

- **Board of Directors**
Engineering and Operations Committee

July 11, 2006 Board Meeting

8-2

Subject

Appropriate \$26.8 million, award a \$19.988 million construction contract to Brutoco Engineering & Construction, Inc. for the Jensen Chemical System Upgrades, and authorize: (1) Final design and construction of the Jensen Chlorination Capacity Increase, and (2) Amendments to existing agreements with Lee & Ro, Inc. and HDR, Inc. (Approps. 15346 and 15415)

Description

Background

The Joseph Jensen Water Treatment Plant was placed into service in 1972 with an initial capacity of 350 million gallons per day (mgd). The plant was expanded in the early 1990s to its current capacity of 750 mgd. The Jensen plant exclusively treats water from the State Water Project and delivers it to Metropolitan's Central Pool portion of the distribution system. Four Jensen chemical upgrade/containment projects are recommended to proceed at this time.

Final design has been completed for three of the projects: the first to construct a chlorine containment facility, the second to construct fluoridation facilities, and the third to construct a tank farm roof for the fluoridation facilities. These projects have similar elements of work, common work areas, and overlapping construction schedules. To increase overall project efficiency and provide for coordinated construction activities, staff has combined these three projects into a single construction contract (Specifications No. 1516A).

The fourth project will increase chlorination capacity downstream of the filters. Final design and construction by Metropolitan forces are recommended to proceed at this time for this project.

Projects 1 - 3: Jensen Chemical Upgrades Construction Contract**Project 1: Jensen Chlorine Containment – Construction (\$24.2 million)**

In April 1999, Metropolitan's Board authorized the initial phase of the Chlorine Containment and Handling Facilities Program, which will upgrade chlorine systems at each of Metropolitan's five water treatment plants and the Chlorine Unloading Facility. These projects will add chlorine containment and neutralization capabilities to comply with current California Fire Code regulations. Construction of the Diemer and Weymouth facilities has been completed while construction of the Skinner and Mills facilities is currently underway. This action awards a construction contract for addition of chlorine containment and neutralization facilities at the Jensen plant.

Project 2: Jensen Fluoridation Facilities – Construction (Reimbursable – No Funds Required)

In February 2003, the Board adopted a policy to add fluoride at each of Metropolitan's five water treatment plants. In December 2003, Metropolitan entered into an agreement with the California Dental Association Foundation (CDAF), whereby Metropolitan will be reimbursed up to \$5.5 million for capital costs incurred to implement fluoridation. Under the terms of Metropolitan's agreement with the CDAF, Metropolitan is reimbursed quarterly for eligible costs. No additional funds are required under this action for the work to proceed.

Construction of the Skinner, Diemer, Mills, and Weymouth fluoridation facilities is currently underway. This action awards a construction contract for addition of fluoridation facilities at the Jensen plant (in conjunction with the chlorine containment facilities). Completion of fluoridation facilities at all of Metropolitan's treatment plants is on schedule for mid-2007, per the agreement with CDAF.

Project 3: Jensen Fluoride Tank Farm Roof - Construction (\$1.3 million)

In December 2004, the Board authorized the final design of roof structures to cover chemical tank farms at Metropolitan treatment plants, which will reduce contaminated liquid handling and disposal costs. This project will construct a roof over the new fluorosilicic acid tank farm at the Jensen plant. The roof will consist of structural steel framing, metal roofing, and siding panels.

Tank farms at the Jensen plant will receive roofs in a phased manner so that the construction work may be coordinated with other planned projects. Staff plans to return to the Board in late-2007 for award of a contract to construct roofs for the existing caustic soda, ferric chloride/alum, and sulfuric acid tank farms.

Construction Contract for Projects 1 - 3

Specifications No. 1516A for the Joseph Jensen Water Treatment Plant Chemical System Upgrades was advertised on March 8, 2006. As shown in [Attachment 1](#), three bids were received and opened on June 1, 2006. The low bid from Brutoco Engineering & Construction, Inc., in the amount of \$19.988 million, complies with the requirements of the specifications. The bids ranged from \$19.988 million to \$24.757 million. The engineer's estimate was \$23.6 million. For this contract, Metropolitan requires Small Business Enterprise participation of at least 20 percent of the bid amount. Brutoco Engineering & Construction, Inc. has committed to meet this requirement.

Bids were previously opened on January 30, 2006, under Specifications No. 1516, for the Jensen Chemical System Upgrades. All bids were rejected and the procurement was re-advertised under Specifications No. 1516A.

