

COMPREHENSIVE MONTHLY REPORT

October 2013

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

December 2, 2013

PMOC Contract Number: DTFT60-09-D-00016

Task Order Number: 002, **Project Number:** DC-27-5142, **Work Order No.** 04

OPs Referenced: 01, 25

Hill International, Inc.

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PMOC Lead: [REDACTED]

Length of Time PMOC Assigned to Project: 13 years

Length of Time PMOC Lead Assigned to Project: 6 years

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EXECUTIVE SUMMARY

The Project Management Oversight Contractor (PMOC) met with Metropolitan Washington Airports Authority (MWAA) on *November 6, 2013* to conduct a monthly progress meeting for work performed in *October 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 and third weeks of *November 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 PMOC met with MWAA on *November 6, 2013* to conduct a monthly progress review meeting and MWAA provided supplemental information the following week. The status of information is as of *October 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 105 parcel packages required, *104* have been acquired. The remaining parcel *is* expected to be acquired in *November 2013*. MWAA expects to complete the transfer of property to WMATA between SSCD and RSD.

Rail Car Procurement – *The PMOC participated in a teleconference held on November 19, 2013 with FTA, MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #38 information package. Design Qualification Testing (DQT) continues for components and subsystems. The prototype car disassembly and preparation for shipping has begun at the Kawasaki Heavy Industries (KHI) facility in Japan. Pilot Cars #7004 and #7005 had a pre-Final Article Inspection (FAI) completed and Pilot Car Testing continues at KMM in Lincoln, NE. During a Pilot Car Safety Review at*

KMM on November 6, 2013, KRC and WMATA closed forty Hazards, forty-seven Installation Phase CIL Items and four Test Phase CIL Items. The total measured average weight of the car remains at 83,327 pounds versus the contract requirement average weight of 82,500 pounds. The current forecast completion date for the conditional acceptance of the 64th railcar is now reported as April 8, 2015, a two week delay from the previously reported date of March 25, 2015. However, this is still more than two months ahead of the June 12, 2015 contractual completion date. This anticipated schedule is based on Kawasaki continuing to manufacture the pilot cars at risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. KMM production of the four pilot cars continues with shipment to WMATA expected on December 20, 2013, as opposed to the contractual date of February 20, 2014. The delivery of the first four production cars remains forecast to be April 20, 2014, and the conditional acceptance of the first four production cars is still forecast to be August 14, 2014.

- **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 100% complete, and design-build (DB) construction, which remains at approximately 98% complete. Significant accomplishments in October included continued fit and finish work at stations, pedestrian bridges and pavilions; elevators and escalators testing; continued installation and testing of Communications Systems; static and dynamic train testing of the Automatic Train Control (ATC) system in all five N-Line test blocks to include Level F ATC testing with some discrepancy retesting to occur in November. Initial joint walkdown inspections of all five stations have been completed and work list correction work and verification inspections continue. SCADA testing was completed and work list items are being completed. 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 and Automatic Train Control System.

| SILVER LINE CONSTRUCTION PROGRESS THROUGH OCTOBER 2013 | | | |
|---|-------------------|--------------------|-------------------|
| ELEMENTS | % COMPLETE | STATIONS | % COMPLETE |
| O-3 (DCR) Trackway | 100% | Tysons East | 98% |
| Tysons East Guideway | 100% | Tysons Central 123 | 95% |
| Tysons West Guideway | 100% | Tysons Central 7 | 96% |
| O-9 (DIAAH) Trackway | 100% | Tysons West | 96% |
| Systems | 95% | Wiehle Avenue | 99% |
| Trackwork | 100% | Systems Testing | 93% |

| WEST FALLS CHURCH YARD PROGRESS THROUGH OCTOBER 2013 | |
|---|-------------------|
| ELEMENTS | % COMPLETE |
| Overall | 90% |
| Sitework | 99% |
| Sound Cover Box | 89% |
| S&I Building | 85% |
| Trackwork | 99% |
| Systems | 95% |
| Testing | 20% |

- **The DTP Schedule Update** with a data date of *September 25, 2013* showed the SSCD as *November 26, 2013*. DTP's forecast SSCD would result in a RSD of *February 24, 2014* if the SSCD and ORD are coincidental. However, it must be noted that the RSD will ultimately be determined by WMATA. MWAA completed its review of the Schedule Update with a data date of *September 25, 2013* on *October 17, 2013*, stating that the schedule was once again "Not Accepted." MWAA did not accept DTP's Critical Path No.1, which involves SCADA testing and WMATA's ARINC software development. MWAA believes the completion of the ATC Level F testing and final traction power testing make up Critical Path No. 1. The PMOC concurs with MWAA's analysis.
- **With regard to the West Falls Church Yard (WFCY) completion date**, DTP's schedule update of *September 25, 2013* reflected again a -14 calendar day variance to the targeted completion date of *December 20, 2013*, resulting in a forecast completion date of *January 3, 2014*. This schedule was "not accepted" by MWAA. DTP's schedule update continues to attribute late completion due to the impact of requested weather days not having been approved. MWAA is concerned that the delays to the delivery of interior acoustical panels, which must be installed before the noise study of the SCB can be completed, is the true critical path. However, DTP's *October 25, schedule update (not yet analyzed)* reflects a -49 day delay with a *February 7, 2014* forecast WFCY completion date. DTP attributes the additional delay to the incorporation of the revised logic and duration recommended by MWAA's review of the September schedule update for the sound cover box (SCB) noise study and review. However, of the claimed additional 35 days delay, 26 days was caused by DTP's slow progress of critical activities and only nine days are attributable to the corrections made to logic and duration for the SCB noise study and review.
- **Budget status as of September 25, 2013 indicates** that \$2,525,841,209, or 90%, of the \$3,142,471,635 budget total, has been expended, excluding Finance Cost and Contingency. In March 2013, MWAA moved the \$40.38 million value of CNPA expenditures to the available contingency. MWAA now reports \$332,709,838 of the available contingency for the first ten contingency milestones has been drawn down to date with a balance of \$29,090,162 available through the tenth of twelve contingency phases. The current estimate of the contingency available at the end of construction is \$36.864 million. In the PMOC's opinion, the contingency is adequate.
- MWAA's estimate of the **Earned Value** for the Project through *September* is 92.3%.

- **Risk** - The FTA approved MWAA’s RCMP Rev. 3 on April 13, 2012. MWAA revised the proposed top ten risks and resubmitted them on March 20, 2013 along with a revised risk register. 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. MWAA has incorporated the comments in their listing of the Top Ten Risks in their monthly reports to FTA.
- **The Full Time Equivalent (FTE) estimated total for October is 729, which is a decrease of 24 from the September actual of 753.** This fluctuation is expected with the completion of civil construction *and the nearing of completion of systems installation and testing and commissioning.*

| FFGA-MWAA Core Accountability Items | | | |
|--|--|---|--------------------------|
| Project Status: | | Original at FFGA: | Current Estimate: |
| Cost | Cost Estimate | \$3.142B | \$3.142B |
| Contingency | Unallocated Contingency | | |
| | Total Contingency (Allocated plus Unallocated) | \$297.76M | \$36.86M |
| Schedule | Revenue Service Date | December 1, 2014 | February 24, 2014* |
| Total Project Percent Complete | | Based on Expenditures | 90% |
| | | Based on Earned Value | 92.3% |
| Major Issue | Status | Comments/Action/Planned Action | |
| Alstom Configuration Control – ATC field concerns arose with regard to testers working with unapproved test procedures. | ECN submittal quality has improved but new unanticipated ECNs <i>continue</i> to be submitted requiring additional review and approval efforts. The static retesting in the field has been completed. The regression testing related to the <i>known</i> ECNs has been quantified <i>and is underway</i> . | Alstom developed a revised Corrective Action Plan (CAP) that DTP submitted to MWAA on July 22, 2013. MWAA “Accepted as Noted” the CAP via Letter No.08893 dated August 22, 2013. Alstom issued an Automatic Train Operation (ATO) Test Safety Certificate on October 7, 2013 and WMATA and MWAA authorized the commencement of Level F ATC testing, <i>which was substantially completed on October 22, 2013.</i> | |
| Date of Next Quarterly Meeting: | | <i>December 17, 2013</i> | |

* This date represents a projected RSD based on DTP’s projected SSCD. However, the RSD will be determined by WMATA based on the Operational Readiness Testing Schedule since WMATA maintains a measure of flexibility with its pre-revenue operations activities.

