

## METRO JPA/TAC Staff Report

**Subject Title:** Purchase of Additional Ferrous Chloride for Sulfide Control in Wastewater Treatment Plant Digesters and Sludge Pipelines

**Requested Action:** The Wastewater Treatment and Disposal (WWTD) Division requests approval to award a contract to Kemira Water Solutions for the purchase of additional ferrous chloride for Sulfide Control in the Wastewater Treatment Plant Digesters and Sludge Pipelines

Ferrous chloride ( $\text{FeCl}_2$ ) is a chemical used for hydrogen sulfide ( $\text{H}_2\text{S}$ ) control in wastewater treatment plant digesters and sludge pipelines.  $\text{H}_2\text{S}$  is a corrosive chemical that is hazardous to human health. It is a byproduct of bacterial activity in wastewater. Control of  $\text{H}_2\text{S}$  concentrations in the wastewater treatment process is a regulatory and employee safety requirement. Additionally, control of  $\text{H}_2\text{S}$  concentration is important for preserving the collection system infrastructure.

The Point Loma Wastewater Treatment Plant (PLWTP) sludge pipelines suffer from buildup of a hard mineral called vivianite. Buildup of this mineral reduces the effective size of the pipelines, thus leading to more-frequent pump failures and reduced plant reliability. The Wastewater Treatment and Disposal (WWTD) Division conducted a pilot study using ferric chloride ( $\text{FeCl}_3$ ) – another iron salt similar to  $\text{FeCl}_2$  – in an effort to reduce vivianite buildup while still controlling the concentration of  $\text{H}_2\text{S}$ . The study aimed to determine whether using  $\text{FeCl}_3$  rather than  $\text{FeCl}_2$  would slow the rate of mineral buildup and therefore reduce maintenance costs. However, the study determined that to achieve the same sulfide control results, the cost of  $\text{FeCl}_3$  was greater than the cost of  $\text{FeCl}_2$ . Analysis revealed that the avoided maintenance cost when using  $\text{FeCl}_3$  is less than the added cost of this chemical. Therefore, as of July 1, 2011, the PLWTP suspended use of  $\text{FeCl}_3$  for  $\text{H}_2\text{S}$  control in wastewater treatment plant digesters and sludge pipelines and returned to the traditional use of  $\text{FeCl}_2$ .

The Public Utility Department requests amending the existing contract with Kemira Water Solutions, under the terms of Bid No. 10015313; Contract No. 4600000766, to meet anticipated additional needs for  $\text{FeCl}_2$ . The anticipated increased expenditure of \$990,644.88 for  $\text{FeCl}_2$  will result in a larger decreased expenditure for  $\text{FeCl}_3$ . The net decrease in chemical expenditures will be approximately \$650,000.

$\text{FeCl}_2$  purchased under Bid No. 10015313 is used at multiple WWTD facilities, including the Point Loma Wastewater Treatment Plant, the Metropolitan Biosolids Center, and the North City Water Reclamation Plant. The total expenditure requested (\$1,856,728.48) is anticipated to meet all the Division's  $\text{FeCl}_2$  needs.

The Public Utility Department requests authorization to renew the contract with Kemira Water Solutions, for up to four additional one (1) year periods, with annual per unit cost increase not to exceed 15%.

### Recommendations:

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|---|---|
| Metro TAC:  | Submitted for consideration on September 21, 2011.  |
| IROC:   | N/A- This contract is included in the approved Metro operating budget and does not require IROC review.   |
| Prior Actions:<br>(Committee/Commission,<br>Date, Result) | Submitted for consideration by the Natural Resources and Culture Committee on September 21, 2011; tentatively scheduled for consideration by the full Council on October 4, 2010. |
| <b>Fiscal Impact:</b> \$1,856,782.48 in FY 2012           |   |
| Is this projected budgeted?                               | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>   |

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|---|--|---------------------------|--|
|   | Cost breakdown between Metro & Muni:             | 98.3% Metro               |  |
|   | Financial impact of this issue on the Metro JPA: | \$1,856,782.48 in FY 2012 |  |
| <b>Capital Improvement Program:</b> N/A   |  |                           |  |
|   | New Project?                                     | Yes _____                 | No _____                                     |
|   | Existing Project?                                | Yes _____                 | No _____ upgrade/addition _____ change _____ |
| <b>Comments/Analysis:</b>   |  |                           |  |
| <b>Previous TAC/JPA Action:</b> None.   |  |                           |  |
| <b>Additional/Future Action:</b> Pending Metro TAC Approval, consideration by the Metro Commission on September 21, 2011.   |  |                           |  |
| <b>City Council Action:</b> To be considered by the NR&C Committee on September 21, 2011; tentatively scheduled for consideration by the full Council on October 4, 2010. |  |                           |  |