Technical Support for Construction Contract

The three design consultants for the Jensen Chemical System Upgrades projects are recommended to provide technical support during construction: Lee & Ro, Inc. for the chlorination facilities; HDR, Inc. for the fluoridation facilities; and Montgomery Watson Harza Americas, Inc. (MWH) for the fluoride tank farm roof. As the engineer of record, each consultant will provide technical support for the construction of their designs. The three consultants will review submittals received from the contractor, respond to requests for information, advise inspection staff on technical issues as they may arise, and provide start-up assistance.

- **Project 1: Jensen Chlorine Containment – Lee & Ro**

Lee & Ro, Inc. was selected through a competitive process (Request for Qualifications No. 578) to perform chlorine-related design work and a professional services agreement was authorized by the Board in June 2003. Lee & Ro performed final design of the chlorine containment and handling facilities at the Jensen plant and staff recommends that Lee & Ro provide follow-up technical support during construction.

This action authorizes an increase of \$550,000 to the existing agreement with Lee & Ro, Inc. for this project. In conjunction with an increase described below for Project 4, the new not-to-exceed total for this agreement will be \$5.73 million to provide technical support for chlorine-related facilities. The SBE participation requirement for this agreement is 20 percent.

- **Project 2: Jensen Fluoridation Facilities – HDR**

HDR, Inc. was selected through a competitive process (Request for Qualifications No. 578) to perform fluoride-related design work and a professional services agreement was authorized by the Board in October 2003. HDR performed final design of the fluoridation facilities at the Jensen plant and staff recommends that HDR provide follow-up technical support during construction.

This action authorizes an increase of \$50,000 to the existing agreement with HDR, Inc. for a new not-to-exceed total of \$0.962 million to provide technical support during construction of the Jensen fluoridation facilities. No funds are required under this action for HDR's technical support as costs are reimbursable under Metropolitan's agreement with the CDAF. The SBE participation requirement for this agreement is 20 percent.

- **Project 3: Jensen Fluoride Tank Farm Roof – MWH Americas**

MWH Americas will perform this work under an existing professional services agreement to provide plant engineering services which was authorized by the Board in June 2003. No amendment to the existing MWH agreement is required. The SBE participation requirement for this agreement is 20 percent.

Summary for Projects 1 - 3

This action appropriates \$25.5 million in budgeted funds for Projects 1 - 3 and awards a \$19.988 million construction contract to Brutoco Engineering & Construction, Inc. The portion of this contract funded by Metropolitan is \$19.338 million (see table below). In addition to this amount, the appropriated funds include \$0.788 million for Metropolitan force construction; \$2.4 million for construction inspection; \$1.138 million for all other staff and consultant support; and \$1.836 million of remaining budget. Support activities include project management, environmental monitoring, record drawing preparation, and technical support by the design consultants. Metropolitan forces will perform preparatory work in advance of construction to limit disruption to the plant during construction activities. This preparatory work will include relocation of piping and valves, modifications to existing electrical equipment, and material sampling and testing prior to subsequent demolition.

Metropolitan staff will perform construction management and inspection of the contract. The anticipated cost of inspection is approximately 12 percent of the total construction cost. Engineering Services' goal for inspection of projects with construction costs greater than \$3 million is 9 to 12 percent.

Work included in this construction contract has been budgeted within three capital programs: the Chlorine Containment and Handling Facilities Program (Approp. 15346), the (reimbursable) Fluoridation System Program, and the All Facilities – Install Roofs for Chemical Tank Farms Program (Approp. 15415). For budgeting purposes, costs have been apportioned between the three programs based on the anticipated work breakdown from the engineer's estimate. This apportionment will be refined by staff after receipt of the contractor's cost breakdown which is typically derived from the monthly pay estimates during construction.

A breakdown of the funds requested in this action and an allocation of costs for the three projects within the construction contract are as follows:

Project	Appropriation Number	Amount Appropriated in This Action	Amount Allocated to Construction Contract
Chlorine Containment	15346	\$25.5 M	\$18.488 M
Fluoridation Facilities	15415	\$ 0 M*	\$ 0.650 M*
Tank Farm Roof	15414	\$ 1.3 M	\$ 0.850 M
Total		\$26.8 M	\$19.988 M

*Reimbursable Grant – No Metropolitan funds required

Project 4: Jensen Chlorination Capacity Increase – Final Design and Construction (\$1.3 million)

After assessing the initial performance of ozonation facilities at the Jensen and Mills plants, staff recommends increasing the maximum chlorine dose at the filter outlet of each plant to ensure that water quality integrity in the downstream distribution system is maintained when using chloramines. During the ozonation process, filters are allowed to become biologically active, which enables more effective removal of disinfection byproduct precursors and other organic material that may impact water quality. As a result of biologically active filter operation, more chlorine is needed at the filter outlet to maintain proper disinfection prior to application of ammonia to produce chloramines. For Jensen, the recommended increase in chlorine dose is from 4 to 6 mg/L. This increase will have

minimal impact on the formation of chlorinated byproducts such as trihalomethanes, as ammonia is subsequently added to form chloramines, which produce few chlorinated byproducts.