3. PMOC’s Assessment of Project Status

Through *September* 2013, MWAA has utilized \$332.71 million of contingency resulting in a remaining balance of \$29.09 million through contingency Phase 10. The budgeted contingency for Phases 11 and 12 is \$26.76 million of which \$18.99 million is obligated, leaving a balance of

\$7.77 million for use in Phases 11 and 12. This results in a grand total balance, as of the end of *September 2013*, of \$36.86 million in contingency estimated to remain at project completion. In the opinion of the PMOC, the Project has adequate contingency.

The Project continues working according to the “Mitigation Schedule” authorized by MWAA’s November 1, 2011 Directive Letter. The DTP mitigation schedule with a data date of *September 25, 2013* reflected a -78 calendar variance to the contract schedule indicating a SSCD of *November 26, 2013*. MWAA and DTP are not in agreement on the critical path and Alstom continues its struggle to regain its ATC test program schedule. Therefore, it remains the PMOC’s opinion that the *November 26, 2013* projected SSCD is optimistic.

Notwithstanding the schedule disagreements, DTP/Alstom, with the continued cooperation of MWAA and WMATA, continue to progress the ECN review, installation and testing process *during October* despite the continued development of new and unanticipated ECNs. It is not yet known exactly how this will impact the Systems Performance Demonstration (SPD) which leads directly to SSCD. However, the overall ATC Test Program progress led to an Alstom issued Automatic Train Operation (ATO) Test Safety Certificate on October 7, 2013 *and the substantial completion of Level F testing on October 22, 2013*. *Although somewhat optimistic, MWAA, WMATA and DTP continue to refine plans to complete a Systems Performance Demonstration (SPD) by November 24, 2013. This projected SPD date has remained consistent during the past month as all stakeholders initiate and implement various logistical work-a-rounds to complete pre-requisite testing and to refine the efficiency of the SPD Plan. Once DTP declares SSCD, MWAA can take up to fifteen days to determine if SSCD can be granted. When DTP achieves SSCD, WMATA will likely accept the same date as its ORD.* It remains the PMOC’s opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014. *Based on DTP’s forecast of SSCD, the RSD could be February 24, 2014. However, WMATA maintains a measure of flexibility with its pre-revenue operations activities and durations that could improve this projection.*

DTP has incorporated the West Falls Church Yard construction into the mitigation schedule with a target completion date of December 20, 2013. DTP’s *September 25, 2013* schedule update *again* reflected a -14 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of January 3, 2014. It is the PMOC’s opinion, with the continued cooperation of WMATA and the coordination provided by MWAA, that the West Falls Church Yard work can be completed in January 2014.

Kawasaki’s Mitigation Schedule based on the impacts of the March 2011 tsunami/earthquake forecasted a conditional acceptance date of the 64th DCMP rail cars on June 12, 2015. Since their Progress Review Meeting (PRM) No. 33 (June 13, 2013) *through PRM No. 37 (October 17, 2013)* report, Kawasaki updated their forecast for the conditional acceptance of the 64th railcar to March 25, 2015. *However, the most recent PRM #38 held on November 14, 2013 indicates that the conditional acceptance of the 64th railcar is now anticipated to be April 8, 2015.* Kawasaki continues with the production of the four pilot cars at KMM. Although Kawasaki has not gone into the full production mode, it is the PMOC’s opinion that Kawasaki can achieve their updated forecast for the conditional acceptance of the 64th railcar at the end of March 2015. What may constrain the conditional acceptance *process* is the delay to the completion of WMATA’s test track at Greenbelt which is now forecasted for *October 21, 2014*, a 256-day delay. The

Commissioning Facility is forecast to be completed on *March 28, 2014*, a *106-day* delay as indicated in the contractor's schedule with a data date of *September 25, 2013 (GR20)*, which was not accepted. WMATA believes that the schedule can be improved.

During *October 2013*, Alstom, DTP, WMATA and MWAA continued to conduct weekly Table Top review meetings and various other specially scheduled meetings to re-review test procedures, test data and software changes. Following numerous ATC software troubleshooting issues and cancelations of phases 6 through 9 circuits cutover, the cutover was finally completed during the weekend of *September 7-8, 2013*. Meetings will continue in *November* for reviewing new engineering software changes and ATC test data, and the meetings are likely to continue into *December* for reviewing ATC test data.

It is the PMOC's opinion that the Alstom QA/QC and document control/configuration issues has delayed the contractual September 9, 2013 SSCD by eleven or more weeks. The full impact on the schedule cannot yet be determined until all ECNs have been submitted and approved and the amount of ECN-related regression testing is quantified. Most regression testing has been identified and is well underway to completion. As noted above, despite continued ECN submissions, the ATC Test Program is progressing and confidence in the Program is improving with the substantial completion of the ATC Level F dynamic train testing on October 31, 2013.

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 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 on May 21, 2012, replacing Jon Christensen, who retired. The 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 *September 25, 2013*. In this update, DTP reported a possible loss of 78 calendar days to the SSCD now forecasted by DTP to occur on *November 26, 2013*. The WFCY *September* schedule update *again* reflected a -14 calendar day variance to the target date of December 20, 2013, which yields a forecast WFCY completion date of January 3, 2014. MWAA completed its schedule review of the schedule updates with a data date of *September 25, 2013* on *October 17, 2013* stating the schedules were again “Not Accepted.” See Section 4.a for additional information.
- MWAA continues to monitor expenditures to date and to update the estimate at completion. Through *September 2013*, MWAA has utilized \$332.71 million of contingency resulting in a remaining balance of \$29.09 million through contingency Phase 10. The budgeted contingency for Phases 11 and 12 is \$26.76 million of which \$18.99 million is obligated, leaving a balance of \$7.77 million for use in Phases 11 and 12. As of the end of *September 2013*, contingency estimated to remain at project completion is \$36.86 million. 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 *October 2013*, there has been a cumulative total of 13,981,574 hours worked with eight lost time cases. This remains well below national average for heavy and civil engineering construction. (Most recent Department of Labor (DOL) statistics are for 2011. Those statistics indicate 5.85 injuries 100 full time employees. The DTP rate translates to 0.572 injuries per 100 full time employees.)

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.

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 3rd quarter of 2013 on *October 30, 2013*.

2. Project Scope

a. Design Status

The design is 100% complete.

b. Bidding and Construction Status

DTP has awarded all of the thirty-seven Allowance subcontract packages worth \$571,173,458. The Budget for the Allowance Items was \$426,145,893, resulting in an overrun of \$145,027,565, which was covered by contingency.

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.

Throughout *October 2013*, Alstom, DTP, WMATA and MWAA continued to conduct weekly Table Top Review Meetings and various other specially scheduled meetings to re-review test procedures and software changes. The Project completed the re-review of field test procedures in July and completed the associated field static retesting. DTP/Alstom, with the continued cooperation of MWAA and WMATA, continue to progress the ECN review, installation and testing process despite the continued development of new and unanticipated ECNs. It is not yet known exactly how this will affect the Systems Performance Demonstration (SPD), which leads directly to SSCD. However, the overall ATC Test Program progress led to an Alstom issued Automatic Train Operation (ATO) Test Safety Certificate on October 7, 2013 *and the substantial completion of Level F testing on October 22, 2013. Although somewhat optimistic, MWAA, WMATA and DTP continue to refine plans to complete a Systems Performance Demonstration (SPD) by November 24, 2013. This projected SPD date has remained consistent during the past month as all stakeholders initiate and implement various logistical work-a-rounds to complete pre-requisite testing and to refine the efficiency of the SPD Plan. Once DTP declares SSCD, MWAA can take up to*

fifteen days to determine if SSSCD can be granted. When DTP achieves SSSCD, WMATA will likely accept the same date as its Operational Readiness Date (ORD).

MWAA reported during the April 9, 2013 monthly update meeting that utility relocation is 100% complete. During the November 6, 2013 monthly update meeting, MWAA reported that DB construction remained at approximately 98% complete.

