

**COMPREHENSIVE MONTHLY REPORT**

**May 2013**

**Dulles Corridor Metrorail Project  
Extension to Wiehle Avenue**  
Metropolitan Washington Airports Authority  
Washington, DC

June 26, 2013

**PMOC Contract Number:** DTFT60-09-D-00016

**Task Order Number:** 002, **Project Number:** DC-27-5142, **Work Order No.** 03

**OPs Referenced:** 01, 25

**Hill International, Inc.**

One Penn Square West

30 South 15<sup>th</sup> Street

Philadelphia, PA 19102

**PMOC Lead:** [REDACTED]

**Length of Time PMOC Assigned to Project:** 12.5 years

**Length of Time PMOC Lead Assigned to Project:** 5.5 years

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## EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *June 6, 2013* to conduct a monthly progress meeting for work performed in *May 2013*. The full time on-site PMOC representative attended various project meetings and site tours throughout this reporting period. Additional information for this report was obtained from MWAA during the second week of *June 2013*. Future PMOC monthly progress meetings are planned to occur during the first week of each month.

### 1. Project Description

MWAA, in cooperation with the Washington Metropolitan Area Transit Authority (WMATA), proposes to implement a 23.1-mile rapid transit system in the Dulles Corridor of Northern Virginia. The proposed corridor follows the alignment of the Dulles International Airport Access Highway (DIAAH) and the Dulles Toll Road within Fairfax County, and the Dulles Greenway, a private toll road in Loudoun County. The Project (Initial Operating Segment) undertakes the construction of the initial 11.7-miles of the rail project from the existing Metrorail Orange Line just east of the West Falls Church (WFC) Station to a station to be constructed at Wiehle Avenue with a total project cost of \$3.142 billion. Included in the Project are five new stations (Tysons East, Tysons Central 123, Tysons Central 7, Tysons West and Wiehle Avenue), improvements to the existing yard at WFC, and tail tracks beyond the Wiehle Avenue station. The procurement of sixty-four new rail cars is also included the Project. Based on the Full Funding Grant Agreement (FFGA), the Revenue Service Date (RSD) is December 1, 2014. The Federal New Starts share is \$900 million, along with \$75 million in Surface Transportation Program (STP) funds, for the extension to Wiehle Avenue. Through Federal fiscal year (FY) 2013, Congress has appropriated \$701,844,869 in Section 5309 New Starts funds for the Project with the addition of the FY13 New Starts Appropriation of \$90,730,505. The FTA has awarded \$611,114,364 in Section 5309 New Starts and \$75,000,000 in STP funds to date for the Project.

### 2. Project Status Summary

The FTA and PMOC met with MWAA on *June 6, 2013* to conduct a monthly progress review meeting and *MWAA provided* supplemental information the following week. The status of information is as of *May 31, 2013*, unless otherwise noted.

- **Real estate acquisition** kept ahead of construction requirements, often resorting to rights-of-entry (ROE) to gain access to required parcels. Of the 104 parcel packages required, 102 have been acquired. MWAA expects to complete the transfer of property to WMATA between SSCD and RSD.

**Rail car Procurement** - Monthly Progress Review Meeting No. 33 between WMATA and Kawasaki on the 7000 Series railcars *was held on June 13, 2013 and a teleconference was held on June 18, 2013 between FTA, WMATA and PMOC to review the past month's activities.* Design Qualification Testing (DQT) continues for components and subsystems, and car level DQTs *continue* at the Kawasaki Heavy Industries (KHI) facility in Japan on the full prototype car. *Climate room testing has started in Japan on the prototype cars. The testing fell 1° F short of cooling the car sufficiently to meet the contract specifications. It was*

determined that more robust evaporators and compressors will be required due to the tightness of the railcars. This change extends the forecast completion of climate room testing to September 30, 2013, a three month delay. The current forecast completion date for the conditional acceptance of the 64<sup>th</sup> railcar has been advanced to March 25, 2015, a nearly three-month improvement over the June 12, 2015 contractual completion date. This anticipated schedule improvement is based on Kawasaki continuing to manufacture at risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. WMATA's project team was in Japan to witness Maintainability Demonstrations on the Prototype Cars from May 20-29, 2013. The demonstration was conducted on fifty-seven components. Sixty-three components remain to be tested. KMM production of pilot cars continues with the delivery of the first four pilot cars to WMATA anticipated to be December 16, 2013. The delivery of the first four production cars is now forecast to be April 20, 2014, and the conditional acceptance of the first four production cars is still forecast to be August 14, 2014. The four prototype rail cars were completed at KHI on May 17, 2013.

- **Design progress** – MWAA reported that as of the end of February 2013, all required permit applications have been submitted and approved.
- **Construction progress** is broken into two components: utility relocation (UR), which is c 100% complete, and design-build (DB) construction, which is approximately 93% complete. Significant accomplishments in May included continued *fit and finish work at stations, pedestrian bridges and pavilions*; elevators and escalators *installation and testing*; continued *installation and testing* of Communications Systems; static testing of the Automatic Train Control system and continued train safe braking tests within 4 of 5 N-Line test blocks. The Project also *continues* to make good progress on the West Falls Church Yard upgrades to include *construction of the track Sound Cover Box (SCB), Service and Inspection (S&I) Shop and storage tracks*.

<b>SILVER LINE CONSTRUCTION PROGRESS THROUGH MAY 2013</b>			
<b>ELEMENTS</b>	<b>% COMPLETE</b>	<b>STATIONS/YARD</b>	<b>% COMPLETE</b>
O-3 (DCR) Trackway	100%	Tysons East	81%
Tysons East Guideway	100%	Tysons Central 123	72%
Tysons West Guideway	100%	Tysons Central 7	66%
O-9 (DIAAH) Trackway	100%	Tysons West	63%
Systems	68%	Wiehle Avenue	90%
Trackwork	99%		

<b>WEST FALLS CHURCH YARD PROGRESS THROUGH MAY 2013</b>	
<b>ELEMENTS</b>	<b>% COMPLETE</b>
Overall	43%
Sitework	95%
Sound Cover Box	38%
S&I Building	41%
Trackwork	89%
Systems	45%
Testing	5%

- **The DTP Schedule Update** with a data date of *April 25, 2013* showed the SSCD as September 13, 2013 and a forecast RSD of January 17, 2014. MWAA completed its review of the Schedule Update with a data date of *April 25, 2013* on *May 16, 2013*, stating that the schedule was “*Not Accepted.*” See Section 4 for additional information.
- **With regard to the West Falls Church Yard (WFCY) completion date**, DTP’s schedule update of *April 25, 2013* reflected a -25 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of *January 14, 2014*.
- **Budget status as of April 25, 2013 indicates** that \$2,386,962,479 has been expended of the \$3,142,471,635 budget total. In March, MWAA moved the \$40.38 million value of CNPAs expenditures to the available contingency. MWAA now reports \$320,523,488 of the available contingency for the first ten contingency milestones has been drawn down to date with a balance of \$41,276,512 available through the tenth contingency phase. The current estimate of the contingency available at the end of construction is \$49.05 million. In the PMOC’s opinion, the contingency is adequate. With the completion of the award of all contracts for Allowance Items, \$40.66 million of the original FFGA amount of \$77.47 million budgeted for Indexed Commodity Escalation was transferred to the Firm Fixed Price.
- **MWAA’s estimate of the Earned Value** for the Project through *April* is *91.0%*.
- **Risk** - The FTA approved MWAA’s RCMP Rev. 3 on April 13, 2012. On September 30, 2012, MWAA issued a revised list of Top Ten Risks. FTA’s letter of November 29, 2012 approved the September 30 revised Top Ten Risks. These risks are now being reviewed on a quarterly basis. A revised list of Top Ten Risks dated December 2012 was submitted to the FTA via letter dated January 22, 2013. The PMOC submitted its comments on the proposed revised risks to MWAA on February 22, 2013 and the comments were discussed at the March 7, 2013 update meeting. MWAA revised the proposed top ten risks and resubmitted them on March 20, 2013 as their re-titled “Proposed Top Tier” list containing nine items along with a revised risk register. The PMOC provided comments on April 3, 2013 and during the April 9, 2013 monthly meeting, the PMOC requested that MWAA resubmit a proposed top ten risks versus a top tier list. The PMOC commented on April 29, 2013 relative to the resubmission dated April 17, 2013, agreeing to the risks but raising some questions relative to numbering. On May 1, 2013, MWAA submitted their proposed Top Ten Risks dated March 29, 2013 to FTA for approval. *PMOC provided comments to MWAA on April 29, 2013.*
- **The Full Time Equivalent (FTE) estimated total for May is 1,094, which is a decrease of 16 from the April actual of 1,110.** A fluctuation is to be expected with the completion of design and the winding down of civil construction and the ramping up of systems installation and testing.

<b>FFGA-MWAA Core Accountability Items</b>			
<b>Project Status:</b>		<b>Original at FFGA:</b>	<b>Current Estimate*:</b>
<b>Cost</b>	Cost Estimate	\$3.142B	\$3.142B
<b>Contingency</b>	Unallocated Contingency		
	Total Contingency (Allocated plus Unallocated)	\$297.76M	\$49.05M
<b>Schedule</b>	Revenue Service Date	December 1, 2014	January 17, 2014**
<b>Total Project Percent Complete</b>		Based on Expenditures	75.9%
		Based on Earned Value	91.0%
<b>Major Issue</b>	<b>Status</b>	<b>Comments/Action/Planned Action</b>	
<b>Concurrent Non-Project Activities (CNPA) --</b> Project Partners have added activities to the Project that may not be part of the FFGA-funded scope of work.	The FTA identified \$36.7 million of CNPAs in its November 6, 2012 letter to MWAA. MWAA's letter of November 28, 2012 corrected the total to \$40.38M.	MWAA provided FTA, on May 6 <sup>th</sup> , their draft budget modification for the CNPAs by both SCC and ALI codes which they are planning to submit as part of their FFY2013 grant amendment.	
<b>Alstom Configuration Control –</b> ATC field concerns arose with regard to testers working with unapproved test procedures.	Desk top meetings and a re-review of seventeen test procedures and fourteen software changes are underway and will lead to some re-testing. The schedule impact is not yet known.	Alstom developed a revised Corrective Action Plan (CAP) that DTP submitted to MWAA on June 5, 2013 for review and approval. This revised CAP was "Not Accepted" by MWAA's letter of June 13, 2013.	
<b>Date of Next Quarterly Meeting:</b>		August 28, 2013	

\* Through April 2013

\*\* Contingent upon WFCY not needing to be complete

### **3. PMOC's Assessment of Project Status**

In its monthly report for June 2011, the PMOC concluded that MWAA needed to replenish the Project contingency, and to actively pursue *change orders* that may be additional scope (non-FFGA) and billed to the responsible parties in order to address potential budget overruns caused in part by scope of work issues. The FTA/PMOC and MWAA met on September 6, 2012 to discuss MWAA's August 10, 2012 re-tabulation of the list of potential Concurrent Non-Project Activities (CNPAs). The cost of items that are not part of the FFGA Project scope could provide a source of funds to replenish the Project Contingency. The FTA and MWAA agreed to a \$40.38 million worth of CNPAs. On May 6, 2013, MWAA submitted to FTA the draft modification (by both SCC and ALI codes) for the CNPAs that they are planning to submit as part of their FFY2013 grant amendment. *MWAA submitted Letter No. 08421 dated May 30, 2013 entitled "Reversal Methodology for CNPA" for FTA review and approval.*

Through April 2013, MWAA has utilized *contingency in the amount of \$320,523,488* resulting in a remaining balance of \$41.27 million through contingency Phase 10. With \$18,988,157 in

obligated contingency, this leaves a balance of \$7.77 million for Phases 11 through 12 and a grand total balance, as of the end of *April 2013*, of \$49.05 million in contingency estimated to remain at project completion. In the opinion of the PMOC, the Project now has adequate contingency.

The Project continues working according to the “Mitigation Schedule” authorized by MWAA’s November 1, 2011 Directive Letter. The mitigation schedule with a data date of *April 25, 2013* reflected a -4 calendar variance to the contract schedule reflecting an SSCD of *September 13, 2013*.

DTP has incorporated the West Falls Church Yard construction into the mitigation schedule with a target completion date of December 20, 2013. DTP’s *April 25, 2013* schedule update reflected a -25 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of *January 14, 2014*. It remains the PMOC’s opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014.

