Board of Public Utilities
Kansas City, Kansas

BOARD AGENDA

Regular Session
September 20, 2023 – 6:00 P.M.

I. Call to Order

II. Roll Call

____Robert L. Milan, Sr., District 1
____Rose Mulvany Henry, At Large, Position 3
____Jeff Bryant, District 3
____Mary L. Gonzales, At Large, Position 1
____Tom Groneman, District 2
____David Haley, At Large, Position 2

III. Approval of Agenda

IV. Approval of the Minutes of the Work Session of September 6, 2023

V. Approval of the Minutes of the Regular Session of September 6, 2023

VI. Public Comments

VII. General Manager / Staff Reports

i. Water Operations Quarterly Update

ii. Electric Supply Quarterly Update

iii. Miscellaneous Comments

VIII. Board Comments

IX. Adjourn

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WATER OPERATIONS UPDATE

September 20th, 2023

Water Operations Team

- Water Distribution
  - Director Distribution
    - Marshall Robinett
- Water Production
  - Director Water Processing
    - Steve Nirschl

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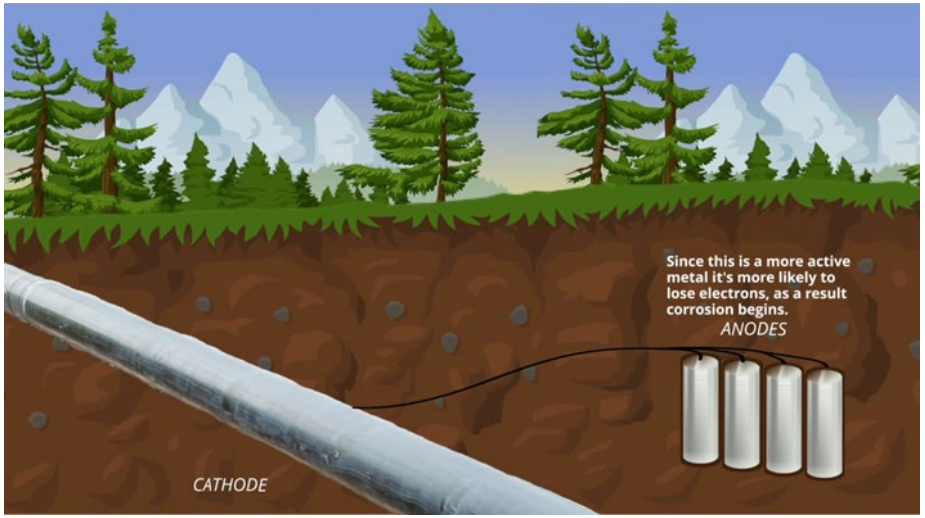
WATER DISTRIBUTION

Water Distribution Recap of 2023

- **2023 Leaks**
  - Main Leaks – 291 YTD
    - 6% below the 5 Year Avg.
    - 14% below the 10 Year Avg.
  - Fire Hydrant Work Orders Completed – 367
  - Valve Work Orders Completed – 112
  - Service Work Orders Completed – 432
  - System Improvement Work Orders Completed – 126

Infrastructure Sustainability Measures

- Install Anodes
- Install Poly-wrap
- Repair Practices
- Main Replacement



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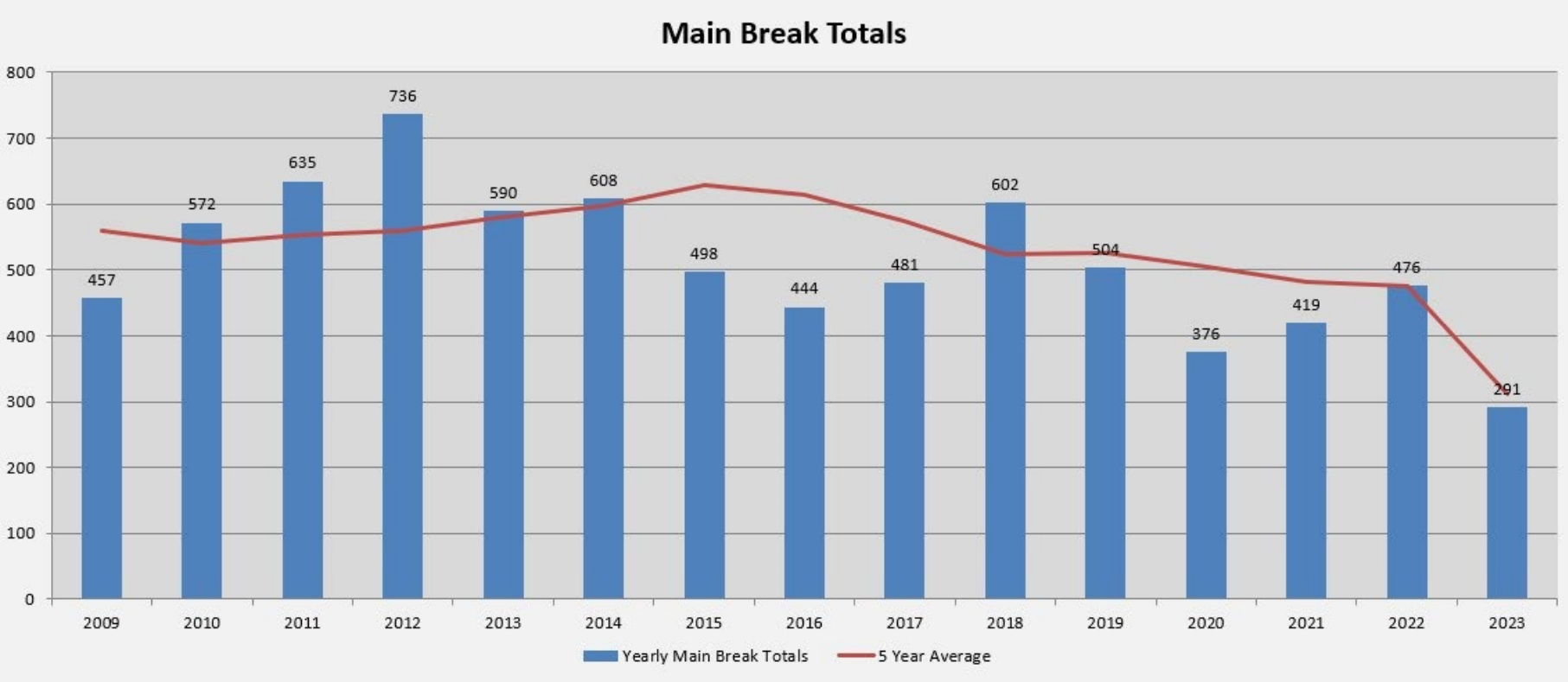
Water Main Leaks/Breaks