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

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

West Falls Church Yard (WFCY) – S&I Shop: completed the roofing and continued the installation of exterior siding, installation of conduits, wiring and electrical equipment, car lift and car hoist equipment, and fire sprinkler installation. Sound Cover Box (SCB): completed the erecting of structural steel and metal roofing, completed the exterior insulation and corrugated panels and continued the interior wall insulation. Continued pavement restoration on the through lanes along eastbound I-66 and the Dulles Connector Road (DCR).

Systems Work

- **K&N Junction**
Continued performing final ATC series 24.6 cab level testing and series 24.8 ATO and Phases 10 and 11 cutover activities on the K-Line.
- **Fisher Avenue K98 TCR**
Continued performing final ATC series 24.6 cab level testing and series 24.8 ATO and Phases 10 and 11 cutover activities on the K-Line.
- **TPSS #1 (Plainfield St. – N91)**
Performed Level F ATC testing.
- **Plainfield TCR and N91 Area of Control**
Performed Level F ATC testing.
- **TBS #2 (Baldwin Drive – N92)**
Performed Level F ATC testing; performed TPSS to OCC AIMS testing.
- **Baldwin TCR and N92 Area of Control**
Performed TPSS to OCC AIMS testing.
- **TPSS #2 (Baldwin – N92)**
Performed Level F ATC testing.
- **Operations Area OP-4/5A (Tysons East Guideway and Tysons East Station)**
In the station – Continued installing and testing communications systems; continued elevator and escalator punch list work; installing and testing AFC equipment;

conducting mechanical, electrical plumbing punch list work; installing Kiss & Ride Bus Shelters; and continued installation of station finish work.

Systems Work

- **TBS #3 (Tysons East – N01)**
Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.
- **Tysons East TCR and N01 Areas of Control**
Performed Level F ATC testing.
- **TPSS #3 (Tysons East Station – N01)**
Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.
- **Operations Area OP-5 (Tysons Central 123 Station)**
Continued installing and testing communications systems; continue conducting SCADA testing; installing and testing AFC equipment; continued elevator and escalator punch list work; conducting mechanical, electrical plumbing punch list work; and continued installation of station finish work.

Systems Work

- **TPSS #4 (Tysons 123 – N02)**
Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.
- **Tysons 123 TCR and N02 Area of Control**
Performed Level F ATC testing.
- **Operations Area OP-6 (East and West Cut and Cover Tunnel)**
 - **East Cut and Cover and Ventilation Structure**
Continue punch list work.
 - **West Cut and Cover and Ventilation Structure**
Continue punch list work.
- **Operations Area OP-7 (Tysons Central 7 Station)**
Continued installing station and pedestrian bridges' and pavilions' finish installations and punch list work; continue communications systems installation and testing; and installing various station finish work.

Systems Work

- **TPSS #5 (Tysons Central 7 – N03)**
Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.

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

Performed Level F ATC testing.

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

In the station and pavilion – installing and testing AFC equipment; continue various punch list work; and continued installing various station finishes.

Systems Work

- **TPSS #6 (Tysons West Station – N04)**

Performed Level F ATC testing; performed traction power short circuit test; performed traction power train start test between TPSS # 6 and TPSS # 7; and performed TPSS to OCC AIMS testing.

- **Tysons West TCR and N04 Area of Control**

Performed Level F ATC testing.

- **OP-9 (DIAAH)**

Systems Work

- **TPSS #7 (Wolf Trap – N05)**

Performed Level F ATC testing; performed traction power short circuit test; performed traction power train start test between TPSS # 6 and TPSS # 7; and performed TPSS to OCC AIMS testing.

- **Wolf Trap TCR and N05 Area of Control**

Performed Level F ATC testing.

- **TPSS #8 (Chatham's Ford – N93)**

Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.

- **Chatham's Ford TCR and N93 Area of Control**

Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.

- **TPSS #9 (Hunter Mill - N94)**

Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.

- **Hunter Mill TCR and N94 Area of Control**

Performed Level F ATC testing.

- **TPSS #10 (Sunset Hills – N95)**

Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.

- **Sunset Hills TCR and N95 Area of Control**

Performed Level F ATC testing.

- TPSS #11 (Wiehle Avenue - N06)
Performed Level F ATC testing; and performed TPSS to OCC AIMS testing.
- Wiehle TCR/N06 Area of Control
Performed Level F ATC testing.
- Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)
Continued testing communications systems throughout the station and pedestrian bridges and pavilions; continue various punch list work.

c. Real Estate

Real Estate Acquisition continued to keep ahead of construction requirements, resorting to Right of Entry (ROE) to gain access to required parcels. Through *October 2013*, MWAA has acquired 104 of the 105 parcels required for the Project. The table below summarizes acquisition activities for the Project through *October 2013*.

PARCELS ACQUIRED¹
(Number of parcel packages)

| LOCATION | TOTAL | Period | | | To Date | | |
|--------------|------------|----------------------|----------|----------|----------------------|------------|------------|
| | | Planned ² | Actual | Var | Planned ² | Actual | Var |
| I-66 / DCR | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Route 123 | 23 | 0 | 0 | 0 | 23 | 23 | 0 |
| Route 7 | 55 | 0 | 0 | 0 | 55 | 54 | (1) |
| DIAAH | 26 | 0 | 0 | 0 | 26 | 26 | 0 |
| TOTAL | 105 | 0 | 0 | 0 | 105 | 104 | (1) |

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, #167, was added in June 2013 bringing the total to 105, which will be completed in *November 2013*.

Condemnation Status

MWAA acquired thirty-nine parcel packages with the filing of thirty-three Certificates of Take. There is only one case yet to be finally resolved (Parcel 03, West Group Properties, LLC) The Final Order was entered in May 2013 but was appealed by the property owner with the filing of their brief supporting the appeal in late August 2013. The Commonwealth, on behalf of the Project, filed their response *in opposition* in mid-September, and the court is expected to decide whether to hear the appeal by the end of 2013. A refusal will let the verdict stand. If the court elects to hear the appeal, the decision will likely be issued by mid to late 2014.

Property Turnover to WMATA

MWAA, VDOT, Fairfax County, and WMATA have been meeting to address the required transfer of property to WMATA that is expected to take place 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 | Documents Signed | Document Recorded |
|-------------------------|----------------|-------------------------|----------------------------|------------------------|----------------------------------|-------------------|------------------|-------------------|
| Fee/Easement Transfer | 26* | 26 | 26 | 26 | 26 | 24 | 14 | 0 |
| Easements on Public ROW | 3 | 3 | 3 | 3 | 3 | 1 | 0 | 0 |
| Maintenance Documents | 4 | 4 | 3 | 3 | 3 | 0 | 0 | 0 |

*One conveyance was determined to not be needed, thus the total decreased by one.

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 *equally* the development costs associated with the railcar procurement.

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

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 *conditional acceptance* date for the 64th railcar, which is more than six months beyond the FFGA completion date for the DCMP.

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.

The PMOC participated in a teleconference held on November 19, 2013 with FTA, MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting

(PRM) #38 information package. Project Review Meeting #38 was held at the KMM facilities in Lincoln, NE on November 14, 2013. 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. Validation of subsystems continues in Japan. Pilot cars are undergoing testing at KMM. ATC design qualification testing is being performed at KMM now that the test track has fully functional ATC. The total measured average weight of the car remains at 83,327 pounds versus the requirement of 82,500 pounds. The current forecast completion date for the conditional acceptance of the 64th railcar is April 8, 2015, versus the date of March 25, 2015 reported during the past four months. This is still ahead of the June 12, 2015 contractual completion date. This anticipated schedule is based on Kawasaki continuing to manufacture the pilot cars at risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. KMM production of pilot cars continues with shipment to WMATA anticipated to be December 20, 2013, as opposed to the contractual date of February 20, 2014. The delivery of the first four production cars remains 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 in Japan on May 17, 2013. Below is a table showing the key milestones for this railcar procurement (as of October 31, 2013).

