




**Southeastern Pennsylvania Transportation Authority
Operations Division**

1234 Market Street, 10th Floor, Philadelphia, PA 19107-3780

Courtesy • Cleanliness • Communication • Convenience

MEMORANDUM

TO: Distribution

FROM: L. Diggs 

DATE: March 10, 2011

SUBJECT: Silverliner V Fleet Procurement Progress Report
February 2011

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

GENERAL MANAGER

J. Casey

AUDIT & INVESTIGATIVE SERVICES

J. Sullivan

Inspector General

J. Bannan

BOARD OFFICE

S. Jobs

BUSINESS SERVICES

N. Patel

Information Technology

B. Zebrowski
A. Duckett

DBE Program Office

L. Claitt

Procurement

A. Abdallah
A. Tarter
J. Kerrigan
E. Bongard

CUSTOMER SERVICE

K. Heinle

Communications

E. Mintz

ENGINEERING, MAINT., & CONSTRUCTION

J. Knueppel

Project Control

J. Grosso

FINANCE AND PLANNING

R. Burnfield

Capital Budgets

C. Popp-McDonough

Operating Budgets

F. Gormley

Strategic Planning & Analysis

B. Comati

Service Planning

C. Webb

HUMAN RESOURCES

S. Van Buren

Recruitment

D. Amspacher

Training

T. Innaurato

LEGAL

N. Staffieri, Esq.

OPERATIONS

Admin. & Finance

P. Morris

Surface Transportation

M. Liberi

Control Center

R. Hopkins

Labor Relations

F. Keating

Rail Transportation

R. Hanratty

A. Andrijewskij

Vehicle Engineering & Maint.

L. Curley
J. Brattelli

New Vehicle Programs

D. Casper
J. Coppedge
J. Cox
D. Gibbone
C. Tuzzo
E. Williams

PUBLIC & GOV'T.

AFFAIRS

F. Kelly

Media Relations

R. Maloney
J. Williams

Gov't & Community Affairs

F. Jones

PUBLIC & OPER. SAFETY

J. Jordan

System Safety

J. Fox

Rail Locations

Frazer Shop

A. Matejik

Overbrook Shop

G. Fisher

Powelton Ave. Yard

G. Fisher

Roberts Ave. Shop

A. Matejik

Wayne Junction Shop

P. Norcini

Other Locations

FTA:

R. Kanzler

Hill International (FTA PMO)

A. Keltos

PENNDOT:

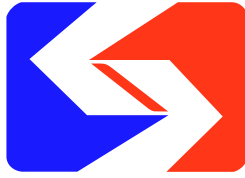
E. Bonini

STV Inc.:

C. Holliday
T. Janssen

Delaware Transit Corp.

L. A Loyola



Silverliner V Rail Car Procurement



Progress Report

February 2011

Southeastern Pennsylvania Transportation Authority

Silverliner V Rail Car Procurement Project

Progress Report

February 2011

Executive Summary

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

During the month of February the pilot cars were primarily used for SEPTA revenue service operation and employee training.

The first three production cars, which were delivered to SEPTA in late 2010, went through some additional testing before entering revenue service operation during the second half of February. By the end of the month, one six-car train was operating in revenue service.

Since late January all carshells are in Philadelphia, with 72 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 during February, 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 in January. Early results are promising, but require confirmation in a controlled environment at the climate chamber in March. During February the car returned to the test facility and was being prepared for final testing.

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 first production cars started revenue service.

Schedule The pilot cars and two production cars continued testing and operation in revenue service, and also served for operator and maintainer training. 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 72 carshells are currently at the Weccacoe plant in Philadelphia, with 38 additional carshells stored off-site. So far six production cars have been delivered to SEPTA.

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.



6-car revenue service train leaving Wayne Junction

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, 2011, SEPTA paid \$6,568,350 for the invoices for 50% of the 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.

Budget Status

BUDGET	BASE-LINE	CURRENT	EXPENDED
	(06/2006)	(EAC)	TO DATE
	(\$x1,000)	(\$x1,000)	(\$x1,000)
Professional Services	8,665	11,126	8,172
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	11,262	4,842
Travel	785	950	894
F/A Labor/Engineering Support	1,463	1,971	677
F/A Labor/F/A Material	1,500	1,483	190
Tools & Equipment	500	1,000	21
Training	1,750	513	99
Indirect Support	17,328	18,283	4,492
Contingency	15,882	696	0
TOTAL PROJECT	300,000	327,000	90,955
Expended as of 2/19/11 :			\$90,954,622

Note: the CURRENT figures include the 16 option cars.

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.

Due to expected further delays, UTS is investigating new mitigation efforts and a revised schedule, which should be submitted in the following month.

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 Cond. Acceptance	January 2010	February 2011 (F)
Last Production Vehicle (car 104) Cond. Acceptance	October 2010	December 2011 (F)
Last Option Vehicle (car 120) Cond. Acceptance	N/A	January 2012 (F)

(A) = Actual, (F) = UTS Forecast

1) Contract Schedule includes a four months delivery extension. Forecast based on current UTS schedule, which is being reviewed and revised at this time.

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:	98%
Number of assembled carshells:	120
Carshells at the Weccacoe facility:	72 (+38)
Number of vehicles delivered:	3+6

Quality Assurance

UTS continued the efforts to reorganize assembly line activities with respect to material flow and coordination. The issue of station-by-station production car throughput continues to impact the effective implementation of a comprehensive material control system. UTS has developed a plan which identifies production car 39 as the point where a fully functional production line will be in place. In addition, UTS continues to increase the number of production workers on the shop floor with the addition of 27 outfitting personnel from Korea.

Working with UTS and the door supplier, Faiveley, several key areas were identified for improvement of the door installation process, by making it more consistent and ensuring all doors and thresholds are being routinely installed in the same manner. SEPTA inspectors will continue to monitor door installations on a routine basis and ensure process improvements are yielding the anticipated results.

A material control review meeting was scheduled for February 21st but was rescheduled to March 1st at the request of UTS.

Pilot Cars

During the month of February the pilot cars have been operating in regular revenue service. For a two week period these cars were being used for SEPTA operations and maintenance employee training.

Production Cars

At the end of February, there were a total of seventy-two carshells at the Weccacoe production facility. While some shells were in storage at that facility, fifty units were in various stages of final assembly at the end of February.

It was initially anticipated that the next three cars would ship to Wayne Junction at the end of January. Due to test related issues cars 805 and 806 shipped on February 11th and car 704 shipped on February 28th.

Static testing of production cars 807 and 808 was approximately 75% complete at the end of February while test activities on car 705 had just begun. Cars 807 and 808 are scheduled to ship to Wayne Junction on March 14th followed by car 705 on March 17th.



Car 704 is picked up by CSX for delivery to SEPTA

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 hire additional qualified employees, and 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, last summer 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 back in Canada for final testing in 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 – March 2
- Weekly Project Meetings

Pilot Car Activities:

- Revenue service operation

Production Car Manufacturing:

- Car 702 will undergo further climate room testing at the NRC in Ottawa.
- Shipment of the seventh, eighth and ninth production cars is scheduled for mid-March. UTS has also advised that they plan to ship the next three cars at the end of March.
- UTS has advised that installation of a new catenary line will be implemented on the second test pit track in late March or early April. Operations on this track will be suspended during the installation.
- UTS will introduce a “traveler system” into the production line beginning in March. The travelers will include all work instruction information and details outlining the specific work activities planned for each specific station. This information will be reviewed at the next material review meeting.
- UTS has also advised that they are reviewing the current quarantine material area and are planning to make changes in this area. This issue will also be discussed at the next material review meeting.