Main Replacement Projects

- Hutton Rd
  - Replaced 1600’ of 12” main
    - Replaced a section of ductile iron pipe that had 12 leaks
- Hollingsworth Rd
  - Replaced 2000’ of 4” main with 12” PVC
    - Increased the size of the existing main to ensure we meet demand needs in the future
    - Will be extending another 2000’ of 12” PVC in the near future

Transmission Main Work

- 4301 Brenner Dr
  - 48” Main Leak
- 3601 N 12th St
  - 36” Main Leak
- 18th St & Kansas Ave
  - Replace three 16” valves
  - Abandon two 16” valves
  - Reconnect 30” and 16” mains
- 3744 Bell Crossing Dr
  - 48” Main Leak
- Boeke St & Cheyenne Ave
  - 30” Main Leak
- 55th St & Kansas Ave
  - 24” Main Leak
- 55th St & State Ave
  - 36” Valve Replacement
- 14th St & Douglas Ave
  - Various valve installation for the new reservoir

Transmission Main Pictures

30th St & Cheyenne Ave

55th St & State Ave

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Transmission Main Pictures

18th St & Kansas Ave

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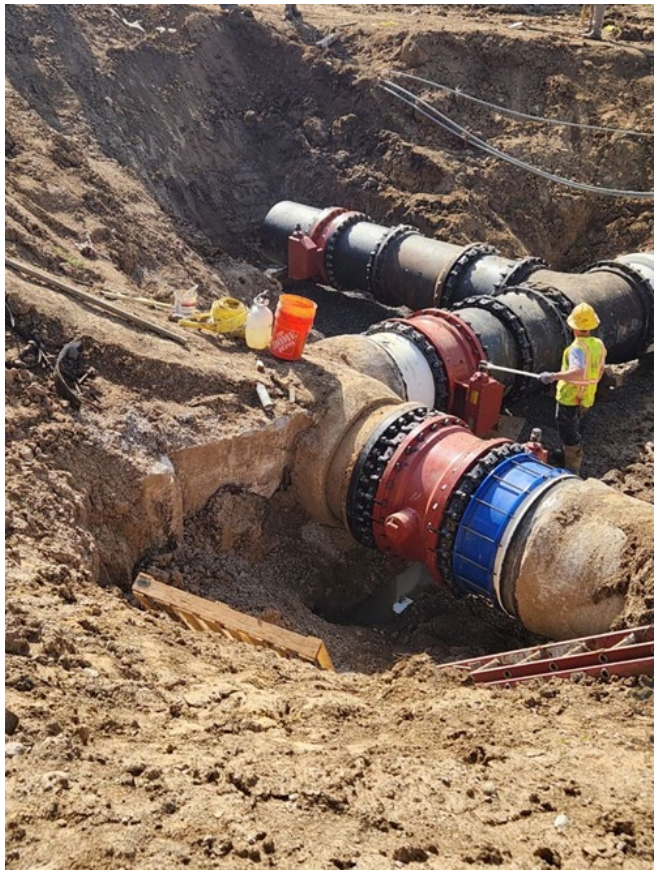
Transmission Main Pictures

