



**WEST BASIN MUNICIPAL WATER DISTRICT**  
17140 S. Avalon Blvd., Suite 210  
Carson, CA 90746

**AGENDA NO. 35**

**DECEMBER 7, 2010 – Water Resources**  
Little (Chair), Gray  
**DECEMBER 20, 2010 – Board Meeting**  
Prepared by: Rajen Budhia  
Submitted by: Marc Serna  
Approved by: Rich Nagel

## ACTION CALENDAR

### PHASE V PROJECT – WATERREUSE TAILORED COLLABORATION

#### SUMMARY:

#### **Phase V Project – Ozonation Process for Microfiltration Pretreatment**

In September 2010, staff informed the Board of various measures taken to address poor water quality and extensive fouling of the existing microfiltration membranes. Extensive piloting, data analysis, and engineering studies were performed by HDR, United Water, and staff to assess conditions and conclude that ozonation is the preferred process to be considered for pretreatment of the microfiltration membrane systems. Of significance is the improved microfiltration performance and production reliability resulting from ozonation of the secondary effluent received from the City of Los Angeles Hyperion Sewage Treatment Plant. The ozonation process has been added to the Phase V Design-Build scope and continued testing, monitoring, and assessment of the process has confirmed its viability as the preferential pretreatment for microfiltration.

#### **WaterReuse Research Foundation Tailored Collaboration – Ozonation Process for Microfiltration Pretreatment**

The WaterReuse Research Foundation's Board approved West Basin Municipal Water District's (West Basin) Tailored Collaboration research proposal to study ozonation as a microfiltration pretreatment process. The proposed Tailored Collaboration Study will further evaluate the ozonation process and its impact on microfiltration membrane fouling, process control strategies, process optimization, reverse osmosis performance, along with additional impacts to nitrosodimethylamine (NDMA) formation and endocrine disruptor compounds. The data collected for this study will be used for publication by the WaterReuse Foundation and for establishing design parameter and operational performance optimization for the Phase V Expansion Project. Key benefits of the ozonation study results include improved understanding of operational parameters that will enhance design, lower process implementation costs, and optimization of long-term operational and maintenance costs.

The approved study funding amount is equal to \$476,268, of which \$200,000 would be funded directly through the WaterReuse Research Foundation, \$226,228 would be cash funded by West Basin, and the remaining \$50,000 would be funded through in-kind services provided by staff and United Water operations. Funding for the Project will require an upfront payment of West Basin's cash portion equal to \$226,228.

Trussell Technologies, Inc. originally developed and presented the concept of ozonation as the preferential pretreatment process for dealing with microfiltration fouling experienced at the Edward C. Little Water Recycling Facility (ECLWRF). Trussell Technologies assisted West Basin in developing the application to the WaterReuse Research Foundation, has extensive experience conducting Tailored Collaboration research through WaterReuse, and is a highly reputable engineering consulting firm that is best-suited to perform the Tailored Collaboration Study. Trussell Technologies

is also directly involved with the Phase V Expansion Project under HDR's existing contract and has been instrumental in the development of data necessary to deem ozonation as the preferred microfiltration pretreatment approach. It is recommended that West Basin contract directly with Trussell Technologies to perform the Tailored Collaboration Study for West Basin. This contract amount would be for a total not-to-exceed amount of \$426,228, of which \$200,000 will be funded by the WateReuse Research Foundation.

STRATEGIC BUSINESS PLAN IMPLEMENTATION:

Goal 1: Water Reliability – West Basin is committed to innovative planning and investments to provide water supply reliability and drought protection.

Goal 2: Water Quality – West Basin is committed to providing safe, high quality water by meeting current and anticipated water quality requirements.

Goal 3: Customer Service – West Basin is committed to providing value by understanding and meeting the needs of our customers and the communities we serve.

FISCAL IMPACTS:

Funds for the Project Engineering Services for ECLWRF Phase V are included in the Fiscal Year (FY) 2010-11 Capital Improvement Budget.

Funds for the WateReuse Foundation Tailored Collaboration Effort for Ozone Pretreatment are included in the FY 2010-11 Capital Improvement Budget.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Committee on December 7, 2010 and recommended for approval at the December 20, 2010 Board meeting.

RECOMMENDED MOTION:

That the Board authorizes the General Manager to:

1. Enter into an agreement with WateReuse Research Foundation Tailored Collaboration Project Funding Agreement for Ozone Pretreatment of Non-Nitrified Secondary Effluent before Microfiltration for a total not-to-exceed contract amount of \$226,268.
2. Enter into a sole-source contract with Trussell Technologies, Inc. to provide engineering services to perform the WateReuse Tailored Collaboration Study for Ozone Pretreatment of Non-Nitrified Secondary Effluent before Microfiltration for a total not-to-exceed contract amount of \$426,268.

LIST OF EXHIBITS:

Exhibit "A" – WateReuse – PROJECT FUNDING AGREEMENT