



Customer Service, Operations and Safety Committee

Board Information Item IV-A

February 8, 2007

Railcars Semi-Annual Update

**Washington Metropolitan Area Transportation Authority
Board Action/Information Summary**

<input type="checkbox"/> Action <input checked="" type="checkbox"/> Information	MEAD Number:	Resolution: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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PURPOSE

To provide a semi-annual update on the work underway on the 2000/3000, 5000 and 6000 series railcars that represents 63% of the WMATA fleet.

DESCRIPTION

2000/3000 SERIES RAILCARS

Manufactured by Breda in the 1980s, a major rehabilitation program is underway to extend the useful life of 364 railcars for another 20 years. This program has experienced delays with past deliveries. However, as of the end of January 2007, ALSTOM has rehabilitated 222 railcars. With recent refocus on quality and closer monitoring, future deliveries, planned at 10 per month, are achievable. The most recent schedule indicates completion in Spring 2008. Additionally, it should be noted that delays in the program, though adding additional costs, do not impact services, as there are only 36 of 364 railcars out of service to be rehabilitated at any time.

The senior ALSTOM management continues to pledge the necessary resources to resolve the open engineering concerns and the appropriate resources to complete necessary modifications. ALSTOM has implemented a three-phase modification program on-site to enhance railcar reliability and overall performance.

5000 SERIES RAILCARS

Manufactured by CAF, 192 railcars have been delivered and are in service. These railcars continue to exceed WMATA performance standards. However, problems with the door system controls have required a continuation of the warranty process. Ninety-two percent (92%) of planned door modifications are complete, with 14 currently underway.

Railcar reliability is steadily improving and projected mean distance between

delays is meeting performance goals. Program level discussions with CAF began in November 2006 to validate remaining open contractual issues.

6000 SERIES RAILCARS

Manufactured by ALSTOM, this program consists of the design, manufacture and delivery of 184 new railcars. To date, ALSTOM has maintained consistent deliveries since the acceptance of the new pilot cars. WMATA's Greenbelt Facility has served as the "on-site testing site for acceptance". The completion date of Fall 2007 is currently projected to be approximately four months behind schedule, due to a production stoppage created by the center pin issue. Current production at the ALSTOM car shell facility and their Hornell, New York, final assembly shop are meeting schedules.

Delivery goal of 50 railcars was established and met. WMATA received 60 railcars, of which 40 railcars are in revenue service. Remaining railcars are in final phases of commissioning acceptance and activation. Production rates of approximately 10 railcars monthly are achievable with ALSTOM's attention to quality and critical suppliers for deliveries starting February 2007.

NEXT STEPS

Focusing on customer service and improved maintainability, reliability and availability, WMATA will continue to have close Executive Partnering to address key program issues with ALSTOM as well as jointly with its key sub-suppliers. In addition, a Vehicle Engineering Office has been reconstituted, led by a Chief Engineer, to enhance the capabilities of this group. Staff has been transferred from WMATA's Rail Reliability and Technical Services (RRTS) Office to assist in vehicle monitoring and in trending metrics of the railcar fleet. Reliability and Overall performance of the older fleets will continue as railcar engineering has developed in-house rehabilitation capability at the (old) New Carrollton Rehabilitation Facility (NCRF). Work will continue to move ahead and establish an enhanced commissioning process on railcar acquisition.



RAILCARS SEMI-ANNUAL UPDATE

Presented to the Board of Directors:

**Customer Service, Operations and Safety
Committee**

February 8, 2007





Purpose

- Semi-annual Update on:
 - 2000/3000 Series Railcars Overhaul (364 railcars)
 - 5000 Series Railcars (192 railcars)
 - 6000 Series Railcars (184 new railcars)
 - 7000 Series Railcars (128 new railcars for Dulles)
 - Key Special Projects in Support of Service



WMATA Railcar Fleet Profile

Railcar Manufacturer	Assigned Cars Nos.	Production Dates	Fleet Size # of Railcars	% of Total Fleet
Rohr	1000-1299	1974-1978	296	26%
Breda	2000-2075	1983-1984	76	41%
Breda	3000-3291	1984-1988	288	
Breda	4000-4099	1992-1994	100	
CAF	5000-5191	2001-2004	192	17%
Alstom	6000-6183	2005-2007	(184)*	16%
Total			952 (1136)*	100%

* 184 railcars are presently in production; successful completion of this order will increase the WMATA fleet size to 1,136 railcars by the end of 2007.



