

- **Board of Directors**
Water Planning and Resources Committee

June 13, 2000 Board Meeting

8-3

Subject

Clarification of General Manager's Authority to Execute Water Quality Exchange Agreements

Description

The proposed amendment to Administrative Code Section 4207 would expand the General Manager's authority to execute exchanges of Metropolitan's supplies that improve water quality. Metropolitan's access to the State Water Project (SWP) and groundwater banking programs provides opportunities for exchanges, many of which could provide positive cash flow dependent upon water market conditions and exchange locations. Furthermore, under certain conditions, it may be worthwhile for Metropolitan to execute exchanges that incur net costs, when sufficient benefits would be realized.

Under the proposed code amendment, individual exchanges would not exceed 50,000 acre-feet per year nor exceed \$250,000 in net costs. The proposed amendment supplements the existing Administrative Code that explicitly established Metropolitan policy for exchanges between Metropolitan and state water service contractors and among Metropolitan's member public agencies using Metropolitan facilities.

Water quality exchange opportunities with private and public entities occur intermittently and may only be available for short time periods. In these cases, there may not be sufficient time to obtain prior Board approval. It is anticipated that establishing a 50,000 acre-foot annual limit will provide sufficient flexibility to take advantage of short-notice exchange opportunities. Also provided for under this authority is the possibility that the delivery and/or return of the exchanged water may take place over multiple years.

Costs to facilitate water quality exchanges would come from the Water Transfer Fund (Fund). Of the \$47.9 million currently in the Fund, no more than \$750,000 would be utilized to fund water quality exchanges in FY 2000-2001. The Fund sunsets by 2004. For continued use of the Fund beyond the sunset date, the Board would need to take action at a future date to extend the life of the Fund. As experience is gained with exchanges, staff will evaluate the adequacy of the 50,000 acre-foot limit, the \$250,000 net cost limit, and future annual budgeted amounts and report back to the Board.

The following responses are provided to address questions raised at the April 2000 Water Planning and Resources Committee meeting:

- The primary criteria for implementing a water quality exchange agreement would be that the exchange provides benefits that exceed costs. Further, the net cost of an exchange to Metropolitan shall not exceed \$250,000. **Attachment 1** illustrates how this criteria would be applied to a theoretical water quality exchange when SWP water is exchanged for higher-quality Sierra water. The benefit-cost approach should automatically keep exchange costs within acceptable unit cost.
- Benefits could include reduced SWP power and delivery charges, reduced treatment costs, cost savings resulting from reduced SWP water deliveries needed to meet blending targets and reduced salinity damages to the region. For example, when Metropolitan is blending to meet its 500-milligram-per-liter salinity objective, a 10-milligram-per-liter reduction in the salinity of SWP supplies over 12 months would result in reduced SWP deliveries resulting in a \$300,000 reduction in SWP costs. When blending is not possible due to supply limitations, as might occur during a severe drought, a 10-milligram-per-liter reduction in SWP salinity over 12 months would result in approximately a \$3.6 million reduction in salinity impacts to the region.

- Because water exchange agreements will assist Metropolitan in providing water quality benefits to its entire service area, a policy for member agencies to opt-out appears inappropriate.
- While other SWP contractors may receive some benefits from water quality exchanges accomplished by Metropolitan, it appears impractical to include them in the negotiations because of the short-time windows expected and because they may have little incentive to participate. Furthermore, compensation from other contractors located south of Edmonston Pumping Plant would be relatively small. Staff will consider how to best include other contractors in longer-term water quality programs.

The Board would be apprised of water exchange activity through oral water supply updates that are now provided to the Engineering and Operations Committee on a regular basis. The proposed Administrative Code language in underscore/strikeout is shown on [Attachment 2](#).

Policy

Existing Metropolitan policy regarding water exchanges in Section 4207 is limited to minimizing the cost to Metropolitan for exchange of Colorado River water for State Project water and cooperating in exchanges between member public agencies. The proposed amendment to the Administrative Code will specify the General Manager’s authority to enter into a limited range of water quality exchange agreements.

Board Options/Fiscal Impacts

Option #1

Approve the proposed amendment to Administrative Code Section 4207 set forth in [Attachment 2](#) to specify the General Manager’s authority to enter into water quality exchange agreements.

Fiscal Impact: A single exchange could result in either a net cost or an overall cost savings to Metropolitan. The overall net costs associated with an exchange would be within the General Manager’s authority of \$250,000. Staff would include \$750,000 in the Fiscal Year 2000-2001 budget.

