

**REGULAR SESSION –WEDNESDAY, MAY 4, 2022**

STATE OF KANSAS        )  
  ) SS  
CITY OF KANSAS CITY)

The Board of Public Utilities of Kansas City, Kansas (aka BPU, We, Us, Our) met in Regular Session on Wednesday, May 4, 2022 at 6:00 P.M. The following Board Members were present: Mary Gonzales, President; Rose Mulvany Henry, Vice President; Thomas Groneman, Secretary; Robert L. Milan, Jeff Bryant. David Haley was present via Zoom.

Also present: William Johnson, General Manager; Angela Lawson, Deputy Chief Counsel; Jeremy Ash, Executive Director Electric Operations; Jerin Purtee, Executive Director Electric Supply; Steve Green, Executive Director Water Operations; Dong Quach, Executive Director Electric Production; Maurice Moss, Executive Director Corporate Compliance; Randy Otting, Director Accounting; Darren McNew, Director Electric Transmission & Substation; Scott Paramore, Supervisor Substation Electric Engineer; Robert Kamp, IT Project Manager; and Dennis Dumovich, Director Human Resources.

A tape of this meeting is on file at the Board of Public Utilities.

Ms. Gonzales called the Board meeting to order at 6:02 P.M. She welcomed all that were listening to or viewing the meeting. She stated that the Board felt it was necessary to offer the use of technology for staff as well as for the general public. During the public comment section, 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. Staff would assist those attending in person. During the public comment section of the agenda, community members would be asked to provide their name and address and had five minutes to speak. As always, the public could also email or call the BPU with any concerns. The agenda and presentations could be found on the BPU website or if they were using Zoom they would appear on their screen. Ms. Gonzales 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. David Haley was present via Zoom.

**Item #3 – Approval of Agenda**

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

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**Item #4– Approval of Work Session Minutes of April 20, 2022**

A motion was made to approve the minutes of the Work Session of April 20, 2022, by Ms. Mulvany Henry, seconded by Mr. Bryant, and unanimously carried.

**Item #5– Approval of Regular Session Minutes of April 20, 2022**

A motion was made to approve the minutes of the Regular Session of April 20, 2022, by Mr. Bryant, seconded by Mr. Milan, and unanimously carried.

**Item #6 – Public Comments**

Mr. William Johnson, General Manager, asked Mr. Robert Kamp, IT Project Manager, if there were any visitors wishing to speak.

Mr. Kamp said that no one had their hand raised via teleconference.

**Item #7 – General Manager / Staff Reports**

- i. *Electric Transmission/Substation Review:* Mr. Darren McNew, Director Electric Transmission & Substation and Mr. Scott Paramore, Supervisor Substation Electric Engineer, gave the Board an overview and update about Substations Engineering and Operations. (See attached PowerPoint.)

Mr. McNew, responded to questions and comments from the Board.

Mr. Jeremy Ash, Executive Director Electric Operations, took a moment to talk about Mr. McNew and his team’s development of their Engineer Internship/Recruiting program. He also made mention of the job well done working with Compliance during the most recent audit.

- ii. *Preliminary March 2022 Financials:* Mr. Randy Otting, Director Accounting, gave a PowerPoint presentation reviewing the preliminary financials from March 2022 with the Board. (See attached PowerPoint.)

Mr. Otting answered questions and comments from the Board.

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iii. *Miscellaneous Comments:* Mr. Johnson spoke about his first meeting as co-chair of the Economic Development Taskforce. Commissioner Harold Johnson was the chair of that committee. Seeing areas that had been lacking in Economic Development and what was needed to jump start those areas was something they would be looking at. The suggestions of the taskforce would ultimately get taken back to the Interim County Administrator and staff to work on action items.

He made sure to remind that not only were there elected officials from the Unified Government (UG), but the Board of Public Utilities also had a Board, as well as policies and procedures that they were in charge of, which needed consideration with future development as well as government efficiency.

Regarding the Efficiency Taskforce, the conversation was focused on taxes and PILOT. Commissioner Ramirez headed up that taskforce. Also participating from BPU were, Ms. Johnetta Hinson, Executive Director Customer Service, and Ms. Lori Austin, Chief Financial Officer/Chief Administrative Officer. Mr. Johnson said that at the beginning of the meeting, he informed the taskforce what BPU had done regarding third party reviews with the use of auditors, as well as what the PILOT was. He reminded participants that the UG set the PILOT every year during their budget process.

Mr. Johnson said that he had reached out to the Fairfax Industrial Association (FIA) to get on their agenda for an upcoming FIA board meeting.

Mr. Johnson spoke to the Board about returning to the conference room for future Work Sessions. It was decided to do so. Also, due to upcoming conflicts, the Board decided to reschedule both June meetings.

A motion was made to move the June meetings to June 8 and June 22 by Mr. Bryant, seconded by Ms. Mulvany Henry, and unanimously carried.

Mr. Johnson wished Ms. Mulvany Henry a Happy upcoming Birthday.

**Item #8 – Board Comments**

Mr. Haley expressed his appreciation for the reviews and Mr. Johnson’s updates on the taskforces. He spoke about his communication regarding Board compensation. Some of Mr. Haley’s comments were inaudible. He also requested to be excused for the Executive Session.

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Mr. Groneman thanked everyone for their presentations.

Mr. Milan thanked staff for their presentations.

Mr. Bryant said he had spoken with Mr. Groneman and Mr. Milan about having a Policy Committee meeting on May 18<sup>th</sup> for 45 minutes. He also made his suggestion for the upcoming Customer Connection pertaining to the residents and the PILOT.

Ms. Mulvany Henry thanked all for the presentations and asked Mr. Johnson for an update in regards to the COO position.

Mr. Johnson said he would talk to HR about a timeline and report at the next meeting.

Ms. Gonzales wished Ms. Mulvany Henry a Happy Birthday and thanked all for their presentations.

Mr. Johnson added that the UG was working on an ordinance change to reduce the PILOT for residential customers, to be presented at the next Finance Standing Committee, Monday, May 9.

He also said that he had made a request to resume the quarterly meetings with the UG.

Mr. Bryant requested that Mr. Haley, who was on the Finance Standing Committee, update the Board on the details regarding the upcoming PILOT discussion.

Mr. Haley left the Regular Session meeting.

**Item #9 – Executive Session**

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

“I move that after taking a ten minute break the Board go into Executive Session for 30 minutes in the first floor Board room to discuss confidential matters related to review of the general manager, a personnel matter of nonelected personnel as justified under the personnel matters of a nonelected employee exception in the Kansas Open Meetings Act; and that the and that 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 and reconvene in open session returning to both

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electronic and telephonic broadcasting at 8:08 P.M. in the Board Room to either take action in an open session or to adjourn.

This motion was made by Ms. Mulvany Henry, seconded by Mr. Bryant and unanimously carried. The Board moved into a closed executive session

At 8:08 P.M. the meeting was opened.

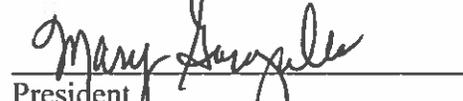
**Item #9 – Adjourn**

A motion was made to adjourn at 8:08 P.M. by Mr. Bryant, seconded by Ms. Mulvany Henry, and unanimously carried.

