

- **Board of Directors**  
**Water Quality and Operations Committee**

January 13, 2009 Board Meeting

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**9-5**

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**Subject**

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Proposed agreements to implement three Orange County reliability projects

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**Description**

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This letter describes proposed agreements that would allow implementation of three reliability projects in the Municipal Water District of Orange County (MWDOC) service area. These reliability projects would involve interconnections to a Metropolitan pipeline or pipeline in which Metropolitan owns pro rata capacity. The first project (OC-72 Regional Interconnection) would involve the introduction of local water into the Allen-McColloch Pipeline (AMP) during emergencies. The second project (Baker Water Treatment Plant) would involve the introduction of locally treated water into the AMP at Service Connection OC-74 on a routine basis, as well as during emergencies. The third project (Upper Chiquita Reservoir) would involve off-line storage of water delivered from the Robert B. Diemer Water Treatment Plant (Diemer plant) and reintroduction of this water back into the jointly owned South County Pipeline (SCP) during emergencies. All of these projects are located within MWDOC's service area and would not impact other Metropolitan member agencies. See [Attachment 1](#) for the vicinity map and [Attachment 2](#) for the approximate locations of these projects.

Metropolitan's past practice for accommodating the introduction of local water into regional facilities has been either through lease agreements or through the Wheeling Service Policy defined by Division IV, Chapter 1, Section 4119 of Metropolitan's Administrative Code. Lease and service connection agreements that define financial terms as well as local and regional responsibilities for routine and emergency operations are considered most applicable for these proposed Orange County reliability projects that may involve partial use of regional facilities. For the purpose of these specific reliability projects, emergencies would be defined as scheduled and unscheduled outages of the Diemer plant and the AMP.

**Background**

The southern portion of MWDOC's service area is nearly 95 percent reliant on imported Metropolitan water from the Diemer plant. This high reliance on a single, regional facility will present long-term challenges for Metropolitan in scheduling facility outages, including extended outages associated with construction of the Diemer Oxidation Retrofit Program. The proposed reliability projects are being considered by MWDOC and its retail agencies (at their cost) to improve local system flexibility and achieve compliance with Metropolitan's Administrative Code provision for accommodating regional facility shutdowns. These three projects are supported by Metropolitan staff, as they would increase Metropolitan's flexibility in scheduling routine inspections, repairs and outages required for construction projects on the Diemer plant and AMP.

**Project No. 1 -- OC-72 Regional Interconnection**

This project would involve modifications to Service Connection OC-72 to allow water from the Irvine Ranch Water District (IRWD) to be pumped into the AMP during emergencies when Diemer plant water is not available or cannot be delivered through the AMP. This would allow local water (groundwater, Metropolitan water or blends of these sources) to be delivered through the AMP into portions of south Orange County that are almost completely dependent upon the Diemer plant.

The maximum amount of local water that would be introduced into the AMP at this location is 25 cfs. The design and construction of this project would be funded by MWDOC and its retail agencies and coordinated with Metropolitan staff.

**Project No. 2 -- Baker Water Treatment Plant**

This project would involve construction of a new, local treatment plant that would receive untreated Metropolitan water from the Santiago Lateral and a small amount of local runoff from Irvine Lake. The Baker plant would be base loaded to routinely meet local demands served by the adjacent IRWD distribution system and by the lower portion of the AMP. During emergency conditions, the Baker plant would be used primarily to supply south Orange County agencies that are almost completely dependent upon the Diemer plant.

The proposed Baker plant would utilize membrane technology and have a capacity of approximately 34.5 cfs. The Baker plant effluent would be directed into two systems: the IRWD local distribution system and the AMP.

On a routine basis, 27 cfs of the Baker plant treated water would be directed into the AMP and 7.5 cfs would be conveyed directly through local distribution facilities for delivery to MWDOC's retail agencies. In addition, under emergency conditions, most or all of the Baker plant treated water would be directed into Metropolitan's South County Pump Station (by way of the AMP) for delivery to south Orange County retail agencies through the SCP.

The design and construction of this project would be funded by MWDOC and its retail agencies and coordinated with Metropolitan staff.

**Project No. 3 -- Upper Chiquita Reservoir**

This project would involve construction of the Upper Chiquita Reservoir, located near the intersection of Oso Parkway and the Foothill Freeway (SR241). This local reservoir would store treated water from the Diemer plant for use during scheduled or unscheduled outages of the Diemer plant or the AMP. The water stored in the reservoir would be re-treated by the Santa Margarita Water District before reintroducing it into the SCP. The re-treated water would be compatible with Metropolitan water.

