



DATE: November 13, 2017

TO: Council Sustainability Committee

FROM: Director of Utilities & Environmental Services

SUBJECT Recycled Water Supply Options

RECOMMENDATION

That the Committee reviews this report and comments on the proposed approach for providing a recycled water supply source for the City's Recycled Water Project.

SUMMARY

The City's current Capital Improvement Program includes the Recycled Water Storage and Distribution System Project (Recycled Water Project), which would provide a locally sustainable and drought-proof supply of recycled water to customers for irrigation and industrial uses. Since 2016, City and Russell City Energy Company, LLC (RCEC) staff have been in discussions on a recycled water supply agreement for the City to purchase surplus tertiary treated recycled water from RCEC as the source of supply for the City's project. The key terms of the proposed recycled water supply agreement with RCEC and a separate supply option for the City to construct a City-owned recycled water treatment facility were discussed with the Council Sustainability Committee on May 8, 2017, as part of an overall update on the City's Recycled Water Project. This report has been prepared to update the Committee on the status of the supply options for the City's Recycled Water Project and provide information on staff's proposed approach for moving forward with final design of a City-owned recycled water treatment facility, in parallel with continuing discussions with RCEC.

BACKGROUND

The City's Recycled Water Project consists of constructing a one-million-gallon storage tank and pump station at the City's Water Pollution Control Facility (WPCF) and installing approximately ten miles of distribution pipelines and customer connections to deliver an estimated 290 acre-feet per year, or about 260,000 gallons per day, of recycled water. Customers would include parks, schools, businesses and industrial parks within a three-mile radius of the WPCF. Once the initial distribution and storage system is constructed, there may be opportunities to expand the system and include more customers in future phases.

During the planning phase, staff evaluated two recycled water supply options for the project:

- (A) Purchase of recycled water from RCEC
- (B) Construction of a new City-owned recycled water treatment facility

Both recycled water supply options were analyzed in the environmental documentation prepared for the project. The planning studies recommended that the City pursue obtaining a recycled water supply from RCEC for the initial phase of the Recycled Water Project. This arrangement had been contemplated in the 2012 Water Supply Agreement between the City and RCEC, under which the City provides RCEC with up to 4.1 million gallons per day (MGD) of secondary treated wastewater for RCEC's treatment and use at its Russell City Energy Center.

The Russell City Energy Center is a 620-megawatt electric power generating facility located adjacent to the City's WPCF. The Russell City Energy Center includes a Recycled Water Facility that takes secondary treated wastewater from the City and further treats it to produce disinfected tertiary recycled water that meets Title 22 of the California Code of Regulations (Title 22) requirements for unrestricted use for nonpotable purposes. Title 22 requirements are stringent water quality standards set by the State to ensure the safe production, distribution, and use of recycled water in California. Under the arrangement being discussed by City and RCEC staff, the City would purchase surplus recycled water produced at RCEC's Recycled Water Facility and distribute it for use by City customers.

On May 8, 2017, staff provided an update to the Committee on the status of the Recycled Water Project, including an overview of the key terms of the supply agreement being negotiated between City and RCEC staff. Staff discussed that in the event RCEC and the City are unable to reach agreement on the final terms and conditions of the recycled water supply agreement and/or the City determines it is more feasible to operate a separate recycled water treatment facility, staff would return to Council to request authorization to proceed with installing a City-owned recycled water treatment facility at the WPCF. To avoid potential delays in implementing the project, the Committee directed staff to initiate work on the City-owned recycled water treatment facility option in parallel with efforts to finalize the supply agreement with RCEC.

DISCUSSION

Implementation of the Recycled Water Project is approaching a critical milestone with final design of the recycled water storage and distribution system scheduled to be completed in December 2017. Over the past several months, progress on finalizing a supply agreement with RCEC has slowed considerably, raising uncertainty on whether an agreement can be reached with RCEC in a timely manner. The following sections describe the status of the two recycled water supply options and staff's proposed approach for ensuring a supply source for the project.

