



AGENDA SUBMISSION

To: EWU Board of Directors
WUC Board of Commissioners
.....

2021 04 18
.....

From: Garry Rossi
.....

Re: Fluoridation Update

BACKGROUND

At the February 2020 WUC Board meeting a report was presented and the Board approved the following resolution.

That management BE AUTHORIZED to proceed with Option A which includes:

- 1) **May 2020 - Conduct pipe loop assessment of fluoride addition to measure any effects on lead release for a period of 12 months.**
- 2) **1st Quarter 2021 - Proceed with procurement of High-Purity grade fluorosilicic acid**
- 3) **2nd Quarter 2021 - Review the preliminary pipe loop data for the effect of fluoride addition on lead services and report back to the WUC Board on next steps**
 - a. **If the results are negligible and support implementation of the fluoride system then continue to implement the conceptual design as detailed in Technical Memorandum 3.**
 - b. **If the results confirm increased lead leaching into the drinking water supply then postpone the implementation plan and begin discussions on potential next steps.**
- 4) **May 2021 - Should the data support the implementation of the fluoride system apply for amendment to the drinking water system license and permit through the MECP.**

- 5) **November 2021 - Should the data support the implementation of the fluoride system, commission the new fluoride system.**
- 6) **Ongoing – Continue to monitor the Drinking Water system for lead exceedances.**

This recommendation will support the lowest risk implementation of fluoride into WUC’s drinking water system while ensuring that pipe loop scales are evaluated long term to ensure they are no observed increase in lead releases.

DISCUSSION

Management has been updating the Board since February on status of Fluoride implementation. There have been obvious delays due to COVID such as:

- 1) Delays in Water Engineering capital watermain replacement projects which prevented lead services from being removed and installed in the pipe loop at the water treatment plant.
- 2) Consultant delays due to travel restrictions, affecting the design and set up of the pipe loop.
- 3) Material delivery delays for the equipment needed to construct the pipe loop.

In addition to COVID delays, there have been equipment malfunctions and design issues with the pipe loop. Specifically, an overdose of fluoride due to a design issue with an isolation valve, which resulted in a failure of our fluoride analyzers and set back our acclimation phase.

All issues have been corrected and management is awaiting confirmation that our acclimation phase is complete, allowing the pilot study to begin. It was expected that we would have had winter sampling results to share; however, at this point, we will be proceeding with spring sampling and reporting to the Board at the June meeting. Although missing the winter sample round is not ideal, we do know through previous research that lead has the propensity to leach into drinking water more during the warmer months. Therefore, it is expected that the results we receive over the next six months will be critical in evaluating the addition of fluoride to the drinking water. Further, we will continue the pipe loop sampling through the next winter season and monitor its affects after implementation late in 2021.

The implementation shown below is on track of course except for the pipe loop results.



Long lead equipment such as the fluoride tanks and pump skids are on order and expected to be installed in the third quarter. The Engineering design RFP is currently out for tender and should be awarded in early May. The final design and construction tender will be issued in late July, which would allow for installation in the third quarter and commissioning in the fourth quarter. This is in line with the original scheduled implementation date of November 2021.

RISK ANALYSIS

Risk of not meeting the original timeline is low. Further, management will monitor the results of the pipe loop study and advise of any concerns at future WUC Board meetings. As advised above, missing the winter sampling round is of low risk, as lead results are proven higher during summer months, which will still provide appropriate data to evaluate the effect of fluoride on the drinking water system. Management considers this risk to be low and will monitor the process closely.

FINANCIAL MATTERS

Despite the delays noted above, management is expecting the project to reintroduce fluoride to the drinking water to be accomplished within the allocated budget for 2021. This includes:

Total Project Capital Cost - \$850K
Annual operating costs after commissioning - \$150K

RECOMMENDATION:

EWU Board of Directors

That the Fluoride Update Report BE RECEIVED for information.

WUC Board of Commissioners

That the Fluoride Update Report BE RECEIVED for information.



Garry Rossi
Vice President, Water Operations



Helga Reidel
President & CEO