Kawasaki’s Mitigation Schedule based on the impacts of the March 2011 tsunami/earthquake forecasts a conditional acceptance date of the 64<sup>th</sup> DCMP rail cars on June 12, 2015. *Kawasaki’s forecast for the conditional acceptance of the 64<sup>th</sup> railcar has been advanced to March 25, 2015 in their Progress Review Meeting No. 33 (June 13, 2013) report. Kawasaki completed Prototype rail cars #1, #2, #3, and #4 at KHI on May 17, 2013.*

During April 2013, *WMATA staff raised concerns with the Alstom Automatic Train Control (ATC) testers working in the field with unapproved, marked-up test procedures. This apparent lack of configuration control on Alstom’s part caused Project partners to lose confidence in the Alstom ATC test program. DTP subsequently reported having spent several days in late April at Alstom’s Rochester, NY facility conducting a workshop. DTP reported that they discovered Alstom had installed 14 vital software changes on the N-Line (not yet operational) that Alstom had not submitted for DTP’s review or approval. On May 7, 2013, Alstom and DTP senior management made a presentation to MWAA and WMATA Executive Staff. DTP and Alstom were emphatic that they were going to turn the troubled test program around and outlined their plans to do so. They also emphasized they would fully cooperate with MWAA and WMATA to regain their confidence.*

*Alstom, DTP, WMATA and MWAA conduct weekly Desk Top Review Meetings and various other specially scheduled meetings to re-review test procedures and software changes. The first priority of the desktop review was to determine a path forward for dealing with the unapproved software installed at K98. After completing this effort, followed by a field audit, re-testing at K98 began on May 25, 2013 and will continue during additional track outages scheduled in June and July 2013. ATC testing previously completed on the N-Line will require re-testing. Meetings continue for re-reviewing and validation of test procedures and software changes with the goal to restoring confidence in the ATC Test Program and the determination of what re-testing will be required. DTP submitted Letter No. 0938 dated June 5, 2013 transmitting “Alstom’s Supplemental Report, Action Plan Update”, which MWAA and WMATA are reviewing.*

# MAIN REPORT

## 1. Grantee's Capabilities and Approach

### a. Technical Capacity and Capability

The PMOC prepared a Spot Report of Grantee Technical Capacity and Capability dated January 10, 2008 as part of the PMOC's effort to evaluate the Grantee's readiness to enter Final Design. The conclusion was that the MWAA project staff assigned to the Project was qualified. However, the MWAA direct staff was very thin with many project responsibilities assigned to MWAA's consultant team, Project Management Support Services (PMSS) team. The PMOC recommended that the Grantee add several staff positions and that reporting protocols be enhanced to ensure important project status information is shared in a timely manner with the Federal Transit Administration (FTA) and the PMOC. MWAA has adopted the recommendations and augmented their staff.

In September 2009, MWAA reorganized by implementing an integrated project management organization consisting of MWAA and PMSS staff. However, the personnel involved remained the same as was evaluated in the January 2008 Technical Capacity and Capability Report with a few replacements and additions. It remains the PMOC's opinion that the staffing levels and technical capabilities are still adequate. MWAA hired Mr. William Kerrigan as Manager of Project QA/QC and Safety, replacing Jon Christensen, who retired. PMSS also hired Mr. Leo Himmel to serve as the Project's Team Systems Testing Coordinator. In addition, MWAA has been reorganizing staff members into a new Testing and Start-up Group. MWAA has submitted a draft PMP, Version 8.0 to include the Testing and Commissioning stages of the project. The FTA transmitted comments to MWAA on July 11, 2012 requesting the final PMP by November 1, 2012. PMP Version 8.0 was transmitted to the FTA on November 8, 2012. The PMOC reviewed this submission and found it acceptable with the exception of the inclusion of draft organization charts, Figures 2-4 and 2-5. FTA's email of January 4, 2013 requested the updated organization charts, which MWAA submitted on January 23, 2013. The FTA's letter of January 25, 2013 approved PMP Version 8.0 Final.

Upon completion of the project, WMATA will become the operator of this extension to their system. WMATA personnel have been active participants in the project. The addition of WMATA personnel, particularly the Director of the Dulles Corridor Metrorail Project, has significantly improved the coordination between DTP, MWAA, and WMATA with regard to scheduling outages and work. Over the past year, WMATA's Dulles Project Director staffed a Quality Assurance and Inspection Staff to keep pace with Project progress as it enters the Testing and Start-up Phase. In addition, both MWAA and WMATA have hired Start-up Managers who are coordinating their efforts.

### b. Project Controls

MWAA has procedures in place with regard to monitoring and controlling project scope, quality, schedule, cost, risk, and safety. It is the PMOC's observation that MWAA continues to monitor and control the project in accordance with their procedures.

- The Project Schedule was updated by DTP through *April* 2013. In this update, DTP reported a possible loss of *four* calendar days to the SSCD forecasted by DTP to occur on September 13, 2013. The WFCY schedule update reflected a -25 calendar day variance to the target date of December 20, 2013 *which yields a forecast WFCY completion date of January 14, 2014*. MWAA completed its schedule review of the schedule update with a data date of *April 25, 2013* on *May 16, 2013* stating the schedule was “*Not Accepted*.” See Section 4.a for additional information.
- MWAA continues to monitor expenditures to date and to update the estimate at completion. In July 2012, MWAA allocated \$71.8 million in finance cost savings to contingency budget. In October 2012, MWAA identified \$19.0 million in forecast under-run commodity escalation that was transferred to the contingency budget. Through *April* 2013, MWAA has utilized \$320.52 million of contingency resulting in a remaining balance of \$41.27 million through contingency Phase 10. With \$18.99 million in obligated contingency, this leaves a balance of \$7.77 million for use in Phases 11 and 12, resulting in a grand total balance, as of the end of *April 2013*, of \$49.05 million in contingency estimated to remain at project completion. The removal of the \$40.38 million in CNPAs from the federal portion of the Project improved the estimate of contingency remaining at the completion of construction. In the opinion of the PMOC, the Project has adequate contingency.
- MWAA submitted the latest revision of the RCMP (Revision 3) to the FTA on March 28, 2012 and FTA letter of April 13, 2012 found it acceptable. For details, see section 3 “Project Management Plan and Sub-plans” below.
- The Quality Assurance (QA)/Safety group maintains an active schedule of audits and surveillances and accident data.

Through *May 2013*, there has been a cumulative total of 12,923,512 hours worked with *eight* lost time cases.

DTP submitted the Safety and Security Certifiable Items List (SCIL) Revision 6 to include the WFCY on August 6, 2012. After MWAA review and comment, DTP subsequently resubmitted the SCIL Revision 6, which was approved “as noted” on February 5, 2013.

DTP submitted revisions to the System Safety/Security Management Plan (SSMP) and DTP Procedures PPQ 01.06.02, Development and Maintenance of the Safety/Security Certifiable Items List, and PPQ 01.06.03, Design Conformance Certification, which MWAA accepted on December 6, 2010. The FTA and PMOC met with MWAA, WMATA, and DTP on April 29, 2011 and again on January 27, 2012 to discuss development and status of a revised SSMP to integrate WMATA and MWAA systems testing, interface management and pre-revenue operations. SSMP Revision 9 was completed in March 2012; MWAA and WMATA approved the revised SSMP on March 20 and 22, 2012, respectively. The PMOC reviewed the completed revision and provided

comments to the FTA on April 5, 2012. The FTA accepted SSMP Rev. 9 dated March 2012 on April 13, 2012.

### **c. Compliance**

It is the PMOC's observation that MWAA *continues* to follow the required statutes, regulations, and agreements.

MWAA submitted updates to the Amended Record of Decision Summary Mitigation Report to the FTA for the first quarter of 2013 on April 29, 2013.

## **2. Project Scope**

### **a. Design Status**

MWAA considers the design to be completed.

### **b. Bidding and Construction Status**

DTP has awarded all of the thirty-seven Allowance subcontract packages. Through *April 2013*, MWAA has transferred \$569,732,571 worth of the \$426,145,893 federally funded Allowance Items Budget with an overrun of \$143,586,677 to the firm fixed price contract.

During April 2013, *WMATA staff raised questions about Automatic Train Control (ATC) field testers working with unapproved marked up test procedures. This apparent lack of configuration control on Alstom's part caused Project partners to lose confidence in the Alstom ATC test program. DTP subsequently reported having spent several days in late April at Alstom's Rochester, NY facility conducting a workshop. DTP reported that they discovered Alstom had installed 14 vital software changes on the N-Line (not yet operational) that Alstom had not submitted for review or approval. On May 7, 2013, Alstom and DTP senior management made a presentation to MWAA and WMATA Executive Staff. DTP and Alstom were emphatic that they were going to turn the troubled test program around and outlined their plans to do so. They also emphasized they would fully cooperate with MWAA and WMATA to regain their confidence.*

*Weekly Desk Top Review Meetings and various other specially scheduled meetings are being conducted to re-review test procedures and software changes. It was agreed that the first priority of the desk top review would be to determine a path forward for dealing with the unapproved software installed at K98. This was accomplished and a field audit and re-testing at K98 began on May 25, 2013 and will continue during additional track outages scheduled in June and July 2013. It is also anticipated that ATC testing previously completed on the N-Line will require re-testing. Meetings continue with regard to re-reviewing and validation of test procedures and software changes with the goal to restoring confidence in the ATC Test Program and the determination of what re-testing will be required. As part of the corrective actions due to this breach of configuration control, a new Alstom Project Manager (Kim Christy) has been assigned to the Project. DTP submitted Letter No. 0938 dated June 5, 2013*

transmitting “Alstom’s Supplemental Report, Action Plan Update” which was reviewed by MWAA and WMATA, and MWAA’s letter of June 13, 2013 did not accept the revised CAP.

MWAA reported during the June 6, 2013 monthly update meeting that utility relocation is 100% complete, and DB construction is approximately 93% complete.

The following are the major accomplishments of the DB contractor during May 2013:

- **Operations Areas OP-1, OP-2 and OP-3 (I-66/DCR/Laydown Area 1**

*Completed rebar installation and concrete construction of the West Falls Church Yard (WFCY) Service and Inspection (S&I) Building foundation pile caps; continued the shop level west end floor slab; continued erecting S&I shop structural steel; continued plumbing rough-in work; continued rebar and concrete construction for the Sound Cover Box (SCB) foundation and walls; continued installation of surface troughs and tracks; completed installation of the precast panel screen walls at the Fisher Street Train Control Room (TCR); energized the N-Line yard lead track contact rail; and continued installation of guard rails and pavement restoration along I-66 westbound.*

**Systems Work**

- **K&N Junction**

*DTP/Alstom performed control line re-testing and series 23.7 testing on the double crossover and turnouts during track outages; and UTRS conducted stray current monitoring and data collection at Piers 3-IB and 5-IB.*

- **Plainfield TCR and N91 Area of Control**

*Continued dynamic train safe braking tests.*

- **Baldwin TCR and N92 Area of Control**

*Continued dynamic train safe braking tests.*

- **Operations Area OP-4/5A (Tysons East Guideway and Tysons East Station)**

*In the station – Continued installing control cables and equipment for station and pavilion elevators; installing handrails in the mezzanine; installing cable, wire for light fixtures and communications systems equipment throughout the station, platform edges, pedestrian bridges and pavilions; installing fireproofing caulk throughout the station; installing escalator cladding; installing the platform, mezzanine, pedestrian bridge and pavilion suspended ceiling, supports and panels; installing under floor mezzanine ducts; installing elevator glass; and installing pavilion curtain wall glass; installing station signage.*

**Systems Work**

- **TBS #3 (Tysons East – N01)**

*Continued dynamic train safe braking tests.*

- **Operations Area OP-5 (Tysons Central 123 Station)**

*Continued installing elevators and escalators; installing communications systems equipment, devices, raceways and wiring throughout the station and pavilion; installing sills on pavilion walls; installing platform pavers; installing curtain wall glass; painting doors and frames; installing mezzanine level suspended ceiling and mesh screens; installing mezzanine canopy roof, gutters, ice and water shields, skylights and pavilion canopy; installing suspension framing under the platform decks; installing suspended ceiling at the platform and ceiling hangers for the pedestrian bridge and ground level; pouring mezzanine level topping slab; and excavating for station and pavilion retaining walls and constructing form work.*