14th St & Douglas Ave



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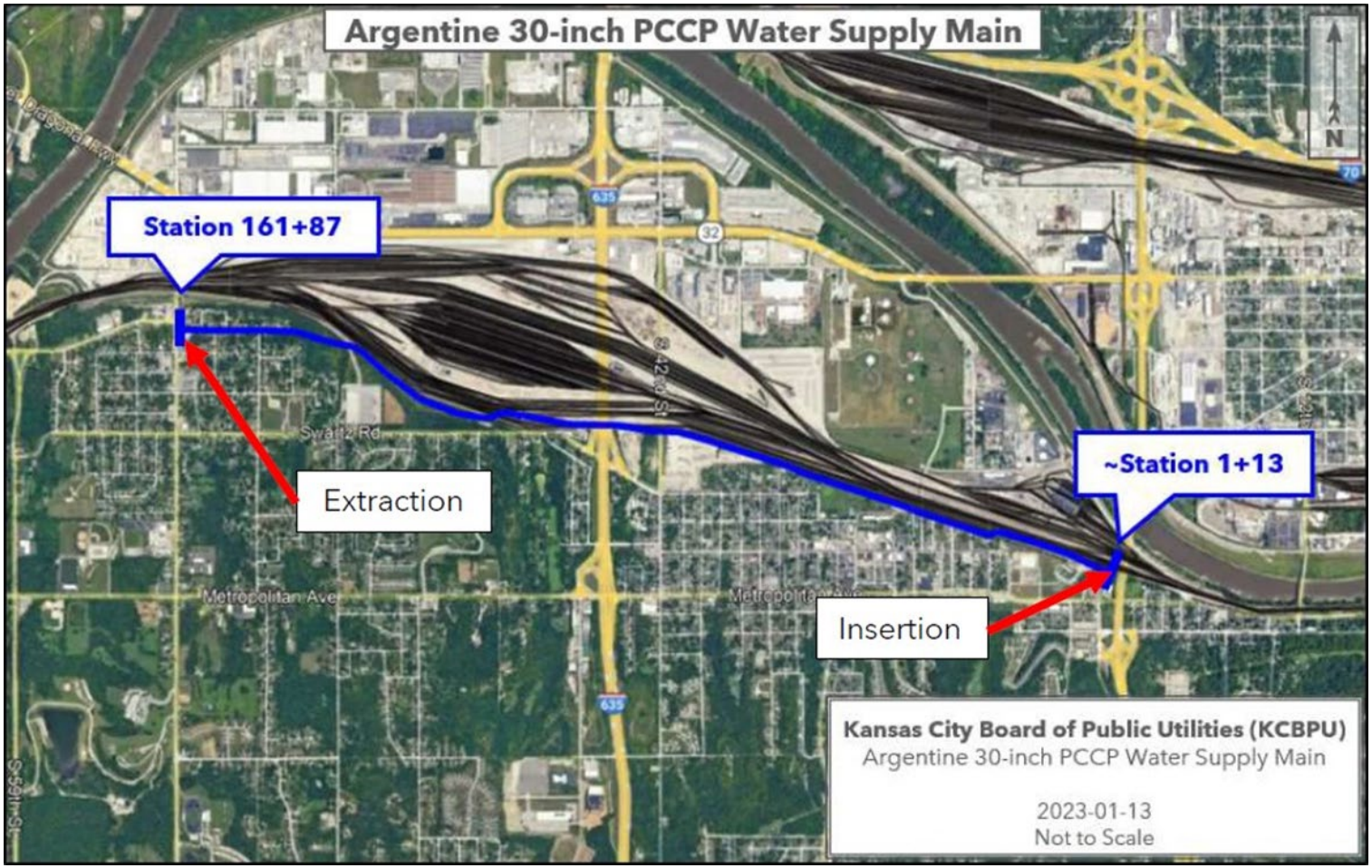
Pipe Diver Inspection