Supply Option A: Recycled Water Supply Agreement with RCEC

In April 2017, RCEC provided the City with a Letter of Intent to provide a recycled water supply for the City's project, provided that a mutually acceptable agreement could be reached between

the parties. In June 2017, the parties worked on a draft agreement that includes the following key terms:

- Supply: RCEC would provide up to 0.5 MGD of surplus disinfected tertiary treated recycled water that meets Title 22 requirements.
- Cost: The City's cost to purchase recycled water would be based on the incremental cost for RCEC to produce additional recycled water, which is expected to be below the current wholesale purchase cost of drinking water. The City would pay all costs for RCEC to modify piping and related facilities to deliver recycled water to the City
- Recirculated water: The City would allow RCEC to return water that does not meet Title 22 requirements to the WPCF to help expedite RCEC's efforts to get its Recycled Water Facility back online after process upsets. RCEC would pay the sewer service charge for any non-compliant recycled water discharged to the City's WPCF. Under the terms of the proposed agreement, the sewer connection fee would be waived so long as RCEC's discharge meets certain limits specified in the agreement.
- Term: The proposed term of the recycled water supply agreement would be for a two-year period that begins once the City's project is fully constructed and ready to receive recycled water. The parties could mutually agree to one-year extensions after the initial two-year term has ended.
- Approvals: Each party would be responsible for obtaining all necessary approvals required to fulfill their obligations under the agreement. The proposed agreement provides for the parties to meet and confer on appropriate remedies, including termination of the agreement, if permits cannot be obtained within eighteen months of execution of the supply agreement.
- Termination: The proposed agreement provides the City with the right to terminate the agreement in its sole discretion with 180 days prior notice. If the City elects to exercise its right to terminate, the City would need to reimburse RCEC for its out-of-pocket permit expenses up to a maximum agreed amount.

The proposed agreement with RCEC is envisioned to be a short-term agreement that would provide the supply for the City's initial phase of the Recycled Water Project, while the parties continue discussions and planning on longer term recycled water arrangements. However, efforts to finalize a near-term supply agreement with RCEC have taken longer than anticipated and it is uncertain whether a final agreement can be executed and implemented in a timely manner. Although some progress has been made recently, even if a supply agreement can be executed with RCEC in the next few months, implementation of the agreement is still conditioned upon RCEC's ability to obtain all necessary permit approvals, including approval from the California Energy Commission, which could be a lengthy process. Therefore, while a short-term supply agreement with RCEC is still staff's preferred supply option for the initial phase of the Recycled Water Project, staff is proposing to move forward with final design of a City-owned recycled water treatment facility in parallel with continuing discussions with RCEC.

Supply Option B: City-owned Recycled Water Treatment Facility

As directed by the Committee, staff has initiated work on a City-owned recycled water treatment facility option that could be implemented in the event a supply agreement with RCEC cannot be finalized or implemented. The City-owned recycled water treatment facility would be a package membrane system, capable of producing up to 0.5 MGD of tertiary treated recycled water meeting Title 22 requirements for the initial phase of the City's Recycled Water Project. The package membrane system would be sited at the WPCF, adjacent to the future recycled water storage tank and pump station, and consist of a feed pump station, a containerized microfiltration (MF) or ultrafiltration (UF) filtration system, and chlorine disinfection. Package membrane systems are highly reliable, require minimal engineering, and can be installed in a relatively short time-frame (nine months).

A typical approach for a package membrane system is to pre-select the membrane manufacturer so final design documents can be prepared for installing the selected membrane filtration system. This approach reduces time and the risk of change orders during construction. Staff has worked with a consultant to prepare procurement documents to pre-select the membrane manufacturer and is now proposing to move forward with final design of the package membrane system. The scope of work for final design includes finalizing and advertising the procurement documents to pre-select the membrane manufacturer and preparing final design documents to install the selected membrane filtration system, feed pump station, chlorine disinfection system, and other ancillary facilities. In parallel, staff would work with regulatory agencies to amend the City's permit application to allow the flexibility for the City to provide the supply for the City's Recycled Water Project, if the City opts to implement the City-owned recycled water treatment facility option.

If the Committee concurs with staff's proposed approach, staff anticipates selecting a consultant and asking Council to consider authorizing a professional services contract for design services of the package membrane system in December 2017. Final design is estimated to take nine months and construction of the package membrane system could be ready to be advertised by fall of 2018. This schedule matches the schedule for construction of the storage and distribution system and would avoid the potential for significant delays to the project schedule, which could potentially affect outside funding that has been secured for the project.