**Systems Work**

- **Tysons 123 TCR and N02 Area of Control**

*Continued dynamic train safe braking tests.*

- **Operations Area OP-6 (Laydown Area #6/NATM) Tunnel/East Cut & Cover and Ventilation Structure)**

*Continued ventilation fans testing.*

- **Operations Area OP-6 (West Cut and Cover Tunnel)**

*Painting doors and frames; installing emergency lighting; preparing for ventilation fan testing; and installing fire alarm system.*

- **Operations Area OP-7 (Tysons Central 7 Station)**

*Continued grading and retaining wall construction for the right lane of eastbound Route 7 between Gosnell and Route 123; installing street light foundations along Route 7; continued installing station and pavilion escalators and elevators; installing ceiling panels at the mezzanine level and pedestrian bridge; installing fire protection systems in both pavilions; installing station platform pavers; labeling conduits and cables; and progressing various station finish work.*

**Systems Work**

- **Tysons Central 7 TCR and N03 Area of Control**

*Continued dynamic train safe braking tests.*

- **Operations Area OP-8 (Tysons West Station/Guideway)**

*In the station and pavilion – installing platform pavers; installing suspended ceiling supports; installing conduit and wires for systems and lighting; installing elevators and escalators; and installing miscellaneous station finishes.*

- **OP-9 (DIAAH)**

**Systems Work**

- **TPSS #7 (Wolf Trap –N05)**

*Fire Life Safety Systems inspection conducted by the State Fire Marshall passed on May 15.*

- **Wolf Trap TCR and N05 Area of Control**  
*Continued dynamic train safe braking tests.*
- **TPSS #8 (Chatham's Ford – N93)**  
*Fire Life Safety Systems inspection conducted by the State Fire Marshall passed on May 15.*
- **Chatham's Ford TCR and N93 Area of Control**  
*Continued dynamic train safe braking tests.*
- **TPSS #9 (Hunter Mill – N94)**  
*Fire Life Safety Systems inspection conducted by the State Fire Marshall passed on May 22.*
- **Hunter Mill TCR and N94 Area of Control**  
*Continue dynamic train safe braking tests.*
- **TPSS #10 (Sunset Hills – N95)**  
*Fire Life Safety Systems inspection conducted by the State Fire Marshall passed on May 22.*
- **Sunset Hills TCR and N95 Area of Control**  
*Continue dynamic train safe braking tests.*
- **Wiehle TCR/N06 Area of Control**  
*Continue dynamic train safe braking tests; series 23.7 ATC retesting commenced.*
- **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)**  
*Continued installing conduit, cable and devices for communications systems in the plenum, west service rooms, kiosk and pedestrian bridges and pavilions; installing platform pavers; installing granite bases for platform wind screens; installing curtain walls for pedestrian bridges; installing ceiling for the station mezzanine and pedestrian bridges and pavilions; installing stainless steel handrails around the mezzanine; installing door hardware; installing station signage; installing escalator cladding; and installing various station finishes.*

### **c. Real Estate**

Real Estate Acquisition continued to keep ahead of construction requirements, often resorting to ROE to gain access to required parcels. Through *May 2013*, 102 of the 104 parcels required for the Project have been acquired. The table below summarizes acquisition activities for the Project through *May 2013*. The *two* remaining parcels have been delayed due to protracted negotiations with the owners and Fairfax County regarding deed language and other modifications needed to finalize the deeds and agreements. However, progress is being made and MWA hopes to complete these final *two* acquisitions in late *June*.

**PARCELS ACQUIRED<sup>1</sup>**  
(Number of parcel packages)

LOCATION	TOTAL	Period			To Date		
		Planned <sup>2</sup>	Actual	Var	Planned <sup>2</sup>	Actual	Var
I-66 / DCR	1	0	0	0	1	1	0
Route 123	23	0	1	1	23	23	0
Route 7	54	0	0	0	54	52	(2)
DIAAH	26	0	0	0	26	26	0
<b>TOTAL</b>	<b>104</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>104</b>	<b>102</b>	<b>(2)</b>

Notes: 1. Parcels acquired through recordation of deed/easement and filing of Certificates of Take. These values include rights obtained for another 39 parcels for which Certificates of Take have been filed.  
2. Planned quantities are based on the March 31, 2011 Property Acquisition Status Update. One additional acquisition was added in June 2012 was to be completed in September 2012 and another was added in October 2012 to be completed in February 2013.

Condemnation Status

Thirty-nine parcel packages have been obtained with the filing of thirty-three Certificates of Take. In May 2013, three cases continued in finalization (Parcel 125, JBG 1831 Wiehle Avenue, LLC; Parcel 109, Plaza America; and Parcels 005/094/100, West Group Properties, LLC). All these cases are approved settlements in the final stages of processing. The case for Parcel 03 (West Group Properties, LLC) has been appealed. If the Virginia Supreme Court declines to hear the appeal, the case will be resolved by September 13, 2013. If the Virginia Supreme Court hears the appeal, the case will be resolved by July 2014.

Property Turnover to WMATA

MWAA has been conducting meetings with VDOT, Fairfax County, and WMATA regarding the required transfer of property to WMATA that is expected to take place at some time between Substantial Completion and Revenue Service.

The following table summarizes the status of the conveyance of property interests and maintenance agreements.

Conveyance Documents	Total Required	General Format Accepted	Draft of Document Prepared	Plat/ Exhibit Complete	Submitted for Stakeholder Review	Document Accepted	Document Signed	Document Recorded
Fee/Easement Transfer	26	26	26	25	24	0	0	0
Easements on Public ROW	3	3	3	0	2	0	0	0
Maintenance Documents	4	4	2	2	2	0	0	0

#### **d. Utility Coordination**

MWAA reported during the April 9, 2013 monthly update meeting that Utility Relocation (UR) was 100% complete.

#### **e. Vehicle Procurement**

WMATA is procuring the 64 rail cars required for the project. WMATA is also procuring 300 replacement rail cars under the same contract. The WMATA and MWAA Boards agreed to share the development costs associated with the railcar procurement equally.

WMATA awarded a contract to Kawasaki on July 27, 2010. The manufacturer's proposed schedule showed the 64<sup>th</sup> car would be delivered by September 12, 2014 based on a July 12, 2010 Notice-to-Proceed (NTP), but WMATA did not issue the NTP until August 16, 2010, resulting in the conditional acceptance of the 64<sup>th</sup> rail car on January 12, 2015, six weeks beyond the FFGA completion date of December 1, 2014.

On December 3, 2010, WMATA confirmed in a letter to MWAA that "sufficient resources including railcars will be available to support dynamic testing and initial revenue service in accordance with the Project's current schedule." WMATA confirmed that cars from the existing fleet would be made available for dynamic testing on the Dulles Extension. Since there would be a gap in the delivery of the 7000 Series rail car delivery and the revenue service date, WMATA outlined its strategies for being able to support initial revenue service using the existing WMATA fleet.

On March 16, 2011, Kawasaki formally notified WMATA of potential delays that they believe would be considered excusable under the terms of the contract due to the earthquake/tsunami in Japan on March 11, 2011. On December 21, 2011, WMATA approved Kawasaki's Mitigation Schedule with a June 12, 2015 delivery date for the 64<sup>th</sup> railcar, which is more than six months beyond the FFGA completion date for the DCMP. MWAA formally informed the FTA Regional Administrator in a letter dated January 31, 2012. In this letter, MWAA writes, "WMATA has stated that they would be able to provide sufficient rail cars from their existing fleet to begin service on the extension until the new Kawasaki rail cars are available. Therefore, we expect no impact to the FFGA, other than the late delivery of the rail cars." The PMOC continues to monitor WMATA's daily railcar availability statistics to determine if the existing fleet can support the start of revenue service. WMATA developed an interim operating plan for dealing with the delay. WMATA proposed an operating plan that called for using only six-car trains in lieu of a mix of six- and eight-car trains in the prior plan. This issue remains a concern of the FTA and PMOC. WMATA submitted this interim operating plan as part of the Rail Fleet Management Plan (RFMP). WMATA submitted RFMP Rev. 4F dated April 18, 2012 to the FTA on May 4, 2012. FTA and WMATA met to address this issue and WMATA prepared revisions to their RFMP and submitted RFMP Rev-4G to the FTA on August 3, 2012. FTA *conditionally* approved RFMP Rev-4G on October 11, 2012 with the proviso that that WMATA keep the FTA informed of the operating plan for the startup of the Dulles service. The details of a new Operating Plan for the Silver Line service, which incorporates changing the eastern terminus to Largo Station instead of Stadium-Armory Station, **has not yet been submitted to the FTA.** *After a month's delay, the revised Plan was presented to the WMATA Customer*

Service and Operations Committee on April 11, 2013, and *approved by the full Board on April 25*. The material presented to the WMATA Board of Directors was general in nature and **FTA awaits the specifics of the operating plan, as well as a corresponding update to the RFMP.**

The Conceptual Design Review phase for the 7000 (7K) Series railcars was completed on January 31, 2011 and the Preliminary Design Review (PDR) phase *was* completed on March 16, 2012, more than eleven months past the original baseline schedule date of March 30, 2011.

Monthly Progress Review Meeting No. 33 between WMATA and Kawasaki on the 7000 Series railcars *was held on June 13, 2013 and a teleconference was held on June 18, 2013 between FTA, WMATA and PMOC to review the past month's activities*. Design Qualification Testing (DQT) continues for components and subsystems, and car level DQTs *continue* at the Kawasaki Heavy Industries (KHI) facility in Japan on the full prototype car. *Climate room testing has started in Japan on the prototype cars. The testing fell 1°F short of meeting contract specifications. The contract requires a 75°F interior temperature with an ambient temperature of 95°. It was determined that more robust evaporators and compressors will be required due to the tightness of the railcars. This change extends the forecast completion of climate room testing to September 30, 2013, a three month delay. The current forecast completion date for the conditional acceptance of the 64<sup>th</sup> railcar has been advanced to March 25, 2015. This anticipated schedule improvement is based on Kawasaki continuing to manufacture at risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. WMATA's project team was in Japan to witness Maintainability Demonstrations on the Prototype Cars from May 20 – 29, 2013. Demonstrations were conducted on fifty-seven components. Sixty-three components remain to be tested. These demonstrations continue to be video recorded. KMM production of four pilot cars continues. Four cars have passed the water test, and wiring and rigging have started. The third rail and parts for the ATC system for the KMM test track has been delivered and installed. The test track is now scheduled for completion on June 30, 2013, a month delay over the previous forecast. WMATA has begun First Article Inspections (FAIs) on components and these will continue throughout the balance of 2013 and 2014. KMM production of pilot cars continues with the delivery of the first four pilot cars to WMATA anticipated to be December 16, 2013. The delivery of the first four production cars is now forecast to be April 20, 2014, and the conditional acceptance of the first four production cars is still forecast to be August 14, 2014. The four prototype rail cars were completed at KHI on May 17, 2013. Conditional acceptance for the 64<sup>th</sup> railcar is now forecast for March 25, 2015, a nearly three month improvement over the June 12, 2015 contractual completion date.*

The key milestones for this railcar procurement are:

Item #	Description	<i>December 2011 Approved Baseline MPS Dates</i>	<i>October 2012 Approved MPS Dates</i>	<b>Actual and Current Forecast Dates</b>
1	Soft Mock up	12/17/10	-	4/28/11A
2	CDR Completion	12/14/10	-	6/30/11A
3	PDR Completion	3/30/11	-	3/16/12A
4	Hard Mock up	10/4/11	-	4/24/12A
5	Completion of HVAC Unit DVR	NA	NA	8/10/12A
6	<i>Completion of Propulsion DVR</i>	NA	NA	9/21/12A
7	<i>Completion of ATC DVR</i>	NA	NA	10/10/12A
8	<i>Completion of Communications DVR</i>	NA	NA	10/19/12A
9	<i>Completion of Network DVR</i>	NA	NA	10/19/12A
10	<i>Begin Production of Pilot Cars #1, 2, 3 and 4 at KMM</i>	9/10/13	-	12/17/12A
11	FDR Completion	10/24/11	11/8/12	2/28/13A
12	Begin Car Level Qualification Testing in Japan	10/30/12	2/13/13	3/10/13A
13	Completion of Prototype Cars #1, 2, 3, and 4 at KHI	10/29/12	2/12/13	5/17/13A
14	Completion of KMM Test Track	NA	NA	6/30/13
15	Approval Climate Room Testing	2/15/13	5/31/13	9/30/13
16	Completion and Approval of Pilot Car Production Activities	2/20/14	2/20/14	2/27/14
17	Begin Pilot Car Testing at KMM	10/1/13	7/8/13	7/28/13
18	First Manual submission (DRAFT)	8/30/13	7/30/13	8/30/13
19	Completion of Pilot Car Testing at KMM	10/17/13	10/2/13	10/2/13
20	Completion of Prototype Car Review (Prior to Ship out from Japan)	5/14/13	8/13/13	9/27/13
21	Completion of Pilot Car FAI	10/21/13	10/4/13	10/4/13
22	Ship out of Prototype cars from Japan to USA	6/15/13	9/18/13	10/2013
23	Completion and Approval of FAI Activities	12/11/13	12/12/13	4/21/14
24	Delivery of first 4 Pilot Cars to WMATA	2/20/14	2/20/14	12/16/13
25	Delivery of first 4 production Cars to WMATA	2/11/14	2/20/14	4/20/14
26	Final Manual submission (DRAFT)	5/12/14	4/8/14	4/17/14
27	<b>Conditional Acceptance of first 4 pilot Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>8/14/14</b>
28	<b>Conditional Acceptance of first 4 Production Cars</b>	<b>8/14/14</b>	<b>8/14/14</b>	<b>8/14/14</b>
29	Completion of On-site Test (After Burn-In)	2/19/15	2/19/15	2/19/15
30	<b>Conditional Acceptance of 64<sup>th</sup> Production Car</b>	<b>6/12/15</b>	<b>6/12/15</b>	3/25/15

Note: **Bold Activities/Dates** are contractual and contain a penalty for non-performance.