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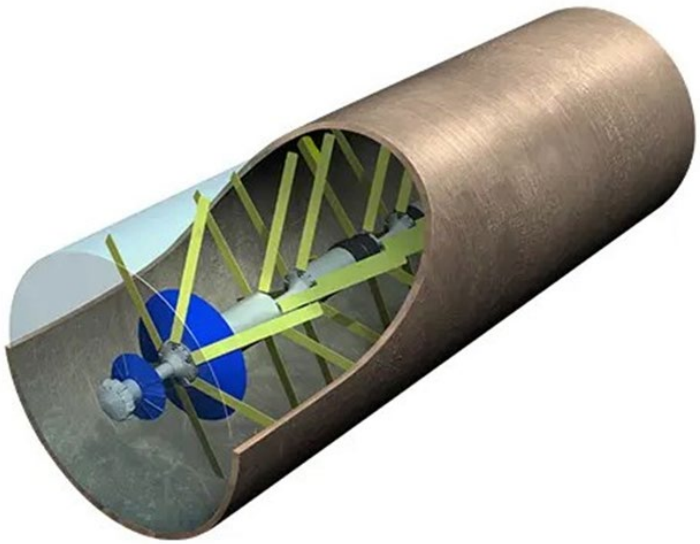
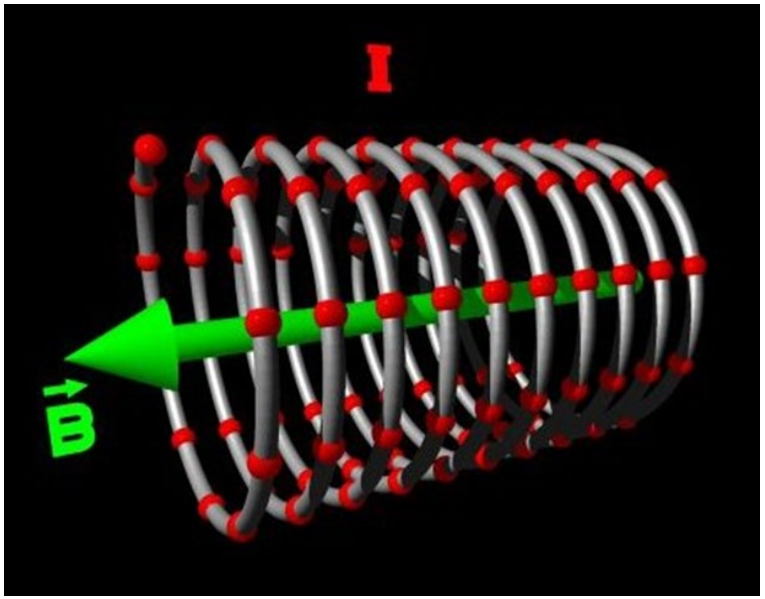
Pipe Diver Inspection



Graphic depicting Pipe Diver flowing through PCCP pipe.



Solenoidal field where breaks in wire can be identified.

Pipe Diver Inspection

- 2016 Inspection and 2022 Reinspection:
  - 16 pipes were previously reported as distressed but were reclassified as not distressed.
  - One length of pipe was newly identified as distressed.

Table 3.1: Inspection Summary

Date	Pipeline	Start Station	End Station	Distance
November 3, 2022	30-inch Argentine Water Supply Main	~1+13	161+87	3.07 miles

Table 3.3: Summary of Pipes with Broken Wire Wraps

Pipeline	Diameter (inches)	Length (feet)	Pipes with 5 Broken Wire Wraps	Pipes with 10 to 15 Broken Wire Wraps	Pipes with more than 15 Broken Wire Wraps
Argentine Water Supply Main	30	16,211	1	0	0

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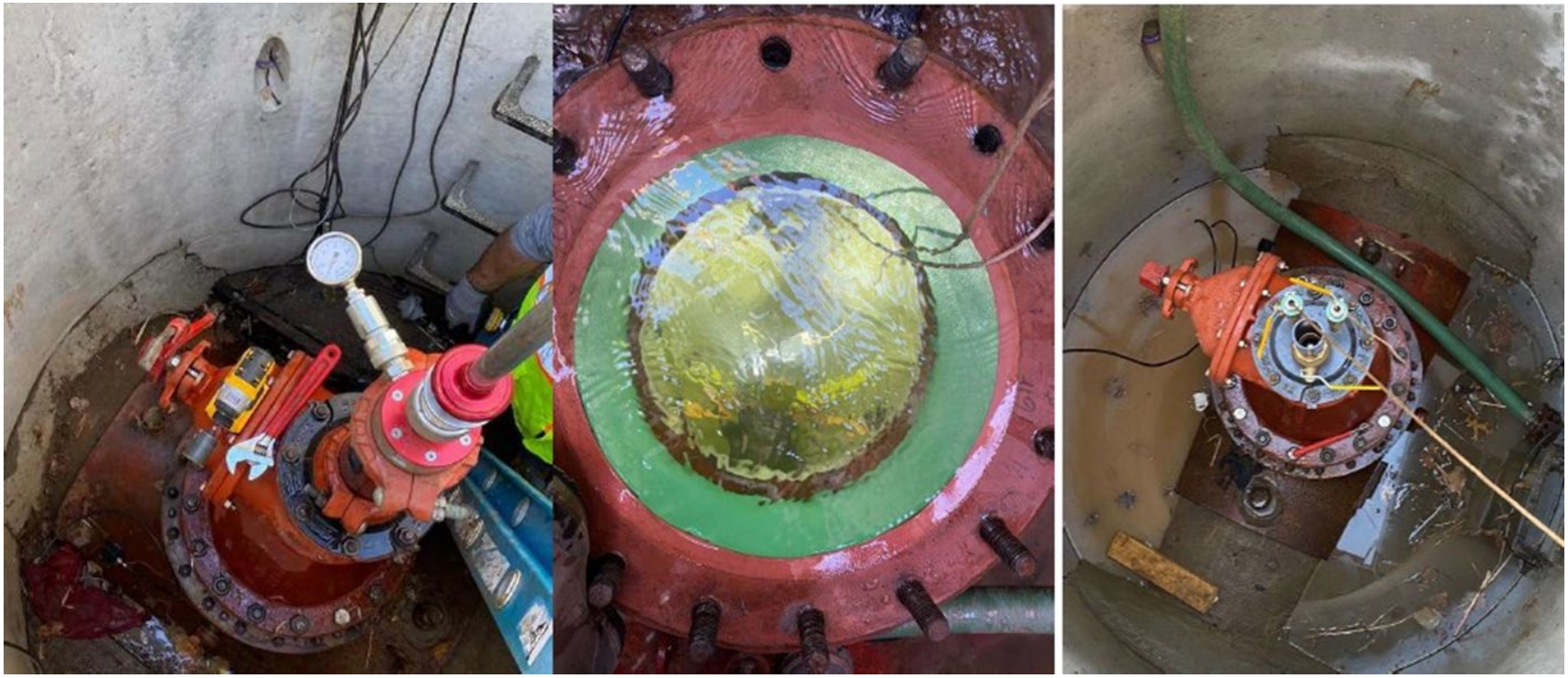
Pipe Diver Inspection