| Item # | Description | December 2011 Approved Baseline MPS Dates | February 2013 Approved MPS Dates | Actual and Current Forecast Dates |
|--------|---|--|---|--|
| 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 | Completion of Propulsion DVR | NA | NA | 9/21/12A |
| 7 | Completion of ATC DVR | NA | NA | 10/10/12A |
| 8 | Completion of Communications DVR | NA | NA | 10/19/12A |
| 9 | Completion of Network DVR | NA | NA | 10/19/12A |
| 10 | Begin Production of Pilot Cars #1, 2, 3 and 4 at KMM | 9/10/13 | - | 12/17/12A |
| 11 | FDR Completion | 10/24/11 | - | 2/28/13A |
| 12 | Begin Car Level Qualification Testing in Japan | 10/30/12 | - | 3/15/13A |
| 13 | Completion of Prototype Cars #1, 2, 3, and 4 at KHI | 10/29/12 | - | 5/17/13A |
| 14 | Completion of KMM Test Track | NA | NA | 7/12-/13A |
| 15 | Approval Climate Room Testing | 2/15/13 | 7/30/13 | 12/14/13 |
| 16 | Completion and Approval of Pilot Car Production Activities | 2/20/14 | 2/20/14 | 2/10/14 |
| 17 | Begin Pilot Car Testing at KMM | 10/1/13 | 7/8/13 | 8/5/13A |
| 18 | First Manual submission (DRAFT) | 8/30/13 | 3/13/14 | 2/10/14 |
| 19 | Completion of Pilot Car Testing at KMM | 10/17/13 | 10/2/13 | 12/11/13 |
| 20 | Completion of Prototype Car Review (Prior to Ship out from Japan) | 5/14/13 | 10/4/13 | 11/22/13 |
| 21 | Completion of Pilot Car FAI (milestone 7c) | 10/21/13 | 10/3/13 | 12/13/13 |

| Item # | Description | December 2011 Approved Baseline MPS Dates | February 2013 Approved MPS Dates | Actual and Current Forecast Dates |
|--------|---|--|---|--|
| 22 | Ship out of Prototype cars from Japan to USA | 6/15/13 | 11/7/13 | 12/12/13 |
| 23 | Completion and Approval of FAI Activities | 12/11/13 | 12/12/13 | 3/21/14 |
| 24 | <i>Shipment</i> of first 4 Pilot Cars to WMATA from KMM | 2/20/14 | 2/20/14 | 12/20/13 |
| 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 | 11/25/14 | 12/25/14 |
| 27 | Conditional Acceptance of first 4 pilot Cars | 8/14/14 | 8/14/14 | 8/14/14 |
| 28 | Conditional Acceptance of first 4 Production Cars | 8/14/14 | 8/14/14 | 8/14/14 |
| 29 | Completion of On-site Test (After Burn-In) | 2/19/15 | 2/19/15 | 2/19/15 |
| 30 | Conditional Acceptance of 64th Production Car | 6/12/15 | 6/12/15 | 4/8/15 |

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

What may constrain the conditional acceptance process is the delay to the completion of WMATA's test track at Greenbelt, which WMATA's contractor is forecasting for October 21, 2014, a 256-day delay. The Commissioning Facility is forecast to be completed on March 28, 2014, a 106-day delay. However, WMATA did not accept that schedule and believes that the schedule can be improved.

- **Effect on Operations**

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.

MWAA formally informed the FTA Regional Administrator of the railcar delivery delay in a letter dated January 31, 2012. In this letter, MWAA also 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.

FTA requested 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. 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.

At the May 22, 2013 QPRM, FTA requested that MWAA obtain an updated letter from WMATA with regard to their ability to supply sufficient vehicles from their existing fleet for the commencement of Silver Line service due to the additional rail cars required to operate service to Largo Town Center Station. MWAA sent a letter requesting WMATA’s reconfirmation of the availability of railcars to WMATA’s Deputy General Manager on June 21, 2013.

To address the new operating plan, WMATA submitted RFMP Revision 4H to the FTA on June 7, 2013 for review and FTA provided comments on June 10, 2013. WMATA submitted RFMP Revision 4I to the FTA on July 5, 2013, which FTA reviewed and provided comments. Subsequently, WMATA issued RFMP Revision 4J dated August 2013, which FTA accepted on August 8, 2013.

f. Safety and Quality Status

MWAA participated in *three* safety walk downs with DTP during the month of *October*. As of *October 31, 2013*, DTP had logged *13.981* million project man-hours, with *509* first aid cases and *8* lost time cases. There have been a total of *1,172* incident investigation reports, *95* utility hits, and *54* vehicular accidents. These statistics continue to remain below industry standards. The United States injury rate for 2011 was 5.85 injuries per million hours worked. The 8 lost time cases recorded by DTP is a rate of *0.57* per million hours worked.

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, 2012 and MWAA and DTP met on December 18, 2012 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), the Construction/Procurement/Installation Conformance Checklist (CCC) items related to all issued for construction designs and the Startup Integration Testing Conformance Checklist (SITCC). The status of the conformance checklists is reflected in the status table below. The progress on the completion of the checklists continues to lag although the DCC is nearing completion.

Safety and Security Conformance Checklists (excluding n/a)

| Total # of Items | Verified in Design (DCC) | | Verified in Construction (CCC) | | Verified in Startup and Testing (SITCC) | |
|------------------|--------------------------|------|--------------------------------|-----|---|-----|
| 6,172 | 5,042 | | 4,566 | | 923 | |
| DTP Signed | 5,042 | 100% | 3,784 | 83% | 404 | 44% |
| MWAA Accepted | 5,042 | 100% | 3,138 | 69% | 256 | 28% |
| WMATA Audited | 5,042 | 100% | 3,138 | 69% | 256 | 28% |

- 1) Checklists are exclusive of WFCY (K99)
- 2) Reflects DTP’s Design, Construction, and Testing Verifications submittals through 10/10/2013.

- 3) Reflects MWAA's acceptance through DCC #13 (9-19-13).
- 4) Reflects WMATA's audits through DCC #13.
- 5) Reflects MWAA's acceptance through CCC #8 (10-14-13).
- 6) Reflects WMATA audits through CCC #8.
- 7) *SITCC #2 completed pending DTP comment response due 11-08-13.*
- 8) *Reflects WMATA audits through SITCC #1 with 5 open items pending resolution.*

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 is now attending the Monthly Project Update Meetings and Quarterly Progress Review Meetings. The SCWG held its regular monthly meeting on *October 15, 2013*. The next SCWG Meeting is scheduled for *November 19, 2013*.

MWAA submitted its Safety and Security Management Plan, Revision 8, to the FTA on February 17, 2011. MWAA and WMATA agreed to develop jointly 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.

MWAA QA Audit and Surveillance Schedule for *November through December 2013*

| Tentative Date | Audit (A) Surv. (S) | Organization/Activity | Joint Audit/Surv. | Lead |
|-----------------------|----------------------------|---|--------------------------|-------------|
| TBD | S | Permanent Equipment Facilities | Y | MWAA |
| <i>*10/30 – 11/01</i> | A | WMATA's Procurement (Federal Requirements) MWAA Letter No. 08779 | N | MWAA |

**MWAA reported at the November 6, 2013 meeting that an independent audit was conducted and preliminary information provided indicates that WMATA's Procurement Department did a good job of following all policies and procedures. A report is due within the next 30 days.*

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 2012 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. 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. UTRS, under the oversight of Russell Corrosion Consultants and CTI Special Inspection and MWAA/QA, began work on December 11, 2012. The contractor completed the Vertical Test Facility (VTF) installation at both piers 3-IB and 5-IB on January 8, 2013. The test plan called for the VTFs to be left to settle for 30 days, after which the specified testing would commence. On March 25, 2013, MWAA submitted Revision No. 1 of the Stray Current and Corrosion Rate Test Plan to the FTA, which was reviewed 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 stray current testing was finally completed on April 11, 2013 with the exception of some retesting completed on May 27, 2013. During testing there were unexpected changes observed in the pile-to-earth coupon flows. Following protracted discussions and investigation it was determined that these anomalies were associated with the temporary track bonding conditions associated with the N-Line testing and new WFCY tie in. In order to fully demonstrate the source of the abnormalities and then to accurately calculate past or normal conditions with full confidence, it was determined that several days of supplemental testing with the K-Line totally isolating the N-Line would be needed. It was determined that the supplemental data collection needs could be satisfied with a 48 hour period of testing. MWAA conducted a planning meeting for this effort with all stakeholders for August 15, 2013. After this meeting it was decided that it would be logical to wait until the ATC circuit cutover was completed and the permanent insulated joint configurations could be restored without impacting the N-Line test schedule. RCC issued letters to MWAA dated August 16 and August 30, 2013 describing testing prerequisites. This supplemental testing was successfully completed on September 27, 2013 and UTRS submitted its Report on October 18, 2013. RCC reviewed the data and submitted its "Draft Final Report for Stray Current and Corrosion Evaluation" on November 6, 2013. The "Summary of Findings" states that "testing showed that Piers 3/IB and 5/IB both have more than the minimum required 50 years of additional life. The evaluation of overall stray current activity indicated that the other historic piers should not be subject to any greater stray current activity than exists on the two tested piers." A stakeholders meeting has been scheduled for November 15, 2013 to discuss comments and questions.