## f. Safety and Quality Status

MWAA participated in *three* safety walk downs with DTP during the month of *May*. All were related to Design-Build work. As of *May 31, 2013*, DTP had logged *12.923* million project man-hours with *492* first aid cases and *8* lost time cases. There have been a total of *1,091* incident investigation reports, *94* utility hits, and *44* vehicular accidents.

DTP submitted Safety and Security Certifiable Items List (SCIL) Revision 6 to include the WFCY on August 6, 2012. WMATA submitted comments on September 21, 2012; MWAA completed its review and issued Letter No. 07547 dated October 24, 2012 identifying three issues needing to be addressed. DTP responded by letter on November 30, and MWAA and DTP met on December 18 to discuss the issues further. DTP subsequently resubmitted the SCIL Revision 6, which was approved “as noted” on February 5, 2013.

DTP and MWAA now meet every week to review the status of issued for construction designs (including subcontractor designs) and to determine the status of sign-offs of the Design Conformance Checklist (DCC) and Construction/Procurement/Installation Conformance Checklist (CCC) items related to all issued for construction designs. The status of the conformance checklists is reflected in the status table below.

### Safety and Security Conformance Checklists (excluding n/a)

Total # of Items	Verified in Design		Verified in Construction		Verified in Startup and Testing	
6,172	5,053		4,743		1,563	
DTP Signed	4,975	98.5%	1,979	42%	169	11%
MWAA Accepted	4,955	99%	784	17%	0	0%
WMATA Audited	4,430	88%	0	0%	0	0%

- 1) Checklists are exclusive of WFCY (K99)
- 2) DTP Design, Construction, and Testing Verifications are through 5/30/2013
- 3) Reflects MWAA’s acceptance through DCC #11 (4-07-13). DCC #12 received 6-03-13.
- 4) Reflects WMATA’s audits through DCC #10 (1-07-13).
- 5) Reflects MWAA’s acceptance through CCC #5 (2-19-13). Comments on CCC #6 (1,205 items) to be issued on June 7, 2013
- 6) Reflects WMATA audits through CCC #5 (2-19-13)
- 7) Reflects MWAA’s preliminary comments on TCC #1 provided on May 30, 2013.

Regular weekly visits to work sites continue by safety representatives from DTP, MWAA, and WMATA. The Tri-State Oversight (TOC) and the FTA’s on-site PMOC representative continue to meet monthly with the Safety/Security Certification Working Group (SCWG) and continue ongoing involvement in the certification process. In addition, the TOC has begun attending the Monthly and Quarterly DCMP progress update meetings. The SCWG held its regular monthly meeting on *May 21, 2013*. The next SCWG Meeting is scheduled for *June 18, 2013*.

MWAA submitted its Safety and Security Management Plan, Revision 8, to the FTA on February 17, 2011. MWAA and WMATA agreed to jointly develop a revised SSMP that would cover the roles and responsibilities of both MWAA and WMATA. MWAA submitted

Draft SSMP Rev. 9 to the FTA, PMOC, WMATA, and TOC on September 30, 2011. WMATA completed its revision of its SSCPP in March 2012. The SSCPP was subsequently incorporated as Appendix E into SSMP Revision 9 and MWAA and WMATA approved the revised SSMP on March 20 and 22, 2012 respectively. The PMOC reviewed the completed revision and provided comments to the FTA on April 5, 2012. The FTA accepted the SSMP on April 13, 2012.

*During May 2013, there were no audits or surveillances performed.*

### **MWAA QA Audit and Surveillance Schedule for June 2013**

<b>Tentative Date</b>	<b>Audit (A) Surv. (S)</b>	<b>Organization/Activity</b>	<b>Joint Audit/Sur</b>	<b>Lead</b>
TBD	S	Permanent Equipment Facilities	Y	MWAA
6/5-06/13	A	DTP Startup and Testing	N	MWAA
6/12-13/13	A	DTP/Alstom's Corrective Actions <i>(Waiting for schedule concurrence from DTP)</i>	N	MWAA
TBD	A	WMATA's Quality Management System	N	MWAA

At the May 7, 2013 update meeting, it was suggested that MWAA consider conducting audits of WMATA and Alstom, which are reflected above.

### **Use of Existing Foundations**

As a result of the USDOT Office of Inspector General's audit report of the Dulles Project dated July 26, 2012, testing of the foundations installed in the 1970's by VDOT for the future extension of the Silver Line, MWAA will conduct tests to determine the effects, if any, of stray current on the service life of the steel piles that made up those foundations. To assure that the existing steel piles to be re-used for the Dulles Extension provide a minimum of a fifty year service life, MWAA is undertaking stray current tests to calculate the piles' corrosion rate and estimate their remaining service life. The following table contains a summary of the actions to be taken to estimate the remaining service life of the re-used steel piles. Russell Corrosion Consultants, Inc. was employed by MWAA to develop a Corrosion Test Plan and to oversee implementation of that plan. Russell developed a Draft Corrosion Testing Plan, and numerous comment resolution meetings were conducted during August with all partners. A Final Plan was submitted to MWAA on September 14, 2012 for review and acceptance. MWAA accepted the plan and submitted it to the FTA for review and approval via MWAA Letter No. 07403 dated September 24, 2012. WMATA reviewed and accepted the plan on October 5, 2012 via an email. The FTA reviewed the plan and provided an acceptance letter dated November 1, 2012. A Site Specific Work Plan submitted to WMATA on October 10, 2012 was approved on November 9, 2012. A productive planning meeting with all partners was held on November 20, 2012. Coordination of the night access and necessary escorts was discussed. UTRS, under the oversight of Russell Corrosion Consultants and CTI Special Inspection and MWAA/QA, began work on December 11, 2012. As of January 8, 2013, the contractor has completed the Vertical Test Facility (VTF)

installation at both piers 3-IB and 5-IB. The test plan called for the VTFs to be left to settle for 30 days, after which the specified testing will commence.

On March 25, 2013, MWAA submitted Revision No. 1 of the Stray Current and Corrosion Rate Test Plan to the FTA, which is under review by the FTA consultant. WMATA provided Letter No. 239 dated May 6, 2013 providing its concurrence with the revised plan.

UTRS experienced numerous delays caused by weather and track access issues. However, *the prerequisite (track-to-earth) testing to the pier foundations stray current testing was finally completed on April 11, 2013 with the exception of some retesting completed on May 27, 2013. UTRS and RCC began the stray current coupon testing on April 22, 2013 with long term data loggers and completed the data gathering on May 21, 2013. During testing there were unexpected changes observed in the pile-to-earth coupon flows. Discussions are underway to determine if these observations are reflective of normal transit operations that have occurred for years (that will not impact the analysis) or if these changes are associated with new operating conditions. In order to accurately calculate past or normal conditions, there is a possibility that additional testing may be required (totally isolating the N-Line from the K-Line). A meeting is being organized to discuss options and a path forward. During the week of June 10, UTRS will forward rail-to-earth potential and pile-to-coupon current flow data collected and organized onto 24 hour profiles for analysis. A draft report is scheduled to be issued in late June 2013.*

**OIG Report Follow-up Action Items**

	Action Item	Due Date	Comments
1	Provide a copy to the OIG of the final stray current test plan MWAA will implement, including a plan for accounting for untested locations and for collecting baseline track-to-earth resistance measurements	As soon as the plan become available	Test Plan Rev.1 submitted to FTA on March 25, and is under review by FTA consultant. WMATA provided Letter No. 239 dated May 6, 2013 providing its concurrence with the revised plan.
2	Provide documentation to OIG on actions taken on the stray current testing	10 days after action is completed	
3	Provide documentation to OIG on actions taken on corrosion protection measures installation plan	10 days after action is completed	
4	Provide documentation to OIG on actions taken pertaining to the rail car delivery schedule	10 days after action is completed	

### 3. Project Management Plan and Sub-plans

- The FTA accepted MWAA's **Project Management Plan (PMP)** Version 7.0 Final on February 14, 2011. FTA requested MWAA update its PMP to include the start-up and testing phase. MWAA submitted its Version 8.0 Draft to the FTA on May 1, 2012. The PMOC provided its draft review and comments to the FTA on June 11, 2012. On July 9, the FTA sent comments to MWAA and requested a PMP Version 8.0 Final or a PMP Version 9.0 be submitted by November 1, 2012. PMP Version 8 Final was submitted to the FTA on November 8, 2012. The PMOC reviewed this submission and found it acceptable with the exception of the inclusion of draft organization charts, Figures 2-4 and 2-5. FTA's email of January 4, 2013 requested the updated organization charts, which MWAA submitted on January 23, 2013. The FTA approved PMP Version 8.0 Final on January 25, 2013.
- MWAA submitted a revised **Quality Program Plan (QPP)**, Revision 7 to FTA on January 7, 2010. MWAA reported that three Project Management Procedures were updated in the period from April through June 2011. No new QPP procedure updates were made during the period from July through January 2012.
- MWAA's **Real Estate Acquisition Management Plan (RAMP)**, Revision 2, dated September 15, 2009, has been reviewed by the PMOC with a recommendation that the FTA concur, with comments, with the revised RAMP. On January 21, 2010, the FTA provided comments to MWAA, and MWAA staff has revised Procedure PM-3.01 (Monitoring the Design-Build Contractor Property Acquisition Services). DTP revised their Procedure PIQ-5.1 (Property Acquisition Coordination) on November 1, 2010.
- The FTA requested MWAA to update its **Risk and Contingency Management Plan (RCMP)**, formerly called a Risk Management Plan (RMP), along with their Project Management Procedures to address Directive Letters and Contingency Drawdown Procedures. MWAA submitted the revised RCMP Rev. 3 on March 28, 2012, and the PMOC recommended FTA acceptance. The FTA accepted RCMP Rev. 3 as well as revised Project Management Procedure PM 5.07, Rev. 4, on April 13, 2012. MWAA updated the Risk Register Assessment on June 30, 2012 and submitted it to the FTA and PMOC on August 27. A discussion was held during the PMOC's September 6 monthly meeting. The PMOC provided review comments and a modified Top Ten Risk List that was reviewed by MWAA. MWAA provided a submittal dated October 3, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. The FTA approved the revised Top Ten Risks by letter dated November 29, 2012. It was agreed that the top ten risks would be reviewed and revised as needed on a quarterly basis. A revised list of Top Ten Risks dated December 2012 was submitted to the FTA via letter dated January 22, 2013. The PMOC submitted its comments on the proposed revised risks to MWAA on February 22, 2013 and the comments were discussed at the March 7, 2013 update meeting. MWAA revised the proposed top ten risks and resubmit them on March 20, 2013 as their re-titled "Proposed Top Tier" list containing nine items along with a revised risk register. The PMOC provided comments on April 3, 2013 and during the April 9, 2013 monthly meeting the PMOC requested that MWAA resubmit a proposed top ten risks versus a top tier list. The PMOC commented on April 29, 2013 relative to the resubmission dated April 17, 2013, agreeing to the risks but raising some questions relative to numbering. On May 1, 2013, MWAA

