Southeastern Pennsylvania Transportation Authority
Operations Division
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MEMORANDUM

TO: Distribution

FROM: L. Diggs

DATE: February 7, 2011

SUBJECT: Silverliner V Fleet Procurement Progress Report January 2011

Attached is the Progress Report for the acquisition of the Silverliner V Rail Car Fleet, which summarizes overall project activity through January 2011. Please contact me if you have any questions or comments.

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Rail Locations

Frazer Shop
A. Matejik

Overbrook Shop
P. Norcini

Powelton Ave. Yard
G. Fisher

Roberts Ave. Shop
G. Fisher

Wayne Junction Shop
P. Norcini

Other Locations

FTA:
R. Kanzler

Hill International (FTA PMO)
A. Keltos

PENNDOT:
E. Bonini

STV Inc.:
C. Holliday
T. Janssen

Delaware Transit Corp.
L. A Loyola

Attachment

Silverliner V Rail Car Procurement

Progress Report

January 2011

Southeastern Pennsylvania Transportation Authority

Silverliner V Rail Car Procurement Project

Progress Report

January 2011

Executive Summary

Activities in January focused on pilot car and first three production car testing, operator and maintainer training, as well as production activities at the Weccacoe plant.

During the month of January the pilot cars were primarily used for SEPTA revenue service operation, employee training, as well as preparations for the communication system 6-car type test. While a few open items remain, most of the testing was completed with promising results. Final testing is scheduled for March.

The last shipment of 11 carshells arrived in Philadelphia in early January. With this shipment, all carshells are now in Philadelphia, with 75 carshells at the final assembly facility, and 38 shells stored at the Philadelphia port due to lack of storage space at the Weccacoe plant. Three production cars were delivered to SEPTA in late December, where they will undergo final testing.

Progress at the Philadelphia final assembly facility remains slow, although improvements have been recognized. UTS is continuing to implement new processes to streamline production flow.

The climate room car #702 underwent several design improvements and preliminary testing at the Weccacoe plant. Early results are promising, but require confirmation in a controlled environment at the climate chamber in Ottawa. In late January this car returned to Canada for final climate chamber testing in February and March.

Contract Scope

This project provides for an acquisition of 120 new regional rail cars for the SEPTA Regional Rail commuter service. Four of these are being purchased by the Delaware Transit Corporation (DTC) so that SEPTA can meet future ridership growth on the Wilmington Line.

In Summary.....

All but one First Article Inspections (FAI) and Type Tests have been completed, while the pilot cars continue testing at SEPTA.

Schedule	The pilot cars continued testing and operation in revenue service, and also served for operator and maintainer training. Three production cars are currently being tested at SEPTA. The last car is scheduled to be delivered in December 2011.
Costs	Payments to UTS total $71.6M.
Construction	All 120 carshells have been completed and shipped to Philadelphia.
Production	75 carshells are currently at the Weccacoe plant in Philadelphia, with 38 additional carshells stored off-site. Three production cars were delivered to SEPTA on December 29, 2010.

These new electric multiple-unit (EMU) commuter cars will replace the existing Silverliner II and III rail cars as well as provide additional cars to supplement the fleet in response to current and projected ridership increases.

The rail car supplier is United Transit Systems (UTS), a consortium of Hyundai-Rotem, South Korea, and Sojitz Corporation of America.

Suppliers of Major Equipment	
Hyundai-Rotem	Carbody
Columbus Steel (CSC)	Truck Frame
UTC	Truck Assembly
Mitsubishi Electric (MELCO)	Propulsion, High Voltage
Transtechnik	Auxiliary Power
Westcode	HVAC
Faiveley	Doors
Wabtec	Brakes, Couplers
Woojin, KTCC	Communications
Quester Tangent	Central Diagnostic
Kustom Seating	Seats

In addition to the rail cars, the program also includes: spare parts; publications and training; special tooling; and coupler heads (to enable coupling to Silverliner IV).