LCRR Inventory

- Lead and copper inventory must be completed no later than October 2024
  - Started field verification with 14.5K sites
  - Remaining services that require field verification = 1000
  - Methods of verification:
    - Visual inspection at meter box
    - Visual inspection of internal plumbing
    - Hydrovac excavation

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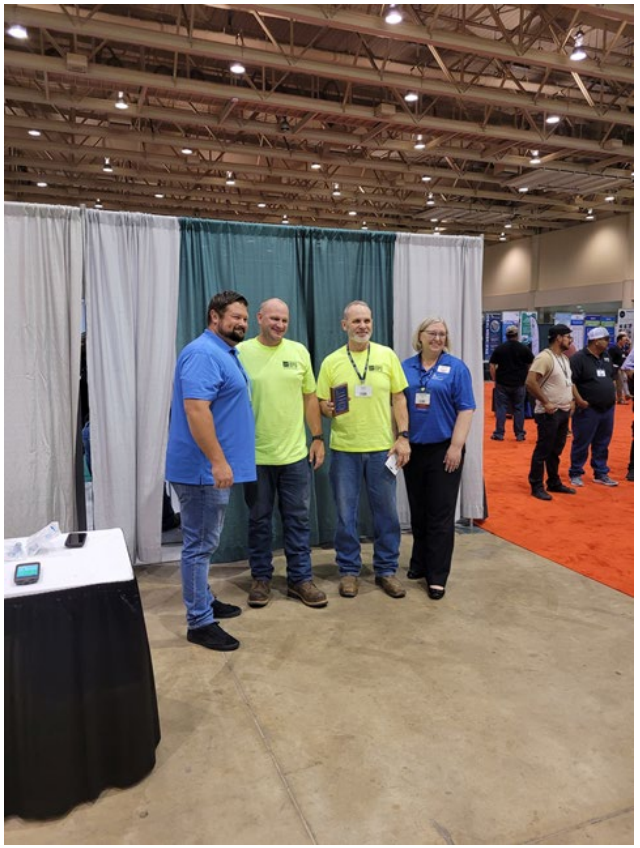
Hydrant Hysteria

- 2023 AWWA/KWEA Joint Conference



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Customer Comments

Shout-out to Victor Garcia & Steve Hargis in Water Distribution!

Victor serviced a high consumption call for a customer that was legally deaf. He found the leak and made such an impact on the customer that she called to tell us how great of a job he did!

Steve received a hand written thank you from a customer after helping them with water service on their property! He is also receiving praise from his peers for the great work he does with customer care!

Thank you both for leaving a great impression on our customers!

Shout-out to Water Servicemen, Russ Trinkle & Dan Burke!

Both of these gentleman received glowing remarks from customers after helping out with separate difficult situations. Kudos to you both!

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WATER PRODUCTION

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Monthly Pumpage Comparison

	2021 (MG)	2022 (MG)	2023 (MG)	Difference	% Difference
January	827.691	949.584	826.950	-122.634	-12.91
February	818.337	818.033	737.471	-80.562	-9.85
TOTAL	1646.027	1767.617	1564.421	-203.196	-11.50
March	854.898	903.489	834.183	-69.307	-7.67
TOTAL	2500.925	2671.107	2398.604	-272.503	-10.20
April	791.563	859.015	782.448	-76.567	-8.91
TOTAL	3292.488	3530.122	3181.052	-349.070	-9.89
May	826.357	944.831	911.375	-33.456	-3.54
TOTAL	4118.845	4474.954	4092.427	-382.526	-8.55
June	930.438	1028.534	1042.232	13.698	1.33
TOTAL	5049.283	5503.487	5134.659	-368.828	-6.70
July	964.330	1066.979	1071.019	4.039	0.38
TOTAL	6013.613	6570.467	6205.678	-364.789	-5.55
August	1034.134	1005.164	1101.410	96.245	9.58
TOTAL	7047.747	7575.631	7307.088	-268.543	-3.54
September	970.568	921.517			
TOTAL	8018.315	8497.148			
October	908.660	968.169			
TOTAL	8926.975	9465.318			
November	826.828	879.780			
TOTAL	9753.802	10345.098			
December	867.945	877.276			
TOTAL	10621.748	11222.374			