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, 2013, approved by FTA on May 28, 2013, and forwarded to OIG. |
| 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 | WMATA RFMP, Revision 4J, submitted on August 5, accepted by FTA on August 8, and forwarded to OIG. |

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. MWAA has made no further QPP procedure updates.

- 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. Since WMATA, rather than MWAA, will be the operator of the completed project, the WMATA **Rail Fleet Management Plan (RFMP)** is the applicable document. See discussion under Section 2b of this report.
- **Safety and Security Management Plan (SSMP)** see Section 2f.

4. Project Schedule

Mainline - The project “Mitigation Schedule” update with a data date of *September 25, 2013* reflects a -78 calendar day variance resulting in a *November 26, 2013* SSCD. MWAA completed its schedule review of the schedule update with a data date of *September 25, 2013* and notified DTP via MWAA Letter No. 09091 that the schedule was once again “Not Accepted.” MWAA did not accept DTP’s Critical Path No. 1, which involves SCADA testing and WMATA’s ARINC software development. MWAA indicated that while it is true that ARINC will be conducting software changes through much of November, it is as a result of corrections and revisions made by DTP. MWAA believes the completion of the ATC Level F testing and final traction power testing make up Critical Path No. 1. The PMOC concurs with MWAA’s analysis.

While 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 the SSCD will not be achieved until late November 2013, at the earliest, due to the continued delay in the submission, approval and regression testing of engineering software changes for the ATC system. Also impacting the SSCD is the Systems Performance Demonstration that *continues to be refined by cooperative efforts between MWAA, DTP and WMATA*. RSD is also dependent upon the completion of WMATA’s schedule associated with the Rail Activation Plan (RAP).

MWAA Granted excusable weather delay days as reflected in the table below have resulted in a revised contractual SSCD of September 9, 2013 as of April 26, 2013.

MWAA’s Report of Excusable Work Days of Delay through September 25, 2013

| ACTION | WORK DAYS |
|--|------------------|
| Total Excusable Days of Delay on Project Critical Path requested by DTP | 27 |
| 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** - MWAA and DTP agreed to a target completion date of December 20, 2013. DTP's schedule update of *September 25, 2013* again reflected a -14 calendar day variance yielding a forecasted completion date of January 3, 2014. This schedule was not accepted by MWAA. DTP's schedule update continues to attribute late completion due to the impact of requested weather days not having been approved. MWAA is concerned that the delays to the delivery of interior acoustical panels which must be installed before the noise study of the SCB can be completed is the true critical path. *The acoustical panels have been received and are being installed. However, DTP has incorporated an additional -35 calendar day negative float in its October 25 schedule update that has not yet been analyzed. DTP attributes the additional delay to the incorporation of the revised logic and duration recommended by MWAA's review of the September schedule update for the sound cover box (SCB) noise study and review. However, of the claimed 35 day delay, 26 days were caused by DTP's slow progress of critical activities and only nine days are attributable to the corrections made to logic and duration for the SCB noise study and review.*

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.

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 *September 2013* Schedule Update, the Critical Path No.1 has *negative 78 calendar days of float and starts AIMS burn-in at Baldwin, then continues with the final SCADA testing at the TPSSs, then continues with four weeks of ARINC "Software Development" and testing and ends with the SPD and the final safety/security certification report and certificate. MWAA does not accept this critical path because more critical to the Project is the completion of the Level F testing and traction power testing. MWAA believes that the Level F testing has been delayed because DTP took longer than planned to complete the Series 24 and Series 26 testing and that the ARINC work has always been required and is not a software development period as implied by DTP, but rather a time to correct any issues discovered during testing. The PMOC again believes that in addition to these items, the adverse ripple effect caused by the struggles with the ATC test program still impacts the critical path.*

Since DTP continues to fail to acknowledge the impact of Alstom's use of unapproved ECNs and procedures on the schedule, it is the PMOC's opinion that the November 26, 2013 SSCD *may still be overly optimistic. During the past month, the Project has completed much of the*

prerequisite testing and punch list work needed to permit the Systems Performance Demonstration (SPD) to proceed. In addition, MWAA, DTP and WMATA have conducted regular joint cooperative SPD Planning Coordination Meetings that have maintained an SPD completion at November 24, 2013. It has generally been accepted that a successful completion of the SPD is a major element leading to SSCD. This progress continues to suggest that a late November 2013 SSCD may still be achievable. It should be noted that once DTP declares it has achieved SSCD, MWAA has fifteen days to determine if SSCD can reasonably be granted.

MWAA continues to carefully analyze the schedule and continues to hold DTP accountable for changes made to the agreed upon schedule.

The following table compares the milestone dates relative to the approved baseline schedule.

| MILESTONE | June 2008 Baseline Schedule | December 2010 RECOVERY SCHEDULE | August 2013 | September 2013 |
|--|-----------------------------------|---------------------------------------|-----------------------|-----------------------|
| Receipt of FFGA | 03/03/09 | 03/10/09 ^A | 03/10/09 ^A | 03/10/09 ^A |
| Station Design Complete | 10/21/09 | 02/18/11 | 10/28/11 ^A | 10/28/11 ^A |
| Utility Relocation Complete | 03/05/10 | 09/13/11 | 01/31/12 ^A | 01/31/12 ^A |
| Aerial and Station Foundations Complete | 3/4/11 | 09/01/11 | 07/23/11 ^A | 07/23/11 ^A |
| NATM Tunnels Mined | 01/29/11 | 12/03/10 ^A | 12/03/10 ^A | 12/03/10 ^A |
| K-Line Track Tie-In | 12/23/11 | 03/28/12 | 10/14/11 ^A | 10/14/11 ^A |
| Guideway Complete | 2/12/12 | 09/13/12 | 11/26/12 ^A | 11/26/12 ^A |
| Train Control Installation Complete | 10/26/12 | 10/29/12 | 02/03/13 ^A | 02/03/13 ^A |
| Systems Testing Complete - Tysons East Station | 07/24/12 | 02/21/13 | 08/26/13 | 09/25/13 |
| Systems Testing Complete - Wiehle Ave Station | 08/13/12 | 01/16/13 | 08/26/13 | 09/25/13 |
| Systems Testing Complete - Central 7 Station | 01/23/13 | 04/12/13 | 09/06/13 | 10/02/13 |
| Systems Testing Complete - Tysons West Station | 02/21/13 | 05/14/13 | 09/16/13 | 10/03/13 |
| Systems Testing Complete - Tysons 123 Station | 12/20/12 | 03/28/13 | 09/10/13 | 10/08/13 |
| Substantial Completion Date (SSCD) | 07/31/13 | 07/31/13 | 11/19/13 | 11/26/13 |
| Completion – WFCY | NA | N/A * | 01/03/14 | 01/03/14 |
| Revenue Service Date (RSD) – Target | 11/27/13 | 01/02/14 | 03/17/14** | 02/24/14** |
| FFGA Revenue Operations | 12/01/14 | 12/01/14 | 12/01/14 | 12/01/14 |

^A Actual Date. See narrative in section D.1.3. *Agreed Target Date is 12/20/13.

** This date represents a projected RSD based on DTP's projected SSCD.

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

- Availability of outages for K-Line systems testing.
- DTP's implementation of the SPD.
- ATC Level F testing.
- WFCY completion of construction and testing.
- Completion of the O&M manuals and training.
- Completion of the SCIL submittal.

b. Important Activities – 90-Day Look Ahead

- K98 ATC Phase 12 circuits cutover.

- Complete ATC Test Program.
- Complete systems installation and testing.
- Complete SCADA Testing *punch list and ARINC final software builds.*
- *Complete Systems Performance Demonstration.*
- Complete the stray current final test report for the existing piers 3-IB and 5-IB.
- Complete the *one* remaining property acquisitions.
- *Complete the punch list.*
- *Achieve SSCD, ORD and possibly RSD*

5. Project Cost

The SCC Budget and Expenditures summary for the period ending *September 25, 2013* is shown below. Overall, approximately *80.3%* of the budget has been expended.