ATTEST:

  
Secretary

APPROVED:

  
President

# Substation Engineering & Operations

## May 2022



- Staffing and Budget
- Substation Basics
- System Overview
- Protective Relays
- NERC Relaying Standards
- Relay Testing
- How Faults Affect Customers
- Questions?

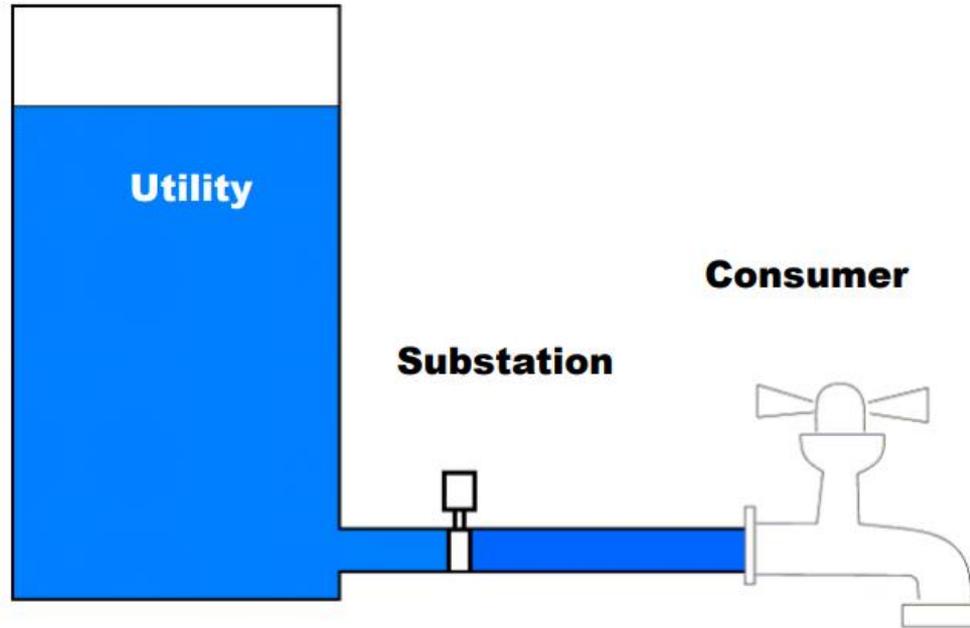
# Substation Staffing and Budget

- Darrin McNew, PE - Director of Substation Engineering and Operations
- Scott Paramore, PE - Substation Engineering Supervisor
  - One Substation Engineer
- Mark McNally - Substation Superintendent, Apparatus
  - Five Substation Linemen
  - One Transformer Technician
- Vacant - Substation Superintendent, Relaying
  - Six Relay Technicians
- \$3 million operation and maintenance budget
- \$1 million capital budget for breaker upgrades, relay upgrades, security systems, and additional substation improvements

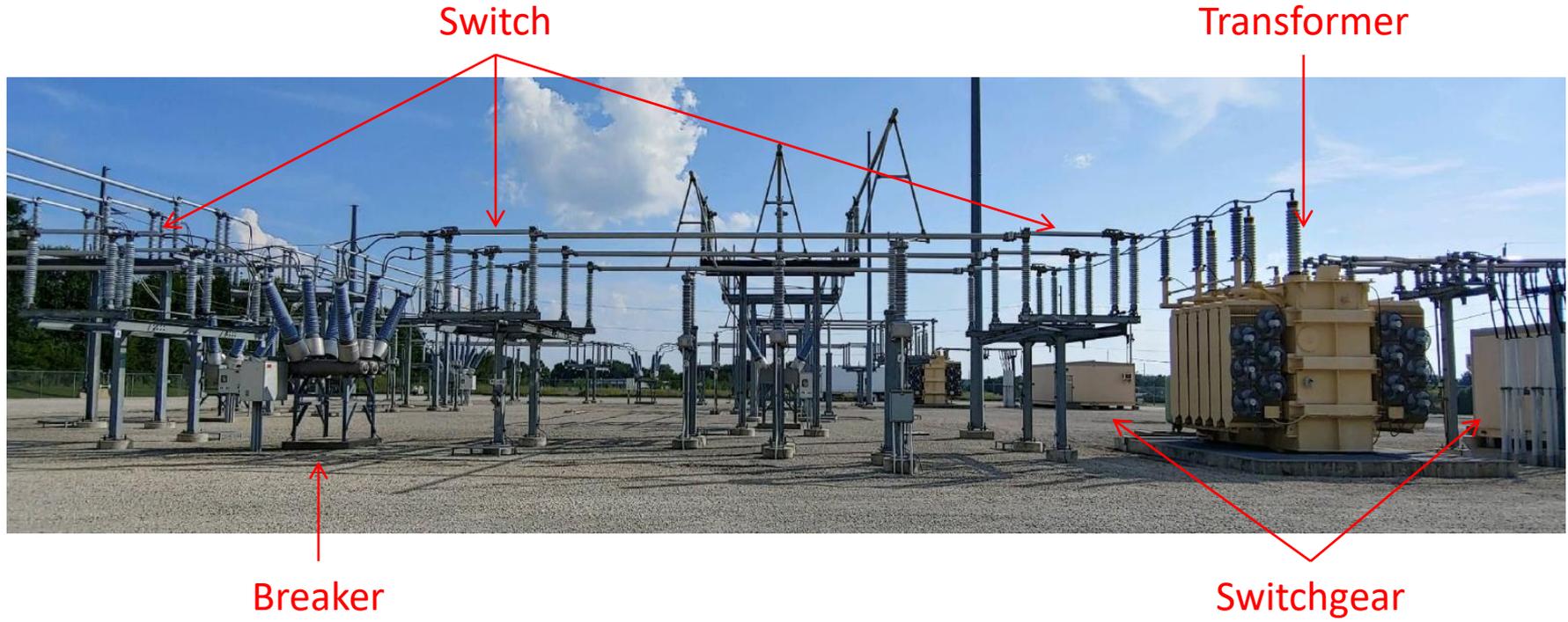
# What is the purpose of a substation?

- A distribution substation is where high voltage transmission is stepped down to a lower voltage for distribution to customers
  - BPU transmission voltages are 161,000 volts (161kV) and 69,000 volts (69kV)
  - BPU distribution voltages are 12,470 volts or 13,800 volts
  - More efficient to transmit power long distances at higher voltages
- A generation substation is where power generated is stepped up to high voltage transmission
- Substations also provide voltage regulation as well as switching and isolation points for transmission and distribution circuits

# What is the purpose of a substation?



# Substation Major Equipment



# Substation Major Equipment

- Transformer - Steps voltage down for distribution to customers or steps generator voltage up for distribution to other subs. By far the largest and most expensive piece of substation equipment.
- Breaker - Opens to interrupt faults and de-energize equipment. Contains pneumatic, hydraulic, or mechanical operating mechanisms and electric motors.
- Disconnect Switch - Used to isolate equipment for maintenance.
- Switchgear - Enclosure containing distribution feeder breakers, controls, meters, relays, and reclosing devices.