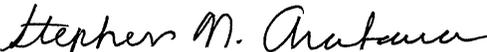
Option #2

No action.

Fiscal Impact: No net costs.

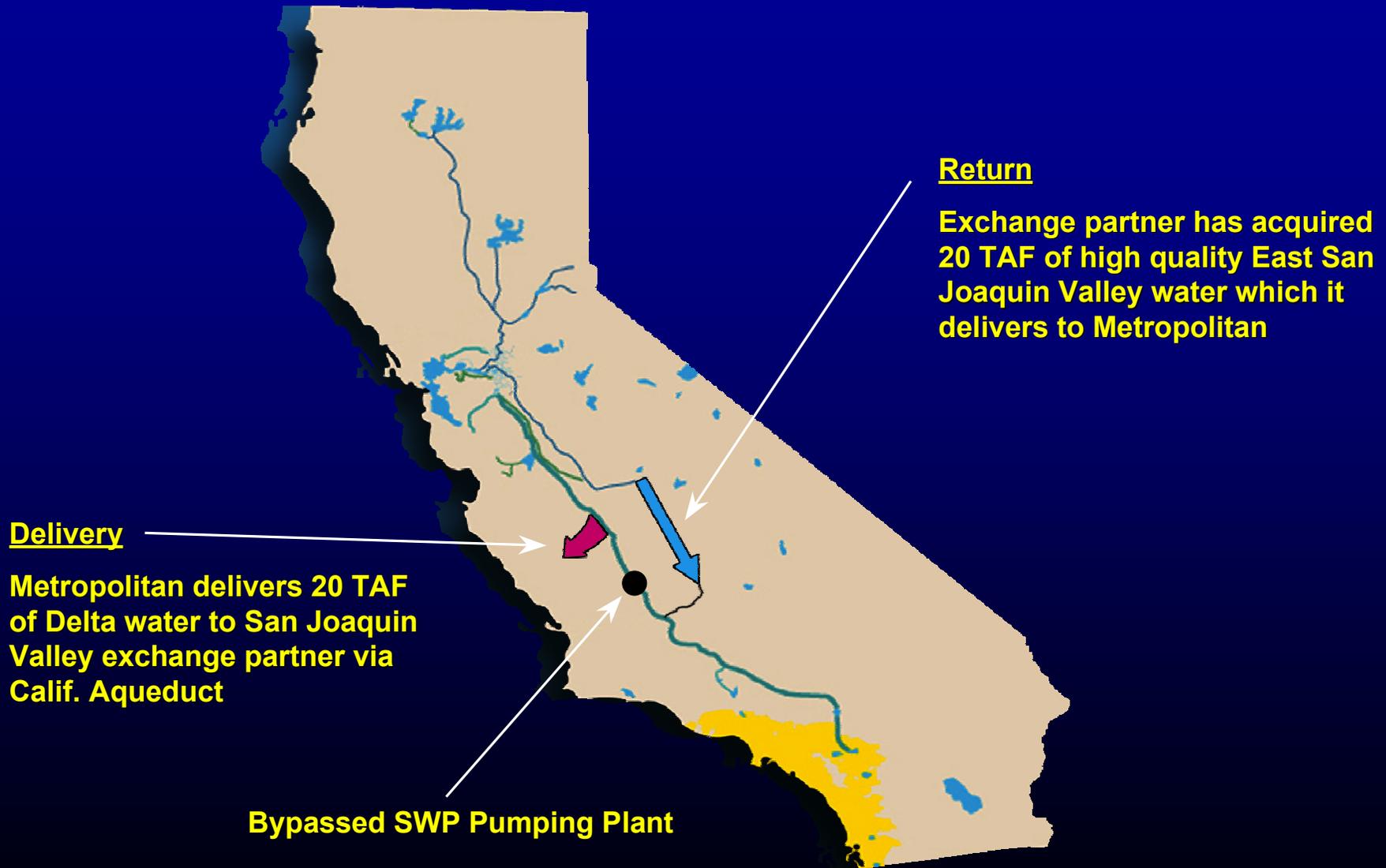
Staff Recommendation

Option #1.

| | |
|--|-----------|
|  | 5/25/2000 |
| Stephen N. Arakawa Acting Manager, Water Resource Management | Date |
| <hr/> | |
|  | 5/26/2000 |
| General Manager | Date |

[Attachment 1](#)
[Attachment 2](#)

