



City of Sunnyvale

Agenda Item-No Attachments (PDF)

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REPORT TO COUNCIL

SUBJECT

Receive a Report of an Emergency Procurement to Provide Polymer to Meet Compliance Requirements at the Water Pollution Control Plant and Find that the Project is Urgent for the Preservation of Life, Health, or Property (F23-032)

REPORT IN BRIEF

Staff prepared this report to Council as an update to the previous emergency procurements for polymer needed to meet compliance requirements at the Water Pollution Control Plant (WPCP). The WPCP continues to be impacted by persistent, difficult-to-treat algae/cyanobacteria. The identified cyanobacteria *Synechocystis* sp. (sin-echo-sis-tis) has established itself in the WPCP's secondary treatment system (oxidation ponds). It is dramatically impacting the WPCP's ability to meet two of its effluent limits. This potentially subjects the City to mandatory penalties, administrative orders, third-party litigation, cease and desist orders, and other consequences.

The WPCP uses a chemical compound called polymer to reduce turbidity and remove solids. The formulation of the WPCP's long-time polymer provider has become ineffective due to the algae/cyanobacteria in the oxidation ponds. Fortunately, a cationic polymer from Solenis, LLS (Solenis), has proven more effective. An increase in the dollar amount and duration for the existing emergency purchase order with Solenis will allow the City time to complete a currently ongoing competitive procurement effort that is intended to select the best chemical suite available. This will ensure that the WPCP can comply with effluent regulations moving forward.

EXISTING POLICY

Pursuant to Chapter 2.08 of the Sunnyvale Municipal Code, the City Manager, the Purchasing Officer, or a department head may make or authorize others to make emergency procurements, regardless of cost, if there is an urgent necessity to do so for the preservation of life, health, or property. Such emergency procurements shall be made with such competition as is practical under the circumstances and shall be limited to those goods and services necessary to satisfy the emergency need. In the event that such emergency action is necessary, and the procurement cost is greater than two hundred fifty thousand dollars in any one transaction, the City Manager shall make a full and complete report to the City Council at its next regularly scheduled meeting.

ENVIRONMENTAL REVIEW

Receipt of the report does not constitute a "project" within the meaning of the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15378(a) as it has no potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment.

BACKGROUND AND DISCUSSION

The WPCP regularly uses bulk chemicals for the treatment of wastewater at various stages to meet strict discharge requirements: Sodium Hypochlorite for disinfection, Sodium Bisulfite for dichlorination/neutralization, Caustic and Ammonium Sulfate for predation control in the Plant's Fixed Growth Reactors (FGRs), and polymers to remove Total Suspended Solids (TSS) and lower Turbidities (NTU) in the Dissolved Air Flotation and Dual Media Filter processes. These chemicals allow the WPCP to meet various compliance requirements.

The WPCP has been unable to reliably meet the effluent limits for TSS and Turbidity using the current polymer. The WPCP had used the same polymer brand for over a decade with satisfactory results. However, over the past year, the predominant algal species in the Plant's oxidation ponds have changed from multi-cell organisms to single-celled algae/cyanobacteria. Algae in the oxidation ponds are vital for wastewater treatment but must be removed at a subsequent step in the Dissolved Air Flotation tanks using polymer. The current polymer has been ineffective in removing the cyanobacteria, negatively impacting the two effluent limits outlined in the WPCP's National Pollution Discharge Elimination System (NPDES) permit.. Exceeding these limits potentially subjects the City to mandatory penalties, administrative orders, third-party litigation, and cease and desist orders. In addition, the cyanobacteria can produce a liver toxin called Microcystin, which can harm human and aquatic health if released into the Bay. While testing of the cyanobacteria to date has revealed no toxins, pond biology can change quickly.

WPCP staff recognized the issue and attempted to troubleshoot the issue with the current polymer provider. Despite many attempts, the contracted polymer provider could not determine why their product lost its effectiveness. While the current polymer provider continued to test existing and other alternatives, the WPCP team concurrently invited a half dozen polymer manufacturers to perform laboratory (benchtop) testing of the pond effluent. This testing determined that solutions from Kemira and Solenis met the required limits for TSS and turbidity. The City issued an emergency contract to Solenis for \$240,000 in April 2022 under the City Manager's authority to implement this solution immediately. In June 2022, the City also issued an emergency contract to Kemira for \$700,000 as an alternative solution (RTC No. 22-0630).

After considerable empirical testing of both products outlined in the original emergency procurement, Solenis - Zetagg 8819 has demonstrated more effectiveness in terms of water quality as well as cost over other tested chemicals. WPCP staff is also looking at new types of treatment technology, including sonic algae treatment systems in the ponds, algaecide, new types of solids removal systems such as Herron - Suspended Air Flotation (SAF), continuous backwash filter systems, etc. The evaluations of these treatment options will take time. In addition, the City is conducting a competitive procurement for a long-term treatment solution that will procure a chemical that effectively meets the required effluent limits. This will incorporate testing to validate a solution that meets ongoing effluent requirements and support to evaluate treatment methods as the chemical makeup may change over time. The current vendor, those that have been issued emergency contracts, and other vendors nationwide will be invited to participate in the solicitation. The procurement process is expected to be completed by the end of the calendar year.

This change order to the previous emergency procurement is intended to provide the City with sufficient polymer until the competitive procurement process is complete. Without an emergency procurement through the change order, the City would not be able to reliably meet the effluent limits for TSS and Turbidity. This procurement is urgent for the preservation of life, health, or property.

FISCAL IMPACT

The chemical usage of polymers fluctuates seasonally each year. However, polymer usage has nearly doubled over the past fiscal year due to the algae issues. In addition to increased polymer use, the cost of polymers has also increased substantially. Supply chain issues, the price of petroleum, and increased labor/transportation costs have all contributed to the cost increase for polymer and other bulk chemicals regularly used by the WPCP. The previous emergency purchase agreements are for \$700,000 to Kemira for Superfloc C-1599 and for \$240,000 to Solenis for Zetag 8819. The use of these polymers has kept the WPCP in compliance. The Solenis polymer emergency purchase agreement is requested to be augmented and used until a long-term contract is established with one or more vendors through the competitive procurement process. This request will modify the purchase agreement for Solenis to add \$1,000,000 and extend the duration until the end of this fiscal year. The amount and duration for this change order request on the purchase agreement for Solines is based on the usage data from the existing emergency purchase agreement that has been exhausted.

The cost for these contracts can continue to be absorbed in the Wastewater Treatment operating program. A budget modification will be submitted when a new polymer and/or suite of chemicals is recommended for award as a result of the competitive solicitation process.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Public Library, Senior Center, Community Center and in the Department of Public Safety Lobby. In addition, the agenda and report are available at the Sunnyvale Public Library, Office of the City Clerk, and on the City's website.

RECOMMENDATION

Receive the Report of an Emergency Procurement to provide Polymer to meet Compliance Requirements at the Water Pollution Control Plant and find that the project is urgent for the Preservation of Life, Health, or Property,

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