



Board of Directors
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Memorandum

To: HONORABLE BOARD OF DIRECTORS

From: Navid Mehram, Chief Operating Officer – Wastewater Services

CC: Sue McCormick, Chief Executive Officer

Date: January 16, 2019

RE: **Response to Questions from Operations and Resources Committee
Regarding 2018-1088 Contract Number RFB 1802179 Polymer
Flocculant**

At its meeting on January 9, 2019 the GLWA Board of Directors, Operations and Resources Committee (“the Committee”) requested additional supporting material regarding the procurement of the polymer solution with a single responsive vendor. In addition, the Committee requested that staff provide research and analysis comparing similar facilities and the cost experienced. The following is submitted in response to those requests:

Wastewater treatment facilities can procure polymer in three forms; powder, emulsion and solution. Regardless of how the polymer is procured the material is diluted down to concentrations of 0.5% or less active polymer which is then introduced into the sludge flow stream for flocculation and dewatering. The dilution process varies significantly depending on the material procured and the dilution factor required. The individual treatment facility’s infrastructure dictates the polymer type to be procured. On site bench testing (Jar testing) is done for selection of the type of polymer, concentration and dosage rate.

The Water Environmental Federation Residuals and biosolids Conference (WEF RBC) subcommittee is in the process of preparing a series of factsheets related to dewatering. This subcommittee determined there is no “typical value” for polymer dose because it is dependent on so many factors within a treatment facility. These Factors can include the dewatering methodology, the through put, the facility’s sludge characteristics, capture rate, final product dry content and dewatering needs.

Based on the above-mentioned items the appropriate analysis is to review the Biosolids Dryer Facility (operated by NEFCO) compared to the WRRF operations. Both facilities experience the same sludge characteristics, while the dewatering methodology and need is different it allows for the best bench marking opportunity.

- Biosolids Dryer Facility (contract operated by NEFCO)
 - Dry Polymer – (\$ 1.36 per Lb.)
 - Avg. dosing Rate: 4.5 Lb. active polymer/Wet Ton
 - Avg. Cost: \$ 5.60 /Wet Ton of sludge
 - Emulsion Polymer – (\$ 1.09 per lb.)
 - Avg. dosing Rate: 7.3 Lb. active polymer/Wet Ton
 - Avg. Cost: \$7.99 / Wet Ton of Sludge
- GLWA WRRF (Proposed Rate)
 - Manic (Solution) Polymer (\$ 0.15 per Lb.)
 - Avg. dosing Rate: 4.2 Lb. active polymer/Wet Ton
 - Avg. Cost: \$6.54/ Wet Ton of Sludge

*the cost provided above is only based on the cost of polymer to wet ton processed. The unit rates do not include the O&M cost of the dilution equipment or the carrier water (city water).

The GLWA recognize the facilities current polymer handling infrastructure currently limits us to a single vendor supplier. However, based on the analysis above the proposed rate which will be locked in for the remaining 5 years will still be more cost advantageous than investing in additional infrastructure to receive other forms of polymer. GLWA will incorporate the review of the cost benefit analysis for polymer in to the wastewater master plan to identify the equilibrium point for where GLWA should pursue alternative polymer form than the currently procured solution.

Thank you for your consideration of this matter. If you should have any further questions or concerns, please do not hesitate to call upon us.

