

City of Hallandale Beach

AMI Remediation Project

Update on Challenges with
City Water Meters

June 7, 2023





Today's Agenda

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What is AMI?

Advanced metering infrastructure is an integrated system of water meters, communication networks and data management systems that enables two-way communication between meter endpoints and utilities. The system automatically transmits the data directly to the utility at predetermined intervals.

Meters are often viewed as the cash registers of a water utility. An AMI system simply provides a way to electronically gather that meter data.

Background

Meter Reading Problems & Impacts

On December 14, 2022, City Staff presented to City Commission, a plan to correct ongoing issues with the Utility System's AMI Meter System. A significant number of meters were not transmitting electronic reads or the electronic read is inaccurate. Additional problems were identified:

- Register Failures
- Supply Chain Issues
- System Limitations

The problems identified are having the following impacts on the City's Meter Maintenance Program, Utility Billing Process, and other dependent initiatives:

- Manual Meter Reads
- Timley Billing
- Other dependent strategic Initiatives
- Estimated Bills
- Measuring Problem
- Unaccounted for Water
- Zero Billed Consumption

Now more than ever, accurate and complete billing is necessary to ensure the success of other long-term strategic projects.

City Staff is providing this update to inform City Commission about progress and changes to our plan that may impact the FY24 Budget.

Overview of Project

AMI Remediation Project

- Due to the extraordinary nature of this issue, its impact to the financial stability of the utility,
- and its impact on other key initiatives, the AMI Remediation Project Plan below was approved.
- Resources in the amount of approximately \$830,000 were allocated to this effort.