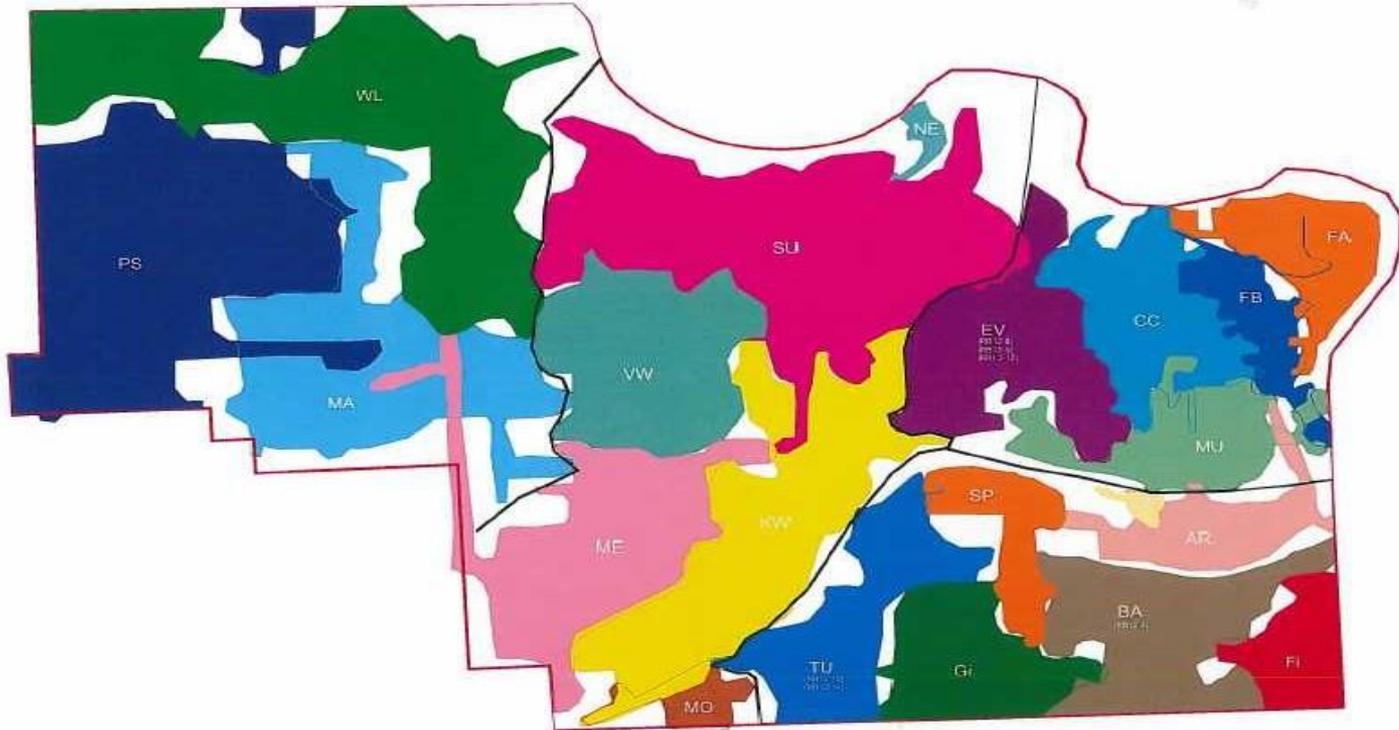
# BPU System Overview

- 28 active substations
- 123 miles of transmission line
- 5 transmission tie lines with Evergy
- 2021 peak load for BPU was 470 Megawatts on July 29th
  - 75% load served by 161kV Substations
  - 25% load served by 69kV Substations

# BPU System Overview

- Four 161/69kV tie substations
  - Four 161/69kV auto transformers
- Fifteen 161kV distribution substations
  - Twenty-seven 161kV distribution transformers
  - One hundred and three 161kV breakers
- Nine 69kV distribution substations
  - Seventeen 69kV distribution transformers
  - Fifty-two 69kV breakers
- Three hundred 15kV distribution breakers

# BPU System Overview



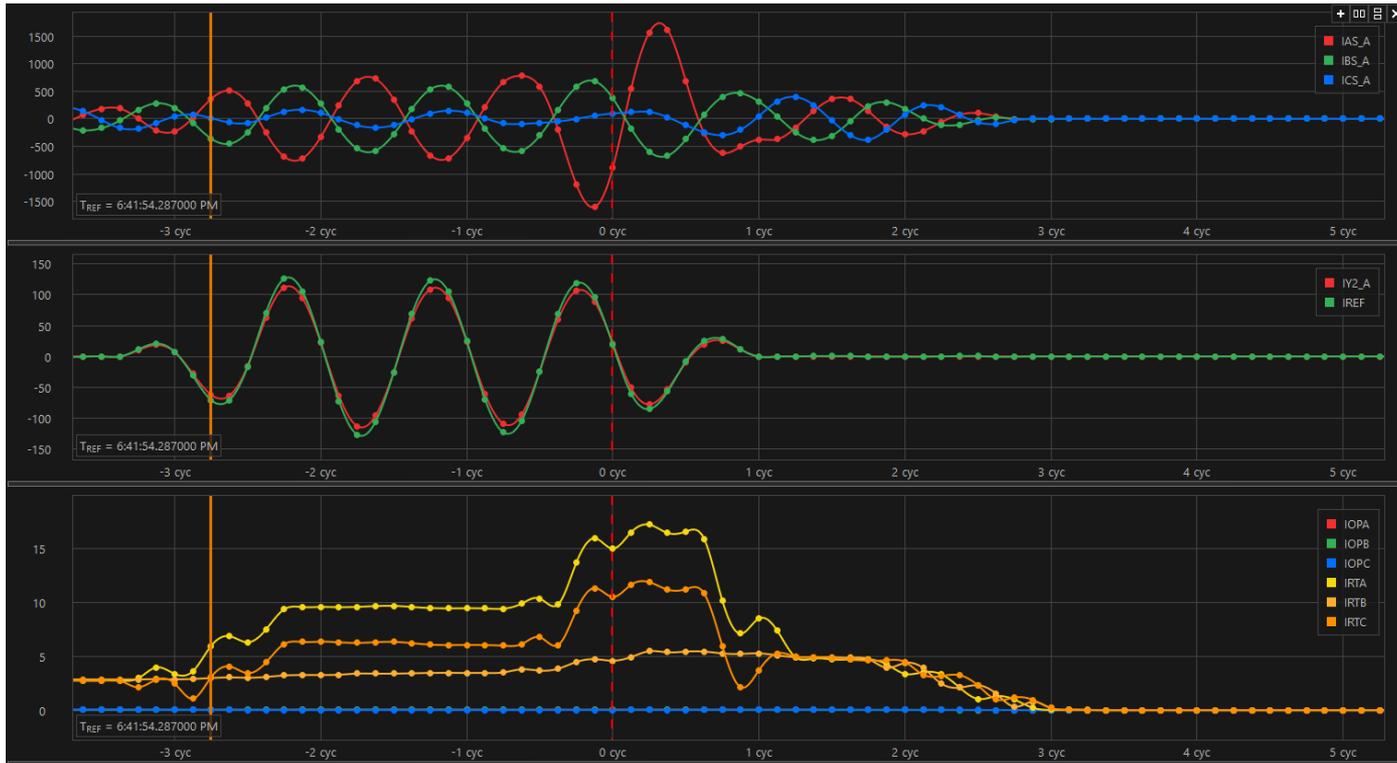
# Protective Relays



# Protective Relays

- Protective relays are the brain of the substation that monitor the system and protect equipment from faults and other abnormal conditions
- Protective relays and high voltage breakers are designed to operate at extremely high speeds to clear electrical faults in one-tenth of a second or less
- Modern relays also record fault information to assist with analyzing and correcting issues as well as evaluating relay performance