submitted their proposed Top Ten Risks dated March 29, 2013 to FTA for approval. *The PMOC provided comments to MWAA on April 29, 2013.* Since WMATA, rather than MWAA, will be the operator of the completed project, the WMATA **Rail Fleet Management Plan** (RFMP) is the applicable document. The FTA accepted a WMATA RFMP on September 25, 2007. However, WMATA updated the RFMP to reflect the 7000 Series Rail Car procurement and submitted a draft copy dated February 26, 2010 to the FTA for review and comment. The PMOC issued its Spot Report on its review of the draft RFMP on March 11, 2010, finding the plan to be deficient in many areas. The FTA, PMOC, and WMATA continued the review and comment reconciliation process of various draft revisions. FTA and the PMOC provided some additional comments and WMATA's RFMP Rev. 4E dated March 14, 2012 was submitted to the FTA on April 10, 2012. FTA's comments on that revision were submitted to WMATA on April 12 with the request that the comments are incorporated and the final document then be formally submitted to the FTA Regional Administrator. WMATA submitted RFMP Rev. 4F dated April 18, 2012 to the FTA on May 4, 2012. FTA and WMATA met on July 3, 2012 to address the issue of the Dulles Interim Operations Plan. WMATA has revised their RFMP and RFMP Rev 4\_G was submitted to the FTA on August 3, 2012. FTA letter dated October 11, 2012 conditionally approved the RFMP with the proviso that WMATA keep the FTA informed of the operating plan for the startup of the Dulles service. The WMATA Board approved the proposed change in the eastern turn back moving from Stadium-Armory Station to Largo Town Center Station at its Board meeting on April 25. FTA awaits WMATA's submission of the detailed updated Operating Plan and an updated RFMP.

- **Safety and Security Management Plan (SSMP)** see Section 2f.

#### **4. Project Schedule**

**Mainline** - The project "Mitigation Schedule" update with a data date of *April 25, 2013* reflected a -4 calendar day variance with a *September 13, 2013* SSCD. DTP's *April* schedule update shows the Revenue Service Date to be *January 17, 2014*. MWAA completed its schedule review of the schedule update with a data date of *April 25, 2013* on *May 16, 2013* and found it to be "Not Accepted." MWAA Letter No. 08344 indicated that DTP's schedule update "was not acceptable due to DTP's failure to recognize the automatic train control issues and the re-testing that is required." MWAA also noted that DTP continues to ignore specifications by adding activities, deleting activities, changing relationships, using constraints, and changing durations contrary to contract requirements.

The mitigation schedule supersedes the previously approved recovery schedule with a data date of December 25, 2010 that was finally settled in mid-September 2011 but does not relieve DTP from their obligations to the earlier recovery schedule.

MWAA and DTP continue the ongoing deliberation process of determining weather related excusable delay days as reflected in the table below. MWAA's letter No. 8238 dated April 26, 2013 granted an additional weather day. As a result, the SSCD has been adjusted to September 9, 2013 as of April 26, 2013. This results in a revised planned Revenue Service Date of January 13, 2014.

**MWAA's Report of Excusable Work Days of Delay through April 25, 2013**

ACTION	WORK DAYS
<b>Total Excusable Days of Delay on Project Critical Path requested by DTP</b>	<b>77</b>
Contractually Identified	30
Retracted by DTP	20
Denied by MWAA/Disputed by DTP	0
Under evaluation by MWAA	0
Granted by MWAA	27

The schedule-related issues regarding the delivery of rail cars are discussed in section 2.f. Vehicle Procurement above.

**West Falls Church Yard** - The WFCY Civil/Site work final design was completed and issued for permit in October 2010. The S&I Building Issued for Permit (IFP) drawings were submitted to DGS on May 3, 2011 and they issued a permit on September 15, 2011. The Sound Cover Box IFP drawings were submitted to DGS on May 18, 2011 and DGS issued a permit on September 7, 2011.

MWAA and DTP agreed to a target completion date of December 20, 2013. DTP's schedule update of *April 25, 2013* reflected a -25 calendar day variance yielding a forecasted completion date of *January 14, 2014*.

It should be noted that WFCY activities and completion dates are only overlaid on the master mainline schedule and not connected to the mainline critical path or SSCD and does not include systems integration into the mainline system. MWAA and WMATA continue considering parts of the WFCY expansion that may not be needed to support the RSD should the Project be unable to achieve the target date. WMATA has noted that the storage tracks and the sound cover box are most critical to WMATA's needs to support start-up and operation. The PMOC remains confident that the project can be completed before the FFGA RSD of December 1, 2014. It is the PMOC's opinion that SSCD can be achieved by September 30, 2013. RSD is dependent upon the completion of WMATA's schedule associated with the Rail Activation Plan (RAP).

Other problem areas with potential delays identified by MWAA include the following:

- ATC test procedures and software configuration issues. Action Taken: Executive staffs from DTP, Alstom, MWAA, and WMATA continue *to meet in weekly meetings* to develop and implement a Corrective Action Plan. *The process is proving to be slow and cumbersome with two iterations of the CAP having been rejected by MWAA as incomplete.*
- Kone's work related to elevators and escalators in stations and pavilions falling behind schedule. Action Taken: In response, Kone has added crews and MWAA continues to carefully scrutinize Kone's progress. In addition, Kone attends weekly progress meetings.
- DGS availability for walk-downs and inspections. Action Taken: DGS and MWAA continue to discuss permit closures and to define the path forward for DGS final acceptance.
- Obtaining required weekend outages from WMATA for K-Line systems testing. Action Taken: DTP, MWAA, and WMATA *continue to meet* on a weekly basis to refine and adjust

outages to meet DTP's level of readiness and WMATA's changing operational needs and requirements.

- WMATA systems upgrade programs could have other technical scope changes *affecting* Automatic Train Control, and Communications systems. Action Taken: MWAA has requested that any other preferential scope changes be implemented by WMATA following SSCD.
- Availability of spare parts for the K & N cutover. Action Taken: DTP *was* endeavoring to obtain two each of the necessary ATC spares to support the Memorial Day Weekend cutover. WMATA will allow the cutover to proceed with two of each spare, if DTP can guarantee that the remaining K-Line spares are delivered by June 19, 2013. *The cutover date has been moved to July 27-28, 2013 which should give DTP plenty of time to procure the necessary spares.*
- Availability of operational testing vehicles. Action Taken: WMATA is endeavoring to provide additional train sets and trains that are more reliable, and the new N-Line WFCY lead track has been made available for quicker transport of trains requiring repair to the existing S&I Shop. *This remains a challenging effort by both DTP and WMATA.*

#### **a. Critical Path Evaluation**

Since November 1, 2011, the Project is managed utilizing the work plan set forth in MWAA's November 1, 2011 Directive Letter to implement a Mitigation Schedule with a data date of October 25, 2011.

In DTP's *April 2013* Schedule Update, the Critical Path No.1 has negative *four* days of float that starts *with performing the safe braking distance dynamic testing at N95 (Sunset Hills), N06 (Wiehle Avenue), N93 (Chathams Ford Road) and N94 (Hunter Mill Road.)* The path then moves to the *"Series 24" dynamic testing from N93 to N06, the Level F testing for N06, the TPSS pull-away test for the Tysons East Station, and ends with the system performance demonstration and the final safety/security certification report and certificate.* MWAA does not accept this critical path because the issues related to the automatic train control and the required test program are more critical to the project. MWAA considers the Project's primary critical path as determining the extent of the problems related to the automatic train control system and how much of the work needs to be re-tested.

The PMOC *once again agrees* with MWAA's assessment regarding the critical path. MWAA continues to carefully analyze the schedule and continues to hold DTP accountable for changes made to the agreed schedule, which *still* appears to be yielding the desired results.

The following table compares the milestone dates relative to the approved baseline schedule. The PMOC concurs with MWAA's assessment of the updated schedule.

MILESTONE	June 2008 Baseline Schedule	December 2010 RECOVERY SCHEDULE	March 2013	April 2013
Receipt of FFGA	03/03/09	03/10/09 <sup>A</sup>	03/10/09 <sup>A</sup>	03/10/09 <sup>A</sup>
Station Design Complete	10/21/09	02/18/11	10/28/11 <sup>A</sup>	10/28/11 <sup>A</sup>
Utility Relocation Complete	03/05/10	09/13/11	01/31/12 <sup>A</sup>	01/31/12 <sup>A</sup>
Aerial and Station Foundations Complete	3/4/11	09/01/11	07/23/11 <sup>A</sup>	07/23/11 <sup>A</sup>
NATM Tunnels Mined	01/29/11	12/03/10 <sup>A</sup>	12/03/10 <sup>A</sup>	12/03/10 <sup>A</sup>
K-Line Track Tie-In	12/23/11	03/28/12	10/14/11 <sup>A</sup>	10/14/11 <sup>A</sup>
Guideway Complete	2/12/12	09/13/12	11/26/12 <sup>A</sup>	11/26/12 <sup>A</sup>
Train Control Installation Complete	10/26/12	10/29/12	02/03/13 <sup>A</sup>	02/03/13 <sup>A</sup>
Systems Testing Complete - Tysons East Station	07/24/12	02/21/13	05/17/13	06/06/13
Systems Testing Complete - Wiehle Ave Station	08/13/12	01/16/13	05/23/13	05/28/13
Systems Testing Complete - Central 7 Station	01/23/13	04/12/13	07/02/13	07/08/13
Systems Testing Complete - Tysons West Station	02/21/13	05/14/13	07/24/13	07/26/13
Systems Testing Complete - Tysons 123 Station	12/20/12	03/28/13	07/09/13	07/02/13
Substantial Completion Date (SSCD)	07/31/13	07/31/13	09/11/13	09/13/13
Completion – WFCY	NA	N/A *	12/30/13	01/14/14
Revenue Service Date (RSD) – Target	11/27/13	01/02/14	01/15/14	01/17/14
FFGA Revenue Operations	12/01/14	12/01/14	12/01/14	12/01/14

<sup>A</sup> Actual Date. See narrative in section D.1.3. \*Agreed Target Date is 12/20/13.

## b. Important Activities – 90-Day Look Ahead

- K98 ATC circuits cutover.
- Obtain all level one Dynamic Testing Readiness Certifications.
- Obtain all Alstom ATO and level two Dynamic Testing Readiness Certifications.
- Complete train safe braking tests and progress level two ATC dynamic train testing.
- Complete SCADA Testing.
- Complete the stray current testing of existing piers 3-IB and 5-IB.
- Property acquisitions for the Tysons West Aerial Guideway (OP-8).
- Complete the *two* remaining property acquisitions along Route 7 and Route 123.

## 5. Project Cost

The SCC Budget and Expenditures summary for the period ending *April 25, 2013* is shown below. Overall, approximately 75.9% of the budget has been expended.

