

- **Board of Directors**
Engineering and Capital Programs Committee

September 11, 2007 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through July 2007

Description

Work Completed to Date

The Inland Feeder Program consists of 44 miles of pipelines and tunnels that will enable Metropolitan to convey up to 1,000 cubic feet per second of State Water Project (SWP) supplies from Devil Canyon Afterbay to Diamond Valley Lake (DVL). To date, eight of nine construction contracts totaling \$542 million have been completed. These completed contracts represent 36.3 miles or 82 percent of the Inland Feeder's length. Remaining program work includes completion of the Arrowhead East and West Tunnels, which are presently under construction by a joint venture of Shea/Kenny.

The completed portion of the Inland Feeder has been in service since 2003 via an interconnection that was constructed between the Inland Feeder and San Bernardino Valley Municipal Water District's Foothill Pipeline. This connection allows Metropolitan to convey SWP supplies from the East Branch of the California Aqueduct to the Inland Feeder for delivery to DVL. Over 580,000 acre-feet of SWP water have been delivered to DVL to date through this connection.

Arrowhead Tunnels

Arrowhead East Tunnel – In July, the contractor continued mining through the 1,400-foot curve in the tunnel alignment. At the end of July, the contractor had mined nearly 75 percent of the curve alignment. As the Tunnel Boring Machine (TBM) mines through this curve, probing distances have been reduced, resulting in more frequent grouting and mining cycles. As anticipated in the tunnel's design, the contractor is now encountering high water pressures (in excess of 250 psi), and pockets of poor ground in the curve that require additional grouting. During the middle of July, the contractor encountered very difficult ground conditions which required extensive grouting. The TBM advanced a total of 175 feet in July. By the start of August, ground conditions improved significantly and the contractor mined 230 feet during the first week of the month. The total length of tunnel mined to date is 18,750 feet (83% of the tunnel's length).

Arrowhead West Tunnel – Stable geologic conditions continued through July which resulted in excellent mining progress. A single best-day mining record of 80 feet was achieved in early July. The TBM advanced a total of 710 feet in July and another 160 feet in the first week of August. Through the month of July, the six-month average for mining progress continues to be very good at more than 600 feet per month. The total length of tunnel mined to date is 12,845 feet (65% of the tunnel's length).

Program Management

In July, Metropolitan staff met with legal counsel for the San Manuel Band of Mission Indians. This inquiry was in regard to the Band's request for compensation for consultants used by the Band to monitor progress and potential impacts of mining the Arrowhead East Tunnel, located in the vicinity of the Band's reservation. Staff will report on the status of these ongoing discussions at future board committee meetings.

On July 19, 2007, the California Appellate Court issued its ruling in the appeal of *Shank/Balfour Beatty vs. Metropolitan*. The judgment was in Metropolitan's favor. After termination of the original Arrowhead East and Arrowhead West Tunnel contracts with Shank/Balfour Beatty (SBB), SBB sued Metropolitan for approximately

\$21 million. Prior to trial, Metropolitan settled \$10 million of the claims for \$3.38 million. The items not settled were claims of SBB's pipe vendor, Ameron International. At the time of trial, Ameron alleged damages of approximately \$11.5 million plus interest, for a total of approximately \$15 million. Metropolitan offered to settle for \$3 million, which was rejected. At the end of the trial, the court awarded SBB \$1.98 million. Metropolitan was deemed the "prevailing party" because the judgment was less than the settlement offer and was awarded its costs. SBB subsequently appealed. The appellate court ruled in Metropolitan's favor on all substantive issues. There are minor post-appeal administrative matters to be completed. SBB may file an appeal to the California Supreme Court.

Budget and Schedule

Following board authorization of a settlement agreement and contract amendment with the Arrowhead Tunnels contractor in August 2006, staff conducted a complete review of the program budget to estimate the total projected cost to complete the Inland Feeder Program. Based on the revised September 2010 completion date of the Arrowhead Tunnels as presented to the Board in August 2006, the updated total projected cost for the Inland Feeder is estimated to be \$1.133 billion. Staff has reviewed the budget and completion date of the Arrowhead Tunnels construction contract with executive management and the General Auditor. Monthly mining costs are up to 10 percent higher than originally envisioned when the contract amendment was authorized by the Board. However, mining progress is significantly ahead of the revised schedule that was established with the contract amendment. Overall, staff is projecting that the construction contract will be completed at or below the current budget of \$397 million. Total expenditures through July 2007 are \$948.5 million (see [Attachment 1](#) for the Projected Cost/Expenditures). The board-approved budget for the entire program remains at \$1.186 billion. [Attachment 2](#) shows the actual mining progress and cash flow on both tunnels compared to the planned progress and expenditures set forth in the August 2006 contract amendment.

The payments on the contractor's incentive/risk program are discussed with the Board on a regular basis at the Engineering and Capital Programs Committee meetings. The incentive plan is part of the contract amendment approved by the Board in August 2006. The incentive payment to the contractor for the month of July 2007 is shown in [Attachment 1](#).

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

Submitted per request of the Board

Fiscal Impact

Refer to [Attachment 1](#).