# Protective Relays



# NERC Relaying Standards

## PRC-002

Requires utilities to have fault recording capability on certain substations

## PRC-004

Requires utilities to review all system operations to determine if the system protection operated correctly and to report any misoperations

## PRC-005

Requires periodic testing of all relays, controls, and associated equipment

## PRC-027

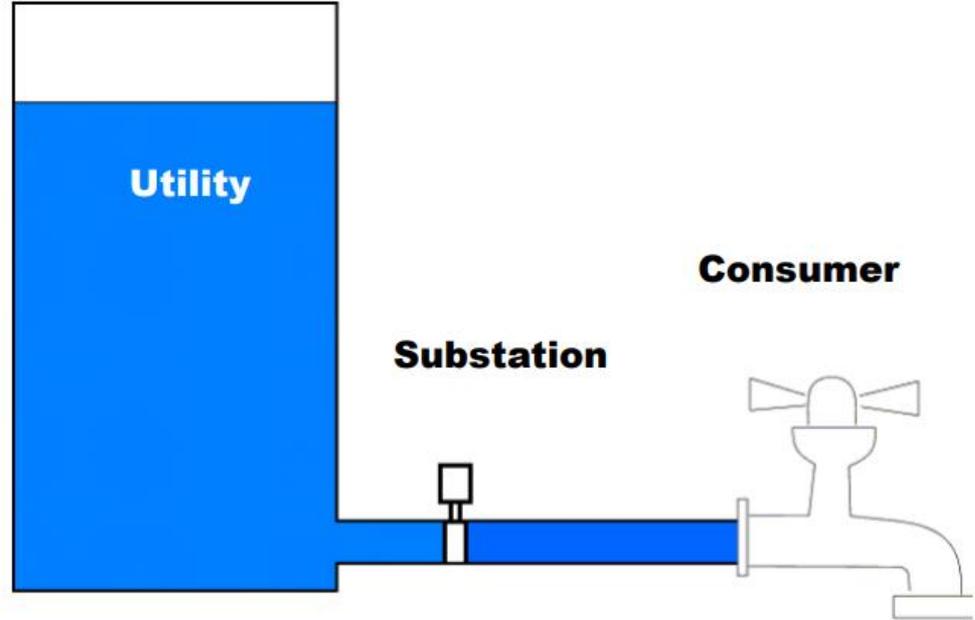
Requires utilities to perform system studies to verify that relays are set correctly and will not operate incorrectly during a fault

# Relay Testing

- Over 2,000 protective relays in BPU substations
- Testing of protective relays, control circuits, and associated equipment at 161kV substations is required by NERC standard PRC-005 on 6 and 12 year intervals depending on equipment type
- All relays, controls, and protection systems at BPU are tested on a 5 year cycle to ensure correct operation and meet compliance with NERC standard PRC-005-6

# How Faults Affect the System

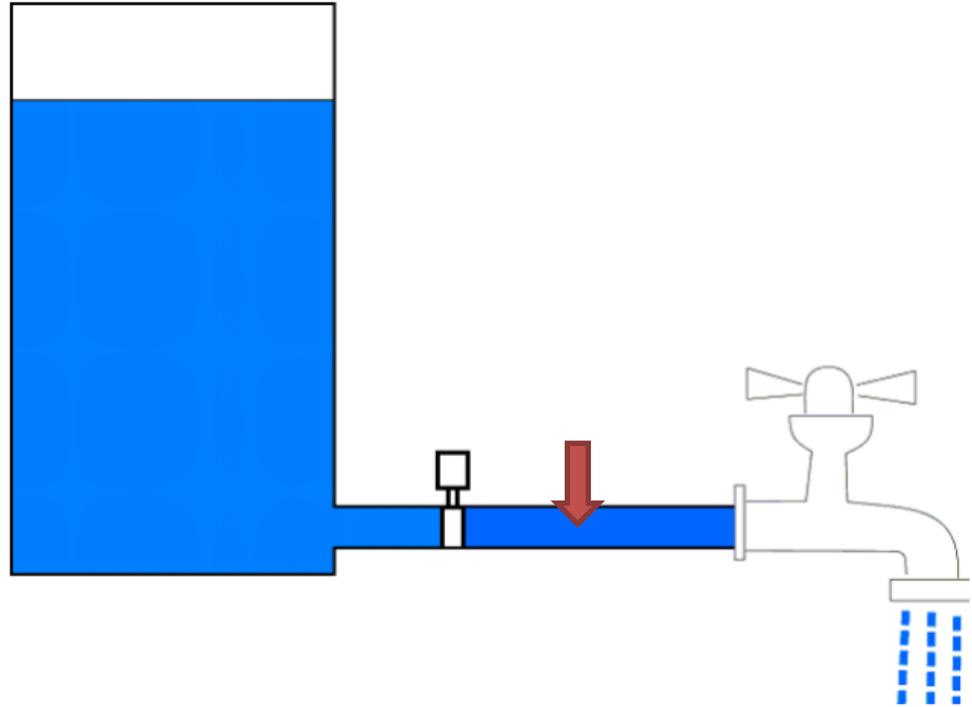
- Voltage is like the water pressure in a pipe
- Current is the flow through the pipe



# How Faults Affect the System

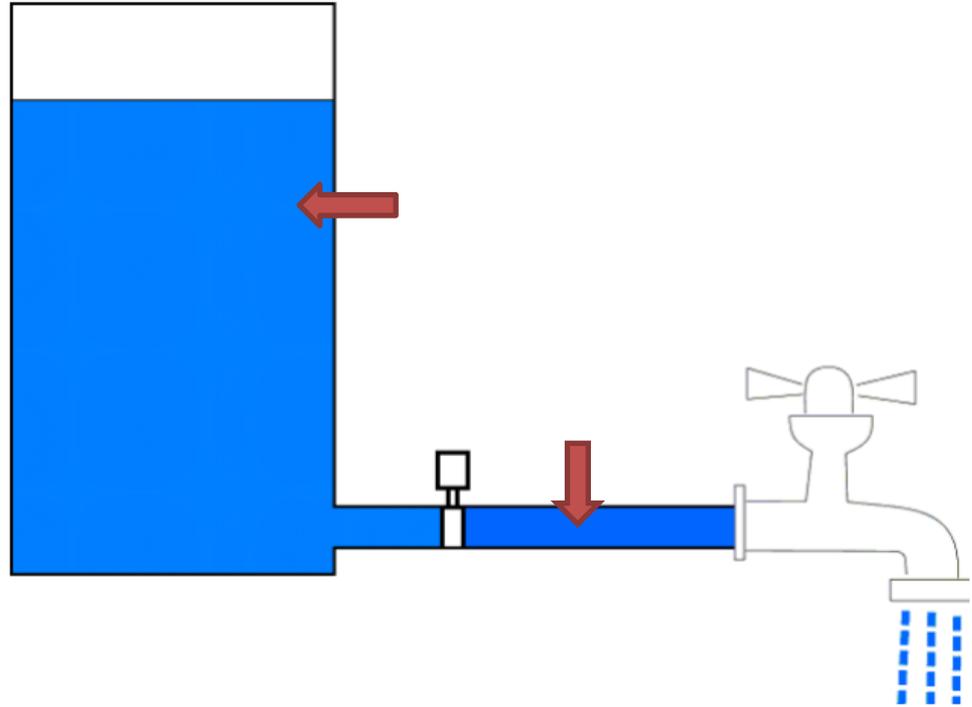
An electrical fault is like a break in the pipe

