

COMPREHENSIVE MONTHLY REPORT

February 2014

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

March 27, 2014

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 *March 6, 2014* to conduct a monthly progress meeting for work performed in *February 2014*. 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 *first and second* weeks of *March 2014*. Future PMOC monthly progress meetings are planned to occur during the first week of each month. The next monthly progress meeting is scheduled for *April 8, 2014*.

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) 2014, Congress has appropriated \$797,844,869 in Section 5309 New Starts funds for the Project with the addition of the *FY14* New Starts Appropriation of *\$96,000,000*. 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 *March 6, 2014* to conduct a monthly progress review meeting and MWAA provided supplemental information the following week. The status of information is as of *February 28, 2014*, unless otherwise noted.

- **Real estate acquisition** kept ahead of construction requirements throughout the duration of construction, often resorting to rights-of-entry (ROE) to gain access to required parcels. All 105 parcel packages *were* finally acquired as of December 2013. MWAA expects to complete the transfer of property to WMATA between SSCD and RSD.
- **Rail Car Procurement** – *The PMOC participated in a teleconference meeting on March 18, 2014 with FTA, MWAA, and WMATA to review the past month’s activities and Kawasaki’s Project Review Meeting (PRM) #42 information package. The PRM #42 meeting was held at Kawasaki’s KMM facilities in Lincoln, NE. Design Qualification Testing (DQT) continues for components and subsystems. The first four production cars (re-assembled prototype cars) are being assembled at KMM. Kawasaki has also started up the serial production “Fabrication*

Line” at KMM. The four Pilot Cars were delivered to WMATA in December 2013, and design qualification testing of the Pilot Cars began at Greenbelt on January 7, 2014. In an attempt to reduce the total measured average weight of the car of 83,143 pounds versus the contract requirement average weight of 82,500 pounds, Kawasaki submitted a proposal involving the coupler, which WMATA is reviewing. The current forecast completion date for the conditional acceptance of the 64th railcar is now March 12, 2015, which is a nearly four-week improvement on the April 8, 2015 date that had been forecast for the past five months. This is three months ahead of the June 12, 2015 contractual completion date. This schedule is based on Kawasaki continuing to manufacture the production cars at-risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. 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 has slipped by eleven days and is now forecast to be August 25, 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 approximately 99% complete. During February the Project continued fit and finish work at stations, pedestrian bridges and pavilions; continued installation and testing of Communications Systems; continued static and dynamic train testing and troubleshooting efforts to resolve various Automatic Train Control (ATC) system issues in all five N-Line test blocks and the K98 K/N Line Junction; continued punch list corrective efforts; continued 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 ATC System.

SILVER LINE CONSTRUCTION PROGRESS THROUGH FEBRUARY 2014			
ELEMENTS	% COMPLETE	STATIONS	% COMPLETE
O-3 (DCR) Trackway	100%	Tysons East	99%
Tysons East Guideway	100%	Tysons Central 123	99%
Tysons West Guideway	100%	Tysons Central 7	99%
O-9 (DIAAH) Trackway	100%	Tysons West	99%
Systems	99%	Wiehle Avenue	99%
Trackwork	100%	Systems Testing	99%

WEST FALLS CHURCH YARD PROGRESS THROUGH FEBRUARY 2014	
ELEMENTS	% COMPLETE
Overall	98%
Sitework	99%
Sound Cover Box	99%
S&I Building	99%
Trackwork	100%
Systems	99%
Testing	60%