2000/3000 Series Railcars

Major Rehabilitation Program: (364 railcars)

- Program Schedule
 - Cars Received: 222 conditionally accepted rebuilt railcars, with a 36 railcar float
 - Estimated Projected Completion Date: Early 2008 (24 months after initial completion date)
- Budget
 - Total: \$382M
 - To date: 70% expended
- Engineering/Technical Issues
 - Systems impacting Mean Distance Between Delays (MDBD)
 - Implementation of engineering modifications to improve performance
- Reliability
 - MDBD goal of 72,600 miles surpassed in October, November, and December 2006
 - October: 84,003 miles
 - November: 78,978 miles
 - December: 93,035 miles
 - Accelerated on-site modifications to improve reliability
- Safety & Quality
 - Improved reliability/quality
 - Corrections of supply-chain problems
 - Implementation of effective engineering solutions
- Look Ahead
 - ALSTOM's implementation of three-phase modification program on-site
 - Current production schedules indicating 16 additional months to delivery completion





5000 Series Railcars

Railcar program: (192 railcars)

- Program Schedule
 - 190 railcars, with last two railcars completing warranty period in Summer 2006
- Budget
 - Total: \$383M
 - To date: 97% expended; retaining \$8.3M
- Engineering/Technical Issues
 - 92% modifications completed; 15 are currently underway
 - 85% modifications on door roller and limit switches
 - Redesign of door control units: Action planned
- Reliability
 - MDBD goal of 72,000 miles
 - November: 63,056 miles
 - December: 78,662 miles
 - FY07 YTD: 65,211 miles
- Safety & Quality
 - Derailment issues under investigation
- Look Ahead
 - Rail reliability improving
 - MDBD projections meeting performance goal
 - Ongoing program level discussions with CAF to close remaining open contractual issues
 - Safety certification complete





6000 Series Railcars

New Railcar Program: (184 new railcars)

- Program Schedule
 - Project completion date of Spring 2008
 - Greenbelt Facility "On-site Acceptance Testing" in process
 - Acceptance goal of 8 to 10 railcars monthly
 - 40 railcars conditionally accepted to-date
- Budget
 - Total: \$378M
 - To date: 35% (\$131M) expended
- Engineering/Technical
 - 142 carshells produced in Barcelona, Spain
 - 108 delivered to Hornell, New York
 - 80th railcar has entered production
- Reliability
 - Upgrades, per 2000/3000 and 5000 Series railcars programs
- Safety & Quality
 - Safety certification achieved
- Commissioning Process Improvements
 - Acceptance under development





7000 Series Railcar PE



- Program Schedule
 - Required railcars for Phase I: 64; Required railcars for Phase II: 64; Total Required = 128
 - Submitted preliminary engineering railcar specification to Dulles Rapid Transit Partners (DRPT) on January 8, 2007
- Budget
 - Funded by DRPT
 - \$1,150K for initial specification development funded by DRPT
- Engineering / Technical
 - Utilize 6000 Series Specification as baseline, with lessons learned
 - Access interior design criteria inputs from workshops held with internal and external stakeholders
 - Develop railcar design goals for improved safety, reliability, comfort, efficiency
- Look Ahead
 - Industry reviews of PE design with further refinement of 6000 Series platform
 - Final railcar specification planned for Summer 2007
 - Completion of new and enhanced commissioning process and methodology



Next Steps

- Continued Focus on Customer Service
 - External
 - Internal
- Improved
 - Maintainability
 - Reliability
 - Availability
 - Engineering Support
- Continued Executive Partnering with ALSTOM
- Continued Utilization of (old) New Carrollton Rehabilitation Facility