

**OPERATIONS COMMITTEE  
JANUARY 15, 2004****SUBJECT: 2550 RAIL VEHICLE PROGRAM****ACTION: RECEIVE AND FILE****RECOMMENDATION**

Receive and file the second quarterly report on the 2550 Rail Vehicle Program for the period from September 2003 through November 2003.

**ISSUE**

On April 24, 2003, the MTA Board awarded two key contracts to the Program:

- A five-year contract to AnsaldoBreda S.p.A. (ANSALDOBREDA) for a base buy fleet of 50 light rail vehicles (LRV). These 50 LRVs will be utilized for both the current Pasadena Gold-Line and the future Metro Gold-Line Eastside Extension. These LRVs will also be designed to operate on any existing or future light rail alignment(s), which the MTA operates.
- A rail-consulting contract to LTK Engineering Services (LTK) for as-needed technical support to the Program.

In addition, the Board directed staff to provide quarterly updates on the status of the Program.

**BACKGROUND**

Based on the lessons-learned with the P2000 LA Standard Car contract, the MTA created an LRV Integrated Project Team (IPT) responsible for managing the Program. An IPT is established when a capital project of significant importance requires a very dedicated management team with the ability to act and react quickly to Program issues.

For this program, the IPT is organized under the MTA's Rail Fleet Services and consists of the Project Manager, Deputy Project Manager and fully dedicated staff from other MTA departments including Procurement and Engineering. The IPT also benefits from the support of as-needed specialty engineering services through the program contract with LTK, one of America's oldest and largest rail-transportation consulting firms. The as-needed engineering participation provided by LTK is an integral part of the IPT and its ability to expeditiously respond to specific engineering issues as they arise. The IPT's primary focus is dedicated towards on-time delivery,

within program budget, and on the successful integration of the systems and subsystems affecting the LRV.

**PROGRAM STATUS**

**1. Summary Status: September 2003 through November 2003:**

<b>The 2550, LRV Contract with AnsaldoBreda</b>	
<b>Actions or Accomplishments</b>	<b>Date</b>
1. The AnsaldoBreda Vice President and the Project Engineer present the program progress status at MTA Office. This presentation was specially scheduled at AnsaldoBreda's request to allay MTA's concerns about several document submittals that were late. AnsaldoBreda submitted their proposed contract schedule at the presentation and assured the IPT that late submittals would be brought current and subsequent document submittals would be in accordance with the schedule. The AnsaldoBreda Project Manager pledged to reinforce the staffing in certain technical areas to mitigate the late document submittals.	September
2. AnsaldoBreda's Contract Schedule is approved by the IPT. The AnsaldoBreda schedule complies with the 2550 Contract as amended by the IPT. The approved schedule meets the MTA's service requirements and reflects the current funding realities.	September
3. AnsaldoBreda appointed a Deputy Project Manager to assist with the Contract's administrative tasks as well as support technical efforts. This appointment was discussed by AnsaldoBreda and the IPT as a solution to relieving the heavy workload of the Project Manager.	October
4. The IPT audited the improvements to the AnsaldoBreda's Naples Plant electronics assembly areas. The previous IPT visit to AnsaldoBreda's Naples Plant resulted in a number of suggested improvements to the electronics assembly areas. The audit revealed that AnsaldoBreda has accomplished most of the suggested improvements with the remaining recommendations in process.	October
5. AnsaldoBreda added 3 more engineers to the project in the Pistoia facility and 3 more engineers to the project in the Naples facility as previously discussed with the IPT to increase the efficiency of the AnsaldoBreda technical document production and maintain the Contract scheduled submittals.	October
6. AnsaldoBreda's structural weldment tests begin. AnsaldoBreda is presently setting up the production line area where the first two LRVs will be assembled. The computer-driven automatic welding machine is being reprogrammed and the resulting test weld are being analyzed for sufficiency.	October
7. AnsaldoBreda's manufacturing materials start to arrive. The bulk orders of stainless steel and LAHT steel has been ordered and deliveries are being made to AnsaldoBreda manufacturing facilities.	October
8. The IPT conducted a site visit with AnsaldoBreda to an Italian Wheel/Tire/Axle manufacturer & witnessed a maintenance demonstration on a Wheel assembly. This wheel and axle manufacturer has no U.S. experience except on the new Dallas LRVs where the initial experience with these wheels is less than satisfactory. The IPT directed AnsaldoBreda to subcontract with a wheel and axle manufacturer who can meet the Contract-equivalent requirements.	October
9. Reviewed & preliminarily approved the 2550 LRV seating layout with	October