Water Quality Exchange Example



Benefit/Cost Analysis for Water Quality Exchange

Water Deliveries With and Without Exchange (blended TDS of 500 mg/L)

| | Deliveries w/o Exchange (TAF) | Deliveries w/ Exchange (TAF) | Delivery Shift (TAF) |
|--------------------------------------|-------------------------------------|------------------------------------|----------------------------|
| Colorado River Aqueduct (700 TDS) | 814 | 831 | 17 |
| <u>State Water Project (350 TDS)</u> | | | |
| Entitlement (350 TDS) | 1,086 | 1,049 | |
| Exchange (50 TDS) | 0 | 20 | |
| Total Deliveries through SWP | 1,086 | 1,069 | (17) |
| Service Area Total Deliveries | 1,900 | 1,900 | |

Improved SWP quality allows for reduced SWP deliveries to meet blending target

Calculation of Benefits

(Shift in Supply Source)

| | | |
|---------------------------|-----------------|-----------|
| Energy Savings CRA vs SWP | 17 TAF @\$36/AF | \$612,000 |
| Treatment Savings | 17 TAF @\$5/AF | \$85,000 |
| Total Benefits | | \$697,000 |

Calculation of Net Costs for 20 TAF Exchange

| | | |
|-----------------------------|------------------|-------------|
| Local Conveyance Costs | 20 TAF @ \$20/AF | \$400,000 |
| By-passed SWP Pumping Plant | 20 TAF @ \$8/AF | (\$160,000) |
| Total Net Costs | | \$240,000 |

Conclusion: Transaction meets criteria.

1. Benefits Exceed Costs
2. Net Cost are less than \$250,000

Example Benefit/Cost Analysis for Water Quality Exchange

Water Deliveries With and Without Exchange

(Sources blended to meet TDS objective of 500 mg/L)

| | Deliveries w/o Exchange (TAF) | Deliveries w/ Exchange (TAF) | Delivery Shift (TAF) * |
|-----------------------------------|-------------------------------------|------------------------------------|------------------------------|
| Colorado River Aqueduct (700 TDS) | 1,056 | 1,064 | 8 |
| <u>State Water Project</u> | | | |
| Entitlement (250 TDS) | 844 | 816 | |
| Exchange (50 TDS) | 0 | 20 | |
| Total Deliveries through SWP | 844 | 836 | (8) |
| Service Area Total Deliveries | 1,900 | 1,900 | |

* Improved SWP quality allows for reduced SWP deliveries to meet blending target

Calculation of Benefits

(Shift in Supply Source)

| | | |
|---------------------------|-----------------|-----------|
| Energy Savings CRA vs SWP | 8 TAF '@\$36/AF | \$288,000 |
| Treatment Savings | 8 TAF '@\$5/AF | \$40,000 |
| Total Benefits | | \$328,000 |

Calculation of Net Costs for 20 TAF Exchange

| | | |
|-----------------------------|------------------|-------------|
| Local Conveyance Costs | 20 TAF '@\$20/AF | \$400,000 |
| By-passed SWP Pumping Plant | 20 TAF '@\$8/AF | (\$160,000) |
| Total Net Costs | | \$240,000 |

Conclusion: Transaction meets criteria.

1. Improves source water quality
2. Benefits exceed costs
3. Net costs are less than \$250,000

Attachment 2

§ 4207. Exchange of Water.

(a) The District's policy is that any exchange of Colorado River water for State Project water between the District and any state water service contractors shall be based upon such contractor paying all of the costs associated with delivery of State water at such contractor's delivery point, or at such other point as may be mutually agreed upon, which would result in the lowest cost to the District under such exchange.

(b) If two or more member public agencies of the District desire to enter into a water exchange arrangement, the District will cooperate in such an arrangement, subject to available capacity in the District's facilities and subject to availability of water for such exchange purposes, as determined by the District.

(c) The General Manager is authorized to enter into any water exchange agreement for an amount of 50,000 acre-feet per year or less without prior Board approval upon a determination that the exchange provides water quality benefits. The overall net cost impact to Metropolitan to facilitate the exchange shall not exceed \$250,000. Water exchanges authorized under this section are exempt from competitive bidding requirements under the terms of Administrative Code Section 8103.

Section 322.13.4 - paragraph (b) [formerly Section 322.13.4.2] based on M.I. 23612 - February 11, 1964 and paragraph (a) [formerly Section 322.13.4.1] based on M.I. 25756 - December 13, 1966; amended by M.I. 33642 - March 10, 1981.
Section 322.13.4 repealed and Section 4205 adopted by M.I. 36464 - January 13, 1987, effective April 1, 1987; Section 4205 renumbered Section 4207 by M.I. 39412 - January 14, 1992.