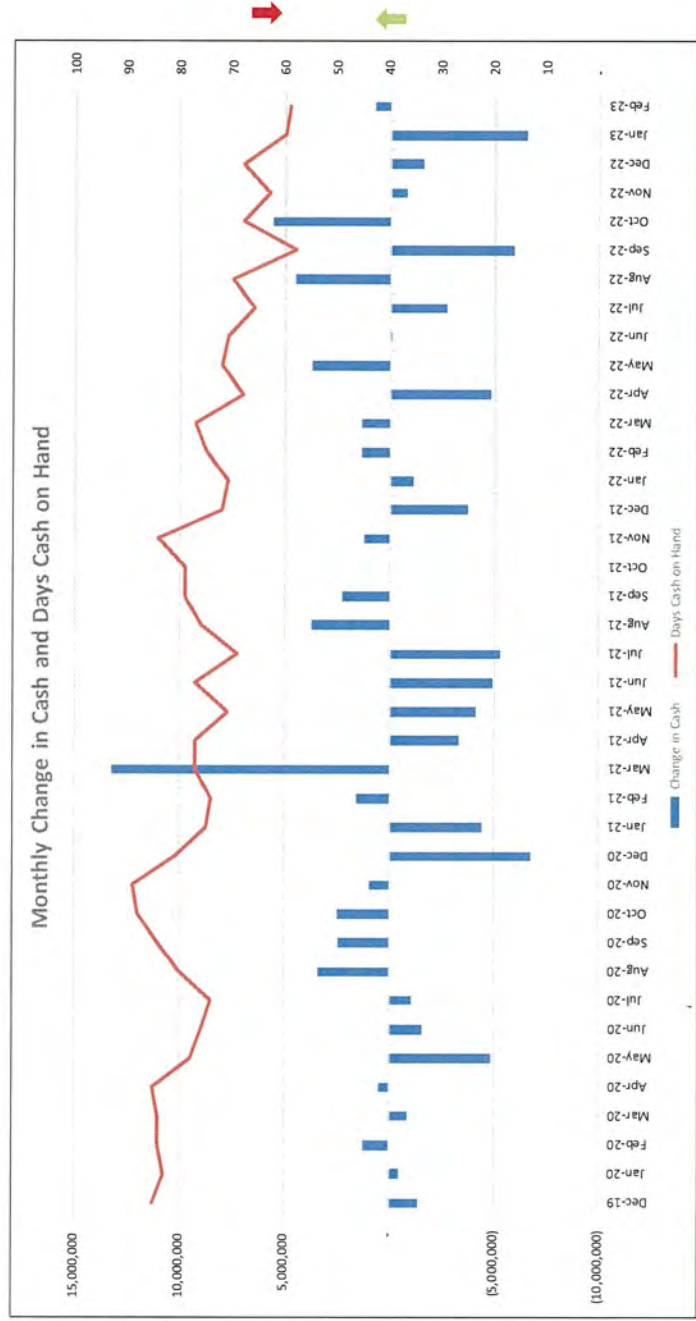
**Dollars in millions

1 Day = Approximately \$700K-\$750K
(Based on 12 month rolling average of expenses)

Financial Results



Financial Results





Financial Results

Balance Sheet: Notables

| | (CY) 2023 February | (PY) 2022 February |
|-------------------------------|-----------------------|-----------------------|
| Fuel Inventory | \$ 8.141 | \$ 5.070 |
| Bond Dollars 2016C (Elec T&D) | \$ 0.721 | \$ 0.709 |
| Bond Dollars 2020A (Elec) | \$ 0.811 | \$ 0.797 |

**Dollars in millions



Financial Results

Capital Spending

| | (CY) 2023 YTD | (PY) 2022 YTD | 2023 Budget |
|--------------------------|------------------|------------------|------------------|
| Electric | \$ 2.26 | \$ 1.75 | \$ 31.17 |
| Water | 1.54 | 0.86 | 24.71 |
| Common | 0.50 | 0.39 | 5.20 |
| Total YTD Capital | \$ 4.30 | \$ 2.99 | \$ 61.08 |
| | | | Remaining |
| | | | 93% |

Major projects in 2023:

**Dollars in millions

- Fisher UG Feeders - \$908K
- Annual Underground - \$475K
- Annual Overhead - \$392K
- N1 Burner Coal Nozzle Replacement – \$573K
- Water Sys Imp, Valves & Leaks - \$535K
- Argentine 7 MG Tank Replacement - \$587K



Financial Results

Debt Coverage

Debt Coverage with PILOT

| | (CY) 2023 February | (PY) 2022 February |
|----------|-----------------------|-----------------------|
| Electric | 2.81 | 2.13 |
| Water | 2.22 | 1.95 |
| Combined | 2.90 | 2.28 |

Debt Coverage w/o PILOT

| | (CY) 2023 February | (PY) 2022 February |
|----------|-----------------------|-----------------------|
| Electric | 2.09 | 1.53 |
| Water | 1.74 | 1.50 |
| Combined | 2.18 | 1.66 |

Financial Guideline Target 1.6 to 2.1 times with PILOT



Kansas City Board of Public Utilities

Vegetation Management



65,000 Electrical Customers

- Estimated 6.6 million trees with an average of over 100 trees per customer. US average/12.
- Moved from a 5 year cycle with over 115 Feeders to a 3 year cycle.
- \$3.3 million annual Budget.
- 2 Current Contractors on site: Asplundh Tree Company and Wright Tree Service.