Project Cost Summary by SCC Code – September 2013

| 10 | Guideway and Track Elements | \$ 621,265,115 | \$ 606,041,432 | \$ 614,540,910 |
|-----|--|----------------|----------------|----------------|
| 20 | Stations | \$ 342,186,402 | \$ 329,341,570 | \$ 348,910,607 |
| 30 | West Falls Church Yard | \$ 74,328,862 | \$ 36,269,571 | \$ 74,138,832 |
| 40 | Site Work & Utility Relocation | \$ 240,329,860 | \$ 215,916,724 | \$ 261,796,342 |
| 50 | Systems | \$ 307,744,800 | \$ 288,728,809 | \$ 304,594,916 |
| 60 | Right of Way Acquisition | \$ 67,631,026 | \$ 56,935,306 | \$ 61,898,912 |
| 70 | Vehicles | \$ 195,352,701 | \$ 76,031,450 | \$ 194,648,939 |
| 80 | Professional Service – FD | \$ 739,966,107 | \$ 795,348,226 | \$ 806,893,021 |
| 90 | Contingency Mgmt. Reserve ² | \$ 115,482,571 | \$ - | \$ 36,864,586 |
| 100 | Finance Charge ³ | \$ 438,184,571 | \$ 121,228,121 | \$ 438,184,571 |
| | | | | |

1. Current budget equals FFGA amount plus change orders CO#001-117, 119-137, 139-149, 151-152, 156-163, Directive Letters 001-050, 052-067, 070, UR-CO-001-039. CO#118 is for betterment. CO#138 is for contract time extension due to weather with no cost impact.

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:

* 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 *from* 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 24 Design-Build Change Orders totaling an estimated \$23.17 million *that are* under evaluation. In addition, there remain 134 Design-Build Potential Change Orders. *MWAA reports that all UR changes have been settled pending final closeout/funding/documentation.*

b. Monthly Cost Report, September 2013 Federal Only

| DESCRIPTION | FFGA AMOUNT (Original) | EXPENDITURE TO DATE ¹ | ESTIMATE TO COMPLETE | ESTIMATE AT COMPLETION | PERCENT OF EAC EXPENDED TO DATE |
|---|---------------------------|-------------------------------------|-------------------------|---------------------------|------------------------------------|
| FEDERAL (FFGA SCOPE) | | | | | |
| Design-Build | | | | | |
| Firm Fixed Price | \$ 1,112,052,173 | \$ 1,732,217,598 | \$ 49,487,220 | \$ 1,781,704,818 | |
| Firm Fixed Price Insurance and Bonds | \$ 65,109,408 | \$ 75,705,712 | \$ 322,912 | \$ 76,028,624 | |
| Firm Fixed Price Subtotal | \$ 1,177,161,581 | \$ 1,807,923,310 | \$ 49,810,132 | \$ 1,857,733,442 | |
| Subcontract Allowance | \$ 430,199,817 | \$ - | \$ 3,471,851 | \$ 3,471,851 | |
| Design-Build Contract Prices | \$ 1,607,361,398 | \$ 1,807,923,310 | \$ 53,281,983 | \$ 1,861,205,293 | |
| Indexed Commodity Escalation ⁵ | \$ 77,469,926 | \$ - | \$ 17,428,387 | \$ 17,428,387 | |
| Design-Build Contract Total | \$ 1,684,831,325 | \$ 1,807,923,310 | \$ 70,710,370 | \$ 1,878,633,680 | 96% |
| Utility Relocation | | | | | |
| Utility Work | \$ 84,312,807 | \$ 95,345,729 | \$ 6,495,605 | \$ 101,841,335 | |
| Terf Tax | \$ - | \$ - | \$ 0 | \$ 0 | |
| Project Management and Final Design | \$ 8,423,426 | \$ 25,592,940 | \$ 148,276 | \$ 25,741,216 | |
| Utility Relocation Total | \$ 92,736,233 | \$ 120,938,669 | \$ 6,643,882 | \$ 127,582,551 | 95% |
| Right of Way | | | | | |
| Right Of Way Total | \$ 42,443,132 | \$ 57,269,509 | \$ 5,254,403 | \$ 62,523,912 | 92% |
| WMATA Agreement | | | | | |
| Vehicles | \$ 195,138,329 | \$ 76,031,450 | \$ 118,617,489 | \$ 194,648,939 | |
| Construction and Procurement | \$ 31,484,799 | \$ 14,467,475 | \$ 13,630,642 | \$ 28,098,117 | |
| WMATA Force Account Startup | \$ 13,777,100 | \$ 10,682,751 | \$ 2,722,270 | \$ 13,405,021 | |
| Project Management and Final Design | \$ 31,235,400 | \$ 30,416,675 | \$ 5,066,877 | \$ 35,483,552 | |
| WMATA Agreement Total | \$ 271,635,628 | \$ 131,598,350 | \$ 140,037,278 | \$ 271,635,628 | 48% |
| Preliminary Engineering^{2,3} | | | | | |
| Preliminary Engineering Total | \$ 100,968,646 | \$ 100,730,999 | \$ - | \$ 100,730,999 | 100% |
| Airports Authority Services | | | | | |
| General Conditions ⁴ | \$ 28,879,153 | \$ 11,656,023 | \$ 18,394,755 | \$ 30,050,778 | |
| Airports Authority Project Management and Wiehle Ave Garage | \$ 23,225,717 | \$ 36,531,240 | \$ 4,133,116 | \$ 40,664,357 | |
| Project Management Support | \$ 90,004,649 | \$ 137,964,987 | \$ 17,635,585 | \$ 155,600,572 | |
| Airports Authority Services Total | \$ 142,109,519 | \$ 186,152,250 | \$ 40,163,456 | \$ 226,315,707 | 82% |
| Contingency⁵ | | | | | |
| Contingency Total | \$ 297,762,579 | \$ - | \$ 36,864,586 | \$ 36,864,586 | |
| Finance Costs⁶ | | | | | |
| Finance Costs Total | \$ 509,984,571 | \$ 121,228,121 | \$ 316,956,450 | \$ 438,184,571 | |
| Total Federal (FFGA Scope) | \$ 3,142,471,635 | \$ 2,525,841,209 | \$ 616,630,426 | \$ 3,142,471,635 | 90%⁷ |

1 Reflects Paid costs through September 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

7 This percentage does not include Finance Costs and Contingency.

General Comments:

* 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. Sources of Capital Funding, September 2013

| SOURCES OF CAPITAL FUNDING | GRANT ID | PERCENT AT COMPLETE | TOTAL | EXPENDED TO DATE ¹ | PERCENT FUND SOURCE EXPENDED TO DATE | REMAINING |
|--|---------------|---------------------|-------------------------|-------------------------------|--------------------------------------|-----------------------|
| Sec 5309 New Starts Federal Funds | | | | | | |
| 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 ^{2,5} | VA-03-0113-06 | | \$ 90,730,505 | \$ 83,035,318 | 92% | \$ 7,695,187 |
| FFGA Balance | Planned | | \$ 198,155,131 | \$ - | 0% | \$ 198,155,131 |
| Subtotal - New Starts | | 28.64% | \$ 900,000,000 | \$ 694,149,682 | 77.13% | \$ 205,850,318 |
| Other Federal Funds | | | | | | |
| 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% | \$ - |
| STP/Sec. 5307 | | 2.39% | \$ 75,000,000 | \$ 75,000,000 | 100% | \$ - |
| Local Funds | | | | | | |
| VTA 2000 | | | \$ 51,700,000 | \$ 51,700,000 | 100% | \$ - |
| Commonwealth Transportation Bonds ² | | | \$ 125,000,000 | \$ 125,000,000 | 100% | \$ - |
| Fairfax County Funds ³ | | | \$ 523,750,000 | \$ 414,375,241 | 79% | \$ 109,374,759 |
| Dulles Toll Road Revenues ^{2,4,5} | | | \$ 1,467,021,634 | \$ 1,320,206,628 | 90% | \$ 146,815,006 |
| Subtotal - Local Funds | | 68.97% | \$ 2,167,471,634 | \$ 1,911,281,869 | 88.18% | \$ 256,189,765 |
| | | TOTAL | \$ 3,142,471,634 | \$ 2,680,431,551 | 85.30% | \$ 462,040,083 |

1 Reflects costs through *September 30, 2013*

2 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.