- **The DTP Schedule Update** with a data date of *January 25, 2014* showed the Scheduled Substantial Completion Date (SSCD) at *January 31, 2014*. DTP declared SSCD on *February 7, 2014*, and MWAA rejected the declared SSCD on *February 24, 2014*. DTP's forecast SSCD would result in a Revenue Service Date (RSD) of *May 1, 2014*, if the SSCD and Operational Readiness Date (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 *January 25, 2014 on February 12, 2014* indicating that DTP's schedule was again "Not Accepted". MWAA stated that the schedule "*continues to show incorrect sequencing and significantly underestimating durations for critical path activities resulting in inaccurate planned start and finish dates for the remaining critical activities.*"
- **West Falls Church Yard (WFCY)** completion date, DTP's schedule update of *January 25, 2014* reflected a *-94* calendar day variance to the targeted completion date of *December 20, 2013*, resulting in a forecast completion date of *March 24, 2014*. DTP continues to attribute the additional delay to WMATA's changes to the Yard Train Control System, changes to its WFCY Commissioning and Integration Testing Schedule, additional time for the SCB noise study, and *poor* weather.
- **Budget status as of *January 25, 2014*** indicates that *\$2,605,083,352* or 91%, of the *\$3,142,471,635* budget total, has been expended, excluding Finance Cost and Contingency. MWAA reports *\$348,012,987* of the available contingency for the first ten contingency milestones has been drawn down to date, with a balance of *\$13,787,013* available through the tenth of twelve contingency phases. The current estimate of the contingency available at the end of construction is *\$21.56* million. *In the PMOC's opinion, the sufficiency of the remaining contingency should be evaluated by MWAA in light of the PCOs that have not been evaluated with regard to cost and the potential for claims due to the protracted period to attain SSCD.*
- MWAA's estimate of the **Earned Value** for the Project through *January* is *93.1%*.
- **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 *February 2014* is *346*, which is a decrease of *88* from the *January 2014* actual of *434*.** The decrease is as 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	\$21.56M
Schedule	Revenue Service Date	December 1, 2014	<i>June 30, 2014*</i>
Total Project Percent Complete		Based on Expenditures	91%
		Based on Earned Value	93.1%
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. Additional ECN’s were issued <i>to eliminate LSROs and bobbing track circuits detected during the SPD and subsequent trouble shooting efforts. More ECNs are planned in March 2014.</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, which was substantially completed on October 22, 2013. New ECN’s and ATC test data reviews continue to necessitate the scheduling of some retesting and troubleshooting efforts that continue to delay completion of the SSCD <i>and ORD.</i>	
Date of Next Quarterly Meeting:		<i>April 2, 2014</i>	

* DTP declared SSCD on February 7, 2014 and MWAA rejected the SSCD on February 24, 2014. It is anticipated that SSCD will not be achieved until the end of April 2014. WMATA has indicated that they believe that they can complete pre-revenue testing in 60 days rather than the 90 days stipulated in the MWAA/WMATA Agreement. This would result in a RSD at the end of June 2014.

3. PMOC’s Assessment of Project Status

Budget

Through *January 2014*, MWAA has utilized \$348.01 million of contingency resulting in a remaining balance of \$13.78 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 *yields* a grand total balance, as of the end of *January 2014*, of \$21.56 million in contingency estimated to remain at project completion. In the opinion of the PMOC, the Project has adequate contingency.

Schedule

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 *January 25*,

2014 reflected a -143 calendar day variance to the contract schedule indicating a SSCD of *January 31, 2014*. MWAA states in regard to this update that DTP “*continues to show incorrect sequencing and significantly underestimating durations for critical path activities resulting in inaccurate planned start and finish dates for the remaining critical activities.*” DTP declared SSCD on February 7, 2014 and MWAA rejected the declared SSCD on February 24, 2014. Numerous issues with regard to ATC troubleshooting, RTU reliability, track switch gauge, and punch list completion remain as issues that may prevent achievement of SSCD and ORD until late April 2014.

During February 2014, 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. These meetings are continuing through March dealing with the same test data reviews and other ATC related troubleshooting and ECN related matters.

It is the PMOC’s opinion that the Alstom QA/QC and document control/configuration issues continue to have a detrimental impact to the contractual SSCD that is not likely to be approved before late April 2014. The full impact on the schedule cannot yet be determined until all ATC testing, systems integration and RTU function issues have been resolved and associated retesting efforts have been accomplished.

Notwithstanding the schedule disagreements, DTP/Alstom, with the continued cooperation of MWAA and WMATA, continues to progress the ATC and RTU troubleshooting and corrective action efforts. **However, Alstom asserts to DTP that it has already met the contractually-specified requirements and that the remaining issues related to train cab Loss of Speed Readouts (LSRO) are attributable to either train-borne issues or are incompatible with WMATA train and Project ATC specifications.** MWAA’s letter of February 5, 2014 notified DTP that the LSRO problems must be corrected as soon as possible. *Related ECNs were reviewed and approved and installed in February and more are due to be submitted and reviewed in March.* The Systems Performance Demonstration (SPD) was conducted on January 25 and 26, 2014 with discrepancies *that have still not been corrected.*