Proceeding with final design of a City-owned recycled water treatment facility provides the City with a supply option that is within the City's control and discretion to implement. The package membrane system would provide the supply for the City's initial phase of the Recycled Water Project and could potentially be expanded during the interim, as the City continues to explore potential long-term recycled water supply options. Even if an agreement can be reached with RCEC, staff recommends proceeding with final design of the package membrane system to provide the City with a back-up option in the event RCEC cannot obtain permit approvals in a timely manner. Completing final design of a City-owned recycled water treatment facility also provides the City with flexibility to quickly implement a recycled water supply option if the parties elect not to continue the arrangement after the initial two-year supply agreement concludes.

ECONOMIC IMPACT

The economic impact of the Recycled Water Project on customers will, to a large measure, depend on the total costs to implement the City's Recycled Water Project, which includes the capital and operating costs for the storage and distribution system, and the cost to either purchase recycled water from RCEC or construct, operate, and maintain a City-owned recycled water treatment facility. Over a twenty-year period, the costs to purchase recycled water from RCEC and the City-owned recycled water treatment facility are estimated to be roughly the same. To the extent that the project is partially funded by grants, the overall cost impact to customers will be reduced. Once the costs are finalized and funding sources are in place, staff will recommend a rate structure that would provide a balance between recovering costs over the life of the project and offering an incentive to customers who are able to receive recycled water. The community will benefit from this project through greater diversity and reliability of water supplies, especially during periods of drought.

STRATEGIC INITIATIVES

This agenda item supports the Tennyson Corridor Strategic Initiative. The purpose of the Tennyson Corridor Strategic Initiative is to develop an attractive, cohesive, thriving Tennyson Corridor through thoughtful engagement with residents, businesses and community partnerships. There are two sites located in the Tennyson Corridor that are proposed to be connected to the recycled water system, and would therefore support the following goal and objectives:

Goal 3: Improve Community Appearance

Objective 1: Enhance landscaping

Objective 3: Decrease blight

The use of recycled water will help create attractive outdoor spaces in the Tennyson Corridor. Since recycled water is a sustainable and drought-proof source of supply, customers will be able to maintain their landscaping during water supply shortages when drinking water supplies are limited.

FISCAL IMPACT

The current Ten-Year Capital Improvement Program (CIP) includes \$19.3 million for the Recycled Water Project and an additional \$1.3 million for the City to construct the City-owned recycled water treatment facility (Supply Option B). Design efforts to implement Supply Option B have just been initiated. Although it is difficult to estimate the cost to implement Supply Option B with certainty until the design is further developed, staff's best estimate at this time is that the cost will total approximately \$2 million. Staff expects that the costs will be refined prior to adoption of the FY2019 CIP. If additional monies are needed, staff will ask the Council to consider the increased funding in the Sewer Improvement Fund when the FY2019 CIP is adopted. Implementation of both the Recycled Water Project and Supply Option B will not utilize any General Fund monies.

SUSTAINABILITY FEATURES

The use of recycled water will reduce the demand for drinking water and improve the reliability and availability of drinking water, while providing a sustainable and drought-proof water supply for some irrigation uses. It will also reduce the volume of wastewater and associated residual pollutants discharged to San Francisco Bay, which is required to meet increasingly stringent discharge regulations.

PUBLIC CONTACT

The City completed an environmental review of the Recycled Water Project in October 2014 and a draft Initial Study/Mitigated Negative Declaration (IS/MND) was circulated for a thirty-day public review from October 24, 2014 through November 24, 2014. The IS/MND included environmental review of both obtaining a recycled water supply from RCEC and construction of a City-owned recycled water treatment facility. The IS/MND was adopted on December 16, 2014, incorporating all the comments that were received.

The proposed recycled water supply agreement was discussed with the Committee on May 8, 2017. At this meeting, the Committee directed staff to begin work on the City-owned recycled water treatment facility option.

NEXT STEPS

If the Committee concurs with staff's proposed approach, staff will move forward with asking Council to consider authorizing a professional services contract for final design of a City-owned recycled water treatment facility in December 2017. At the same December meeting or shortly after, staff will also be asking Council to approve the plans and specifications and call for bids for the recycled water storage and distribution system.

In parallel, staff will continue efforts to finalize a supply agreement with RCEC and will update the Committee in early 2018 on the progress of discussions with RCEC and, if needed, ask Council to consider proceeding with construction of a City-owned recycled water treatment facility.

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