Water Quality Improvement

Preferred Strategy

Water Quality Improvement Strategy: **Background**

Over the past decade, several changes to the treatment process had to be made due to a series of new provincial regulations that followed in the wake of the Walkerton tragedy and, more recently, to reduce lead in drinking water.

In late 2011 Sault Ste. Marie changed its water treatment process from Chloramine to Chlorine (also known as free chlorine).

The "Free Chlorine" option was selected because it meant less water treatment chemicals added to the City's water supply and was the most viable option at the time.

Water Quality Improvement Strategy: **The Problem**

The change to free chlorine continued to produce safe drinking water, but impacted the taste, odour and colour of the water.

Some naturally occurring elements in the water from the Lorna Wells contribute to taste, odour and colour issues.

An extremely wide variation in pH of the water from the five different sources is a key contributor to taste, odour and colour issues.

The wide variation in pH across the distribution system also contributes to elevated lead at some residences.

Water Quality Improvement Strategy: **Addressing the Problem**

In mid-2013 we commissioned a comprehensive study to research, investigate and recommend treatment options to address the water quality issues currently experienced in Sault Ste. Marie.

In September 2013 we assembled a Steering Committee to provide public input and consultation to the study. The Committee included 2 City Councillors, a former manager of the local MOE, a former General Manager of the PUC, a former senior engineer from Toronto MOE Approvals Branch, local Algoma Public Health officials, local MOE officials, and approximately 15 PUC staff.

We have now concluded that study and have come today before Council and residents to present our strategy for improving Sault Ste. Marie's water quality.

Based on the findings of the study, we are moving forward with the **Preferred Water Quality Improvement Strategy (2 stage process)**

Water Quality Improvement Strategy: **The Preferred Solution**

- **Stage 1: 2014**
  - Remove the Lorna Wells from day-to-day service by end of May (wells remain available for peak demand needs)
  - Implement recommended advanced treatment methods to harmonize pH levels and improve corrosion control across the distribution system by year-end

Water Quality Improvement Strategy: **The Preferred Solution**

- **Stage 1: 2014**
  - Assess the potential to increase capacity at the Shannon and Steelton wells by adding a second well at both sites
  - Assess the potential for increasing production at the Water Treatment Plant
  - Continuously monitor and evaluate consumer satisfaction with the new advanced treatment methods

Water Quality Improvement Strategy: **The Preferred Solution**

- **Stage 2: 2015-2016**
  - Complete construction of additional wells at Shannon and Steelton
  - If necessary , begin process to implement UV (Ultraviolet) disinfection as the new primary disinfection method at the remaining wells and use chloramine as the secondary disinfection method (if water quality issues continue)
  - Begin process to upgrade the Water Treatment Plant for additional capacity

Water Quality Improvement Strategy: **The Preferred Solution**

- **Stage 2: 2017**
  - Complete construction of UV disinfection systems if required
  - Complete Water Treatment Plant upgrades
  - Permanently abandon the Lorna Wells

Water Quality Improvement Strategy:
What This Means for our Customers

The city's water system is fully funded by the users of the system - our PUC customers

PUC does not receive provincial or municipal tax support

Total projected cost to implement the complete strategy is approximately $6.7 million (budgetary estimate)

Overall impact would mean an increase of approximately $2.70 a month for each customer over a period of 10 years

Thank you.

Questions.