When DTP finally achieves an approved SSCD, WMATA will likely accept an ORD within days of the SSCD approval. In the PMOC’s opinion, MWAA will not approve a SSCD until agreement with WMATA to declare an ORD has been achieved. Based on DTP’s forecast of SSCD, the RSD would be delayed to *early May 2014*. *However, more recent projections suggest an SSCD cannot be achieved until late April 2014. If WMATA were to take the three month duration following ORD prescribed in the WMATA/MWAA Cooperative Agreement for simulated operations and familiarization with the facilities and equipment, then RSD could conceivably extend to late July 2014 or early August 2014.* However, WMATA maintains a measure of flexibility with its pre-revenue operation activities and durations that could improve this projection. *WMATA has indicated that may accomplish the pre-revenue operation activities within sixty days which would have RSD at the end of June 2014.* It remains the PMOC’s opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014.

West Falls Church Yard

DTP has incorporated the West Falls Church Yard construction into the mitigation schedule with a target completion date of December 20, 2013. DTP’s January 25, 2014 schedule update reflected a -94 calendar day variance to the targeted completion date of December 20, 2013, resulting in a forecast completion date of *March 24, 2014*. It is the PMOC’s opinion that, with the continued

cooperation of WMATA and the coordination provided by MWAA, the West Falls Church Yard work can be completed in *late April* 2014 to a degree that can support WMATA's ORD operations.

Rail Cars

Kawasaki continues to project the conditional acceptance of the 64th rail car several months prior to the contractual date of June 12, 2015. 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 in March 2015.

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. Mr. Kerrigan then retired in December 2013 and the Project is now seeking a replacement who will also serve Phase 2. Mr. Bob Whedon is the acting Manager of Project QA/QC and Safety in the interim. 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 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 *January 25, 2014*. In this update, DTP reported a possible loss of *144* calendar days to the SSCD forecasted by DTP to occur on *January 31, 2014 but did not occur*. DTP declared SSCD on February 7, 2014 and MWAA reviewed and rejected the declaration on February 24, 2014. The WFCY *January 2014* schedule update reflected a *-94* calendar day variance to the target date of December 20, 2013, which yields a forecast WFCY completion date of *March 24, 2014*. MWAA completed its schedule review of the schedule updates with a data date of *January 25, 2014* on *February 12, 2014* indicating that the schedule *was again "Not Accepted."* MWAA stated that the schedule *"continues to show incorrect sequencing and significantly underestimating durations for critical path activities resulting in inaccurate planned start and finish dates for the remaining critical activities."* See Section 4.a for additional information.
- MWAA continues to monitor expenditures to date and to update the estimate at completion. Through *January 2014*, MWAA has utilized \$348.01 million of contingency resulting in a remaining balance of \$13.78 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 *January 2014*, contingency estimated to remain at project completion is \$21.56 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. (See Section 1f. below)

Through *February 2014*, there have been a cumulative total of *14,393,791* hours worked with eight lost time cases. This remains well below the national average for heavy and civil engineering construction. (The most recent Department of Labor (DOL) statistics are for 2011. Those statistics indicate 5.85 injuries per 100 full time employees. The DTP rate translates to less than 0.56 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 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 4th quarter of 2013 on January 30, 2014.

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 February 2014, Alstom, DTP, WMATA and MWAA continued to conduct weekly Table Top Review Meetings and various other specially scheduled meetings to re-review test procedures, software changes and field test data. The Project completed the re-review of field test procedures in July 2013 and completed the associated field static retesting. **DTP/Alstom, with the continued cooperation of MWAA and WMATA, continues to grapple with continued unanticipated troubleshooting efforts and necessary ECNs and associated retesting efforts.** The SPD was conducted on January 25 and 26, 2014 with yet unresolved discrepancies. DTP declared SSCD on February 7, 2014 and MWAA *rejected the declaration on February 24, 2014 in accordance with Article 17.4 of the Design-Build (DB) Contract.* When DTP achieves SSCD, it is anticipated that WMATA will likely accept an ORD within days of MWAA's approval. Based on DTP's forecast of SSCD, the RSD would be delayed to *early May 2014. However, more recent projections suggest the SSCD cannot be achieved until late April 2014. If WMATA were to take the three month duration following ORD prescribed in the WMATA/MWAA Cooperative Agreement for simulated operations and familiarization with the facilities and equipment, then RSD could conceivably extend to late July 2014 or early August**

2014. However, WMATA maintains a measure of flexibility with its pre-revenue operations activities and durations that could improve this projection. *WMATA has indicated that may accomplish the pre-revenue operation activities within sixty days which would have RSD at the end of June 2014.* It remains the PMOC's opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014.