- Pressure (Voltage) will decrease in the pipe
- Normal flow to the customer will be affected



# How Faults Affect the System

A break in a small residential service may only affect a few customers. A break in a main or water storage tank can affect a very large number of customers.



# How Faults Affect the System

Because electrical utilities are interconnected and everyone draws from the same tank of energy, a large fault can affect multiple utilities across a wide area.



# Substation Engineering & Operations

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Questions?

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# March 2022 Preliminary Financial Results

May 4, 2022

## 2022 Billed kWh (YTD Jan - Mar)

Electric	(CY) 2022 YTD	(PY) 2021 YTD	
Residential	145,918,509	153,172,241	
Commercial	230,420,199	224,297,257	
Industrial	126,218,945	114,232,917	
	502,557,653	491,702,415	2.2%

Residential – Down 5%    Commercial – Up 3%    Industrial – Up 11%

## 2022 Billed CCF's (YTD Jan - Mar)

Water	(CY) 2022 YTD	(PY) 2021 YTD	
Residential	797,177	817,391	
Commercial	551,352	535,045	
Industrial	432,888	409,924	
	1,781,417	1,762,360	1.1%

Residential – Down 2%

Commercial – Up 3%

Industrial - Up 5%



# Financial Results

## Revenues – March 2022

	(CY) 2022 March	(PY) 2021 March		Budget 2022 March	(CY) 2022 March	
Electric	\$ 23.981	\$ 23.521		\$ 22.147	\$ 23.981	
Water	4.017	4.151		3.905	4.017	
Combined	\$ 27.998	\$ 27.672	1.2%	\$ 26.052	\$ 27.998	7.5%

**Actual Compared to 2022 Budget**

Electric - Up 8%

Water – Up 3%

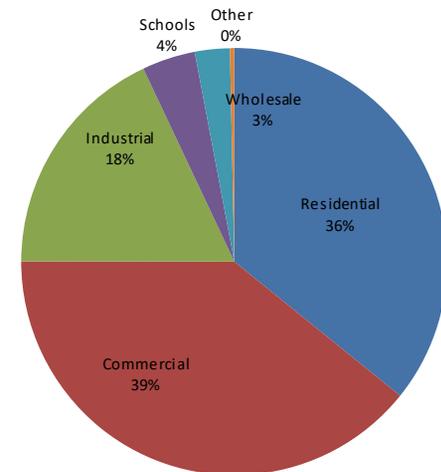
## Revenues – 2022 YTD

	(CY) 2022 YTD	(PY) 2021 YTD		Budget 2022 YTD	(CY) 2022 YTD	
Electric	\$ 73.394	\$ 86.568		\$ 68.713	\$ 73.394	
Water	12.097	11.762		12.195	12.097	
<b>Combined</b>	<b>\$ 85.491</b>	<b>\$ 98.330</b>	<b>-13.1%</b>	<b>\$ 80.908</b>	<b>\$ 85.491</b>	<b>5.7%</b>

\*\*Dollars in millions

### Variance – YTD comparing Budget to Actual for 2022

<u>Electric:</u>	<i>Up 7%</i>	<u>Water:</u>	<i>Down 1%</i>
Residential	\$355K	Residential	\$32K
Commercial	\$2.2M	Commercial	\$11K
Industrial	\$968K	Industrial	(\$42K)
Schools	\$ 41K	Wholesale	(\$23K)
Wholesale	\$141K		





# Financial Results

## Operating Expenses – March 2022

	(CY) 2022 March	(PY) 2021 March		Budget 2022 March	(CY) 2022 March	
Electric	\$ 17.476	\$ 17.047		\$ 16.737	\$ 17.476	
Water	3.103	3.095		3.278	3.103	
<b>Combined</b>	<b>\$ 20.579</b>	<b>\$ 20.142</b>	<b>2.2%</b>	<b>\$ 20.015</b>	<b>\$ 20.579</b>	<b>2.8%</b>

**Actual Compared to 2022 Budget**

Electric – Up 4%  
 Water - Down 5%

## Operating Expenses – 2022 YTD (Total)

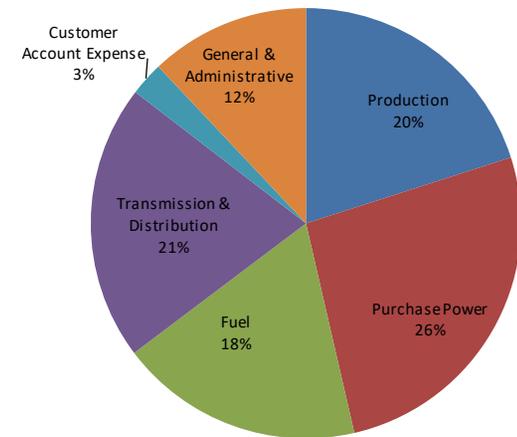
	(CY) 2022 YTD	(PY) 2021 YTD		Budget 2022 YTD	(CY) 2022 YTD	
Electric	\$ 52.886	\$ 56.724		\$ 51.086	\$ 52.886	
Water	8.907	8.609		9.854	8.907	
Combined	\$ 61.793	\$ 65.333	-5.4%	\$ 60.940	\$ 61.793	1.4%

\*\*Dollars in millions

### Actual Compared to 2022 Budget

- Electric - Up 3%
- Water - Down 10%

*Amortized 1/6<sup>th</sup> of the 2021 ERC Under Recovery in March 2022 - \$385,500*



## Operating Expenses – 2022 YTD less Depreciation

	(CY) 2022 YTD	(PY) 2021 YTD		Budget 2022 YTD	(CY) 2022 YTD	
Electric	\$ 45.217	\$ 49.088		\$ 42.927	\$ 45.217	
Water	6.848	6.519		7.747	6.848	
<b>Combined</b>	<b>\$ 52.065</b>	<b>\$ 55.607</b>	<b>-6.4%</b>	<b>\$ 50.674</b>	<b>\$ 52.065</b>	<b>2.7%</b>