Changes and Change Orders

Change Order No. 1, the exercise of 16 option cars, was executed in June 2007. Change Order No. 2, a four month project time extension, including a six month delivery extension for the pilot cars due to excusable delays, was executed in November 2008. Further included is the use of drawbars between married pair cars, rather than mechanical couplers, and the change of the flooring material to an Altro product. Also part of this change order is a revision of the spare parts list, which has been adjusted based on the actual vehicle design, and a correction of payment milestones.

Climate test car 702 during preliminary heating testing at Weccacoe

Budget Status

BUDGET	BASE-LINE	CURRENT	EXPENDED
	(06/2006)	(EAC)	TO DATE
	($x1,000)	($x1,000)	($x1,000)
Professional Services	8,665	11,030	8,168
Cars/Spares	244,237	274,084	71,554
Surveill. System	0	3,533	0
Autom. Pass. Count. system	0	2,098	15
Project Management	7,890	7,890	4,738
Travel	785	895	893
F/A Labor/Engineering Support	1,463	1,463	641
F/A Labor/F/A Material	1,500	1,500	181
Tools & Equipment	500	500	20
Training	1,750	1,750	99
Indirect Support	17,328	19,808	4,444
Contingency	15,882	5,448	0
TOTAL PROJECT	300,000	330,000	90,754
Expended as of 1/22/11 :			**$90,753,647**

Note: the CURRENT figures include the 16 option cars.

Progress Payments

On May 16, 2007, the first milestone payment was made to UTS. A payment for the option cars followed on July 3, 2007. Since November 2008, payments for the completion of major system FAIs, the carbody load test, and the pilot car delivery and conclusion of the Buy America Post Delivery audit have been made. On January 6, SEPTA paid $6,568,350 for the invoices for 50% of the contractual milestones for the delivery of the pilot cars, and for the partial completion of the communication system FAI. Although both milestones have not been fully completed, significant progress has been made, which warranted the 50% payments. Combined, all payments add up to $71,554,400.

Weight Report

UTS recently confirmed that, with 147,700 pounds for the first production single car, the vehicles are about 7% over the target weight. UTS has provided statements and calculations from suppliers that confirm that this increase will have no impact to the materials or the performance of these systems.

Project Schedule

In July 2008, the SEPTA Board granted UTS a project extension of four months due to delays that were out of UTS' control. In addition, a six-month extension for delivery of the pilot cars was granted.

In March 2009 UTS stated that there are additional project delays. Although UTS has been working under a mitigation plan that attempted to reduce the pilot car delivery delay to six months, UTS was unable to meet this targeted mitigation schedule. The pilot cars arrived at SEPTA in March of 2010, and the first three production cars were delivery on December 30, 2010.

Start-up activities at the new facility in Philadelphia remain the main reason for a slower than expected progress of the production cars. The slow advancement of new production processes adds to a delayed incorporation of efficient work flows.

ACTIVITY	CONTRACT SCHEDULE	CURRENT STATUS[1]
Notice to Proceed	June 2006	June 2006 (A)
Approval of Major Equipment Suppliers	October 2006	December 2006 (A)
Completion of Carbody Load Test (Pilot Vehicle)	March 2008	December 2008 (A)
Completion of First Article Inspections (FAI's)	May 2008	March 2011 (F)[2]
Pilot Vehicle Delivery	June 2009	March 2010 (A)
First Production Vehicle Delivery	January 2010	December 2010 (A)
Last Production Vehicle Delivery (car 104)	October 2010	November 2011 (F)
Last Option Vehicle delivery (car 120)	December 2010	December 2011 (F)

(A) = Actual, (F) = Forecast
1) Contract Schedule based upon current contract, which includes a four months delivery extension. Forecast based on current UTS schedule.
2) Except for the wayside communication system all FAIs have been completed.

Project Progress Summary

Below table summarizes the estimated progress of key project activities:

Subsystem FAI completion:	99%
Completion of pilot car testing:	97%
Number of assembled carshells:	120
Carshells at the Weccacoe facility:	75 (+38)
Number of vehicles delivered:	6

Quality Assurance

UTS and SEPTA inspectors continued their joint inspection efforts on the next three production cars at Weccacoe. UTS plans reflected an end of January shipment for these cars, but due to test-related issues, the cars are now scheduled to ship in early February.