MWAA reported during the April 9, 2013 monthly update meeting that utility relocation is 100% complete. During the *March 6, 2014* monthly update meeting, MWAA reported that DB construction remained approximately 99% complete.

The following are the major accomplishments of the DB contractor during *February 2014*:

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

West Falls Church Yard (WFCY) – S&I Shop: the Vertical Reciprocating Carrier has been completed and the 20,000 pound load test and operational testing was successfully completed; punch list work continues; and road and curbing work continues. Sound Cover Box: Exterior and interior finish work continues; noise testing was completed; WFCY road work continues.

Systems Work

- **K&N Junction**

Installation of ECNs and trouble shooting for LSROs and bobbing track circuits continues; inspected and marked damaged clamps at all connections to rail at WZ bonds and sub-station returns was completed throughout the Project with 404 clamps found to be damaged.

- **Fisher Avenue K98 TCR**

Continued removal of abandoned cabling leftover from the cutover; pre/post shunt testing was conducted between Baldwin and K98; and performed heat trace testing on contact rail.

- **TPSS #1 (Plainfield St. – N91)**

Performed pre/post shunt testing between Baldwin and K98; performed heat trace testing on contact rail; and generator quick connects wiring was verified and tested for proper phase rotation.

- **TBS #2 (Baldwin Drive – N92)**

Performed pre/post shunt testing between Baldwin and K98; performed heat trace testing on contact rail; and generator quick connects wiring was verified and tested for proper phase rotation.

- **TPSS #2 (Baldwin – N92)**

Performed generator quick connects wiring verification and tested for proper phase rotation.

- **Operations Area OP-4/5A (Tysons East Guideway and Tysons East Station)**
In the station – Continued installation of station finish work and punch list corrective work.

Systems Work

- **TBS #3 (Tysons East – N01)**
Performed heat trace testing on contact rail.
- **TPSS #3 (Tysons East Station – N01)**
Conducted retesting of discrepancies from original Series 26.1 testing; conducted pre/post shunt tests between N01 and Baldwin and between N02 and N01; conducted station stopping and auto door operations tests following bond relocations; and successfully retested edge lighting; and performed heat trace testing on contact rail.
- **Operations Area OP-5 (Tysons Central 123 Station)**
Continued installation of station finish work; contractor has milling and final paving on Route 123 yet to be accomplished.

Systems Work

- **TPSS #4 (Tysons 123 – N02)**
Performed station stopping and auto door operations tests following bond relocations; conducted pre/post shunt tests; successfully retested edge lighting; and performed heat trace testing on contact rail; and conducted retesting of discrepancies from original Series 26.1 testing.
- **Operations Area OP-7 (Tysons Central 7 Station)**
Continued station, pedestrian bridges and pavilions finish installations and punch list work; and continue sidewalk and street light work along Route 7.

Systems Work

- **TPSS #5 (Tysons Central 7 – N03)**
Performed station stopping and auto door operations tests following bond relocations; conducted pre/post shunt tests; successfully retested edge lighting; and performed heat trace testing on contact rail.
- **Operations Area OP-8 (Tysons West Station/Guideway)**
In the station and pavilion – continued installing various station finishes; and continue various punch list work.

Systems Work

- **TPSS #6 (Tysons West Station – N04)**
Performed station stopping and auto door operations tests following bond relocations; conducted pre/post shunt tests; successfully retested edge lighting; and performed heat trace testing on contact rail.
- **OP-9 (DIAAH)**

Systems Work

- **TPSS #7 (Wolf Trap – N05)**
Performed heat trace testing on contact rail.
 - **TPSS #8 (Chathams Ford – N93)**
Performed heat trace testing on contact rail.
 - **TPSS #9 (Hunter Mill – N94)**
Performed heat trace testing on contact rail.
 - **TPSS #10 (Sunset Hills – N95)**
Performed heat trace testing on contact rail.
 - **Wiehle TCR/N06 Area of Control**
Performed heat trace testing on contact rail.
- **Operations Area OP-10 (Wiehle Avenue Station/Laydown Area 13)**
Continued various punch list work and station finishes.

c. Real Estate

Real Estate Acquisition kept ahead of construction requirements throughout the Project duration, resorting to Right of Entry (ROE) to gain access to required parcels. In December 2013, MWAA had acquired all of the 105 parcels required for the Project.