<p>Ansaldobreda. The proposed seating solution is in accordance with the Contract's basic requirements but additionally reflects the IPT's focus on greater passenger leg room and ease of cleaning and maintenance by MTA staff.</p>	
<p>10. Reviewed &amp; preliminarily approved the 2550 LRV operators cab layout with Ansaldobreda. The proposed layout for the operator's cab meets the basic contract requirements but also is indicative of the IPT's concerns with operator-suggested improvements based upon experience with the cabs of the present LRV fleet.</p>	October
<p>11. Reviewed &amp; preliminarily approved the 2550 LRV basic exterior configuration with Ansaldobreda. The proposed layout for the LRV exterior meets the basic contract requirements with extra consideration toward with operator and maintenance staff-suggested improvements based upon their experience with the present LRV fleet.</p>	October
<p>12. Reviewed &amp; preliminarily approved the 2550 LRV layout for roof-mounted and underfloor subassemblies with Ansaldobreda. The proposed layout for the LRV exterior meets the basic contract requirements with special attention toward maintenance staff-suggested improvements based upon their experience with the present LRV fleet.</p>	October
<p>13. Ansaldobreda signed a lease for the Pittsburg, California 2550 assembly facility. This is the large facility located in the California Bay Area that will be mobilized to perform the final LRV assembly and shipping starting with the third LRV. This facility will provide jobs within California and meets the Buy America requirements for stateside final assembly.</p>	November
<p>14. Introduced communication enhancements through ProjectQuest. The ProjectQuest project management program is internet-based software that allows real-time transmittal and review of all correspondence, documentation and drawings. The program allows the IPT to establish the appropriate accessibility to Contract documentation for all MTA, LTK and Ansaldobreda staff involve on the Program while maintaining the necessary confidentiality.</p>	November
<p>15. Reviewed &amp; preliminarily approved the 2550 LRV Automatic Train Protection (ATP) configuration with Ansaldobreda and subcontractor.</p>	November
<p>16. Door supplier and equipment design agreed upon in principle with Ansaldobreda. The door and door-actuator design is scheduled for further review during the month of December.</p>	November
<p>17. The IPT instituted weekly conference calls between the MTA (IPT) and the Ansaldobreda's project team. These speaker-phone calls have a previously published agenda so that each team can arrange for the appropriate subject-cognizant staff to be in attendance.</p>	November
<p>18. Developed MTA one-month, three-month, and twelve-month "Look-Ahead" schedule to track Ansaldobreda against the approved Contract schedule.</p>	November
<p>19. The MTA Safety Certification Manager initiated development of the MTA Safety Certification Plan to be applied to the 2550 LRVs. This plan will benefit from the lessons-learned during the P2000 safety certification.</p>	November
<p>20. Contract Milestone 1A accomplished by Ansaldobreda. This Milestone consists of the Approval of engineering, production and drawing submittal schedules, and approval of the first schedule for the full term of the project, including vehicle delivery schedule.</p>	November
<p>P2550, LRV Contract Paid To Date*      \$8,710,441.11*</p>	

\* As of 12/15/03

The PS 8310-1267, Rail Consulting Contract with LTK	
Actions or Accomplishments	Date
<ul style="list-style-type: none"> <li>1. Participated in all weekly IPT technical meetings. These are the in-house meetings to discuss status and MTA technical positions prior to the weekly teleconferences with AnsaldoBreda.</li> <li>2. Participated in all weekly 2550 Program technical teleconference calls with AnsaldoBreda. LTK's technical expertise in certain areas is a beneficial augmentation to the IPT's expertise.</li> <li>3. Reviewed and provided Comments and Recommendations to all AnsaldoBreda Technical Submittals. LTK's technical expertise is especially valuable in the review of certain technical documentation from AnsaldoBreda.</li> <li>4. Developed and produced the P2550 Contract Technical Matrix for use as a Contract Reference Document. This matrix is a tool which lays out the 2550 Contract in an interrelated cross-indexed format.</li> <li>5. Attended and participated at meetings with AnsaldoBreda in Los Angeles. LTK's experience with previous MTA LRV procurements provides insight in to lessons-learned.</li> <li>6. Attended and participated at meetings with AnsaldoBreda in Pistoia and Naples. LTK's experience with other LRV manufacturers is a valuable asset to the IPT.</li> </ul>	September     through    November
<b>PS 8310-1267, Rail Consulting Contract Paid to Date*</b>	<b>\$188,299.76*</b>

\* As of 12/15/03

## 2. Discussion of Status

The Program now has an approved Program Schedules for all Contract milestones, and submittals as well as for the LRV production and deliveries. The Program has standardized most Program forms and correspondence formats. The Program now has the ability to transmit, review, comment and approve Contract drawings and Contract submittals electronically through the use of the Internet-based "Project Quest."

