

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

March 13, 2007 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through January 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 410,000 acre-feet of SWP water has been delivered to DVL to date through this connection.

Arrowhead Tunnels

Arrowhead East Tunnel – No mining occurred from December 7 through January 14 as the contractor continued operations to free the tunnel boring machine (TBM). This work involved manually excavating around the top half of the TBM shield to remove material that was binding the machine. The TBM was freed in the second week of January and normal mining resumed. The TBM advanced a total of 285 feet in January, and another 95 feet in the first three weeks of February. The total length of tunnel mined to date is 16,710 feet (74% of the tunnel's length).

Arrowhead West Tunnel – Difficult ground conditions were encountered in January. The contractor proceeded cautiously in an effort to avoid getting the TBM stuck. Despite the poor ground conditions, the contractor had another favorable month of mining performance. In January, the TBM advanced a total of 385 feet, while another 455 feet were mined in the first three weeks of February. The total length of tunnel mined to date is 9,390 feet (47% of the tunnel's length).

Program Management

Staff from Metropolitan and the contractor continue to work closely to develop innovative grouting methodologies to improve performance in poor ground conditions. Executive-level meetings between Metropolitan and the contractor were held in mid-January to continue the process of teambuilding, improving efficiency, identifying and resolving issues, and streamlining implementation of the contract amendments.

Budget and Schedule

Following board authorization of the settlement agreement and contract amendment in August, 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 (see [Attachment 1](#) for the Projected Cost/Expenditures), the updated total projected cost for the Inland Feeder is estimated to be \$1.13 billion. Total expenditures through January 2007 are \$913.3 million. 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 first seven months of payments on the contractor’s incentive/risk program were discussed with the Board at the November and December 2006 Engineering and Operations 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 January 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

2/26/2007
Date



Jeffrey Kightlinger
General Manager

2/26/2007
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

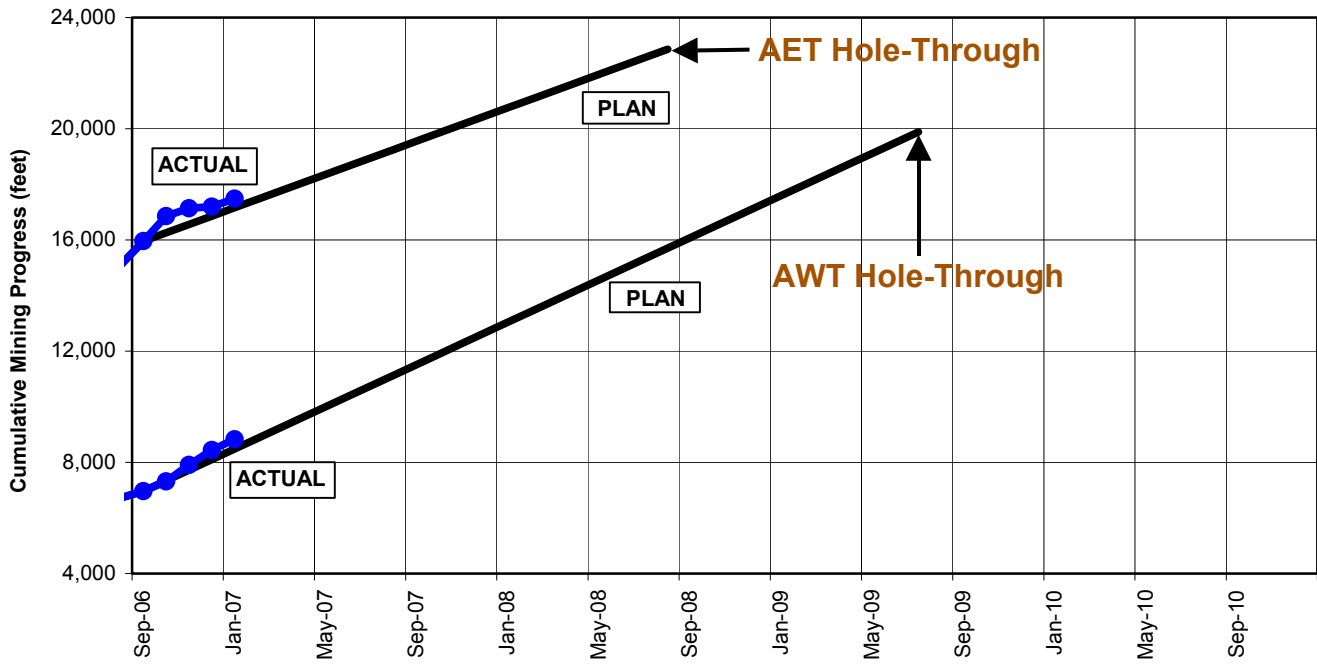
| Inland Feeder Program Projected Cost/Expenditures (\$ in Millions) | | | | |
|---|--|---|--|--|
| | Projected Cost To Complete (Updated Jan. 2007) | Expenditures This Month (Jan. 2007) | Expenditures To Date (Jan. 2007) | % Complete Based on Expenditures (Jan. 2007) |
| <u>Active Construction</u> | | | | |
| Arrowhead Tunnels Const. Contract | \$ 397.0 | \$ 5.4 | \$ 202.0 | 51% |
| Construction Inspection and Support | \$ 55.0 | \$ 1.0 | \$ 33.8 | 61% |
| Subtotal, Active Construction | \$ 452.0 | \$ 6.4 | \$ 235.8 | 52% |
| <u>Other Components</u> | | | | |
| Completed Projects | \$ 576.8 | \$ 0.1 | \$ 575.3 | 100% |
| Others (R/W, Env., Prog. Mgmt.) | \$ 101.2 | \$ 0.4 | \$ 97.7 | 97% |
| Subtotal, Other Components | \$ 678.0 | \$ 0.5 | \$ 673.0 | 99% |
| Expended To Date | | \$ 6.9 | \$ 908.8 | 77% |
| Subtotal, All Projects | \$ 1,130.0 | ← Projected Cost to Complete | | |
| Remaining Budget | \$ 56.4 | | | |
| Board-Authorized Budget | \$ 1,186.4 | ← Total Project Budget | | |
| Length of Tunnels Mined Through 2/22/07 | | | | |
| Arrowhead East | 16,710 ft | of 22,458 ft | (74%) | |
| Arrowhead West | 9,390 ft | of 19,884 ft | (47%) | |
| Total | 26,100 ft | of 42,342 ft | (62%) | |

NOTE: Contractor invoices paid through January 2007 = \$205.7M
 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 - Dec. 2006 (Previously Reported) | 6,968 | \$ 694,400 | \$ 741,893 | \$ 1,436,293 |
| January 2007 (3) | 700 | \$ (3,000) | \$ 134,700 | \$ 131,700 |
| TOTALS | 7,668 | \$ 691,400 | \$ 876,593 | \$ 1,567,993 (2) |

(1): For Arrowhead West Tunnel, incentive program evaluation commenced in June 2006.
 (2): Percent of maximum possible combined incentive: 61% (51% Arrowhead East Tunnel, 73% Arrowhead West Tunnel)
 (3): Incentive Plan based on progress during the period from 12/26/06 to 1/25/07 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Mining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