The maximum reservoir storage would be 800 acre-feet (AF). The reservoir would be filled by gravity at a maximum rate of 50 cfs. Water would be reintroduced into the SCP by a combination of gravity and pumping, depending on the reservoir elevation. The maximum delivery rate back into the SCP would be 50 cfs. On average, about 5 percent or 40 AF of the reservoir volume would be turned over each day to maintain water quality. By altering the operation of pumps at OC-88, Metropolitan could both reduce peak daily demands on this regional facility and assist in achieving the required turnover of water within the Upper Chiquita Reservoir.

The design and construction of this project would be funded by MWDOC and its retail agencies and coordinated with Metropolitan staff.

**Structure of Proposed Agreements**

A combination of lease and service connection agreements would be used to define the operational and financial obligations for Metropolitan and MWDOC associated with these reliability projects. As proposed, these agreements would include the following terms and conditions:

**Project No. 1 -- OC-72 Regional Interconnection.** Standard Metropolitan wheeling charges would apply to all water introduced into the AMP at the OC-72 Interconnection.

**Project No. 2 -- Baker Water Treatment Plant.** The agreements would be structured to address the following modes of operation of the Baker plant:

- **Routine deliveries through the AMP south of OC-74.** MWDOC would lease the entire AMP below service connection OC-74 to accommodate the routine introduction of up to 27 cfs of Baker plant treated water at OC-74 for delivery to eight service connections below this point. Metropolitan would cost-share for Metropolitan deliveries to MWDOC agencies south of OC-74 based on the proportionate amount of Metropolitan water delivered compared to the total annual acre-feet of water delivered through this portion of the pipeline

- **Emergency deliveries through AMP north of OC-74.** MWDOC would pay proportional wheeling charges for up to 32.5 cfs of Baker plant treated water that would be moved through the AMP north of OC-74 during emergency conditions. The proportional charge would be based on the ratio of local water to Metropolitan water treated at the Baker plant.

**Project No. 3 -- Upper Chiquita Reservoir.** No Metropolitan charges would be applied for the reintroduction of stored Metropolitan water from the Upper Chiquita Reservoir into the joint agency SCP.

Metropolitan would not execute the service connection and pipeline operating agreements, unless and until all required engineering technical reviews, environmental reviews and the CEQA process were completed.

### **Liability for Water Quality**

Staff from Metropolitan, MWDOC and its retail agencies met with the Department of Public Health in early 2008 to discuss these proposed reliability projects, and developed a concept that would allow for partitioning the responsibility for water quality monitoring and reporting. Through the proposed agreement terms, MWDOC would assume responsibility for all monitoring and reporting downstream of the OC-72 Service Connection. MWDOC would also be responsible for the development and all compliance with the Department of Public Health operating permits associated with these proposed changes.

### **Summary**

This letter describes proposed agreements that would allow implementation of the OC-72 Regional Interconnection, Upper Chiquita Reservoir, and Baker Water Treatment Plant projects under consideration by MWDOC.

These projects are consistent with Metropolitan's goals for sustainability as they would enhance the reliability of the existing treatment, conveyance and distribution system in order to maintain reliable deliveries in the future. Specifically, these projects would increase the flexibility of a member agency's system by increasing local storage and allowing the local treatment of water.

### **Policy**

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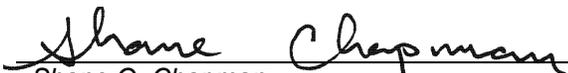
Metropolitan's past practice for accommodating the introduction of local water into regional facilities has been either through purchases, lease agreements or through the Wheeling Service Policy defined by Division IV, Chapter 1, Section 4119 of its Administrative Code, which states "Wheeling Service shall mean the use of Metropolitan's facilities to transport water not owned or controlled by Metropolitan...". Lease and service connection agreements that define financial terms as well as local and regional responsibilities for routine and emergency operations are considered most applicable for these three proposed reliability projects that may involve partial use of regional facilities under routine and/or emergency conditions (specifically, scheduled and unscheduled outages of the Diemer plant and the AMP).

### **Fiscal Impact**

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Executing agreements to allow the implementation of the three proposed Orange County reliability projects would likely result in an estimated \$3 million to \$3.5 million annual loss of revenues from avoided, treated water surcharge for the water being processed / treated at the Baker plant. However, this projected decrease in revenue would be offset by (1) the deferment of need for additional regional treatment facilities; (2) revenues associated with the AMP lease and wheeling of local water; (3) added flexibility gained in scheduling Diemer outages; and (4) increased available Diemer capacity for the Common Pool.

There would be no other fiscal impacts from the proposed projects as coordination, review and construction inspection by Metropolitan staff would be reimbursed.

  
Shane O. Chapman 12/30/2008  
Date  
for James F. Green  
Manager, Water System Operations

  
Jeffrey Kightlinger 12/30/2008  
Date  
General Manager

**Attachment 1 – Vicinity Map**

**Attachment 2 – Approximate Locations of Proposed Reliability Projects**

BLA #6190

### VICINITY MAP



### APPROXIMATE LOCATIONS OF PROPOSED RELIABILITY PROJECTS