## Project Cost Summary by SCC Code, April 2013

FTA SCC CODE	DESCRIPTION	CURRENT BUDGET <sup>1</sup>	EXPENDED TO DATE	ESTIMATE AT COMPLETION	CONTINGENCY TO DATE
10	Guideway and Track Elements	\$ 621,265,115	\$ 604,515,099	\$ 614,540,910	\$ 41,688,542
20	Stations	\$ 342,642,263	\$ 290,416,401	\$ 349,366,468	\$ 26,706,007
30	West Falls Church Yard	\$ 71,247,862	\$ 30,248,214	\$ 71,057,832	\$ 7,845,684
40	Site Work & Utility Relocation	\$ 240,329,860	\$ 212,769,460	\$ 261,796,342	\$ 9,630,223
50	Systems	\$ 307,342,963	\$ 279,611,160	\$ 304,193,079	\$ 24,461,157
60	Right of Way Acquisition	\$ 67,631,026	\$ 57,948,597	\$ 62,310,611	\$ 809,164
70	Vehicles	\$ 195,352,701	\$ 57,343,261	\$ 194,648,939	\$ 16,491,446
80	Professional Service – FD	\$ 730,395,035	\$ 750,978,852	\$ 797,321,949	\$ 69,833,401
90	Contingency Mgmt. Reserve <sup>2</sup>	\$ 128,080,237	\$ -	\$ 49,050,935	\$ 127,382,041
100	Finance Charge <sup>3</sup>	\$ 438,184,571	\$ 103,131,435	\$ 438,184,571	\$ -
<b>Subtotal</b>		<b>\$ 3,142,471,635</b>	<b>\$ 2,386,962,479</b>	<b>\$ 3,142,471,635</b>	<b>\$ 324,847,664</b>

1 Current budget equals FFGA amount plus change orders CO#001-117, 119-134, 136-137, 139, 143, Directive Letters 001-050, 052-053, UR-CO-001-039 CO#118 is for betterment

2 Estimate at Completion for Contingency reflects the remaining amount

3 The transfer of Finance Costs under-run of \$71.8 million to the contingency was approved in December 2012

General Comments:

1 During March 2013, \$40.3M was transferred from Fed to Non-Fed as a result CNPA adjustments making a contribution to Federal contingency

### a. Explanation of Variances

During March 2013, \$40.3 million was transferred from Federal to Non-Federal as a result of CNPA adjustments making a contribution to Federal contingency. The major variances in the FFGA project budget are associated in seven categories as noted below:

1. SCC10 – Guideway and Track Elements has been reduced approximately \$52.00 million due to the decision by the DB contractor to self-perform the NATM tunnel work. In so doing, \$29.2 million was transferred out of the direct account to other accounts including predominantly SCC80 for the professional services portion of the subcontract budget. This was offset by scope additions and other budget transfers, the most notable being the adjustment for the revised federal/non-federal split and the addition of sales tax to permanent materials.
2. SCC20 – Stations has been increased by approximately \$32.34 million. The decision by the Airports Authority to remove the Wiehle Avenue Parking Garage – Allowance Item C-2, due to the Fairfax County Joint Development project, allowed the transfer of \$29.1 million out of the direct account into the unallocated contingency account. This was offset by a combination of add and subtract change orders, the allowance item for stations finishes and MEP increased over budget.
3. SCC30 – WFC Yard has increased by approximately \$19.22 million due to delay in progressing the design and additional requirements requested by WMATA.
4. SCC40 – Site work and Utility Relocation has been increased by approximately \$27.15 million as a result of a combination of change events (change orders, directive letters and scope transfers) and cost overruns.
5. SCC50 -- Systems has increased by \$25.56 million due to additional WMATA requirements for Emergency Trip Station/Amber Light Warning System and requirements for Communications.
6. SCC60 – Right of Way Acquisition experienced nearly \$16.36 million increases primarily due to adjustment of project cost for the revised federal/non-federal split along Route 7.
7. SCC70 – Vehicles has been reduced by \$16.98 million due to actual bid prices.

8. SCC80 – Professional Services increased approximately \$98.88 million. The change events are numerous with the most significant being the transfer from the tunnel subcontract and the addition of design for and WFCY. The forecast adjustment is predominantly attributed to higher project management costs for MWAA, *PMSS*, *WMATA* and VDOT.
9. SCC90 – Contingency Management Reserve estimate at completion of \$51.27 million is the result of the transfer of the Finance Costs under-run of \$71.8 million, which was authorized by the MWAA Board in December 2012, and the \$19 million under-run in commodity escalation. The PMOC is of the opinion that the remaining \$51.27 million contingency reserve that includes the \$40.3 million in CNPAs is adequate.

MWAA indicates that there are 25 Design-Build Change Orders totaling an *estimated \$33.10 million* and 3 Utility Relocation Change Orders totaling an estimated \$5.93 million under evaluation. In addition, there remain *112* Design-Build Potential Change Orders and 5 Utility Relocation Subcontractor Changes under review.

**b. Monthly Cost Report, April 2013 Federal Only**

DESCRIPTION	FFGA AMOUNT (Original)	EXPENDITURE TO DATE <sup>1</sup>	ESTIMATE TO COMPLETE	ESTIMATE AT COMPLETION	PERCENT OF EAC EXPENDED TO DATE
<b>FEDERAL (FFGA SCOPE)</b>					
<b>Design-Build</b>					
Firm Fixed Price	\$ 1,112,052,173	\$ 1,659,638,534	\$ 116,660,858	\$ 1,776,299,392	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 74,196,485	\$ 1,823,174	\$ 76,019,659	
Firm Fixed Price Subtotal	\$ 1,177,161,581	\$ 1,733,835,019	\$ 118,484,031	\$ 1,852,319,050	
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 5,470,540	\$ 5,470,540	
Design-Build Contract Prices	\$ 1,607,361,398	\$ 1,733,835,019	\$ 123,954,571	\$ 1,857,789,590	
Indexed Commodity Escalation <sup>5</sup>	\$ 77,469,926	\$ -	\$ 17,817,114	\$ 17,817,114	
<b>Design-Build Contract Total</b>	\$ 1,684,831,325	\$ 1,733,835,019	\$ 141,771,685	\$ 1,875,606,704	92%
<b>Utility Relocation</b>					
Utility Work	\$ 84,312,807	\$ 95,068,787	\$ 6,772,547	\$ 101,841,335	
Terf Tax	\$ -	\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 25,548,335	\$ 192,881	\$ 25,741,216	
<b>Utility Relocation Total</b>	\$ 92,736,233	\$ 120,617,122	\$ 6,965,428	\$ 127,582,551	95%
<b>Right of Way</b>					
<b>Right Of Way Total</b>	\$ 42,443,132	\$ 58,281,492	\$ 4,654,118	\$ 62,935,611	93%
<b>WMATA Agreement</b>					
Vehicles	\$ 195,138,329	\$ 57,343,261	\$ 137,305,677	\$ 194,648,939	
Construction and Procurement	\$ 31,484,799	\$ 9,777,481	\$ 18,320,636	\$ 28,098,117	
WMATA Force Account Startup	\$ 13,777,100	\$ 6,643,797	\$ 6,761,224	\$ 13,405,021	
Project Management and Final Design	\$ 31,235,400	\$ 25,292,374	\$ 10,191,178	\$ 35,483,552	
<b>WMATA Agreement Total</b>	\$ 271,635,628	\$ 99,056,913	\$ 172,578,715	\$ 271,635,628	36%
<b>Preliminary Engineering<sup>2,3</sup></b>					
<b>Preliminary Engineering Total</b>	\$ 100,968,646	\$ 100,730,999	\$ -	\$ 100,730,999	100%
<b>Airports Authority Services</b>					
General Conditions <sup>4</sup>	\$ 28,879,153	\$ 11,338,148	\$ 18,712,630	\$ 30,050,778	
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 34,277,988	\$ 9,450,894	\$ 43,728,882	
Project Management Support	\$ 90,004,649	\$ 125,693,363	\$ 17,271,612	\$ 142,964,975	
<b>Airports Authority Services Total</b>	\$ 142,109,519	\$ 171,309,498	\$ 45,435,136	\$ 216,744,634	79%
<b>Contingency<sup>5</sup></b>					
<b>Contingency Total</b>	\$ 297,762,579	\$ -	\$ 49,050,935	\$ 49,050,935	
<b>Finance Costs<sup>6</sup></b>					
<b>Finance Costs Total</b>	\$ 509,984,571	\$ 103,131,435	\$ 335,053,136	\$ 438,184,571	
<b>Total Federal (FFGA Scope)</b>	\$ 3,142,471,635	\$ 2,386,962,479	\$ 755,509,156	\$ 3,142,471,635	86%

1 Reflects Paid costs through April 30 2013

2 Preliminary Engineering Period (PE) - Prior to August 1, 2007

3 Preliminary Engineering actuals have been agreed to be \$100,730,999 This is \$237,646 under the original budget of \$100,968,646 The under run is transferred to unallocated contingency

4 The line item marked General Conditions includes Temporary Facilities Development, Hazardous Material Remediation, Miscellaneous Access Roads and Wiehle Ave Garage

5 Estimate at Completion for Contingency and Indexed Commodity Escalation represent the remaining amounts

6 The transfer of Finance Costs under-run of \$71.8 million to the contingency was approved in December 2012

General Comments:

1 During March 2013, \$40.3M was transferred from Fed to Non-Fed as a result CNPA adjustments making a contribution to Federal contingency and drawdown from Non Federal contingency

**c. Project Funding Sources: April 2013**

SOURCES OF CAPITAL FUNDING	GRANT ID	PERCENT AT COMPLETE	TOTAL	EXPENDED TO DATE <sup>1</sup>	PERCENT FUND SOURCE EXPENDED TO DATE	REMAINING
<b>Sec 5309 New Starts Federal Funds</b>						
Preliminary Engineering Grants			\$ 54,412,526	\$ 54,412,526	100%	\$ -
Final Design Grant	VA-03-0113-00		\$ 159,001,838	\$ 159,001,838	100%	\$ -
ARRA Construction Grant	VA-36-0001-00		\$ 77,260,000	\$ 77,260,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-02		\$ 28,809,000	\$ 28,809,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-03		\$ 85,000,000	\$ 85,000,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-04		\$ 115,799,000	\$ 115,799,000	100%	\$ -
FFGA Construction Grant	VA-03-0113-05		\$ 90,832,000	\$ 90,832,000	100%	\$ -
FFGA Construction Grant <sup>5,6</sup>	VA-03-0113-06		\$ 90,730,505	\$ 44,224,490	49%	\$ 46,506,015
FFGA Balance	Planned		\$ 198,155,131	\$ -	0%	\$ 198,155,131
<b>Subtotal - New Starts</b>		<b>33.29%</b>	<b>\$ 900,000,000</b>	<b>\$ 655,338,854</b>	<b>72.82%</b>	<b>\$ 244,661,146</b>
<b>Other Federal Funds</b>						
Sec 5307 Surface Transportation Program						
Construction Grant	VA-95-X056-01		\$ 47,218,109	\$ 47,218,109	100%	\$ -
Construction Grant	VA-95-X056-02		\$ 21,281,890	\$ 21,281,890	100%	\$ -
Construction Grant	VA-95-X056-03		\$ 6,500,001	\$ 6,500,001	100%	\$ -
<b>STP/Sec. 5307</b>		<b>2.77%</b>	<b>\$ 75,000,000</b>	<b>\$ 75,000,000</b>	<b>100%</b>	<b>\$ -</b>
<b>Local Funds</b>						
VTA 2000			\$ 51,700,000	\$ 51,700,000	100%	\$ -
Commonwealth Transportation Bonds <sup>2</sup>			\$ 125,000,000	\$ 125,000,000	100%	\$ -
Fairfax County Funds <sup>3</sup>			\$ 400,000,000	\$ 369,089,733	92%	\$ 30,910,267
Dulles Toll Road Revenues <sup>2,4,5</sup>			\$ 1,151,953,922	\$ 1,110,833,892	96%	\$ 41,120,030
<b>Subtotal - Local Funds</b>		<b>63.94%</b>	<b>\$ 1,728,653,922</b>	<b>\$ 1,656,623,625</b>	<b>95.83%</b>	<b>\$ 72,030,297</b>
<b>Total Project Budget</b>		<b>100%</b>	<b>\$ 2,703,653,922</b>	<b>\$ 2,386,962,479</b>	<b>88.29%</b>	<b>\$ 316,691,443</b>
<b>Interrelated Highway Activities</b>						
DTR Revenues/Commonwealth Funds <sup>3</sup>			\$ 201,408,229	\$ 148,072,567	73.52%	\$ 53,335,662
<b>TOTAL</b>			<b>\$ 2,905,062,151</b>	<b>\$ 2,535,035,046</b>	<b>87.26%</b>	<b>\$ 370,027,105</b>

<sup>1</sup> Reflects costs through April 30, 2013

<sup>2</sup> In January 2010, \$23.6 million previously identified as pay-go Dulles Toll Road (DTR) Revenues were reclassified as Commonwealth Transportation Board (CTB) funds, reducing the contribution from DTR revenues and increasing the contribution from CTB funds.

<sup>3</sup> Includes Tax District Revenues (\$400 million)

<sup>4</sup> Includes pay-as-you-go revenues and bond proceeds

<sup>5</sup> Expenditures include accruals.

<sup>6</sup> Pending Amendment and Budget in TEAM.