Roy L. Wolfe
Manager, Corporate Resources

8/21/2007

Date



Jeffrey Kightlinger
General Manager

8/23/2007

Date

Attachment 1 – Inland Feeder Program Projected Cost/Expenditures and Incentive Plan Payments

Attachment 2 – Arrowhead Tunnels Actual vs. Planned Mining Progress and Actual vs. Planned Cash Flow

BLA #5151

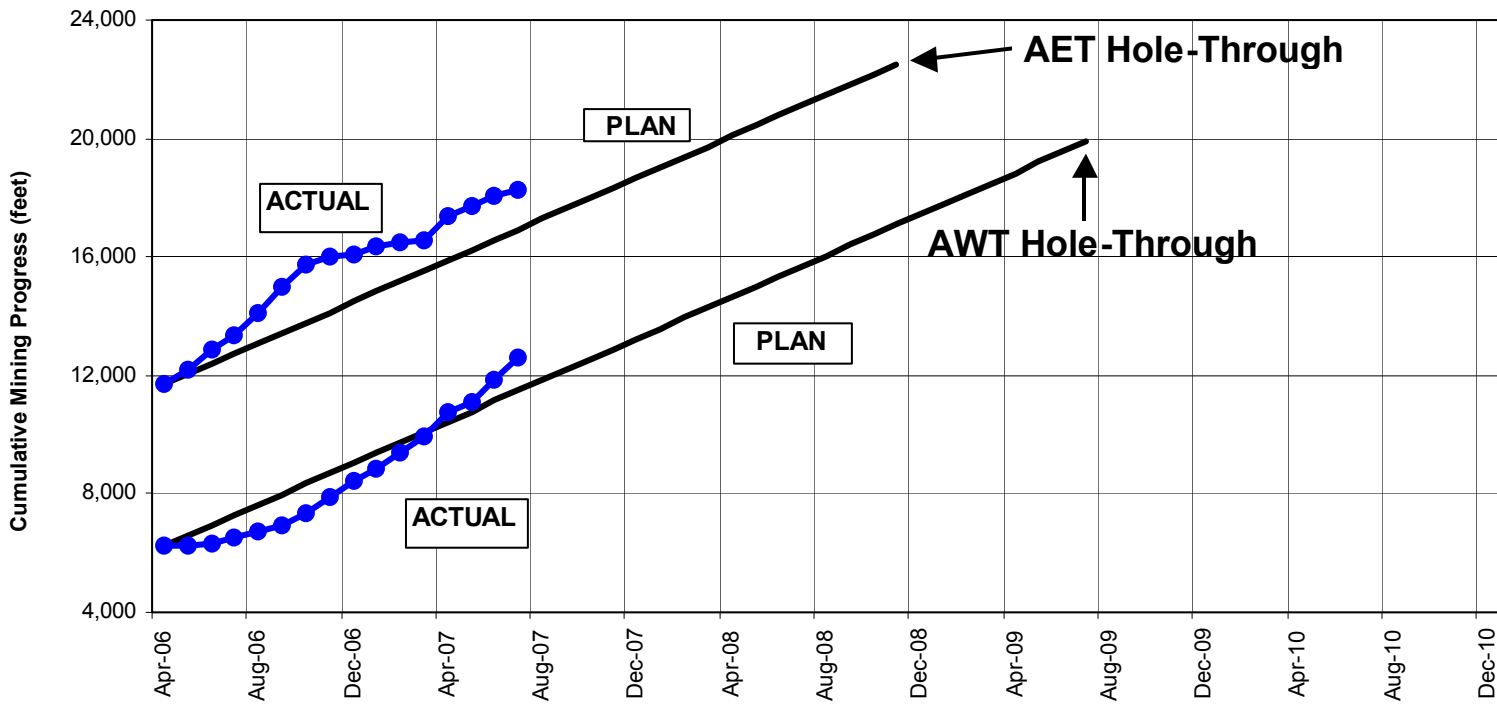
Inland Feeder Program Projected Cost/Expenditures (\$ in Millions)				
	Projected Cost To Complete (Updated July 2007)	Expenditures This Month (July 2007)	Expenditures To Date (July 2007)	% Complete Based on Expenditures (July 2007)
<u>Active Construction</u>				
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 4.1	\$ 234.1	59%
Construction Inspection and Support	\$ 55.0	\$ 0.4	\$ 38.8	71%
Subtotal, Active Construction	\$ 452.0	\$ 4.5	\$ 272.9	60%
<u>Other Components</u>				
Completed Projects	\$ 578.1	\$ 0.0	\$ 576.3	100%
Others (R/W, Env., Prog. Mgmt.)	\$ 103.0	\$ 0.4	\$ 99.3	96%
Subtotal, Other Components	\$ 679.2	\$ 0.4	\$ 675.6	99%
Expended To Date		\$ 4.9	\$ 948.5	80%
Subtotal, All Projects	\$ 1,133.0	← Projected Cost to Complete		
Remaining Budget	\$ 53.5			
Board-Authorized Budget	\$ 1,186.5	← Total Project Budget		
Length of Tunnels Mined Through 8/08/07				
Arrowhead East	18,750 ft	of 22,458 ft	(83%)	
Arrowhead West	12,845 ft	of 19,884 ft	(65%)	
Total	31,595 ft	of 42,342 ft	(75%)	

NOTE: Contractor invoices paid through July 2007 = \$231.1M
 Overall completion = 36.3 of 44.2 miles (82%)

Inland Feeder Program – Arrowhead Tunnels Incentive Plan Payments				
	East/West Tunnels Cumulative Feet Mined	East Tunnel	West Tunnel	Total
May 2006 - June 2007 (Previously Reported)	12,225	\$ 1,192,100	\$ 1,493,093 (1)	\$ 2,685,193
July 2007 (3)	920	\$ 97,000	\$ 139,500	\$ 236,500
TOTALS	13,145	\$ 1,289,100	\$ 1,632,593	\$ 2,921,693 (2)

(1): For Arrowhead West Tunnel, incentive program evaluation commenced in June 2006.
 (2): Percent of maximum possible combined incentive: 67% (57% Arrowhead East Tunnel, 78% Arrowhead West Tunnel)
 (3): Incentive Plan based on work performed during contractor monthly pay period from 6/26/06 to 7/25/07 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Mining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