3 Includes Tax District Revenues (\$400 million) plus actual debt service payments.

4 Includes pay-as-you-go revenues and bond proceeds

5 Expenditures include accruals.

6 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. In a letter dated June 27, 2013, the FTA and PMOC concurred with the proposed March 29, 2013, Top Ten Risks List as submitted by the Airports Authority on April 30, 2013. In response to FTA's request, the Airports Authority is evaluating the Risk Register and Top Ten Risks List continually and updating them on a quarterly basis. The table below lists the Top Ten Risks updated as of the end of Q1 2013. The Project team updated the Risk Register and the Top Ten Risks List at the end of Q2 2013 and submitted the documents for FTA/PMOC's review in July 2013.

- a. **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 *September 25, 2013*, MWAA reports that it has utilized \$332,709,838 of the \$361,800,000 available contingency for the first ten contingency milestones leaving a balance of \$29,090,162. 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 *September 25, 2013*, the project has an estimated balance at project completion of \$36,864,586. 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 (24) Change Orders under evaluation, and a large number of Potential Change Orders (134).

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 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. MWAA submitted Letter No. 07998 dated February 26, 2013 and Letter No. 08631 dated July 11, 2013 with changes requiring funding from contingency for the 4th Quarter of 2012 and 1st Quarter of 2013 for FTA review and approval. The total for these changes associated with the re-introduction of Traction Power Substations #7 and # 9 is \$9.3 million and \$7.3 million, respectively. PMOC recommended that FTA concur in these CNPAs on August 5, 2013. Subsequently, MWAA submitted their CNPA list for the 2nd Quarter of 2013 on September 26, 2013. On October 7, 2013, PMOC requested additional information relative to three items on the proposed listing.

- b. 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 *September 2013*, MWAA has granted DTP time extensions of 40 calendar days reducing the available contingency from 510 to 470 calendar days. The currently approved contractual SSCD is September 9, 2013.
- c. 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 are the MWAA proposed Top Ten Risks dated March 29, 2013 and submitted on April 30, 2013, and approved by FTA on June 27, 2013.

Summary Status of the Top Ten Project Risks, October 2013

| RISK NUMBER | RISK DESCRIPTION | RISK STATUS | | | |
|-------------|---|---------------------------------|-----------|--------------------------------|------------------|
| | | SINCE INCLUSION ON TOP TEN LIST | | <i>Since April 2013 Update</i> | |
| | | COST | SCHEDULE | COST | SCHEDULE |
| 70.R.27 | Delay in new RC-7000 vehicle (railcar) delivery. | Unchanged | Unchanged | Unchanged | Unchanged |
| 10.C.21 | Availability of track access for DTP to complete the K-Line connection work. <i>Currently the primary challenge relates to the resolution of ATC problems and rework.</i> | Unchanged | Unchanged | Unchanged | <i>Unchanged</i> |
| 80.C.20 | WMATA deliverables scope of work – including technical support may exceed the schedule and therefore the budget. | Unchanged | Unchanged | Unchanged | Unchanged |
| 30.C.39 | Construction issues (WFC Yard delayed construction which affects opening of the system). West Falls Church Yard Construction issues delaying construction completion. | Decreased | Decreased | Unchanged | Unchanged |
| 50.S.2 | WMATA required points of testing for acceptance. (Supervisory Control and Data Acquisition (SCADA) Testing Required Points) | Decreased | Decreased | <i>Decreased</i> | <i>Decreased</i> |
| 20.C.40 | Delay in Station Finishes (Platform Granite Edge, Platform & Mezzanine Paving Tile, Ceilings and Ceiling Lighting) | Unchanged | Unchanged | Decreased | Decreased |

| | | | | | |
|---------|---|-----------|-----------|------------------|------------------|
| 50.S.34 | 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.) | Unchanged | Unchanged | <i>Decreased</i> | <i>Decreased</i> |
| 70.S.1 | Insufficient number of Rail Cars for Safe Braking Dynamic Testing | Unchanged | Unchanged | <i>Decreased</i> | <i>Decreased</i> |
| 50.C.41 | Completion of the installation of the upgrade for the new (Proposed) communication center at WMATA's Carmen Turner Building. | Unchanged | Unchanged | <i>Decreased</i> | <i>Decreased</i> |
| 20.C.45 | Construction not in accordance with permitted design documents. | Unchanged | Unchanged | Unchanged | <i>Decreased</i> |

7. Action Items

MWAA – DULLES CORRIDOR METRORAIL PROJECT - Items for Grantee Action

| PR | ITEM | IDENTIFICATION | NATURE of PROBLEM | D | A | I | COMMENTS | STATUS |
|----|-------|--|--|---|---|---|---|--------|
| 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. | Y | Y | N | Information for roadmap was requested by February 28, 2013. 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. However, this date has not been met. WMATA submitted Rail Activation Plan, Revision 3.0 dated July 31, 2013 on August 9, 2013 which is under review. MWAA submitted an updated roadmap at the November 6 th Update Meeting. Some WMATA dates are still lacking. | R |
| 2 | 2B.03 | Transfer the value of CNPAs out of the federal portion and add to contingency as they arise | MWAA submitted Letter No.07998 dated February 26, 2013 with CNPA items for FTA review and approval for the 4 th Quarter 2012. MWAA also submitted Letter No. 08631 dated July 11, 2013 CNPAs for the 1 st Quarter of 2013 for FTA review and approval. | Y | Y | Y | FTA approved the proposed CNPAs on September 25, 2013. | C |

KEY ITEM

Subtask 2A

Subtask 2B

LEGEND

PRIORITY (PR)

1- Most Critical

2- Critical

3- Least Critical

CLIN 0002A – PMP Review

CLIN 0002 – On-Site Monitoring

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

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 |
| AEMS | Automated Energy Management System |
| AIMS | Advanced Information Management System |
| 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 |
| FAI | First Article Inspection |
| 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) |

| | |
|--------------|--|
| KRC | Kawasaki Rail Car, Inc. (Yonkers, NY) |
| 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 | Point Assignment Charts |
| 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 |
| <i>SITCC</i> | <i>Startup Integration Testing Conformance Checklist</i> |
| 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: *December 2, 2013* (reporting current through *October 2013* - Financials through *September 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.

