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Water Distribution System Updates – AMI Deployment, Billing Vendor and Leak Detection Program Information Report to Council

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In accordance with the Procedure By-law, any member of Council may make a request to the Town Clerk that this Report be placed on an upcoming Committee of the Whole agenda for discussion.

Purpose

The purpose of this report is to inform members of Council with updates on the following water distribution system initiatives:

1. Smart Meter Upgrade (AMI) update;
2. Transition to the new Water Billing Vendor update; and,
3. Smart Meter Leak detection Program results year-to-date.

Background

The intent of the Water Meter Replacement Program is to upgrade all 26,000 water meters in the Town of Newmarket to smart meters that are compatible with Advanced Metering Infrastructure (AMI), allowing meters to communicate usage remotely. Meter reads would be done through “over-the-air” reads through the AMI network, rather than requiring meters to be read by walk-up means for billing. Participation in the water meter replacement program is mandatory and supported by the Town’s Water Meter By-law 2017-49. The project is being led internally with direction from the AMI Steering Committee (made up of key OLT members in Public Works, IT, Finance, Strategic Initiatives, Corporate Communications and Customer Service) and the AMI working group

Through-out the deployment, staff faced a number of challenges. The four (4) most significant challenges staff faced during the deployment so far are as follows: 1) inventory shortage of meters and readers due

to the pandemic; 2) resident refusals as a result of the pandemic; 3) transition of water billing from Olameter to Newmarket Tay Power; and 4) issues with aging infrastructure preventing the Town to complete the installation/upgrade.

With direction from the AMI Steering Committee, the AMI working group pivoted objectives through-out the project deployment. As a result, staff was able to deliver the following despite delays:

- **Smart Meter Leak Detection Program**
 - The Town's Data Analyst on the AMI project developed and implemented a robust leak detection program that automated detection of continuous water consumption, otherwise known as water leaks/loss.
 - The Town was also able to develop the program at no cost as a result of the following partnerships:
 - A partnership with Savage Data (Town's external vendor responsible for storing and providing meter data reports) was created to develop the algorithm, and monthly reporting free of charge. In return, Savage Data will use the reports and algorithm developed to market this service to other municipalities.
 - On the customer service side, Newmarket Tay Power agreed to communicate and inform residents of the spikes in consumption based on the reports from Savage Data. This new process is welcomed by Newmarket Tay Power staff as they are able to pro-actively notify residents of leaks before it becomes a significant issue.
- **Newmarket Tay Power as the Town's new water billing vendor**
 - On July 2022, Newmarket Tay Power successfully took over the responsibility of water billing from the Town's previous billing vendor, Olameter;
 - The utility bills were billed and delivered to all Newmarket residents/customers on time and without any issues.

Discussion

Key updates to the following initiatives are outlined below.

Smart Meter Upgrade (AMI) update

General Update

To highlight some of the successes of the AMI project so far, a few are listed below:

- 23% complete or 6,300 of the total 26,943 water meter readers have been upgraded so far;
 - 99.98% of all upgraded meters communicate without issues.
- To date, the Town has spent \$2.2M, or approximately 22% of the capital budget.
- The project is estimated to be completed in 2024/2025. The projected completion date accounts for the on-going supply chain issues along with the following opportunities;
 - Easier route release for the upcoming deployment schedule; and,
 - WAMCO (Town's meter installation contractor) to hire additional technicians.

- The AMI Working Group is also actively monitoring the status of the chip shortage impacting the delivery of water meters and remote readers.
- Since the launch of mass deployment on April 1, 2022, the Town’s customer service staff received 45 customer calls out of 1,188 notices sent, related to the AMI deployment program.
 - The breakdown of the calls received is shown in the table below;

Customer Service Calls	Count
Am I Eligible?	5
General Inquiry	25
Installation Refusal	3
Installation Request	6
Retrofit Inquiry	1
Unsuccessful Installation Attempt	1
Wamco Complaint	4
Total	45

- Overall, minimal complaints have been received. The majority of the calls were received to confirm the legitimacy of the Town’s contractor and questions regarding the notices received.

Transition to the new Water Billing Vendor update

The transition to Newmarket Tay Power as the Town’s water billing vendor presented new opportunities for the Town. The Town is able to realize the following benefits as a result of the transition:

- Billing exceptions or issues are logged and reported to Town staff immediately. In the past, issues were withheld until they were escalated; often leading to residents contacting the news media outlet for resolution.
- Immediate responses to Town staff’s questions and concerns. The turn-around time on requests have dropped significantly.
- Business processes are documented for any recurring issues.
- NT Power is constantly looking for ways to improve billing, which includes staggered billing through-out the month. This will ensure bills are handled properly and with care prior to mailing.
- Increased service levels such as the implementation of customer service for the leak detection program.

Smart Meter Leak Detection Program Results year-to-date

Residents, Town staff and Newmarket Tay Power’s feedback on the Town’s Smart Meter Leak Detection Program has been positive. Results to date are summarized below:

- Newmarket Tay Power staff notified 127 residents of continuous spikes in consumption via phone call.
 - Residents who were notified of a leak in advance typically resolved the issue within 14.5 days, while those who do not get notified typically resolve the issue within 120.5 days.

- Based on the assumptions noted above, the leak detection program saved a typical resident a median of \$440 in their water bill.
- To fully utilize the benefits of smart meters, the Town’s Data Analyst will look to further enhance the leak detection program. These enhancements are as follows;
 - In an effort to automate the notification process, staff will look to utilize the utility billing portal to send consumption spike notifications via e-mail and/or text messages;
 - Develop automated shut-off requests to be sent to the Public Works Department for vacant properties experiencing spikes in consumption; and,
 - Identify properties with unusually low water consumption for investigation.

Conclusion

Despite the challenges staff faced as a result of inventory shortages, abrupt billing vendor transition and the impact of COVID-19 pandemic on deployment, the overall update is positive. Where appropriate, staff looked for ways to maximize the benefits of smart metering. This is evident by the implementation of the leak detection program that has had a positive impact of those residents contacted.

Business Plan and Strategic Plan Linkages

This report provides an update on the Water Meter Replacement Program.

Consultation

None

Human Resource Considerations

None

Budget Impact

None

Attachments

None

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