

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

February 14, 2006 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through December 2005 [**Any discussion of litigation to be heard in closed session. Conference with legal counsel--existing litigation (Shank/Balfour Beatty, a Joint Venture vs. Metropolitan Water District of Southern California, LASC Case No. BC 283438); to be heard in closed session pursuant to Gov. Code Section 54956.9(a). Conference with legal counsel--potential litigation relating to contractor claims on Contract No. 1542 for the Arrowhead Tunnels; to be heard in closed session pursuant to Gov. Code Section 54956.9(b) (one potential case)**]

Description

Work Completed to Date

The Inland Feeder Program consists of 44 miles of pipeline and tunnels that will allow Metropolitan to convey up to 1000 cfs of State project water from Devil Canyon Afterbay to Diamond Valley Lake. To date, eight of nine construction contracts totaling \$542 million have been completed. These completed contracts represent 36.3 miles or 82% of the length of the Inland Feeder. Remaining program work includes completion of the Arrowhead East and West Tunnels, which are presently under construction by a joint venture of Shea/Kenny.

Arrowhead Tunnels

Arrowhead East Tunnel – From mid-November to mid-December, the tunnel boring machine (TBM) mined through a geological zone consisting of finely fractured rock, which was challenging to grout and reduce groundwater inflows. A joint effort between the contractor and Metropolitan successfully identified a grouting and mining strategy that effectively allowed mining to continue in these difficult conditions. Mining operations advanced a total of 280 feet in December, while another 170 feet were mined within the first few weeks in January. The total length of tunnel mined to date is 10,805 feet (48% of the tunnel's length).

Arrowhead West Tunnel – The contractor continued to make steady progress by performing alternating cycles of grouting and mining. Relatively good geologic conditions, coupled with consistently low water inflow conditions enhanced the mining operations. The TBM advanced a total of 690 feet in December, while another 210 feet were mined within the first few weeks in January. The total length of tunnel mined to date is 5,400 feet (25% of the tunnel's length).

Program Management Team

As previously reported, Metropolitan and the Arrowhead Tunnels contractor made significant changes to their home-office and field management teams on this project. Following these changes, partnering sessions were held in mid-January 2006 with the goal of building teamwork and fostering cooperation among personnel at both the management and working levels on the project. The outcome of the partnering sessions was the development of strategic goals for the project team (Metropolitan and contractor) going forward. It is anticipated that strategies and recommendations for completing the project will be presented by staff at the February and March 2006 Board meetings.

Budget and Schedule

As of December 30, 2005, the projected cost to complete the Inland Feeder Program is \$980 million. This amount is under review, however, and will be updated over the next several months. Total expenditures through December 2005 are \$838.1 million (see [Attachment 1](#) for a budget comparison and schedule summary for the

entire Inland Feeder Program, and budget status for the Arrowhead Tunnels construction contract). The board-approved budget for the entire program remains at \$1.186 billion.

The on-line date for the Inland Feeder is dependent upon completion of the Arrowhead Tunnels. The estimated completion date of late 2008 for the Arrowhead Tunnels was reported to the Board in October 2005. However, the completion date is currently under review. A revised project completion date, and costs associated with the schedule impacts, will be brought to the Board in March 2006.

Upon completion of construction, environmental mitigation measures will continue along the Arrowhead Tunnels alignment for up to two years in accordance with the Environmental Impact Report.

Policy

Board request

Fiscal Impact

Refer to [Attachment 1](#).



Roy L. Wolfe
Manager, Corporate Resources

1/20/2006

Date



Debra C. Man
Interim CEO/General Manager

1/20/2006

Date

Attachment 1 – Inland Feeder Program Budget Comparison and Schedule Summary, and Arrowhead Tunnels Construction Contract Budget Status

BLA #4213

Inland Feeder Program Budget Comparison and Schedule Summary (\$ in Millions)				
	Total Program Estimate (FY 2005/6 CIP)	Projected Cost to Complete (Updated Dec 2005)	Expenditures to Date (Dec 2005)	% Complete Based on Expenditures (Dec 2005)
<u>Active Construction</u>				
Arrowhead Tunnels	\$ 289.3	\$ * 265.0	\$ 147.4	51%
Construction Inspection and Support	\$ 39.1	\$ * 39.1	\$ 23.7	61%
Subtotal, Active Construction	\$ 328.4	\$ 304.1	\$ 171.1	52%
<u>Other Components</u>				
Completed Projects	\$ 575.4	\$ 574.8	\$ 573.1	100%
Others (R/W, Env., Prog. Mgt.)	\$ 101.1	\$ 101.1	\$ 93.9	99%
Subtotal, Other Components	\$ 676.5	\$ 675.9	\$ 667.0	99%
Expended To Date			\$ 838.1	71%
Subtotal, All Projects	\$ 1,004.9	\$ 980.0		
Remaining Budget	\$ 181.5	\$ 206.4		
Board-Authorized Budget	\$ 1,186.4	\$ 1,186.4		

* Under review

NOTE: Overall completion = 36.3 of 44.2 miles (82%)

Arrowhead Tunnels Construction Contract Budget Status (\$ in Millions)			
Construction Contract No. 1542	Current Contract Amount (Dec 2005)	Amount of Contract Committed (Dec 2005)	% of Contract Committed
Mobilization	\$ 7.4	\$ 7.1	95.9%
Plant equipment / materials	\$ 76.2	\$ 65.0	85.3%
<u>Arrowhead East</u>			
Portal / pipeline work	\$ 10.9	\$ 6.4	58.7%
Excavation / final lining	\$ 64.2	\$ 27.1	42.2%
Grouting	\$ 11.6	\$ 1.9	16.4%
<u>Arrowhead West</u>			
Portal / pipeline work	\$ 6.6	\$ 1.4	21.2%
Excavation / final lining	\$ 53.8	\$ 16.4	30.5%
Grouting	\$ 11.6	\$ 6.9	59.5%
Subtotal	\$ 242.3	\$ 132.2	54.6%
Authorized Change Orders	\$ 29.0	\$ 28.4	97.9%
Construction Contract Total	\$ 271.3	\$ 160.6	59.2%
Length of Tunnels Mined Through 1/18/06			
Arrowhead East	10,805 ft of 22,708 ft (48%)		
Arrowhead West	5,400 ft of 21,303 ft (25%)		
Total	16,205 ft of 44,011 ft (37%)		

NOTE: Contractor invoices paid through December 2005 = \$147.4M