Field Audit

**Warranty
Replacements**

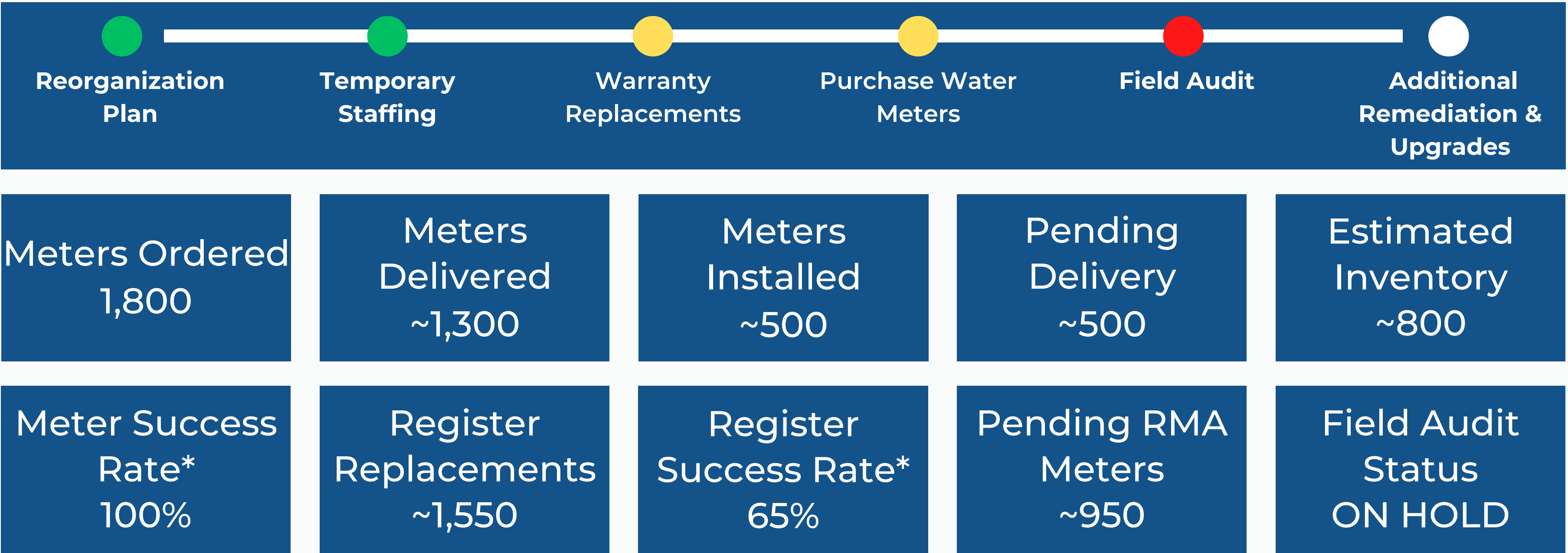
**Purchase Water
Meters**

**Reorganization
Plan**

**Temporary
Staffing**

**Additional
Remediation &
Upgrades**

Status Update

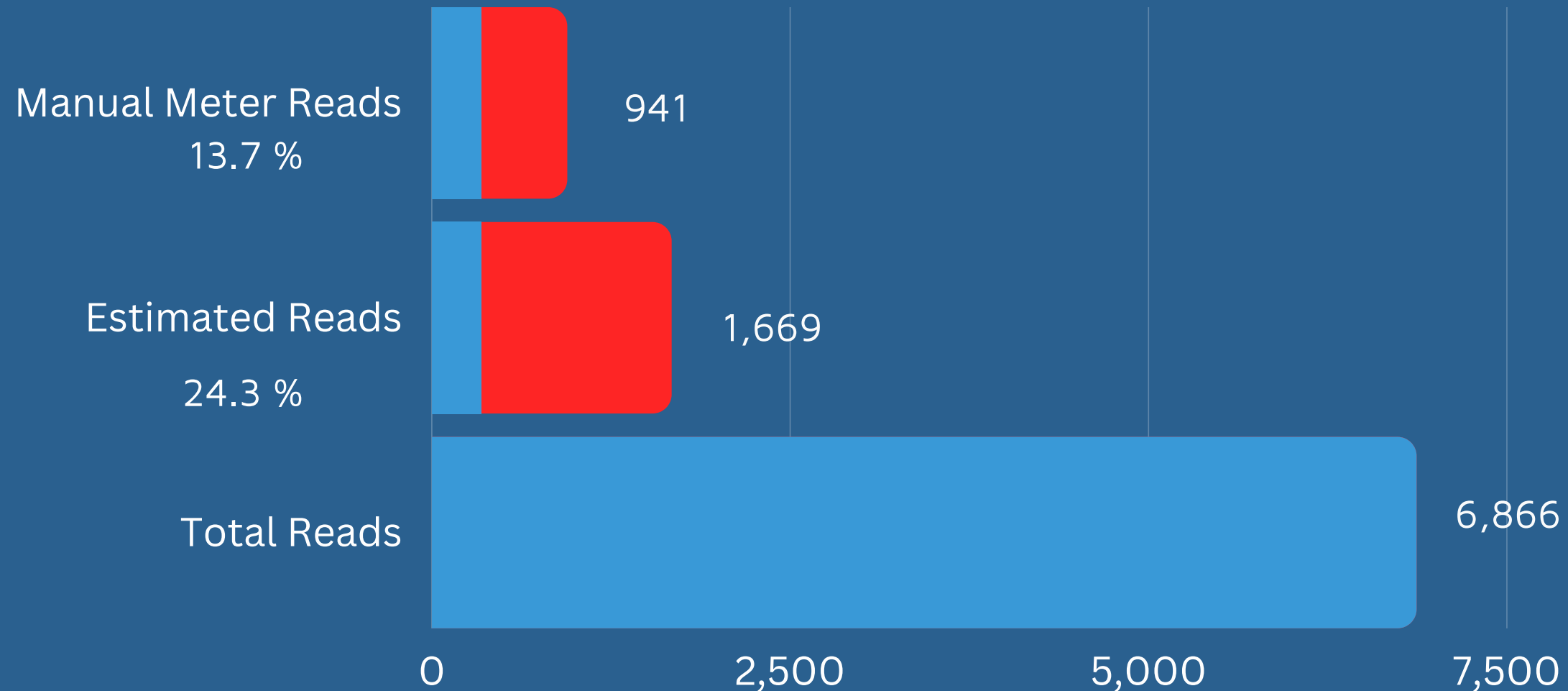


*Based on a sample

Statistics on Meter Reads

September 2022

Meter Read Data for September 2022



Red area is amount of reads above 5% goal

Goal

5%
(343 Estimated Reads)

Meter Maintenance Impacts

Manual Meter Reads
(Change YOY)