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 a writ panel of the Virginia State Supreme Court heard the appeal argument in December 2013 and decided in January 2014 not to hear the appeal. The landowner has asked the full Court to review that decision, but MWAA expects the verdict to stand. It may take until mid-2014 for that finding to be issued. In the meantime, interest continues to accrue on the judgment amount due the Project.

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. *During February, the previously outstanding issues were resolved with the easement deeds. One new issue remains to be resolved among the parties with an exhibit. Once that is resolved the documents will be submitted for signatures.*

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	26	25	0
Easements on Public ROW	3	3	3	3	3	1	0	0
Maintenance Documents	3	3	3	3	3	1	1	1

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 believed 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 PMOC participated in a teleconference meeting held on March 18, 2014 with FTA, MWAA, and WMATA to review the past month's activities and Kawasaki's Project Review Meeting (PRM) #42 information package. The PRM #42 meeting was held at Kawasaki's KMM facilities in Lincoln, NE. Design Qualification Testing (DQT) continues for components and subsystems. The first four production cars (re-assembled prototype cars) are being assembled at KMM. The serial production "Fabrication Line" at KMM has also started up. The four Pilot Cars were delivered to WMATA in December 2013, and design qualification testing of the Pilot Cars began at Greenbelt on January 7, 2014. The total measured average weight of the car remains

at 83,143 pounds versus the contract requirement average weight of 82,500 pounds. *Kawasaki has submitted a weight- saving proposal involving the coupler to WMATA, which is under review by the Authority.* The current forecast completion date for the conditional acceptance of the 64th railcar is now March 12, 2015, which is a nearly four-week improvement on the April 8, 2015 date that has been forecast for the past five months. This is three months ahead of the June 12, 2015 contractual completion date. This schedule is based on Kawasaki continuing to manufacture the *production* cars at risk and seeking to ramp up to a sixteen railcar per month production rate more quickly than originally anticipated. 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 *has slipped by eleven days and is now forecast to be August 25, 2014.*

- **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.

Below is a table of the key milestones for this railcar procurement (as of March 13, 2014).

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	3/21/14
16	Completion and Approval of Pilot Car Production Activities (MS 7b)	2/20/14	2/20/14	3/21/14
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	3/21/14
19	Completion of Pilot Car Testing at KMM	10/17/13	10/2/13	12/11/13A
20	Completion of Prototype Car Review (Prior to Ship out from Japan)	5/14/13	10/4/13	11/22/13A
21	Completion of Pilot Car FAI (MS 7c)	10/21/13	10/3/13	8/8/14
22	Ship out of Prototype cars from Japan to USA	6/15/13	11/7/13	11/23/13,12/12/13A
23	Completion and Approval of FAI Activities (MS 6e)	12/11/13	12/12/13	3/21/14
24	Shipment of first 4 Pilot Cars to WMATA from KMM	2/20/14	2/20/14	12/13-20/13A
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	8/25/14
28	Conditional Acceptance of first 4 Production Cars	8/14/14	8/14/14	8/25/14
29	Completion of On-site Test (After Burn-In)	2/19/15	2/19/15	2/27/15
30	Conditional Acceptance of 64th Production Car	6/12/15	6/12/15	3/12/15

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

f. Safety and Quality Status

MWAA participated in *two* safety walk downs with DTP during the month of *February*. As of *February 28, 2014*, DTP had logged *14.393* million project man-hours, with *518* first aid cases and *8* lost time cases. There have been a total of *1,184* incident investigation reports, *95* utility hits, and *55* 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 result in a rate of less than *0.56* injuries per 100 full time employees.

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 with the exception of the DCC that is now completed.