## 6. Project Risks

In June 2012, MWAA updated the Risk Register. This document and a recommendation to update the Top Ten Risks were forwarded to the FTA and the PMOC for review on August 27, 2012. FTA, the PMOC, and MWAA discussed this issue during the PMOC's September monthly site visit. The PMOC provided review comments and a modified Top Ten List that will be reviewed by MWAA. MWAA provided a submittal dated September 30, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. FTA approved the revised Top Ten Risks by letter dated November 29, 2012. MWAA submitted a list of revised Top Ten Risks dated December 2012 on January 22, 2013. The PMOC submitted its comments on the proposed revised risks to MWAA on February 22, 2013 and the comments were discussed at the March 7, 2013 update meeting. MWAA revised the proposed top ten risks and resubmit them on March 20, 2013 as their re-titled "Proposed Top Tier" list containing nine items along with a revised risk register. The PMOC provided comments on April 3, 2013 and during the April 9, 2013 monthly meeting, the PMOC requested that MWAA resubmit a proposed top ten risks versus a top tier list. The PMOC commented on April 29, 2013 relative to the resubmission dated April 17, 2013, agreeing to the risks but raising some questions relative to numbering. On May 1, 2013, MWAA submitted their proposed Top Ten Risks dated March 29, 2013 to FTA for approval. *PMOC provided comments on the revised Top Ten Risks on April 29, 2013.*

- **Budget Risks:** MWAA has allocated \$71.8 million in finance cost savings and \$19 million of Commodity Escalation under-run to Contingency. This brings the total Contingency to \$388,562,579. Through *April 25, 2013*, MWAA reports that it has utilized \$320,523,488 of the \$361,800,000 available contingency for the first ten contingency milestones leaving a balance of \$41,276,512. For phases 11 through 12 MWAA reports obligating \$18,988,157 of the available \$26,762,579 leaving an available balance of \$7,774,424. Therefore, as of *April 25, 2013*, the project has an estimated balance at project completion of \$49,050,935. MWAA's transfer of \$90.80 million to contingency and the removal of CNPA expenditures have improved the Project Contingency situation. However, the project must continue to be diligent in its efforts to identify additional contingency monies and to control the project costs. As noted elsewhere in this report, there is a significant number of Design-Build (25) and Utility Relocation (3) Change Orders under evaluation, and a large number of Potential Change Orders (112) and Utility Relocation Subcontractor Changes (5) still under review.

MWAA submitted a tabulation of possible Concurrent Non-Project Activities (CNPAs) on July 6, 2012 that had a total value of approximately \$63.9 million. This tabulation was reviewed by the FTA and PMOC and additional information was requested from MWAA on July 30, 2012. The revised tabulation of CNPAs was submitted on August 10, 2012. MWAA and the FTA/PMOC discussed this tabulation following the September 7 monthly meeting. The FTA/PMOC indicated that there was a potential \$23,861,089 that could be considered CNPAs. FTA indicated that \$19,511,703 in additional costs would be taken up with the FTA Administrator for possible inclusion in the CNPAs. The FTA subsequently identified \$36.7 million of CNPAs in its November 6, 2012 letter to MWAA. MWAA's letter of November 28, 2012 corrected the total for CNPAs to \$40.38

million. MWAA is currently developing the documentation to confirm the refund of any federal funds previously drawn down to pay for these ineligible costs. MWAA submitted an e-mail to the PMOC on April 24, 2013 outlining its CNPA expenditure accounting as well as MWAA's procedure for FTA grant drawdowns demonstrating how MWAA makes adjustments to previously drawn down grant funds when necessary. Adjustments were made to the contingency fund in March 2013 that effectively raised the remaining Phase 10 contingency by removing the identified CNPA expenditures. FTA requested additional documentation to identify the CNPA charges by SCC code. *MWAA submitted Letter No. 08421 dated May 30, 2013 entitled "Reversal Methodology for CNPA" for FTA review and approval.*

- **Schedule Risks:** With regard to Schedule Contingency, MWAA and DTP previously agreed to a zero loss recovery schedule with a data date of December 25, 2010. This recovery schedule had a mitigation period of fourteen months, extending from January 2011 through February 2012 to recover 113 calendar days of the available 510 calendar days. MWAA and DTP are now working off a new Mitigation Schedule with a data date of October 25, 2011 that was accepted "as noted" on November 23, 2011. Through *April 2013*, MWAA has granted DTP time extensions of 40 calendar days reducing the available contingency from 510 to 470 calendar days. The currently approved SSCD is September 9, 2013. There are additional weather delay days currently in contention for the WFCY, however they are not likely to trigger a DTP self-imposed constructive acceleration since the S&I Shop is not needed to support ORD and RSD.
- **Top Ten Risks:** MWAA provided a submittal dated September 30, 2012 of its review and proposed changes to the Top Ten Risks for review and approval. FTA approved the revised Top Ten Risks by letter dated November 29, 2012. Below is the MWAA proposed Top Ten Risks submitted to FTA on May 1, 2013.

## Summary Status of the Top Ten Project Risks, April 2013

RISK NUMBER	RISK DESCRIPTION	RISK STATUS			
		SINCE INCLUSION ON TOP TEN LIST		Since April	2013 Update
		COST	SCHEDULE	COST	SCHEDULE
70.R.27	Delay in <i>new RC-7000</i> vehicle (railcar) delivery.	Unchanged	Unchanged	Unchanged	Unchanged
10.C.21	Availability of track access for DTP to complete the K-Line connection work. <i>This has transitioned into the delivery of all prerequisites (spare parts) for WMATA acceptance.</i>	Unchanged	Unchanged	Unchanged	Unchanged
80.C.20	WMATA deliverables scope of work – including technical support may exceed the schedule <i>and therefore the budget.</i>	Unchanged	Unchanged	Unchanged	Unchanged
30.C.39	Construction issues (WFC Yard delayed construction which affects opening of the system). <i>West Falls Church Yard Construction issues delaying construction completion.</i>	Decreased	Decreased	Unchanged	Unchanged
50.S.2	<i>WMATA required points of testing for acceptance. (Supervisory Control and Data Acquisition (SCADA) Testing Required Points)</i>	Decreased	<i>Decreased</i>	Decreased	Decreased
20.C.40	Delay in Station Finishes (Platform Granite Edge, Platform & Mezzanine Paving Tile, Ceilings and Ceiling Lighting)	Unchanged	Unchanged	Unchanged	Unchanged
50.S.34	<i>Design changes by DTP during construction: 1. This is causing a massive backlog of design Review by DTP Engineering". In some instances DTP is proceeding with construction of changes to the Authority Having Jurisdiction (AHJ) approved design documents without the necessary approvals. 2. This is also causing a backlog of design reviews which are required by WMATA. (Reviewing/approving DTP Construction/Test documents.)</i>	Unchanged	Unchanged	Unchanged	Unchanged
70.S.1	<i>Insufficient number of Rail Cars for Safe Braking Dynamic Testing</i>	Unchanged	Unchanged	Unchanged	Unchanged
50.C.41	Completion of the installation of the upgrade for the new (Proposed) communication center at WMATA's Carmen Turner Building.	Unchanged	Unchanged	Decrease	Decrease
20.C.45	<i>Construction not in accordance with permitted design documents.</i>	New	New	New	New

## 7. Action Items

### MWAA – DULLES CORRIDOR METRORAIL PROJECT - Items for Grantee Action

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
3	2A.05	Submit Updated Risk Register developed in June 2012	FTA and PMOC need to review the updated document.	Y	Y	Y	MWAA provided a submittal dated September 30, 2012 of its review and proposed changes to the FTA/PMOC for review and approval. FTA issued an approval letter on November 29, 2012. MWAA submitted a list of revised Top Ten Risks dated December 2012 on January 22, 2013. MWAA revised the proposed top ten risks and resubmit them on March 20, 2013 as their re-titled “Proposed Top Tier” list containing nine items along with a revised risk register. The PMOC provided comments on April 3, 2013 and during the April 9, 2013 monthly meeting, the PMOC requested that MWAA resubmit a proposed top ten risks versus a top tier list. The PMOC commented on April 29, 2013 relative to the resubmission dated April 17, 2013, agreeing to the risks but raising some questions relative to numbering. On May 1, 2013, MWAA submitted their proposed Top Ten Risks dated March 29, 2013 to FTA for approval. <i>PMOC provided comments to MWAA on April 29, 2013.</i>	R
2	2B.01	Submit dates and responsible individuals for the Readiness for Revenue Operations Roadmap provided on February 12, 2013.	FTA and PMOC need to schedule necessary readiness reviews.	N	N	N	Information for roadmap was requested by February 28, 2013. <i>A partially completed roadmap was submitted to the FTA/PMOC at the June 6, 2013 monthly update meeting. This roadmap does not include the start and completion dates for which WMATA is responsible. WMATA indicated that the dates for these activities will be available by the end of June.</i>	R

PR	ITEM	IDENTIFICATION	NATURE of PROBLEM	D	A	I	COMMENTS	STATUS
2	2B.02	Transfer the value of CNPAs out of the federal portion and add to contingency.	FTA agreed to the CNPAs on November 6, 2012 and MWAA corrected the value of the CNPAs on November 28, 2012.	Y	Y	N	The details of the accounting of the CNPAs were requested in FTA's November 6 letter. MWAA submitted an e-mail to the PMOC on April 24, 2013 outlining its CNPA expenditure accounting as well as MWAA's procedure for FTA grant drawdowns demonstrating how MWAA makes adjustments to previously drawn down grant funds when necessary. Adjustments were made to the contingency fund in March 2013 that effectively raised the remaining Phase 10 contingency by removing the identified CNPA expenditures. FTA requested additional documentation to reflect the CNPA costs by SCC code. MWAA submitted Letter No. 08421 dated May 30, 2013 entitled "Reversal Methodology for CNPA" for FTA review and approval.	R

**KEY ITEM**

Subtask 2A CLIN 0002A – PMP Review  
Subtask 2B CLIN 0002 – On-Site Monitoring

**Note** – Items marked with a 'C' in the 'PMO Contractor Status' column will be dropped from future reports.

**LEGEND**

**PRIORITY (PR)**

1- Most Critical  
2- Critical  
3- Least Critical

**GRANTEE ACTION**

D – Remedial Action Developed  
A – Remedial Action Approved  
I – Action Implemented

**PMO CONTRACTOR STATUS**

R – Review On-going  
C – Completed – No further review required

# APPENDICES

## APPENDIX A – LIST OF ACRONYMS

AAC	Agreement After Certificate
AMEP	Architectural/Mechanical/Electrical/Plumbing
ARRA	American Reinvestment and Recovery Act
ASSHTO	American Association of State Highway and Transportation Officials
ATC	Automatic Train Control
CAR	Corrective Action Request
CCC	Construction/Procurement/Installation Conformance Checklist
CD	Calendar Days
CDRL	Contract Deliverables Requirements List
CMU	Concrete Masonry Units
CNPA	Concurrent Non-Project Activities
CPM	Critical Path Method
CR	Communications Room
CTI	CTI Consultants, Inc.
CY	Calendar Year
DB	Design-Build
DCC	Design Conformance Checklist
DCN	Design Change Notice
DCR	Dulles Connector Road
DF	Direct Fixation
DGS	(Virginia) Department of General Services
DIAAH	Dulles International Airport Access Highway
DQT	Design Qualification Testing
DR	Deficiency Report
DTP	Dulles Transit Partners, LLC
DTR	Dulles Toll Road
DVP	Dominion Virginia Power
ETS	Emergency Trip Station
FFGA	Full Funding Grant Agreement
FIA	Fire and Intrusion Alarm
FTA	Federal Transit Administration
FTE	Full Time Equivalent
FY	Fiscal Year
HC	Heater Cable
HOT	High Occupancy Toll
IDW	Intrusion Detection Warning System
IFC	Issued For Construction
IFP	Issued for Proposal
IRR	Issue Requiring Resolution
KHI	Kawasaki Heavy Industries, Ltd. (Plant in Japan)
KMM	Kawasaki Motor Manufacturing, Corp. (Plant in Lincoln, NE)
KSA	KSA, INC – Producer of Concrete Crossties
MH	Manhole
MCI	A communication company now owned by Verizon
MEP	Mechanical, Electrical and Plumbing