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Chemical Prices 2023

Chemicals	2013	2016	2019	2021	2022	2023	Annual Average Useage
Chlorine	0.2344 per/lb	0.2344 per/lb	0.2565 per/lb	0.3265 per/lb	0.7115 per/lb	0.7995 per/lb	730,000 lbs/year
Caustic 25%	0.1485 per/lb	0.09 per/lb	0.1175 per/lb	0.1130 per/lb	0.1763 per/lb	.1306 per/lb	1,000,000 lb/year
Fluoride	0.313 per/lb	0.2615 per/lb	0.2615 per/lb	0.2865 per/lb	0.319 per/lb	0.3440 per/lb	175,000 lb/year
Polymer	1.15 per/lb	1.23 per/lb	1.30 per/lb	1.35 per/lb	1.41 per/lb	1.55 per/lb	70,000 lb/year
Sodium Bisulfite	0.1425 per/lb	0.1450 per/lb	0.1369 per/lb	0.1419 per/lb	0.2010 per/lb	0.1825 per/lb	600,000 lb/year
Ammonia	0.1435 per/lb	0.0120 per/lb	0.0815 per/lb	0.1095 per/lb	0.2000 per/lb	0..1175 per/lb	500,000 lb/year
Ferric Chloride	0.155 per/lb	0.0990 per/lb	0.1364 per/lb	0.1444 per/lb	0.1444 per/lb	0.2461 per/lb	1,000,000 lb/year
Phosphoric Acid	0.280 per/lb	0.280 per/lb	0.280 per/lb	0.460 per/lb	0.850 per/lb	1.130 per/lb	185,000 lb/year
Sodium Chlorite	0.460 per/lb	0.4763 per/lb	0.5020 per/lb	0.5460 per/lb	0.6000 per/lb	0.6180 per/lb	450,000 lb/year

East Basin Outage, Spring outage work performed

- New Yard Hydrants

- New Chemical Valves

New UPS installed to replaced Failed Unit

Old UPS lasted 13 years

Installed April 2023

City Water Booster Pump Rebuild and Soft Starter Upgrade

Booster Pump 201

Soft Starter Addition

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High Service Pump 1 Electrical Motor Rebuild 700 HP

Filter Console control upgrades and cleaning filter media and throughs

Filter console manual controls were obsolete, replaced with new controllers

Filter 4 basin, cleaned basin and media. Improve filter productivity and run times

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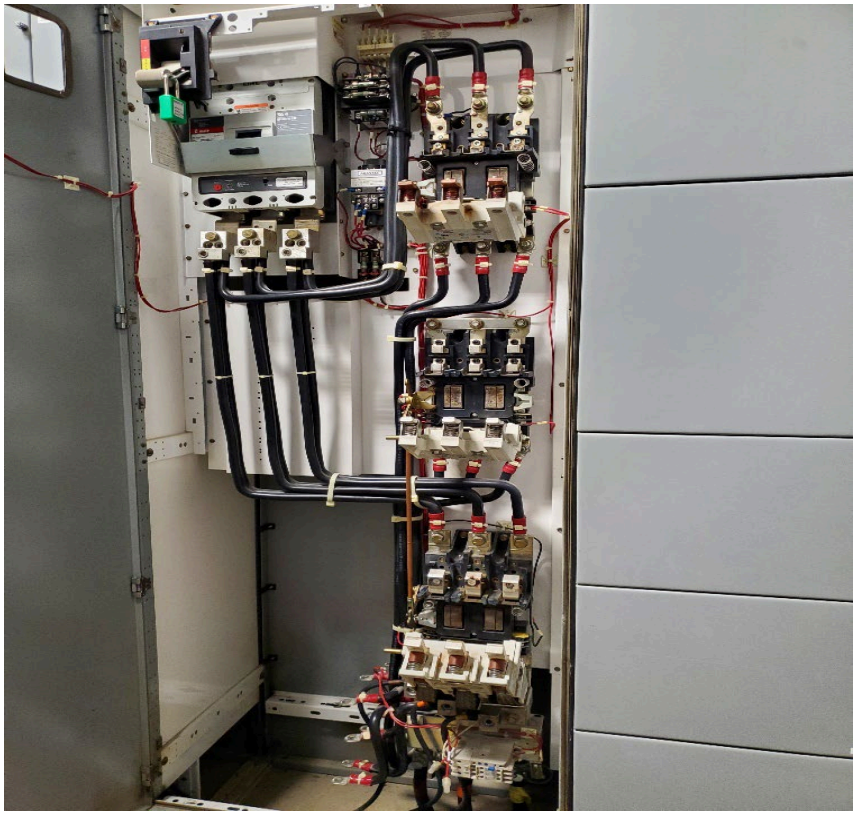
Air Wash Blower 201 Reduced Voltage Starter

Old 480 volt combination starter



New 480 reduced voltage starter

Road Repairs and Asphalt Sealing

- Last road repairs were done in 2015.
- 250 feet of curbs replaced.
- Asphalt replacement in some areas.
- Asphalt sealing completed for most of plant roads.

