

DATE ISSUED: April 13, 2001

REPORT NO. 01-071

ATTENTION: Natural Resources and Culture Committee
Agenda of April 18, 2001

SUBJECT: Reclaimed Water Rates

REFERENCES: City Council Policy 400-9

San Diego Municipal Code Section 64.0801 et. seq.

City Manager=s Report No. 94-328 issued October 19, 1994

City Manager=s Report No. 96-112 issued May 15, 1996

City Manager=s Report No. 97-170 issued September 24, 1997

City Manager=s Report No. 99-32 issued February 11, 1999

City Manager=s Report No. 99-62 issued March 24, 1999

City Manager=s Report No. 99-112 issued May 28, 1999

City Manager=s Report No. 00-95 issued May 3, 2000

City Manager=s Report No. 00-147 issued July 17, 2000

SUMMARY

Issues

1. Shall the City Council adopt the proposed reclaimed water rate and reduce it from \$1.34/HCF (\$580/AF) to \$0.80/HCF (\$350/AF) as a means of increasing the customer base and overall demand?
2. Shall the City Council adopt the potable water service fee schedule as the reclaimed water service fee schedule?
3. Shall the City Council authorize the City Manager to add a cross-connection test fee to the reclaimed service fee schedule?

Recommendations

1. Reduce the reclaimed water rate; and
2. Adopt the potable water service fee schedule as the reclaimed water service fee schedule; and
3. Add a cross-connection test fee to the reclaimed water service fee schedule.

Other Recommendations - The Water Department Citizen's Advisory Board, at the March 7, 2001 meeting, approved a motion to support the recommendations listed above.

Fiscal Impact - Adoption of the recommended changes in reclaimed water rates and charges will reduce projected FY2002 reclaimed water sales revenues of \$2,494,000 by \$989,000 or 39%. It is expected that this reduction will be at least partially offset in the near term by an increase in sales volume based on a reduced reclaimed water rate, and that the reduced rate will attract a substantial new customer base generating significantly greater revenues going forward.

BACKGROUND

The City of San Diego owns and operates two water reclamation plants, with a third one scheduled to come on line in late 2001. The total production capacity of these three plants will be 46 million gallons per day (MGD). The one MGD San Pasqual Water Reclamation Plant (San Pasqual) was completed in 1993. The 30 MGD North City Water Reclamation Plant (North City) was completed in 1997, and the 15 MGD South Bay Water Reclamation Plant (South Bay) will be completed later this year. In addition to the reclamation plants, distribution pipeline systems have been constructed to deliver water to customers. Approximately 5 miles of pipe up to 16" in diameter have been constructed to serve San Pasqual customers, approximately 46 miles of pipe have been constructed to serve North City customers, and approximately one mile of pipe has been constructed to serve South Bay customers.

History

In 1989, the City Council passed Ordinance 0-17327, which amended San Diego Municipal Code Section 64.0801 et. seq. to include reclaimed water. This ordinance is sometimes called the A Mandatory Use Ordinance, @ in that it established as City policy that reclaimed water shall be used within [the City] where feasible. Moreover, the ordinance also states that no person shall use potable water where reclaimed water is suitable and when it is available.

Under the ordinance, the City Manager is directed to make determinations as to which existing potable water customers shall be converted to the use of reclaimed water based on Water Reclamation Master Plans, and is further directed to make determinations as to whether applicants for tentative maps, subdivision maps, or other development projects as defined by California Government Code Section 65928 are required to use reclaimed water, or to include reclamation facilities as a condition of development.

In 1994 (Manager=s Report No. 94-328), reclaimed water rates were set for San Pasqual customers at 90% of the commercial potable water rate. The commercial potable water rate at that time was \$1.35 per hundred cubic feet (1 HCF = 748 gallons), yielding a reclaimed water rate of \$1.21/HCF (\$524 per acre-foot). This rate was set for a period of at least five years.

In 1996 (Manager=s Report No. 96-112), the City Council reaffirmed the setting of reclaimed

water rates at 90% of the commercial potable water rate for all retail customers except for the California Department of Transportation (CALTRANS), which was afforded a rate equivalent to 80% of the commercial potable water rate in return for pipeline easements in the Highway 52 right-of-way. The commercial potable water rate used was the then-current commercial potable water rate of \$1.435/HCF (\$621/AF), which yielded a retail reclaimed water rate of \$1.29/HCF (\$558/AF) and a CALTRANS rate of \$1.15/HCF (\$498/AF).

The City Council action setting the above rates also created the client site retrofit program as a means of encouraging customers to connect to the reclaimed water system by financially assisting in the design and construction of necessary on-site potable to reclaimed water retrofits. Under this incentive program, customers committed to using reclaimed water and were reimbursed 100% of their infrastructure retrofit costs. Approximately \$17.8 million in client retrofit funding was budgeted from Fiscal Year 1997 through Fiscal Year 2001. This funding has enabled almost 200 customer sites to be retrofitted for use of reclaimed water. Through the client site retrofit program, reclaimed water customers were reimbursed for all on-site infrastructure costs including design of system, piping, meter and backflow assembly procurement and installation and San Diego County Department of Environmental Health (DEH) inspection fees. The City mandated cross-connection tests were performed at no cost to the retrofit customer.