\*\*Dollars in millions

Variance – YTD comparing Budget to Actual 2022

**Electric:**

Purchased Power \$1.7M  
 Fuel \$2.6M  
 Production \$233K  
 T&D (\$2.0M)  
 G&A (\$1.4M)

**Water:**

Production (\$300K)  
 T&D (\$163K)  
 G&A (\$413K)



# Financial Results

## Change in Net Position – March 2022

	(CY) 2022 March	(PY) 2021 March	Budget 2022 March	(CY) 2022 March
Electric	\$ 2.505	\$ 2.574	\$ 1.550	\$ 2.505
Water	0.398	0.792	0.061	0.398
Combined	\$ 2.903	\$ 3.366	\$ 1.611	\$ 2.903

\*\*Dollars in millions



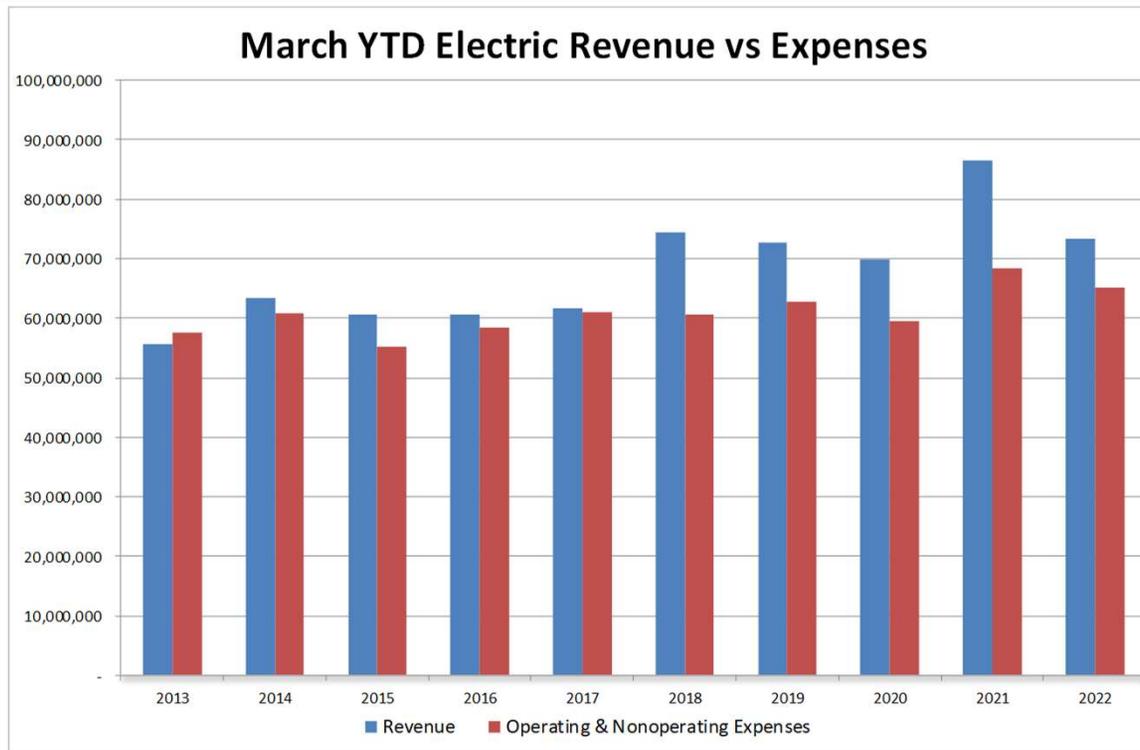
# Financial Results

## Change in Net Position – 2022 YTD

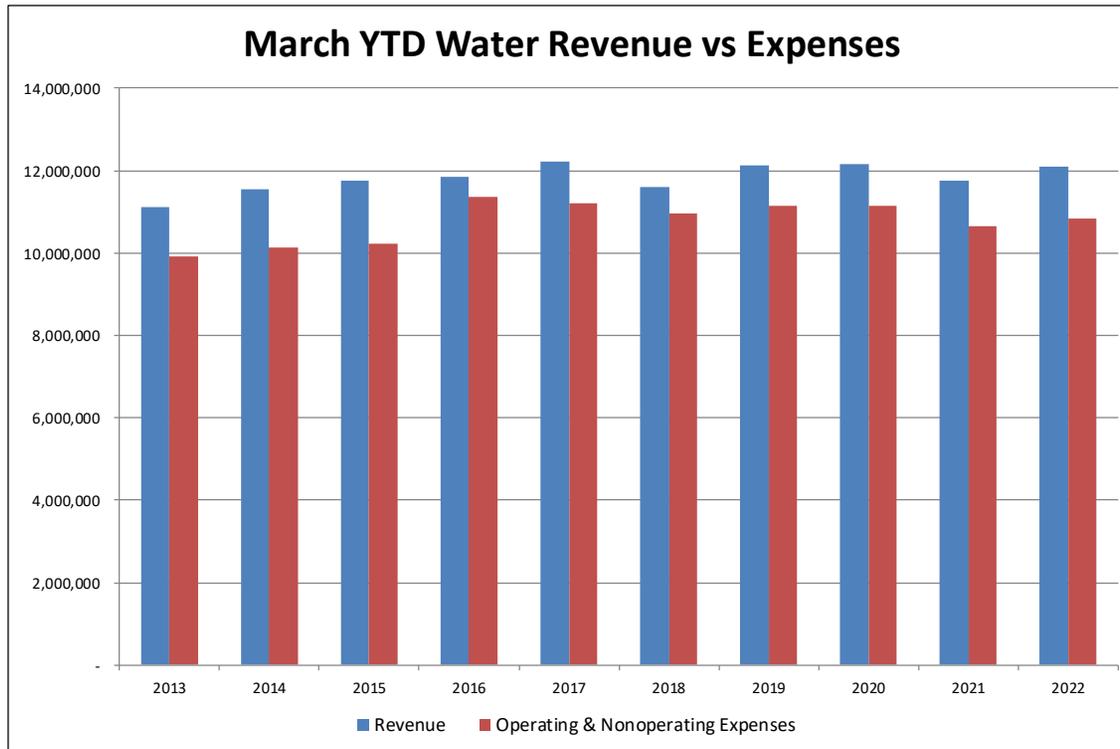
	(CY) 2022 YTD	(PY) 2021 YTD	Budget 2022 YTD	(CY) 2022 YTD
Electric	\$ 8.211	\$ 18.119	\$ 5.804	\$ 8.211
Water	1.732	1.379	0.593	1.732
Combined	\$ 9.943	\$ 19.498	\$ 6.397	\$ 9.943