Safety and Security Conformance Checklists^{1,2} (excluding n/a)

Total # of Items	Verified in Design (DCC)		Verified in Construction (CCC)		Verified in Startup and Testing (SITCC)	
6,172	5,042		4,604		900	
DTP Signed	5,042	100%	4,587	99.6%	871	96.8%
MWAA Accepted	5,042	100%	3,914 ³	85.0%	603 ⁵	67.0%
WMATA Audited	5,042	100%	3,128 ⁴	67.9%	256 ⁶	28.4%

1 Checklists are exclusive of WFCY (K99)

2 Reflects DTP’s Design, Construction, and Testing Verifications submittals through 2/28/2014

3 Reflects MWAA’s acceptance through CCC #10 (02/21/14)

4 Reflects WMATA’s concurrence through CCC #8

5 Reflects MWAA’s acceptance through SITCC #4 (02/14/2014)

6 Reflects WMATA concurrence through SITCC #2

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 *February 18, 2014*. The next SCWG Meeting is scheduled for *March 18, 2014*.

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.

- **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 *was conducted on November 15, 2013 to address* comments and questions. RCC submitted the Final Report on November 22, 2013. MWAA wrote Letter No. 09350 dated November 26, 2013 and requested WMATA’s concurrence with the periodic testing and cross tie replacement recommendations. WMATA responded with Letter No. 343 dated February 4, 2014 indicating that it “took no exceptions to the findings and conclusions” and “will continue to conduct periodic testing.”

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	<i>RCC Final Report submitted to OIG on January 31, 2014</i>
3	Provide documentation to OIG on actions taken on corrosion protection measures installation plan	10 days after action is completed	<i>WMATA letter concurring with RCC Final Report recommendations forwarded to OIG on February 7, 2014.</i>
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 *January 25, 2014* reflects a *-144* calendar day variance resulting in a *January 31, 2014* SSCD that was not met. MWAA completed its schedule review of the schedule update on *February 12, 2014* and notified DTP via MWAA Letter No. 9606 that *DTP's schedule was "Not Accepted."* MWAA stated that the schedule *"continues to show incorrect sequencing and significantly underestimating durations for critical path activities resulting in inaccurate planned start and finish dates for the remaining critical activities."*

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 *April 2014*, due to the continued delay in the submission, approval and regression testing of engineering software changes for the ATC system and the continued discovery of ATC related deficiencies and troubleshooting efforts. Also impacting the SSCD is resolution of SPD discrepancies, punch list completion and the completion of the SCIL and Safety Certification. RSD is also dependent upon the completion of WMATA's schedule associated with the Rail Activation Plan (RAP). *When DTP achieves SSCD, it is anticipated that WMATA will likely accept an ORD within days of the approval. Based on DTP's forecast of SSCD, the RSD would*

be delayed to early May 2014. However, more recent projections suggest an SSCD cannot be achieved until late April 2014. If WMATA were to take the prescribed 90 day duration following ORD, then RSD could conceivably extend to late July 2014 or early August 2014. However, WMATA maintains a measure of flexibility with its pre-revenue operations activities and durations that could improve this projection. It remains the PMOC's opinion that the Project will be in revenue service within the FFGA specified date of December 1, 2014.

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 January 25, 2014

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 *January 25, 2014* reflected a -94 calendar day variance yielding a forecasted completion date of *March 24, 2014*. DTP's schedule update continues to attribute late completion due to the impact of requested weather days not having been approved, and increased durations and added detail for the construction of the sound cover box and WMATA changes to the ATC system. 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 *January 25, 2014* Schedule Update, the Critical Path No.1 has -144 calendar days of float and starts with *performing the SPD and moves to the completion of the final safety/security report and certification, and the path completes with SSCD. MWAA accepted this critical path and believes that the work leading up to SPD and then to SSCD is the most critical on the Project. MWAA did not agree with DTP's assertion attributing the delays to date caused as "MWAA's expanded work" or accepts DTP's schedule forecasts for remaining durations being*

underestimated. DTP's schedule is also missing scope activities for subject requirements to achieve and obtain contractual substantial completion. The PMOC continues to observe ongoing ATC deficiencies and associated trouble shooting efforts as being the largest contributor to the critical path delays leading to resolution of SPD discrepancies and SSCD.

DTP's schedule update with a data date of February 25, 2014 reflects an SSCD of March 21, 2014 and all indications are that the March 25, 2014 schedule update will reflect yet further delays to the SSCD. DTP declared SSCD as February 7, 2014 and MWAA reviewed and then rejected the SSCD declaration on February 24, 2014. The February 25, 2014 schedule has not been analyzed.