In 1997 (Manager=s Report No. 97-170), the Council approved an agreement with the City of Poway to provide reclaimed water from North City. Poway constructed a reclaimed water system within its southern geographical limits that was then connected to the North City distribution system. The wholesale reclaimed water rate was set pursuant to mutual agreement of the parties was \$450/AF (\$1.03/HCF), adjusted annually by the San Diego Region Consumer Price Index (CPI). This price was based on the proportionate valuation and cost of the improvements constructed that were needed to transport the water from North City to the South Poway system.

In March 1999 (Manager=s Report No. 99-62), the City Council directed staff to prepare a Beneficial Reuse Study to determine how best to utilize the reclaimed water assets of the City. This report was completed in 2000 and will serve as the City's Reclaimed Water Master Plan, covering all three reclamation plant service areas. This report identifies potential customers, quantifies irrigation demands and identifies future facilities needed in order to beneficially reuse the water produced at the reclamation plants. In addition, it estimates the capital costs associated with these improvements.

In July 2000 (Manager=s Report No. 00-95), City Council directed staff to finalize the Beneficial Reuse Study and prepare a long-term capital program for consideration. This Manager=s Report also presented to City Council, for the first time, the concept of and methodology to prepare a reclaimed water cost of service study. Council approved the analysis methodology and directed staff to: 1) develop full-cost-recovery reclaimed water rates and charges; and, 2) bring the results back for consideration.

DISCUSSION

Strategic Objective

The strategic objective of the recommended changes in currently effective reclaimed water fees and charges is to increase the reclaimed water customer base and sales volume. Additionally, this reliable local water supply helps to insulate San Diego from the uncertainties of imported water. It will also lessen the strain on the City's potable water system. This would allow the City to utilize reclaimed water plant production capacity to the greatest extent possible.

The Ocean Pollution Reduction Act (OPRA) of 1994 allowed the City to maintain advanced primary treatment at the Pt. Loma Wastewater Treatment Plant (Pt. Loma), in exchange for the City constructing 45 MGD of reclamation capacity. By maintaining Pt. Loma at primary treatment, rather than upgrading to the much more costly secondary treatment level, the City's sewer ratepayers were saved billions of dollars in construction and operating costs. To utilize just a portion of that capacity, the Water Department has invested over \$70 million in the construction of reclaimed water distribution systems, much of it to construct the backbone distribution system connected to the North City Plant.

The North City Plant was partially financed by an EPA grant. One of the grant conditions stipulates reuse goals for the reclaimed water produced at the North City Plant. The City must beneficially reuse 25% of the plant flow by 2003 (6,250 AFY) and 50% of the plant flows by 2010 (12,500 AFY). The improvements identified by the Beneficial Reuse Study, coupled with the changes in reclaimed water rates and charges recommended in this report, will assist the City in reaching the North City EPA grant goals, increase sales from San Pasqual, and develop a strong customer base at South Bay.

Recommended Approach

The current reclaimed water rate, set at 90% of the commercial potable water rate, is \$1.34/HCF (\$580/AF). The City pays all design, construction, regulatory compliance, and administrative costs associated with the client site retrofits. The recommended system of rates and charges would eliminate all City-paid customer site expenditures and would require that the customer pay all costs associated with adapting to and using reclaimed water on site. Additionally, the rates and charges would reduce the FY 2002 reclaimed water rate to \$0.80/HCF (\$350/AF) to reflect the cost to the Water Department enterprise fund, as reflected in the cost of service study discussed below. The lower commodity charge will encourage customers to purchase reclaimed water and retrofit their own sites. The cost savings inherent in using reclaimed water, it is believed, will be significant enough to make it a wise investment for customers to retrofit their sites using their own funds.

While new potable water supplies will be critical for the City to be able to handle peak summertime irrigation demands in the future, pressure on the potable water supply system will be reduced significantly if local peaking water supplies can be developed. Since reclaimed water serves mainly irrigation customers, its use offsets the need to import more water, especially during high demand periods. This also lessens the impact on the City's Water Treatment Plant infrastructure, which makes reclamation reuse an excellent strategy to pursue in the evolving California water market.

The Water Department has been contacted by wholesale water agencies, such as the Otay Water District, Olivenhain Municipal Water District, and the City of Poway regarding the purchase of reclaimed water. Notwithstanding the rate proposed in this report, the Water Department may negotiate a different reclaimed water price, on a case-by-case basis, with these wholesale agencies. This wholesale price would reflect direct benefits to the Water Enterprise Fund and be in the best interest of the water rate payers. Each individual agreement would be brought to the City Council for approval.