\*\*Dollars in millions

# Financial Results – 10 Year Trend

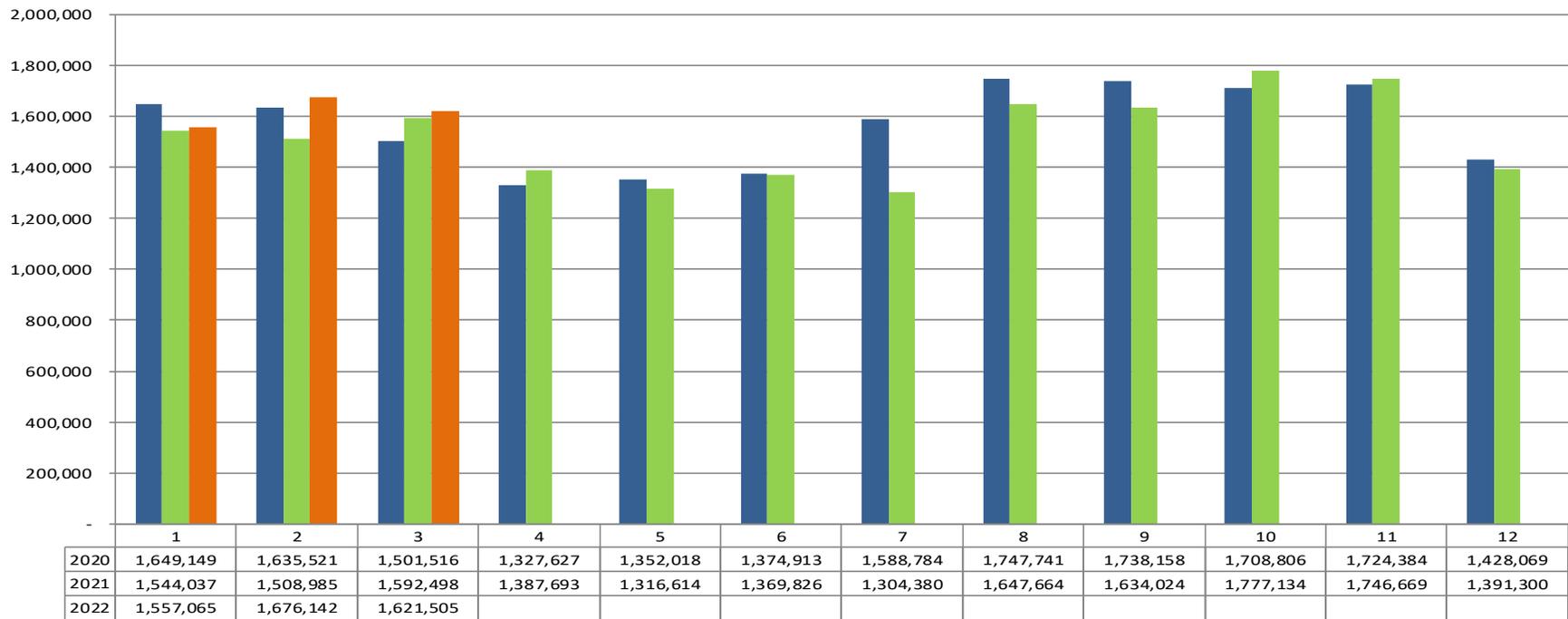


# Financial Results – 10 Year Trend



# Financial Results

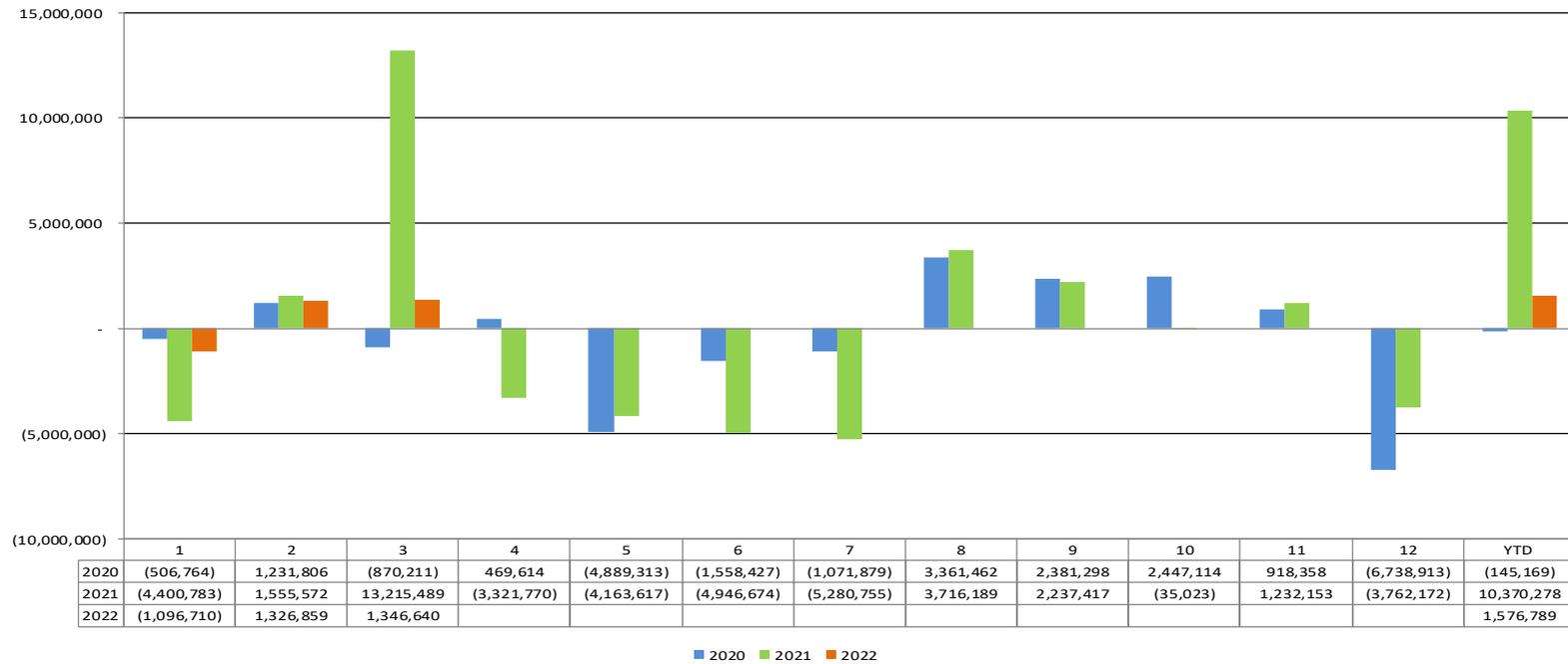
**Average Daily Collections**



■ 2020 ■ 2021 ■ 2022

# Financial Results

**Historical Monthly Cash Comparison**



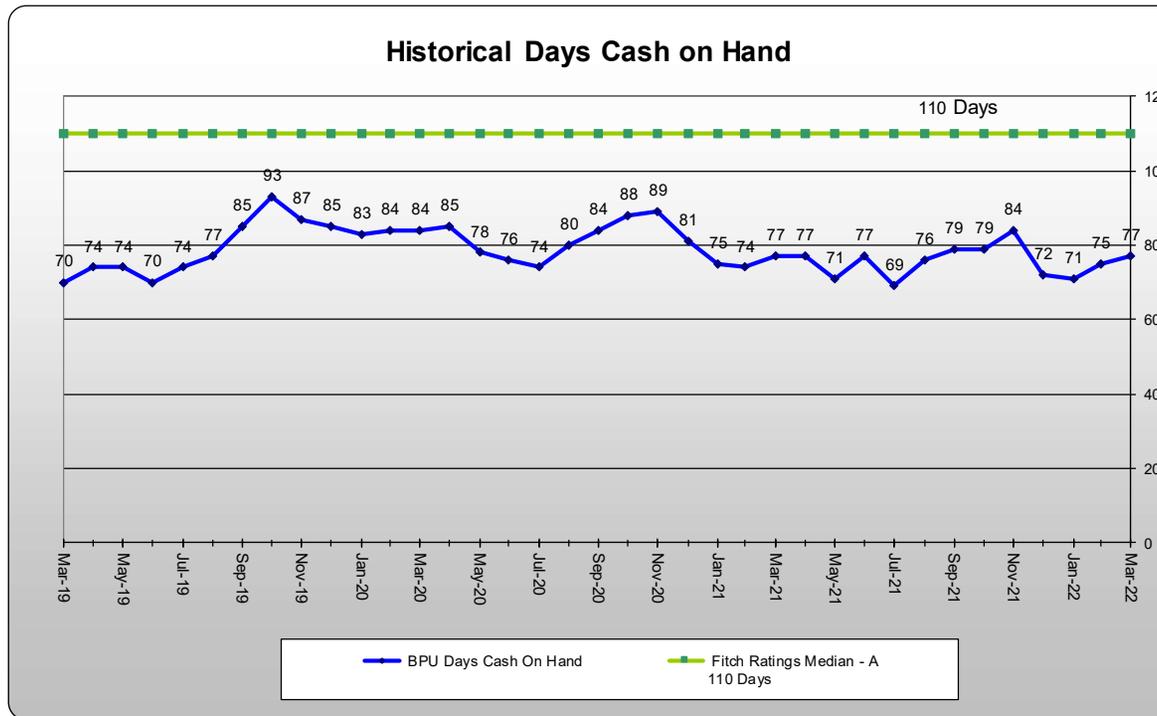
## Cash Position

	(CY) 2022 March	(PY) 2021 March	2022 February
Combined (E&W) Days Cash-on-Hand	\$ 45.71 77	\$ 45.28 77	\$ 44.62 75

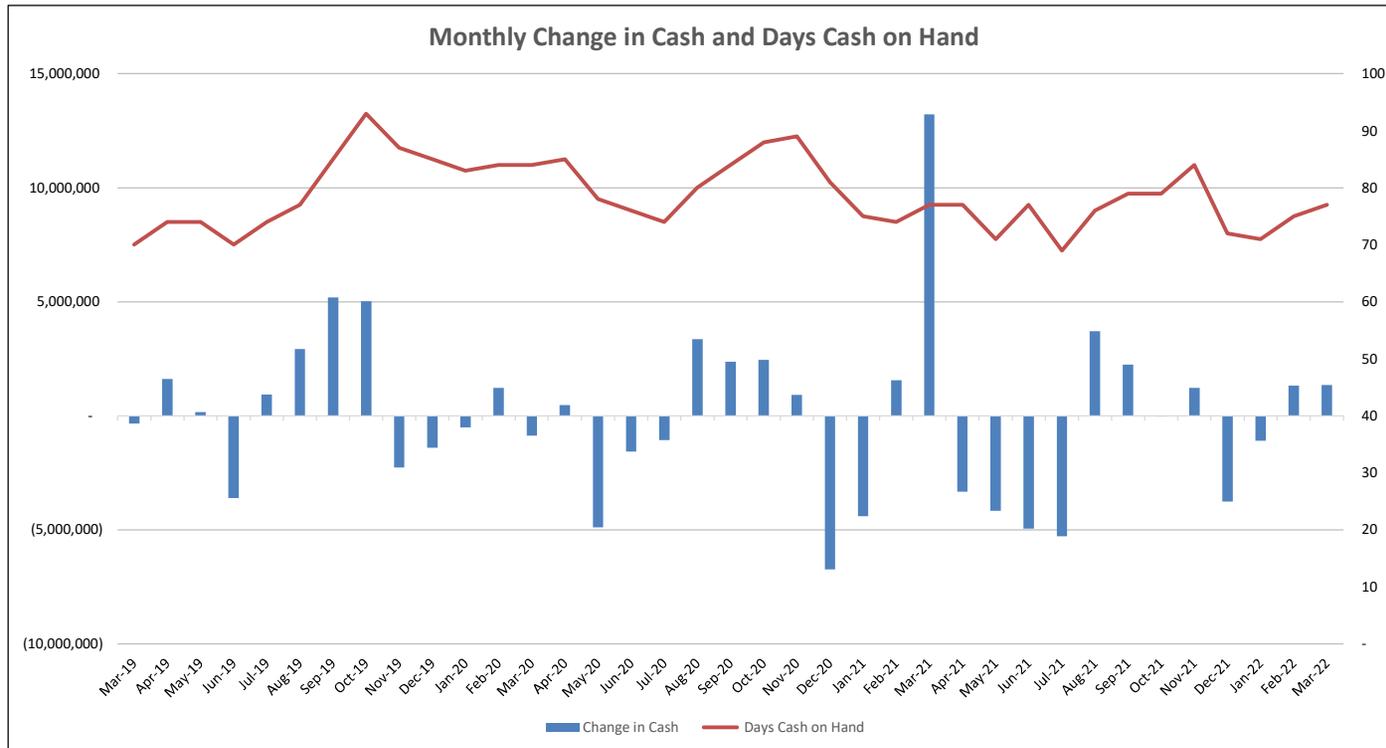
1 Day = Approximately \$550K-\$600K

\*\*Dollars in millions

# Financial Results



# Financial Results



## Balance Sheet: Notables

	(CY) 2022 March	(PY) 2021 March
Fuel Inventory	\$ 4.853	\$ 5.665
Bond Dollars 2016C (Elec T&D)	\$ 0.709	\$ 1.543
Bond Dollars 2020A (Elec)	\$ 0.797	\$ 8.200

\*\*Dollars in millions

## Capital Spending

	(CY) 2022 YTD	(PY) 2021 YTD	2022 Budget	
Electric	\$ 5.13	\$ 2.23	\$ 28.09	
Water	1.45	1.01	22.28	
Common	0.63	0.61	5.82	
<b>Total YTD Capital</b>	<b>\$ 7.21</b>	<b>\$ 3.85</b>	<b>\$ 56.19</b>	<b>Remaining 87%</b>

\*\*Dollars in millions

Major projects in 2022:

- Elect Ops Facility Improvements - \$163K
- Piper OH Feeders - \$910K
- Fisher UG Feeders - \$1.9M
- Annual Underground - \$883K
- NC Fire Protection Upgrade - \$500K
- Water Leak, Valve, System Imp. - \$388K
- Water Transmission Imp. - \$179K

## Debt Coverage

### Debt Coverage with PILOT

	(CY) 2022 March	(PY) 2021 March
Electric	2.13	2.10
Water	1.94	2.09
Combined	2.28	2.28

### Debt Coverage w/o PILOT

	(CY) 2022 March	(PY) 2021 March
Electric	1.53	1.50
Water	1.48	1.64
Combined	1.65	1.66

Financial Guideline Target 1.6 to 2.1 times with PILOT