In early January, further plans were implemented to improve the timely delivery of cars to Wayne Junction. These plans included additional support to UTS production personnel in specific areas such as passenger door installations, electrical locker inspections and water testing activities.

At the end of January, UTS had begun efforts to reorganize assembly line activities with respect to material flow and coordination, though the issue of production car throughput continues to remain a significant challenge. A meeting between SEPTA and UTS personnel was conducted on January 31st to review the results of these improvements. A follow up joint review meeting will be scheduled for late February.

Pilot Cars

During the month of January the pilot cars have been operating in regular revenue service. For a two week period these cars were part of a 6-car communication system test with the recently received three production cars.

In addition, the pilot cars are being used for SEPTA operations and maintenance employee training.

Production Cars

The final eleven production carshells arrived at the port in Philadelphia on January 8th. An inbound inspection was conducted by SEPTA and UTS quality personnel. No significant findings were reported at the time of inspection. These carshells are being temporarily stored

at the Packer Marine Terminal until production space becomes available at the Weccacoe facility.

At the end of January, there were a total of seventy-five carshells at the Weccacoe production facility. Fifty-nine cars were in the production cycles with the remaining sixteen carshells being stored outside the facility. The focus of production outfitting activities resided with the first forty-five units. The remaining fourteen carshells have seen only limited production activity during the month of January due to the availability of specific materials and equipment.

Static testing of production cars 704, 805 and 806 were approximately 95% complete at the end of January. Communication testing on car 704 was expected to conclude in early February. A few minor testing issues were being addressed on married pair 805/806 and were expected to be rectified during the first week of February. The current revised target date for delivery of these cars to SEPTA is February 8th.

The next three production cars, 705, 807 and 808, have undergone megger and hi-pot testing and were being readied for commencement of production static testing in early February. Witness testing by SEPTA engineers will begin mid-February, with final inspection and shipment of the consist scheduled for the end of February.


Cars 704, 805, and 806 during static testing

Issues and Concerns

Communication System: After unsuccessful equipment testing during the previous months, a communication system type test and FAI of the carborne equipment in mid-September showed great improvements, resulting in the close-out of most open items. While some items require additional corrections and modifications, they are not preventing the cars from operating in revenue service. The remaining items will be corrected over the next month or two and will be monitored closely.

Final Assembly: Assembly activities at the Weccacoe plant are not yet proceeding as smoothly as originally hoped. While some initial problems have been expected for this new facility with newly hired staff, production, and especially quality, processes need improvement. A combination of material delays and labor qualifications appear to be the main reasons for the slow progress at that facility. UTS continues to improve the employee training programs and work flow processes. While improvements have been noticed, this situation continues to be monitored closely.

Climate Room Testing: The climate room testing at the National Research Council in Ottawa, Canada, revealed that some modifications are required for the insulation and heating systems of the vehicles. Various design changes have been implemented into the test car in early January. These activities were followed by an informal test to verify the functionality of the changes, as well as a preliminary investigation to verify the improvements resulting from these changes. The car is currently on its way back to Canada for final testing in February and March. Once all modifications have been successfully tested and approved, these changes will have to be implemented into the current production vehicles. While for a few vehicles this will require some rework, for most vehicles these changes will be part of the normal outfitting process and therefore should have little impact on the vehicle delivery schedule.

One Month Look-Ahead

The following confirmed activities are scheduled for the coming month:

Technical Meetings/Discussions:
- Weekly Engineering Meetings
- Weekly Production Meetings

Project Management:
- Monthly Progress Meeting – February 2
- Weekly Project Meetings

Pilot Car Activities:
- revenue service operation
- operator and maintenance training

Production Car Manufacturing:
- Car 702 was shipped back to the climate chamber in Ottawa at the end of January in

support of further climate room testing. This testing is scheduled to begin in late February.

- Testing of the fourth, fifth, and sixth production cars is scheduled to conclude in early February at which time final inspection activities will get under way. The next three cars are scheduled to ship in by the end of the first week of February.
- SEPTA resident inspectors have been focusing their inspection efforts on numerous cars throughout the production cycle to ensure the findings on the first six cars are being routinely addressed on all future production cars.