Cost of Service Study

As water reclamation came of age, it was clear that a vigorous analysis of water reclamation program revenues and expenses was necessary to provide a basis for maximizing sales while fully offsetting costs. The concept was to lay out a long-term capital program, estimate operations and maintenance costs, eliminate all customer subsidies, and calculate a system-wide reclaimed water rate that could be uniformly applied to retail customers of all three plants. The analysis first identified all reclamation-related costs to the water fund. These included existing debt service, long-term capital program expenditures as defined by the Beneficial Reuse Study, projected operating costs, and the cost of purchasing reclaimed water from the Metropolitan Wastewater Department, where applicable. All anticipated revenue sources were then

identified. These included user fees (rates), capacity charges, Metropolitan Water District (MWD) and County Water Authority (CWA) incentive program revenues, bond proceeds, interest earnings, and meter fees. A financial model was then developed and required rates determined, utilizing the following core assumptions:

A debt/equity ratio no greater than 70%/30%.

A debt coverage ratio of a minimum of 1.6 to 1.

An interest rate on debt of 5.75% with a 30-year payback period.

Debt issuance is assumed to occur every two years.

A 45-day operating reserve.

A debt service reserve equal to one year of debt service.

Capacity charges of \$2,500 per dwelling unit or equivalent (EDU).

Annual operating costs escalated by 3% per year. While reclamation capital projects are presumed to be eligible for State of California Proposition 13 and Bureau of Reclamation Title XVI grant funds, no grants were included in the analysis because contracts have yet to be executed, and;

The MWD incentive program (up to \$250/AF) and the CWA incentive program

(\$100/AF) revenues were included in revenue projection because these contracts are currently in place.

The Cost of Service Study methodology employed to determine the recommended reclaimed water rate analyzed a series of projected cash flows discounted to their net present value. The objective of the analysis was to equate the net present value of the required revenues to the net present value of the generated revenues during a study period of 20 years (2002-2021). This methodology results in reclaimed water rates being set at a lower level in the initial years and gradually increasing over time. This concept is intended to promote reclaimed water usage by virtue of its attractive price in comparison to potable water rates. Manager=s Report No. 00-95 estimated the reclaimed water rate to be \$320/AF (\$0.73/HCF) plus or minus 10%. The Cost of Service Study concludes that the Fiscal Year 2002 reclaimed rate could be established at \$350/AF (\$0.80/HCF). This price compares favorably with the earlier reclaimed price estimate. By comparison, the current potable water rate is \$1.49/HCF (\$646/AF).

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Recommended Fees and Charges

The cost savings to be derived from using reclaimed water purchased at the recommended rate will be significant enough to make it a wise investment for a customer to retrofit his or her site utilizing his or her own funds. A majority of retrofitted customers sites exhibit a simple payback time of five years or less. This being the case, concurrent with the establishment of the recommended rate on July 1, 2001, all customer incentive programs cease. The incentive programs include the client site retrofit program, and the customer support programs that pay for customer site-specific regulatory requirements. It is recommended that instead of the on-site customer support program, a series of fees and charges be established to reimburse the City for tasks performed on behalf of clients.

The reclaimed water infrastructure installation and service process mirrors that of the potable water system. The fee schedule for potable water and reclaimed water services are therefore identical. Since the client site retrofit program is ending, all reclaimed water customers (retrofits and new connections) will be responsible for any and all costs associated with obtaining and maintaining reclaimed water service at customer sites. These fees will be the same as identical potable water service fees. The potable water service fee schedule would also serve as the reclaimed water service fee schedule.

The periodic potable/reclaimed water cross-connection tests required by the City of San Diego will be paid for by the customer, as well as any associated DEH inspection staff costs. Customers will be required to pay reclaimed water capacity fees equal to those of a potable water customer, except in instances where reclaimed water will be used in lieu of potable water already in use, and for which the appropriate capacity charges have previously been paid. Additionally, new reclaimed water users will not be subject to CWA capacity charges, since they are not connecting to the potable water system. Finally, the customer will pay for all design, construction, and regulatory compliance costs associated with the use of reclaimed

water.

One new fee is required. Customer site cross-connection tests are required periodically by state and local regulations. These tests ensure there are no cross-connections between the potable and reclaimed water systems. The proposed fee for this service is dependent on the complexity of the client site. It is recommended that the cross-connection test fee be set at \$240 per meter. Most customers have a single meter connection. Those that have multiple meters are typically more complex to test.

CONCLUSION

The City's strategic objective is to increase the reclaimed water customer base and sales volume. This will enable the City to beneficially utilize plant production capacity to the greatest extent possible. It will also ensure that the reclaimed water program of the Water Department is fully self-supporting. A Cost of Service Study was undertaken to analyze all reclaimed water expenses and revenues projected over a 20-year period. Pursuant to the study, an initial reclaimed water rate of \$0.80/HCF (\$350/AF) was derived, based on the assumption that all other customer incentives would be eliminated and a schedule of fees for reclaimed water-related services is adopted.

Approval of the recommended changes to the current reclaimed water fees and charges will create materially higher demand for reclaimed water while reducing demands on the potable water system. The recommended fees and charges should go into effect at the beginning of Fiscal Year 2002.

ALTERNATIVE

Do not modify reclaimed water rates, charges or incentive programs at this time. This is not recommended because of its adverse effect on the City's ability to effectively market and use this valuable alternative water source.

Respectfully submitted,

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