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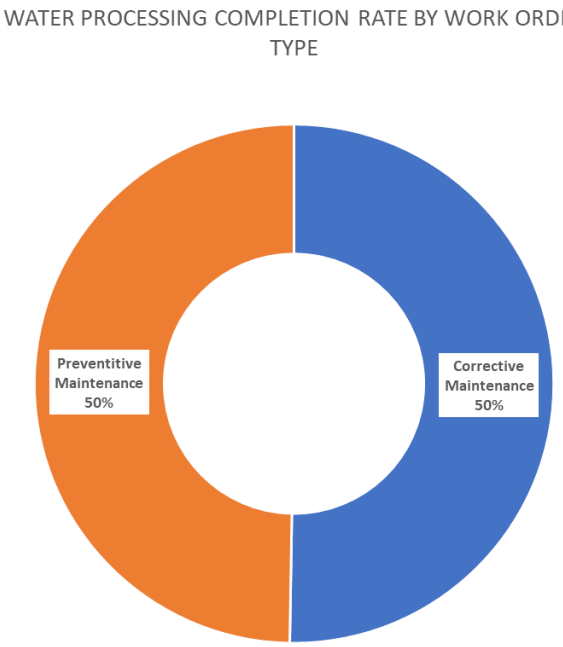
District Metering Projects


Solar Panel


Tonganoxie


115th Hollingsworth

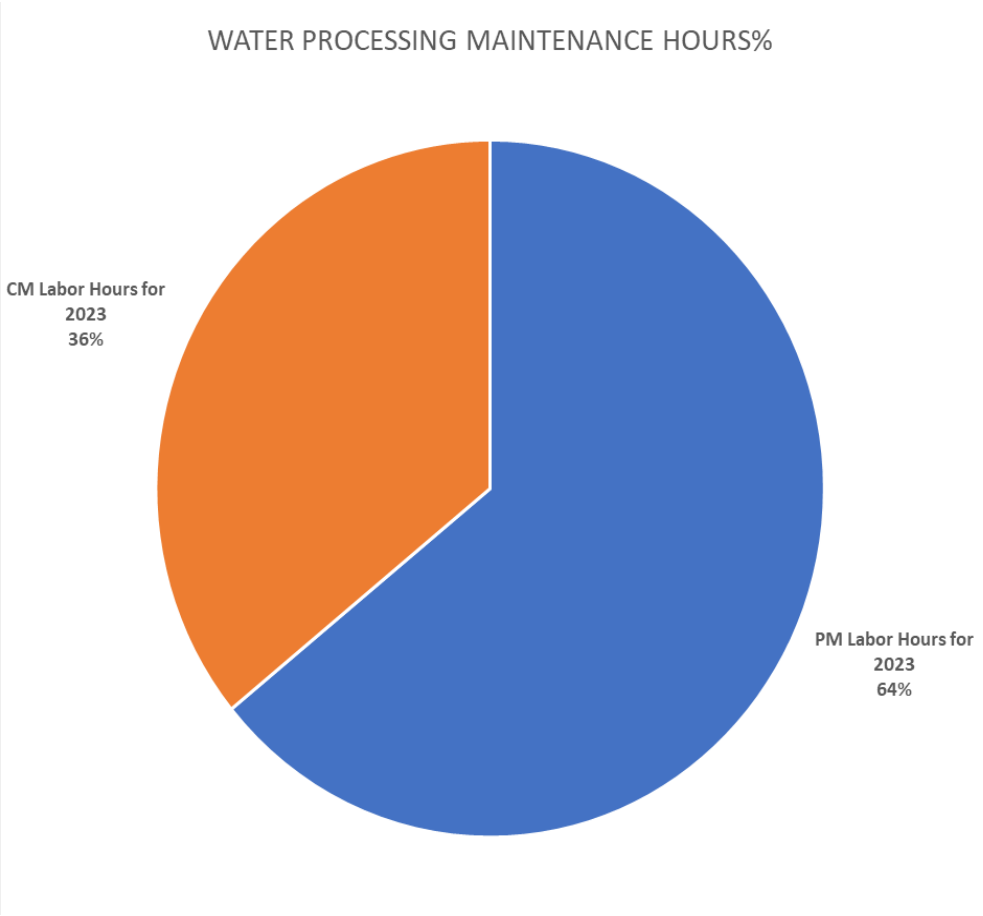
Water Processing Completion Rate by Workorder Type



- This metric quantifies the percentage of workorders completed based on when the type of workorder. 190 of the workorders completed are Preventative Maintenance and 192 are Corrective Maintenance.
- 382 workorders have been completed this year to date

Water Processing Maintenance Hours %

- This metric shows the percent of Time spent on Corrective Maintenance 36% Versus Preventative Maintenance 64%



NWTP Laboratory

- Lead and Copper
  - Completed our Triennial testing requirement summer 2023
  - BPU is required to sample (60) Lead and Copper designated sites
  - No sites above action level
  - New Requirements coming 2024

- UCMR 5 Sampling will begin 2024 – 2025
  - 29 PFAS synthetic chemicals and lithium.
  - Parts per billion to parts per trillion.
  - UCMR 3 (2015) last PFAS testing occurred. Only Six Compounds were analyzed.
  - We had non-detect however only at parts per billion.
  - Final Rule proposed in January 2026.