+36% ↑

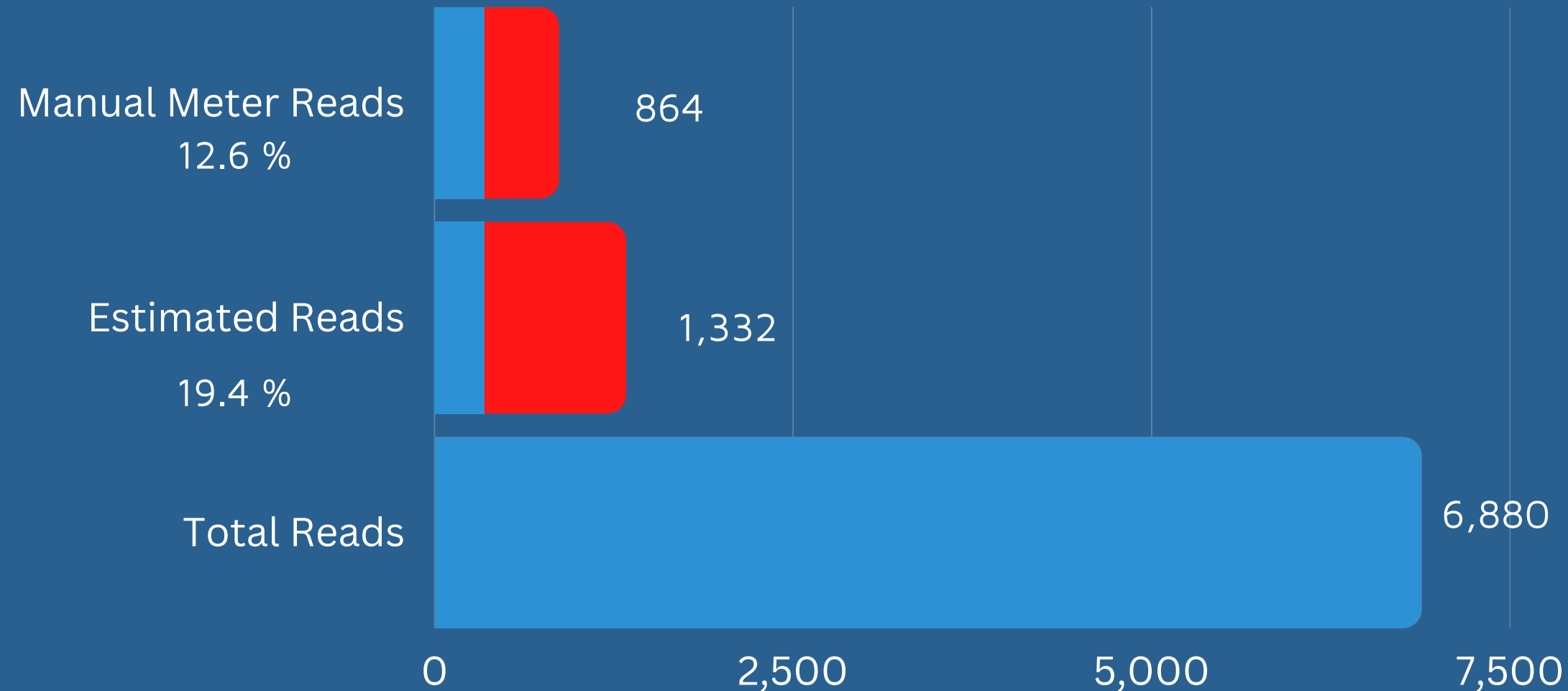
UB Work Orders

+1,200

Statistics on Meter Reads

May 2023

Meter Read Data for May 2023



Red area is amount of reads above 5% goal

Goal

5%
(344 Estimated Reads)

Meter Maintenance Impacts

Manual Meter Reads
(Change YOY)