This action authorizes a similar chlorination capacity increase as was authorized by the Board for the Mills plant.

This project will add new chlorine ejectors and piping, modify existing diffusers and upgrade the capacity of existing chlorinators. Metropolitan forces will install the piping, equipment, and appurtenant items to increase filter-outlet chlorine feed rates at the Jensen plant.

Staff recommends that Lee & Ro perform final design of the filter-outlet chlorination capacity increase and provide technical support during construction by Metropolitan forces. This work is consistent with Lee & Ro's existing agreement to provide chlorine-related engineering support throughout Metropolitan's treatment plants.

This action appropriates \$1.3 million for Project 4; authorizes final design and construction to increase the filter-outlet chlorination capacity at the Jensen plant; and authorizes an increase of \$180,000 to the existing agreement with Lee & Ro, Inc. In conjunction with the increase described above for Project 1, the new not-to-exceed total for this agreement will be \$5.73 million. The SBE participation requirement for this agreement is 20 percent.

These four projects have been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team and funds have been included within the fiscal year 2006/07 capital budget. See [Attachment 1](#) for the Abstract of Bids, [Attachment 2](#) for the Financial Statements, and [Attachment 3](#) for the Location Map.

Project Milestones

April 2007 – Completion of Jensen Fluoridation Facilities

May 2008 – Completion of Jensen Chlorine Containment Facilities

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriation

Metropolitan Water District Administrative Code Section 8121: General Authority of the CEO to Enter Contracts

California Environmental Quality Act (CEQA)

CEQA determinations for Option #1:

Project 1: Jensen Chlorine Containment - Construction

This project was previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The Board found this project to be exempt under Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303, and Class 11, Section 15311 of the State CEQA Guidelines on April 13, 2004, for the Chlorine Containment and Handling Facilities (CCHF) Program. The Notice of Exemption (NOE) was filed on the project at that time. The present proposed board action is solely based on appropriating the budgeted funds and award of a construction contract for Jensen Chlorine Containment and not on any other substantial changes to the original project. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2004 NOE (Class 1, Section 15301; Class 2, Section 15302; Class 3, Section 15303; and Class 11, Section 15311 of the State CEQA Guidelines) and that no further environmental analysis or documentation is required.

Project 2: Jensen Fluoridation Facilities – Construction; Project 3: Jensen Fluoride Tank Farm Roof - Construction

These projects were previously determined to be categorically exempt under the provisions of CEQA and State CEQA Guidelines. The Jensen Fluoridation Facilities and Jensen Fluoride Tank Farm Roof was found to be statutorily exempt under Section 21080.26 of the Public Resources Code on February 11, 2003. A Notice of Exemption (NOE) was filed on the project at that time. With the current board action, there is no substantial

change proposed to the project since the original NOE was filed. Hence, the previous environmental documentation in conjunction with the project fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act with regards to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the 2003 NOE (Statutory Exemption, Section 21080.26 of the Public Resources Code) and that no further environmental analysis or documentation is required.

Technical Support for Construction Contract; Projects 1 - 3

The proposed actions are not defined as a project under CEQA because they involve continuing administrative activities (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed actions are not subject to CEQA because they involve other government fiscal activities, which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

The CEQA determination is: Determine that the proposed actions are not subject to the provisions of CEQA pursuant to Sections 15378(b)(2) and 15378(b)(4) of the State CEQA Guidelines.

Project 4: Jensen Chlorination Capacity Increase – Final Design and Construction

To comply with CEQA and the State CEQA Guidelines, Metropolitan as the Lead Agency prepared and processed the Mitigated Negative Declaration (MND) for the Joseph P. Jensen Filtration Plant ORP. Board adoption of the MND and its mitigation monitoring and reporting program (MMRP), along with approval of the Jensen ORP, occurred on August 19, 1994. The present board action is solely based on funding and authorizing final design and construction to increase the Jensen chlorination dosage capacity and not on any substantial changes to the approved project. Hence, the previously adopted environmental documentation in conjunction with the current action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further environmental documentation is necessary for the Board to act on with respect to the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the adopted 1994 MND and its MMRP, and that no further environmental analysis or documentation is required.