Operations Staffing

- Operators
  - Fully staffed with 9 operator's with Class IV certification.
  - Seven of the nine are qualified as Utility A.
  - Two are still in training.
  - We continue to work on operator's schedule, goal is maintaining two operators per shift.
  - Safety concerns.
  - Aging plant.

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Summary

- Aging Infrastructure – Keeping up with building and equipment.
- Future Regulations – Keeping up with regulations, PFAS, Lead & Copper, Disinfection By Products Rule.
- Thanks – Very thankful for assistance from the various departments. Water Engineering, Water Distribution, Water Production Staff, Environmental.

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Questions

Thank You

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Electric Supply Update

September 20, 2023

Electric Supply Update

- Extreme Heat
  - SPP Data
  - Operational challenges/strategies
- Market Trends
  - CT usage/performance
- EMS SCADA Upgrade project

High Temps 8/21-8/25

- Average temperature 2:00pm – 8:00pm
  - 98.1 degrees (with several hours exceeding 100 degrees)
- Southwest Power Pool
  - ~7800 mw of conventional generation that was de-rated or in outage
  - Wind forecasts that week were projected to be in the 7000-9000 mw range during peak hours (~29% capacity)

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SPP Data

- Weather Advisory, Resource Advisory & Conservative Operations Advisory issued throughout the week
  - No EEAs issued; one key factor was that SPP was able to import ~3000 MWs from neighboring RTOs during peak demand hours
- Monday 8/21 @ 4:27pm SPP set new peak demand at 56,184 MW
  - 5.5% higher than last year's peak
  - Generation mix during peak demand
    - Coal 18,458 MW
    - Gas 24,099 MW
    - Wind 8,361 MW

Operational Challenges & Strategies

- High temperatures lead to higher demand on the grid and impairs the efficiency of power generation and transmission
- Primary concern on transmission system is low voltage which can increase the risk of instability on the system which could ultimately lead to localized load reduction
- System Operators utilize reactive resources available to maintain adequate voltage levels
  - Generators
  - Capacitor Banks

Operational Challenges & Strategies

- At the distribution level System Operators are monitoring individual circuits as loads approach operating limits
  - Notifications are made to appropriate field personnel that action may be necessary to prevent damage to equipment and potential outages
    - i.e. working with line crews to switch load to another circuit

CT Performance

- CT4
  - Fuel nozzle replacement in late May
  - CT4 committed/online (minimum runtime of 4 hours)
    - June - 24 days (avg. gas price of $2.57)
    - July – 27 days (avg. gas price of $2.77)
    - August – 27 days (avg. gas price of $2.75)

CT2 & CT3

- Under the EPA Cross-State Air Pollution Rule Program (CSAPR) CT2 and CT3 fall under a “Low Mass Emitter” status that essentially limits annual and ozone season hours of operation of these units. CT2 and CT3 are limited to 278 hours and 300 hours per calendar year and 139 hours and 150 hours respectively during Ozone Season (May 1 – September 31) each year

CT Performance

- CT2/CT3 Commitments
  - Market, Operating Reserves for BA, additional generation in area to alleviate congestion on transmission path, self-scheduled for local voltage support
- CT2 committed/online
  - June – 5 days
  - July – 7 days
  - August – 9 days

CT Performance

- CT2
  - 6 ‘Ozone Season’ operating hours remaining
  - Offering CT2 with a commitment status of *Reliability*
  - Adjusted max run time to 2 hours

CT Performance

- CT3
- In May ‘23 CT3 had a bearing failure on an electromagnetic clutch
- Replacement clutch ordered and installed; unit returned to service 8/28/23
- CT3 online/committed 3 times since return to service

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EMS SCADA Upgrade

- Current phase - GE Grid performing code migration
  - Current SCADA database import and validation
  - Current EMS/SCADA displays import and validation
  - Current ICCP database import and validation
  - Generation model import and validation

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EMS SCADA Upgrade

- Phase 2
  - Setup, Configure and install GE Grid Software on KCBPU test lab systems
  - Install GE Grid software on KCBPU systems
  - Migrate GE Grid updated SCADA database, EMS/SCADA Displays, ICCP database and Generation model to systems
  - KCBPU testing updated systems in the test lab

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EMS SCADA Upgrade

- Phase 3 – Production configuration and system testing
  - Install GE Grid software on KCBPU production systems
  - Verification of alarm messages, Command and Control, OMS connectivity, ICCP connectivity, Generation tuning
  - Verification of historian data

Thank you

Thank you