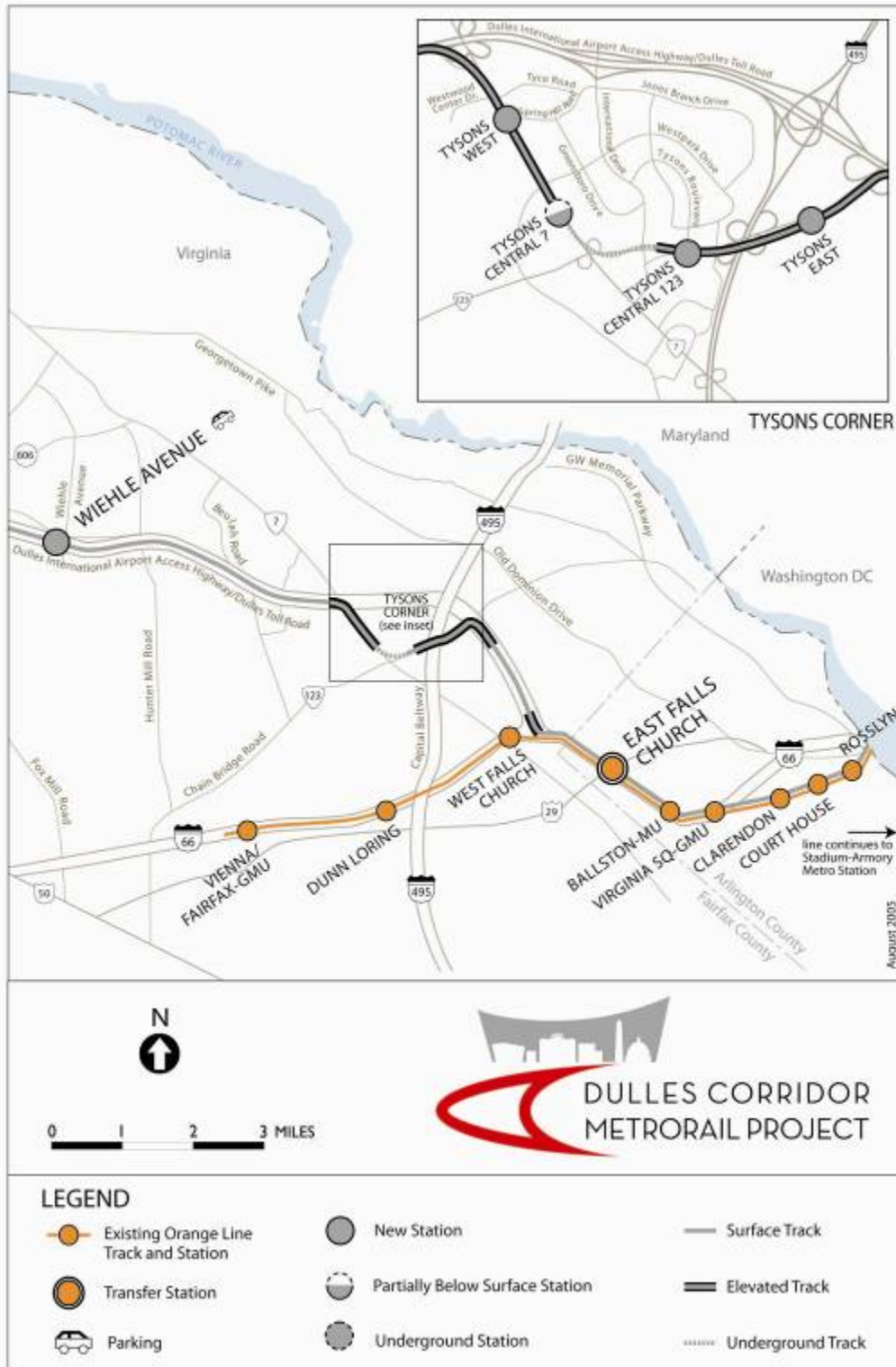
Schedule

| | | | |
|----------|--|----------|----------------------------------|
| 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 |
| 02/24/14 | Revenue Service Date (RSD) <i>per</i> DTP's SSCD Update of <i>September 25, 2013</i> . | | |
| 98.0% | Percent Complete Construction <i>as of October 31, 2013</i> . | | |
| 80.9% | Percent Complete Time based on RSD of December 1, 2014 (based on FFGA) | | |
| 92.3% | MWAA's Estimate of Project Earned Value through <i>September 2013</i> | | |

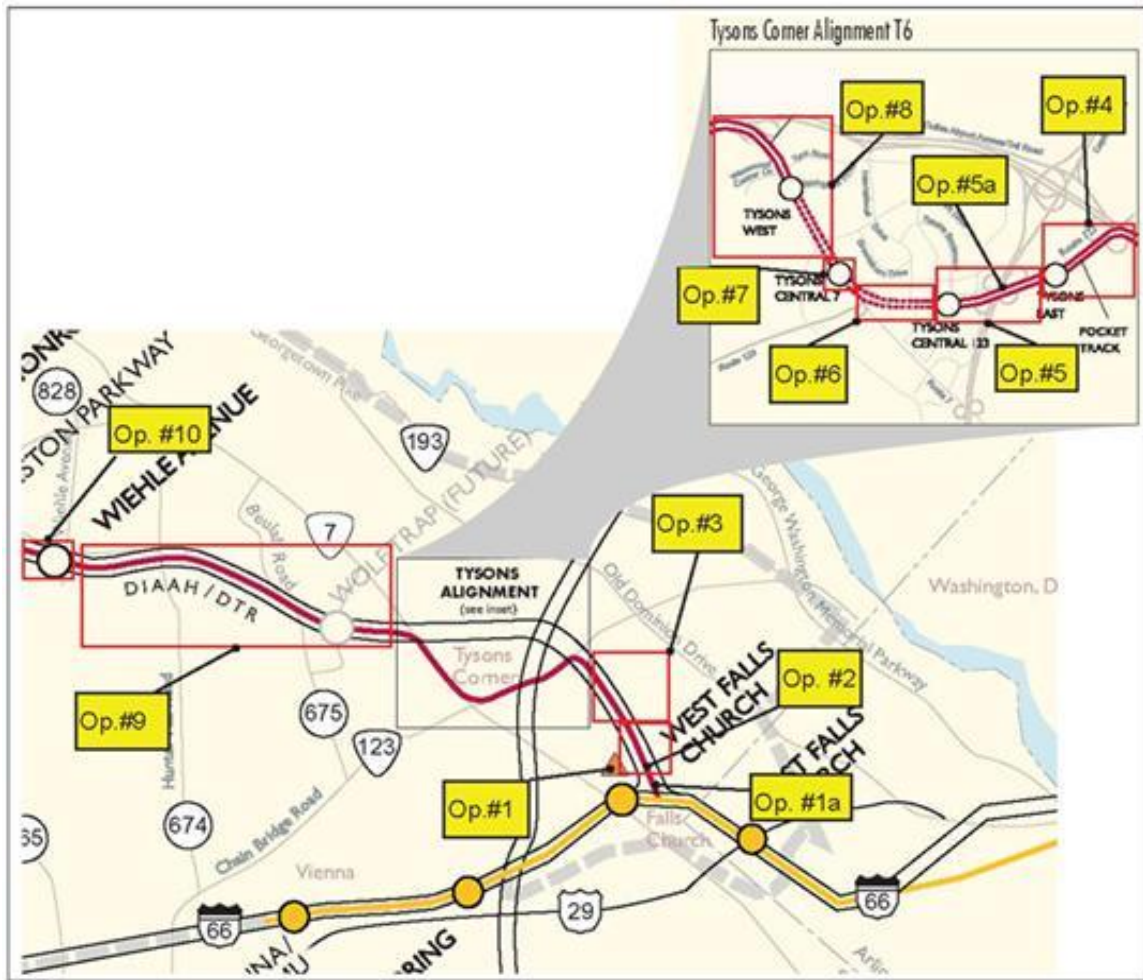
Cost

| | |
|-----------------|---|
| \$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 |
| \$2.525 billion | Expenditures through <i>September 2013</i> from total project budget of \$3.142B |
| 90% | Percent complete based on federal expenditures. |
| \$36.86 million | Total project contingency remaining (allocated and unallocated) through <i>September 2013</i> . |

Project Map



Construction Operational Areas



APPENDIX C – MWAA SAFETY AND SECURITY CHECKLIST

| | | | |
|--|--|----------------------|---|
| Project Overview | Dulles Corridor Metrorail Project | | |
| 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 | | |
| Project Plans | Version | Review By FTA | Status |
| 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 | | WMATA's SSPP is effective January 2013 |
| System Security Plan or Security and Emergency Preparedness Plan (SEPP) | | | WMATA's SEPP is effective March 2012 |
| Construction Safety and Security Plan | | | Addressed in PMP |

| Safety and Security Authority | Y/N | Notes/Status |
|--|------------|--|
| 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 2013 was approved by TOC |
| 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 and/or its contractor (TRA) routinely attend the quarterly meetings, including the most recent on September 11, 2013. |
| Has the grantee submitted its safety certification plan to the oversight agency? | N | SSCPP has been developed and distributed to stakeholders |
| Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration? | N | WMATA will be operator. |

| SSMP Monitoring | Y/N | Notes/Status |
|---|------------|--|
| 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 | Silver line currently has several active committees, including the weekly start-up committee (Tuesdays), monthly safety and security working group (3 rd Thursday), and biweekly rail activation committee (Friday) |

| | | |
|---|---|--|
| Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted. | N | Gannett Fleming conducted a PHA dated 5/10/2013 for the project. A TVA, conducted by Volpe, was completed and is on file at WMATA MPTD headquarters. |
| 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 | The integrated test plan was developed and approved by WMATA on 3/15/2013. |
| 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 | |

| Construction Safety | Y/N | Notes/Status |
|---|------------|--|
| 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 509 first aid cases and eight lost time cases in <i>13.981 million</i> 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 | |

| Federal Railroad Administration | Y/N | Notes/Status |
|--|------------|---|
| 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]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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