CEQA determinations for Option #2:

Projects 1 - 3: Jensen Chlorine Containment Construction, Jensen Fluoridation Facilities Construction, Jensen Fluoride Tank Farm Roof Construction; and Technical Support for Construction Contract

The CEQA determinations are the same as those in Option #1:

Project 4: Jensen Chlorination Capacity Increase – Final Design and Construction

None required

CEQA determinations for Option #3:

Project 4: Jensen Chlorination Capacity Increase – Final Design and Construction

The CEQA determination is the same as in Option #1.

Projects 1 - 3: Jensen Chlorine Containment Construction, Jensen Fluoridation Facilities Construction, Jensen Fluoride Tank Farm Roof Construction; and Technical Support for Construction Contract

None required

Board Options

Option #1

Adopt the CEQA determinations and

- a. Appropriate \$26.8 million in budgeted funds;
- b. Award a \$19.988 million construction contract to Brutoco Engineering & Construction, Inc. for the Jensen Chemical System Upgrades;
- c. Authorize final design and construction of the Jensen Chlorination Capacity Increase Project;
- d. Authorize an increase of \$0.73 million to the existing agreement with Lee and Ro, Inc. for a new not-to-exceed total of \$5.73 million; and
- e. Authorize an increase of \$50,000 to the existing agreement with HDR, Inc. for a new not-to-exceed total of \$0.962 million.

Fiscal Impact: \$25.5 million of budgeted funds under Approp. 15346 and \$1.3 million of budgeted funds under Approp. 15415

Business Analysis: The chlorine containment project is necessary to comply with California Fire Code requirements for chlorine handling facilities by the project completion date of May 2008. The fluoride project is necessary to comply with terms of Metropolitan's agreement with the CDAF. The chlorination capacity increase project is necessary to reliably meet Metropolitan's water quality objectives and comply with drinking water regulations.

Option #2

Adopt the CEQA determinations and

- a. Appropriate \$25.5 million in budgeted funds;
- b. Award a \$19.988 million construction contract to Brutoco Engineering & Construction, Inc. for the Jensen Chemical System Upgrades;
- c. Do not proceed with the Jensen Chlorination Capacity Increase Project;
- d. Authorize an increase of \$0.55 million to the existing agreement with Lee and Ro, Inc. for a new not-to-exceed total of \$5.55 million; and
- e. Authorize an increase of \$50,000 to the existing agreement with HDR, Inc. for a new not-to-exceed total of \$0.962 million.

Fiscal Impact: \$24.2 million of budgeted funds under Approp. 15346 and \$1.3 million of budgeted funds under Approp. 15415

Business Analysis: Current chlorination capacity may not reliably meet Metropolitan's water quality goals within the downstream distribution system.

Option #3

Adopt the CEQA determinations and

- a. Appropriate \$1.3 million in budgeted funds;
- b. Do not award the construction contract and re-advertise in an attempt to receive more favorable bids;
- c. Authorize final design and construction of the Jensen Chlorination Capacity Increase Project;
- d. Authorize an increase of \$0.18 million to the existing agreement with Lee and Ro, Inc. for a new not-to-exceed total of \$5.18 million; and
- e. Do not authorize an increase of \$50,000 to the existing agreement with HDR, Inc. for a new not-to-exceed total of \$0.962 million.

Fiscal Impact: \$1.3 million of budgeted funds under Approp. 15346

Business Analysis: Full compliance with the California Fire Code requirements for chlorine handling facilities will be deferred beyond the current project schedule of May 2008 due to the readvertisement of the construction contract in an attempt to receive more favorable bids. Staff will attempt to negotiate with the fire authorities for a revised project schedule. The agreed-upon required online date for fluoride will not be met. Metropolitan will attempt to negotiate a new online date for fluoride to comply with revised terms of the CDAF agreement. We will return to the Board for future action.

Staff Recommendation

Option #1



Roy L. Wolfe
Manager, Corporate Resources

6/19/2006
Date



Jeffrey Kightlinger
General Manager

6/22/2006
Date

Attachment 1 – Abstract of Bids

Attachment 2 – Financial Statements

Attachment 3 – Location Map

BLA #4042

The Metropolitan Water District of Southern California

Abstract of Bids Received on June 1, 2006 at 2:00 P.M.

