



REQUEST FOR DECISION

Meeting: June 9, 2025

Water Meter Replacement and Data Collection Upgrade

DESCRIPTION/BACKGROUND:

The water meters, ERT's (Encoder Receiver Transmitters) and data collection system used throughout Town have reached the end of life.

Water meters were installed beginning in in November of 2007. These meters are now old and parts for them cannot be purchased. They are Positive Displacement (P.D.) meters by design, meaning they have mechanical moving parts to meter the water flow. After 18 years of service these meters are losing efficiency, with estimates of 15-30% of water flow not captured, leading to lost revenue.

The ERT's (Encoder Receiver Transmitters) that send the signal to our reading device have also reached the end of their life. These devices have sealed internal batteries (batteries cannot simply be replaced) that are failing. To date:

- 428 ERT's at a cost of \$79,255.44 have been replaced.
- An additional 320 ERT's have failed as of May 28 that need to be replaced.
- On average an ERT costs the municipality \$200.00.
- North America has a shortage of ERT's because most municipalities installed water meters at the same time.
- We have finally received 250 new ERT's (five months backordered) that can be installed, at a material cost of \$47,622.50.
- We have about 1800 meters in Town, with the additional in stock ERTS, if we replaced what has failed, we will be at roughly 1/3 of ERT's replaced.

The current FCS (Field Collection System) being used is also at the end of life, it is being discontinued in early 2028. What this means is the software will no longer be supported. Itron has recommended that all their customers change to a new data collection software system beginning in 2026 to avoid issues.

The Town needs to transition to a new reading software and is reaching a critical point with the water meters and ERT's failing, becoming inefficient and unrepairable = end of life.

DISCUSSION/OPTIONS:

The administration has been in discussions with multiple water meter suppliers to investigate our options moving forward. The municipality is being impacted by ERT's failing every month, water meters that are inefficient and unrepairable, and a data collection system that will be outdated.

This has led to discussions about whether it's prudent to keep investing capital and time in installing new ERT's on old meters or upgrading the infrastructure.

The administration has worked with three companies, KTI Limited, Accuflo and Metercor to get quotes for this proposed capital investment. This begins with discussing the 3 main reading options the Town has investigated when it comes to collecting the data (water meter reads):

1. AMR (Automated Meter Reading)

Option A (radio based ERT's)

This is the drive by meter reading process currently used by the Town. This requires Town staff to drive a designated route through Town when meters need to be read. The current radio reading equipment will have to be updated by 2028 at a cost of \$40,000.00.

- 2. AMI (Advanced Metering Infrastructure)** uses fixed infrastructure for on demand meter reading. This can be accomplished either by using radio or cellular-based ERT's and eliminates the need to drive the town to collect the data. The AMI on demand reading system can be used to monitor water leaks in houses as well as freeze warnings.

Option B (radio based ERT's)

Fixed radio receivers to read the radio based ERT's would require two municipally owned towers. This upfront capital expense could cost between \$100,000 to \$400,000 and requires annual federal licensing and maintenance.

Option C (cellular based ERT's)

The other AMI option is to use cellular ERT's in place of the radio ERT's. This system utilizes cellular ERT's on every water meter and does not require any new infrastructure to be installed by the Town. This will have an annual cost per water meter for the cellular connection, which varies from \$15-\$30 per meter per year.

The administration is proposing a complete revision of the metering and data collection system. This upgrade will last for 20 years and has the following key aspects:

1. Meters

Replace the existing PD meters with ultrasonic meters. These meters make no sound and are capable of reading flows as low as .04 GPM (PD meters have a low limit of 0.25 GPM). This improved reading accuracy will result in additional revenue, which should recoup the cost of the meters over the course of 5 years.

- New ERT's (radio) cost \$200/each
- New Meters' and ERT's (cellular) cost \$475/each

2. ERT's (Encoder Receiver Transmitters)

New meters would be paired with cellular ERT's. This allows for instant water meter data collection and eliminates the need for municipal capital investment in radio frequency infrastructure.

3. Software

New reading software allows for better data collection and leak detection, helping to mitigate lost revenue. The software also has an option for a public facing program (customer portal) that allows customers to monitor their own water consumption and access their utility bills.

PROPOSED RESOLUTIONS:

Based on this information, FIPC made the below motion at the June 3rd, 2025 meeting:

- Moved by Councillor Carlson to recommend that Council submit a Request for Proposal with the intention of securing a supplier to provide non-mechanical meters, cellular ERT's, installation, training and collection software for all meters, present and future, for the Town of Claresholm. CARRIED

Administration is looking for the following motion from Council:

Moved by Councillor _____ to submit a Request for Proposal with the intention of securing a supplier to provide non-mechanical meters, cellular ERT's, installation, training and collection software for all meters, present and future, for the Town of Claresholm.

PREPARED BY: Jace McLean, Director of Infrastructure, Jason Hemmaway, Utilities

APPROVED BY: Abe Tinney, CAO

DATE: June 5, 2025