From October 20<sup>th</sup> through October 24<sup>th</sup> 2003, the IPT members from Rail Fleet Services and Contract Administration with LTK's project engineer conducted a technical review and follow-up audit at AnsaldoBreda's plants in Pistoia and Naples, Italy. The IPT and noted support staff reviewed AnsaldoBreda's conceptual design elements. AnsaldoBreda has completed almost all subcontract negotiations for the major subsystem vendors for the LRVs.

The IPT audited the recent improvements to the electronics production areas at the AnsaldoBreda Naples plant and were satisfied with the improvements. These improvements are the result of AnsaldoBreda's consolidation of the electronics assembly from several facilities and from comments and suggestions made by the IPT on its previous review of the Naples plant. AnsaldoBreda has appointed an experienced Deputy Project Manager to facilitate the expeditious accomplishment of the Project Manager's duties. The AnsaldoBreda Project Manager has also dedicated three more engineers to the project at the Pistoia facility and three more engineers at the Naples facility.

Ansaldobreda has executed the lease for the Pittsburg, California assembly plant to better comply with the contract's Buy America-required final assembly in the United States. This facility will allow the Ansaldobreda and the IPT to more efficiently coordinate and oversee the final assembly and shipping operation between the two California locations.

The IPT is currently reviewing the Contract submittals from Ansaldobreda of the subcontracts for the major subassembly suppliers, the Quality Assurance Plan, the System Safety Program Plan, and certain preliminary details of specific LRV system elements. The IPT's rail-operations based staff provides the 2550 Program with a more practical technical focus than a construction-based technical approach. This paradigm shift is the primary lesson learned from the P2000 contract. The result of this change in technical viewpoint will result in a more operations-friendly LRV and subsequently result in lower cost-per-passenger mile. MTA approval will be granted by the IPT if the submittals meet the contract requirements.

The IPT is confident that the manufacturing portion of the contract is still on schedule. The present areas of the contract that are behind schedule are centered around the production of contract-required document submittals. Ansaldobreda has yet to sign a subcontract with an acceptable wheel and axle supplier. The IPT has directed Ansaldobreda to provide a mitigation plan that will bring the schedule into alignment in all areas of the contract work. The Ansaldobreda Project Manager assigned three more staff members to the Program at both the Pistoia and Naples facilities. The program's benefit from this increased staffing should soon be apparent.

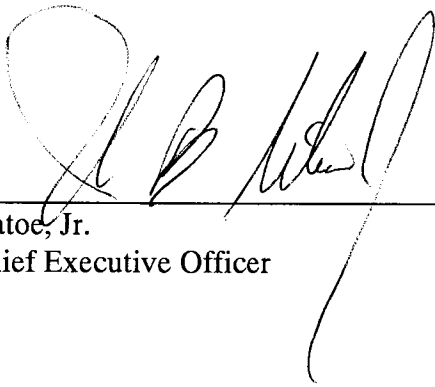
### **NEXT STEPS**

A technical conceptual design review will be conducted by the IPT and the Ansaldobreda on the automatic train protection system, door operation system, and friction braking system during the week of December 15<sup>th</sup> through 17<sup>th</sup> 2003. This meeting will also focus on the Ansaldobreda schedule mitigation plan.

The Preliminary Design Review will occur during the next reporting quarter, which clearly and firmly establishes the LRV design baseline. This review encompasses all elements of the LRV design such as exterior body configuration, announcement sign locations, door-locking system integrity analysis, powered and un-powered truck design, carborne and wayside equipment compatibility, dynamic envelope clearance and center of gravity analysis, and HVAC system design.

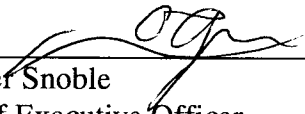
Contract Document Requirements List (CDRL) submittals from Ansaldobreda will continue and the IPT will review and comment or approve. A technical design review of the Preliminary Operator's Cab physical layout and full-scale mock-up is presently scheduled for February 2004 in Pistoia. The IPT continues to communicate on a daily basis and conduct full-team meetings at least once a week to discuss issues, schedules and milestones.

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