**Specifications No. 1516A
Joseph P. Jensen Water Treatment Plant
Chemical System Upgrades**

The project consists of construction of a new chlorine containment facility including railcar unloading and storage building, evaporator room, and chlorine scrubber area; and construction of a new fluorosilicic acid unloading, injection, and storage facility with roof canopy.

Engineer's Estimate: \$23.6 million

Bidder and Location	Total \$	SBE \$	SBE %	Met SBE*
Brutoco Engineering & Construction, Inc., Fontana, California	\$19,988,000	\$4,284,964	21.4%	Yes
J.R. Filanc Construction Company, Inc. Escondido, CA	\$22,099,777	N/A	N/A	N/A
Tutor-Saliba Corporation Sylmar, CA	\$24,757,000	N/A	N/A	N/A

* SBE (Small Business Enterprise) Participation set at 20 percent
N/A – Not Applicable

Financial Statement for Chlorine Containment and Handling Facilities Program

A breakdown of Board Action No. 12 for Appropriation No. 15346 is as follows:

	Previous Total Appropriated Amount * (Mar. 2006)	Current Board Action No. 12 (July 2006)	New Total Appropriated Amount
Labor			
Studies and Investigations	\$ 840,000	\$ -	\$ 840,000
Final Design	1,811,650	-	1,811,650
Owner Costs (Program management and permitting)	2,418,700	520,700	2,939,400
Construction Inspection and Support	7,290,800	2,300,000	9,590,800
Metropolitan Force Construction	3,375,750	811,250	4,187,000
Materials and Supplies	1,602,000	100,000	1,702,000
Control System Equipment	314,000	175,000	489,000
Chlorine Piping and Equipment	112,000	450,000	562,000
Electrical Ductbank and Equipment	275,000	75,000	350,000
Incidental Expenses	381,500	57,000	438,500
Professional/Technical Services	660,700	35,000	695,700
Lee & Ro, Inc.	4,950,000	730,000	5,680,000
Right of Way Fees	88,000	-	88,000
Land Purchase	3,250,000	-	3,250,000
Equipment Use	412,500	40,000	452,500
Contracts	50,836,000	18,488,000	69,324,000
Remaining Budget	11,610,400 *	1,718,050	13,328,450
Total	\$ 90,229,000	\$ 25,500,000	\$ 115,729,000

* Includes previous reallocation of \$2,927,000 from Remaining Budget for completion of the Diemer and Weymouth Filter Influent Chlorination Improvements; and for completion of the Weymouth, Jensen, and Skinner Chlorine Containment projects.

Funding Request

Program Name:	Chlorine Containment and Handling Facilities Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15346	Board Action No.:	12
Requested Amount:	\$ 25,500,000	Capital Program No.:	15346-W
Total Appropriated Amount:	\$ 115,729,000	Capital Program Page No.:	E-13
Total Program Estimate:	\$ 163,800,000	Program Goal:	W—Water Quality

Financial Statement for All Facilities—Install Roofs for Chemical Tank Farms Program

A breakdown of Board Action No. 5 for Appropriation No. 15415 is as follows:

	Previous Total Appropriated Amount (May 2006)	Current Board Action No. 5 (July 2006)	New Total Appropriated Amount
Labor			
Studies and Investigations	\$ 184,000	\$ -	\$ 184,000
Final Design	68,000	-	68,000
Owner Costs (Program management and permitting)	646,183	77,500	723,683
Construction Inspection and Support	500,000	100,000	600,000
Metropolitan Force Construction	244,000	35,000	279,000
Materials and Supplies	175,000	10,000	185,000
Incidental Expenses	100,000	5,000	105,000
Professional/Technical Services	103,000	-	103,000
MWH Americas, Inc.	1,010,000	50,000	1,060,000
Equipment Use	55,000	5,000	60,000
Contracts	3,849,600	850,000	4,699,600
Remaining Budget	857,217	167,500	1,024,717
Total	\$ 7,792,000	\$ 1,300,000	\$ 9,092,000

Funding Request

Program Name:	All Facilities—Install Roofs for Chemical Tank Farms Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15415	Board Action No.:	5
Requested Amount:	\$ 1,300,000	Capital Program No.:	15415-R
Total Appropriated Amount:	\$ 9,092,000	Capital Program Page No.:	E-5
Total Program Estimate:	\$ 15,080,000	Program Goal:	R—Regulatory-Other