MPS	Master Program Schedule (7K Railcars)
MOT	Maintenance of Traffic
MWAA	Metropolitan Washington Airports Authority
NATM	New Austrian Tunneling Method
ORD	Operational Readiness Date
PAC	<i>Point Assignment Charts</i>
PDA	Pile Driving Analysis
PDR	Preliminary Design Review (7K Railcars)
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor
PMSS	Project Management Support Services
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QPP	Quality Program Plan
RAMP	Real Estate Acquisition Management Plan
RAP	Rail Activation Plan
RCMP	Risk and Contingency Management Plan
RFC	Request for Change
RFMP	Rail Fleet Management Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROE	Right-of-Entry
ROW	Right-of-Way
RSD	Revenue Service Date (synonymous with Revenue Operations Date)
SCADA	Supervisory Control and Data Acquisition
SCB	Sound Cover Box
SCC	Standard Cost Category
SCIL	Safety and Security Certifiable Items List
S&I	Service and Inspection
SOE	Support of Excavation
SSCD	Scheduled Substantial Completion Date
SSMP	Safety and Security Management Plan
SSWP	Site Specific Work Plan
STP	Surface Transportation Program
SWGR	Switch Gear
TBD	To Be Determined
TBS	Tie Breaker Station
TOC	Tri-state Oversight Committee
TPSS	Traction Power Substation
UR	Utility Relocation
VDOT	Virginia Department of Transportation
VTF	Vertical Test Facility (Corrosion Testing)
W&OD	Washington and Old Dominion
WFC	West Falls Church
WFCY	West Falls Church Yard
WMATA	Washington Metropolitan Area Transit Authority

## APPENDIX B -- PROJECT OVERVIEW AND MAP

### Project Overview

**Date:** *June 26, 2013* (reporting current through *May 2013* - Financials through *April 2013*)

**Project Name:** Dulles Corridor Metrorail Project – Extension to Wiehle Avenue

**Grantee:** Metropolitan Washington Airports Authority (MWAA)

**FTA Regional Contact:** Brian Glenn, P.E.

**FTA Headquarters Contact:** Dale Wegner, P.E.

### Scope

- **Description:** MWAA The Project is the initial 11.7-miles of the LPA, which will run from the current Metrorail Orange Line near the West Falls Church (WFC) station to Wiehle Avenue in Reston, providing direct service to the commercial and office center of Tysons Corner. The Project will be constructed in or parallel to the Dulles Connector Road, Routes 123 and 7 through Tysons Corner, and the Dulles International Airport Access Highway (DIAAH). It will include five new passenger stations, one 2,300-car parking facility (provided through a joint development agreement at Wiehle Avenue Station), improvements to the existing WFC Service and Inspection Yard, tail tracks outbound of the interim terminus station at Wiehle Avenue, and the procurement of 64 rail cars.
- **Guideway:** Phase 1 is approximately 11.7 miles in length consisting of two tracks.
- **Stations:** There are five stations in Phase 1. Each station will include a kiss-n-ride area; bus drop-off facilities; station platforms with benches, canopies, ticket vending machines; and other amenities.
- **Support Facilities:** There will be a modification to the West Falls Church Yard and service building. A tail track will be constructed beyond the Wiehle Avenue Station.
- **Vehicles:** The Project will include the purchase of sixty-four vehicles for Phase 1 that will be procured by WMATA.

### Ridership

The Project is estimated to carry 69,700 average weekday riders during opening year.

### Schedule

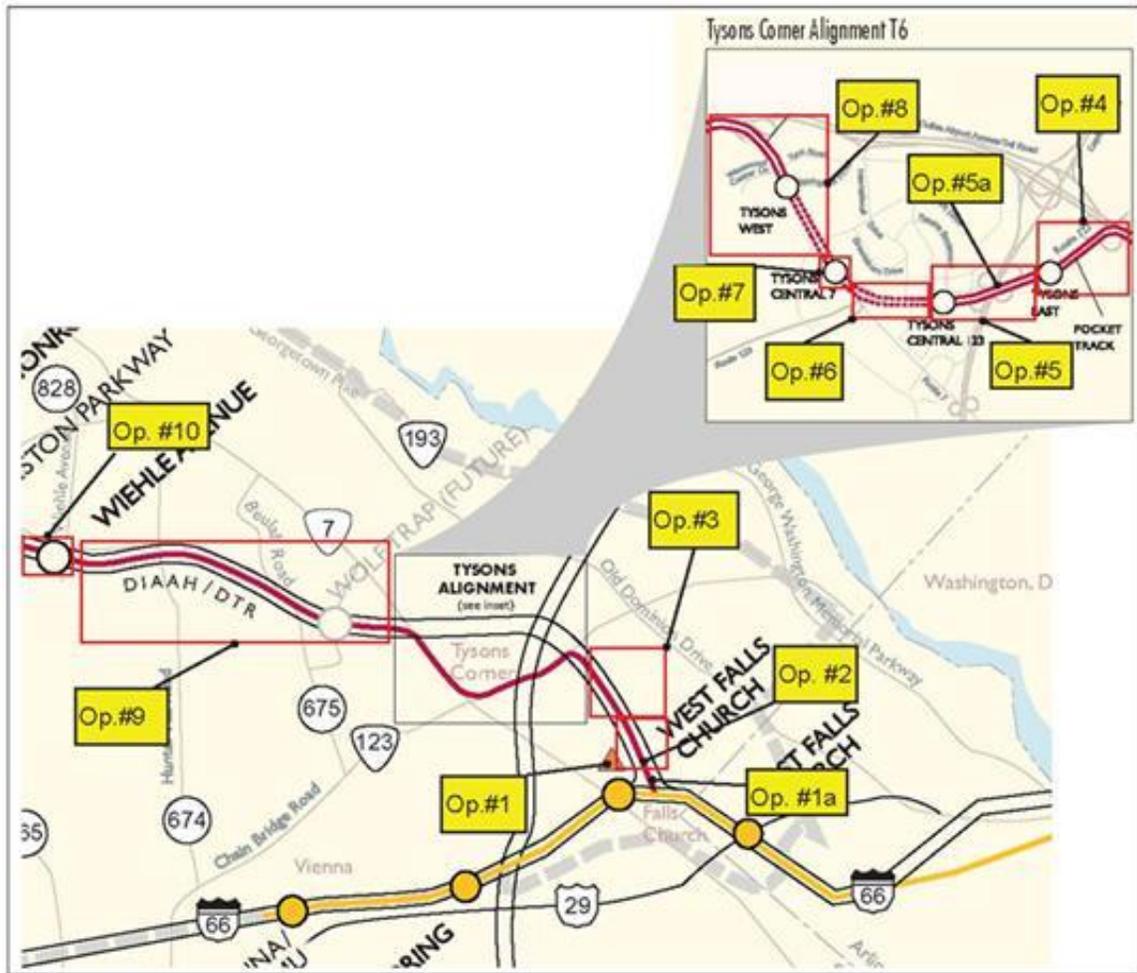
06/10/04	Approval to Enter PE	2011	Estimated Rev Ops at Entry to PE
05/12/08	Approval to Enter FD	12/04/13	Estimated Rev Ops at Entry to FD
03/10/09	FFGA signed	12/01/14	Estimated Rev Ops at FFGA
01/17/14	Revenue Service Date (RSD) <i>as of April 25, 2013</i>		
93.0%	Percent Complete Construction <i>as of May 31, 2013.</i>		
73.7%	Percent Complete Time based on RSD of December 1, 2014 (based on FFGA)		
91.0%	MWAA's Estimate of Project Earned Value through <i>April 2013</i>		

**Cost**

\$1.490 billion	Total Project Cost (\$YOE) at Approval to Enter PE
\$2.961 billion	Total Project Cost (\$YOE) at Approval to Enter Final Design
\$3.142 billion	Total Project Cost at date of report including \$510 million in Finance Costs
\$2.386 billion	Expenditures through <i>April 2013</i> from total project budget of \$3.142B
75.9%	Percent complete based on federal expenditures.
\$49.05 million	Total project contingency remaining (allocated and unallocated) through <i>April 2013</i> .



## Construction Operational Areas



## APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST

<b>Project Overview</b>	<b>Dulles Corridor Metrorail Project</b>		
Project Mode (Rail, Bus, BRT, multimode)	Rail		
Project Phase (Preliminary Engineering, Design, Construction, or Start-up)	Design and Construction		
Project Delivery Method (Design/Build, Design/Build/Operate/Maintain, CMGG, etc)	Design/Build		
<b>Project Plans</b>	<i>Version</i>	<i>Review By FTA</i>	<b>Status</b>
Safety and Security Management Plan	3/20/12	4/20/12	Accepted. MWAA's SSMP Rev.9 dated March 2012 was submitted for review in March 2012 and accepted by the FTA on April 13, 2012.
Safety and Security Certification Plan			WMATA's SSCPP March 2012 Revision is included as Appendix E to MWAA's SSMP Revision 9, which was accepted by the FTA on April 13, 2012.
System Safety Program Plan	1/20/2011		In response to FTA's Safety and Security Oversight Audit of TOC/WMATA and TOC Triennial Review findings, WMATA submitted an updated SSPP dated January 20, 2011, which was approved by TOC on February 22, 2011 with minor comments to be addressed in the next revision.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)			WMATA submitted a revised SEPP to TOC in March 2010. TOC approved the SEPP on August 2, 2010.
Construction Safety and Security Plan			Addressed in PMP Version 8 was submitted on May 1, 2012 and is under revision.

<b>Safety and Security Authority</b>	<b>Y/N</b>	<b>Notes/Status</b>
Is the grantee subject to 49 CFR Part 659 State Safety Oversight requirements?	Y	Tri-State Oversight Committee (TOC)
Has the State designated an oversight agency as per Part 659.9?	Y	Tri-State Oversight Committee (TOC)
Has the oversight agency reviewed and approved the grantee's SSPP as per 659.17?	N	An updated WMATA SSPP dated January 20, 2011 was approved by TOC on February 22, 2011.
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	Y	Approved on August 2, 2010
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	TOC had a representative at the November 9, 2011 QPRM.
Has the grantee submitted its safety certification plan to the oversight agency?	N	Plan in progress. TOC participates in monthly meetings.
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	WMATA will be operator.

<b>SSMP Monitoring</b>	<b>Y/N</b>	<b>Notes/Status</b>
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y	
Grantee reviews the SSMP and related project plans to determine if updates are necessary?	Y	
Does the grantee implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.	N	WMATA will be operator.
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	N	WMATA will be operator.
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	N	WMATA will be operator.
Does the grantee update the safety and security responsibility matrix/organizational chart as necessary?	N	WMATA will be operator.
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	N	WMATA will be operator.
Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y	

Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Design and Construction only. WMATA participates
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	N	MWAA's letter of September 7, 2011 to WMATA indicated that they believed that such an evaluation is not required but that they would support WMATA if it chooses to conduct such an analysis.
Has the grantee ensured the development of safety design criteria?	Y	
Has the grantee ensured the development of security design criteria?	Y	
Has the grantee ensured conformance with safety and security requirements in design?	Y	
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	
Has the grantee verified construction specification conformance?	Y	
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	Y	In progress.
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	After SSCD
Does the grantee evaluated change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	Y	
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	Y	
Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following: • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan	N	In progress with WMATA.
Has the grantee issued final safety and security certification?	N	
Has the grantee issued the final safety and security verification report?	N	

<b>Construction Safety</b>	<b>Y/N</b>	<b>Notes/Status</b>
Does the grantee have a documented/implemented Contractor Safety Program with which it expects contractors to comply?	Y	
Does the grantee's contractor(s) have a documented company-wide safety and security program plan?	Y	DTP's Construction Safety, Health and Security Plan accepted on January 6, 2009.
Does the grantee's contractor(s) have a site-specific safety and security program plan?	Y	
Provide the grantee's OSHA statistics compared to the national average for the same type of work. If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?	Y	DTP has recorded 492 first aid cases and eight lost time cases in 12.923 million project man-hours, which is below the national average.
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	

<b>Federal Railroad Administration</b>	<b>Y/N</b>	<b>Notes/Status</b>
If shared track: has grantee submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested)	N/A	Heavy Rail Transit Project. No FRA involvement.
If shared corridor: has grantee specified specific measures to address shared corridor safety concerns?	N/A	
Is the Collision Hazard Analysis underway?	N/A	
Other FRA required Hazard Analysis – Fencing, etc.?	N/A	
Does the project have Quiet Zones?	N/A	
Does FRA attend the Quarterly Review Meetings?	N/A	

## APPENDIX D – PMOC TEAM PERFORMING THIS REVIEW

[REDACTED]

[Redacted]