-7%

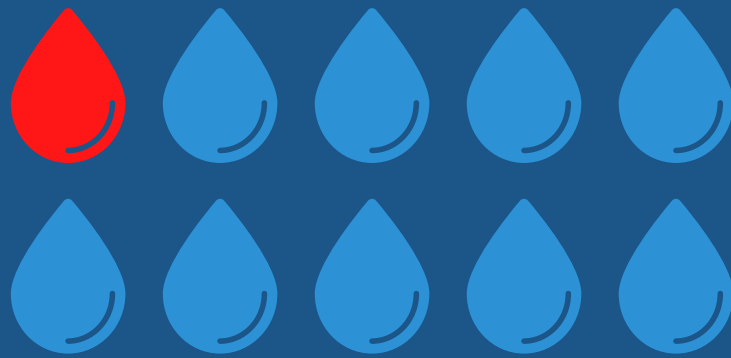


UB Work Orders

+1,500

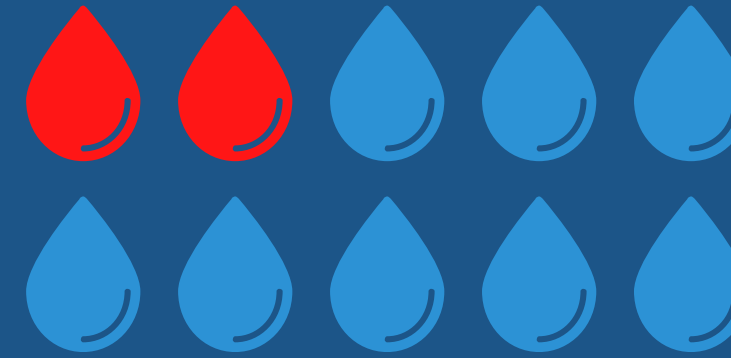
Statistics on Meter Reads

May 2023



1 out of 10

Manual Meter Reads
(in field)



2 out of 10

Estimated Meter Reads
(in billing)

Substantial improvement of Meter Reads = Less than 5% (or 0.5 out of 10) Estimated Meter Reads

Challenges

Unexpected Issues:

- Significant reduction in effectiveness of register replacement program
- ~1 month delay in the register replacement program due to high meter failure rates
- 35% of register replacements are still not working, requiring at least an additional ~450 meters
- We continue to see a significant number of new register/meter failures
- Substantial increase in administrative effort required with register change outs
- Physical inspection alone, cannot identify meter issues, which was the basis of the field audit.

Open Issues

- Sensus identifying the global issue is still pending
- Supply chain issues
- Revenue losses and resolving issue timely important to stakeholders (e.g. customers, bondholders)
- Tracking progress (differences between Sensus reports and Utility Billing Meter Issues reports)
- Meeting goal of substantial improvement by 09/30, given high failure rates of register replacements

Current Situation

Due to the ongoing issues, City Staff met with Sensus representatives on April 26, 2023 to discuss issues and to consider a more effective plan for substantial improvement of the system by September 30, 2023. As a follow up from this meeting, Sensus submitted a proposal to support a full water meter upgrade. Here are some highlights:

- All pending and future RMA Accustream meters will be replaced with iPERL meters at no costs.
- Offered substantially discounted meter pricing if the City chooses to purchase meters out of normal RMA process.
- Upgrade includes converting all smaller meters to iPERLs and replacing all larger meters reaching the end of their warranty period.
- Sensus to provide a timeline for substantial improvement by 09/30/23
- Sensus may absorb installation costs of meter replacements.
- The City paused the system field audit in consideration of a full system upgrade with iPERL and other more reliable products given that visual inspections were no longer going to be as effective.

Recommendations and Potential Costs

City Staff is currently in negotiations with Sensus to determine the potential cost of a complete water meter system upgrade. This is based on preliminary discussions with Sensus.

City Staff are pending follow-up discussions with Sensus on additional details about which costs, if any, would be absorbed by the City. *Any cost absorbed by the City would have an impact on the FY2023-24 Budget.*

Expectations:

- Conversion of all Accustream meters to iPERLs & replacement of larger meters reaching the end of their warranty period
- iPERL meters to include a 20 year manufacturers warranty
- All pending RMA meters will be replaced with iPERLS at no cost
- All smaller meters installed by a 3rd party, including meters on hand to accelerate progress.
- Larger meters to be installed by City staff
- City may need to pay for installation cost for meters not covered by warranty, installation cost for meters covered by warranty is absorbed by Sensus

Summary

- 1,500 Advance Register Replacement: Installation completed in April 2023 with a 35% meter failure rate.
- Meter Installations: Public Works will continue to install iPERL meters at ~50/week, as planned.
- Field Inspections: Strategically paused in consideration of a full system upgrade.
- Sensus: Work closely with manufacturer to identify global issue and develop a plan for substantial improvement by September 30, 2023.





Thank You
Questions?