Ferric Chloride Use In Wastewater Treatment

Presented By:
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Director of O&M

Operations Committee

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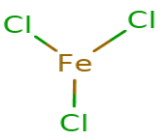
Ferric Chloride – $FeCL_3$

- Coagulant of choice for WWT applications due to its high efficiency and effectiveness in clarifying and reducing suspended solids
- Reacts with sulfates to prevent the formation hydrogen of sulfide odors

Alternatives – None as effective, some create additional sludge

- Aluminum Sulfate, Aluminum Chloride and Sodium Aluminate
- Ferrous Chloride, Ferric/Ferrous Sulfate



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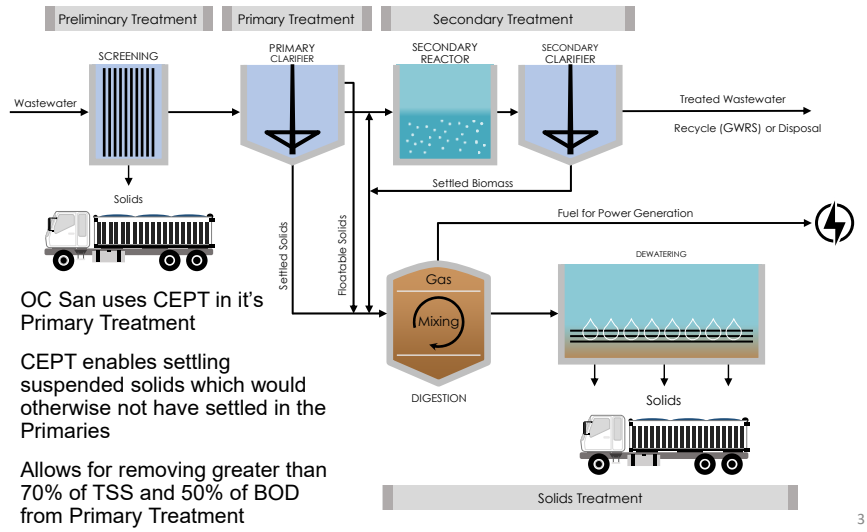
Typical Wastewater Treatment



OC San uses CEPT in it's Primary Treatment

CEPT enables settling suspended solids which would otherwise not have settled in the Primaries

Allows for removing greater than 70% of TSS and 50% of BOD from Primary Treatment

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Steps Taken to Minimize Purchases

FERRIC CHLORIDE:

- Staff Continue to Optimize FeCL3 Dosages in CEPT
- Trials are Occurring with Newer Methods to Reduce Sulfides in Digesters
- Align Odor Control Efforts in Collection Systems and Optimize Ferric Use in Treatment Plants

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Recommendation

Recommend to the Board of Directors to:

- Approve a unit price contingency of $226 per dry ton (27%) to the Liquid Ferric Chloride Agreement with Pencco, Inc., Specification No.C-2019-1037BD, for the period beginning March 1, 2023 through June 30, 2023. New unit cost not to exceed $1,075 per dry ton delivered; and
- Approve a unit price contingency of $310 per dry ton (32%) to the liquid Ferric Chloride Agreement with Kemira, Inc., Specification No.C-2019-1037BD, for the period beginning March 1, 2023 through June 30, 2023. New unit cost not to exceed $1,274.47 per dry ton delivered.

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Questions

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