What are we trying to accomplish?

- We clearing a minimum of 10ft around Primary Distribution lines and up to 23ft around Transmission lines.
- Removing all tall growing species of trees within the ROW on all 69kV and 161kV transmission lines.
- Reduce vegetation related outages by 50% each year.
- Provide “Excellent Customer Service” by contacting customers within 24 hours of their requests.
- Educating our Customers on what we are trying to accomplish.

Tree Species and Growth Rates

- Ash - 18" per year with 36" Sucker Growth per year
- American Elm - 26"/year with 60"/year
- Hackberry - 18"/year with 30"/year
- Locust - 18"/year with 80"/year
- Silver Maple - 18"/year with 65"/year
- Pin Oak - 24"/year with 36"/year
- White Oak - 9"/year with 19"/year
- Black Walnut - 40"/year with 70"/year



VM Trimming Specifications

- **VM Power Line Clearances**
 - 15kV Distribution - 10 feet
 - 69kV Transmission - 20 feet
 - 161kV Transmission - 22 feet
- **Customer Responsibilities Beyond These Clearances**



Storms



Storms



Storms



Storms



Storms



Storms



Storms























Local Environment

- Inches of rain per year = 10 year average 34" per year
- Growth rates of trees in this area, growing seasons
- Number of species of trees within this area - dominant types = oaks, maples, hackberry, mulberry, hickory, catalpa, pines, firs, cypress,
- Disturbance growth rates, trimming disturbance, removals

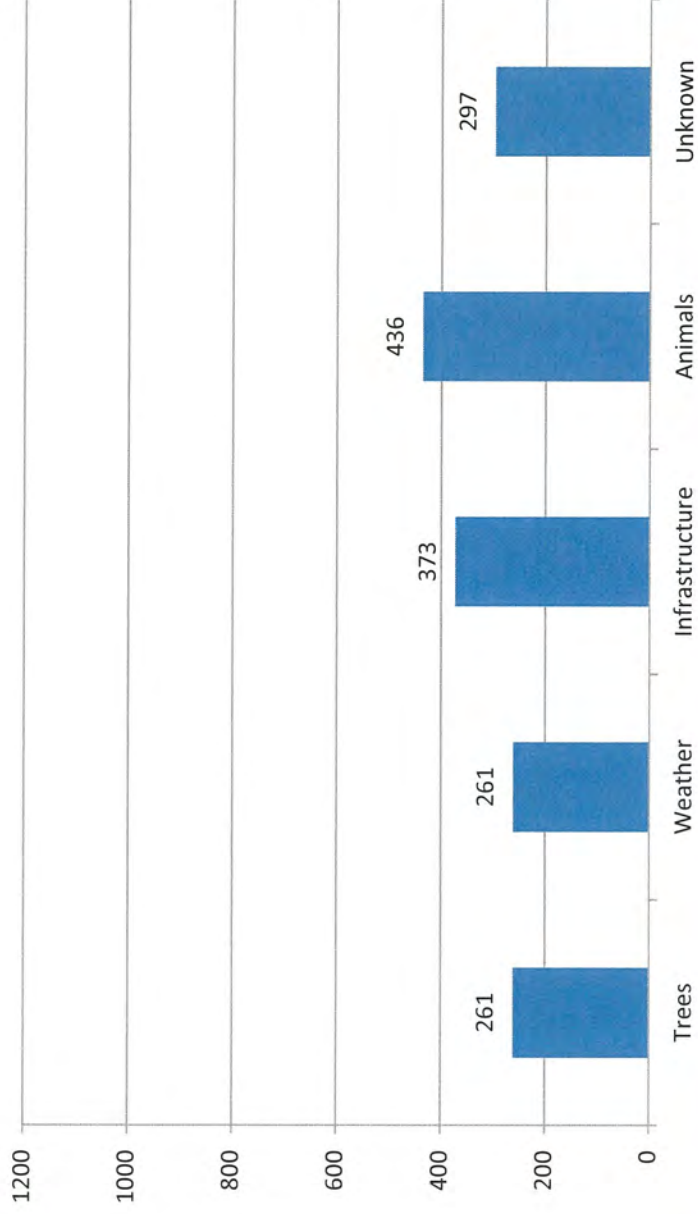


Outages by Cause - 2017





Outages by Cause - 2022





Reliability Improvement

- 861 less outages due to vegetation management program
- 76.7% reduction in number of outages caused by trees
- Of the 261 outages caused by trees in 2022, approximately 75% of these were on secondary wire which is not currently maintained through the vegetation management program





Reliability Metrics

System Average Interruption Frequency Index (SAIFI) - Measures how often the average customer experiences a service interruption

System Average Interruption Duration Index (SAIDI) - Measures the total duration of the average service interruption





Reliability Metrics

- Trees and vegetation are traditionally a leading cause of outages for electric utilities
- Using SAIFI/SAIDI metrics, vegetation typically accounts for approximately 20% of all outages
- Using the same metrics, trees and vegetation has accounted for an average of 8% of all BPU outages over the past four years
- 63% improvement in SAIDI caused by trees and vegetation



Other Benefits

- Trees in contact with power lines can be public safety hazard
- Less outages means annual cost savings through reduced overtime
- Less cleanup after a storm or weather event





Vegetation Management

Questions?