DTP continues to fail to acknowledge the impact of Alstom's use of unapproved ECNs and procedures on the schedule and since ECN's continue to be developed. On January 25 and 26, 2014 the SPD was conducted and the six minute headway tests were accepted. **However, numerous other ATC issues were discovered that are still being investigated and discussed in Project Meetings.** It has generally been accepted that a successful completion of the SPD is a major element leading to SSCD. However, there are other requirements that DTP must fulfill under Article 17.4 of the Design-Build (DB) Contract in addition to the SPD before achieving an approvable SSCD and DTP appears to continue to struggle with achieving an acceptable SSCD.

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	December 2013	January 2014
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	10/11/13 ^A	10/11/13 ^A
Systems Testing Complete - Wiehle Ave Station	08/13/12	01/16/13	10/11/13 ^A	10/11/13 ^A
Systems Testing Complete - Central 7 Station	01/23/13	04/12/13	11/01/13 ^A	11/01/13 ^A
Systems Testing Complete - Tysons West Station	02/21/13	05/14/13	10/17/13 ^A	10/17/13 ^A
Systems Testing Complete - Tysons 123 Station	12/20/12	03/28/13	11/14/13 ^A	11/14/13 ^A
Substantial Completion Date (SSCD)	07/31/13	07/31/13	01/07/14	01/31/14
Completion – WFCY	NA	N/A *	03/18/14	03/24/14
Revenue Service Date (RSD) – Target	11/27/13	01/02/14	04/07/14**	05/01/14**
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.

Please note that the above schedule table data represents the last schedule update that has been fully reviewed and analyzed by MWAA but has become obsolete because of DTP's failure to achieve SSCD and the likelihood that it will not be achieved until sometime in April or May 2014.

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

- Completion of the SCIL submittal.
- Station construction completion.
- Completion of WFCY construction and testing.
- WFCY – Installation of RailComm software and completion of testing.
- Completion of the O& M manuals and training.
- Resolution of ATC RTU reliability issues.
- Issuance of Automatic Train Operation (ATO) Certificates.
- Completion of items related to Permit Close out.
- *Reconciliation and acceptance of DTP final Track Alignment Survey.*

b. Important Activities – 90-Day Look Ahead

- Complete ATC Test Program.
- Complete systems installation and testing.
- Complete SCADA Testing punch list and ARINC final software builds.
- Resolve Systems Performance Demonstration discrepancies.
- Complete the punch list.
- Complete the SCIL sign-off and acceptance.
- Achieve SSCD, ORD and possibly RSD

5. Project Cost

The SCC Budget and Expenditures summary for the period ending *January 25, 2013* is shown below. Overall, approximately 82.9% of the budget has been expended.

Project Cost Summary by SCC Code – January 2014

FTA SCC CODE	DESCRIPTION	CURRENT BUDGET ¹	EXPENDED TO DATE	ESTIMATE AT COMPLETION
10	Guideway and Track Elements	\$ 622,145,304	\$ 606,840,195	\$ 615,421,099
20	Stations	\$ 350,889,386	\$ 340,669,636	\$ 357,613,591
30	West Falls Church Yard	\$ 74,328,834	\$ 49,029,236	\$ 74,138,803
40	Site Work & Utility Relocation	\$ 240,995,860	\$ 228,684,253	\$ 262,515,615
50	Systems	\$ 309,120,342	\$ 286,205,315	\$ 305,970,457
60	Right of Way Acquisition	\$ 67,631,026	\$ 57,582,958	\$ 61,898,912
70	Vehicles	\$ 195,352,701	\$ 76,031,450	\$ 194,648,939
80	Professional Service – FD	\$ 743,161,107	\$ 809,566,875	\$ 810,518,211
90	Contingency Mgmt. Reserve ²	\$ 100,662,503	\$ -	\$ 21,561,437
100	Finance Charge ³	\$ 438,184,571	\$ 150,473,435	\$ 438,184,571
Subtotal		\$ 3,142,471,635	\$ 2,605,083,352	\$ 3,142,471,635

1. Current budget equals FFGA amount plus change orders CO#001-117, 119-137, 139-149, 151-153, 156-164, 167-168, 170, 172, 174-181, 183, 185-191, Directive Letters 001-050, 052-068, 070-072, 074, 076-083 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 federal to non-federal as a result CNPA adjustments making a contribution to Federal contingency.

*During October 2013, \$6 million for the 4th Quarter of 2012 and \$5 million for the 1st Quarter of 2013 were transferred from non-federal to federal as a result of CNPA adjustments making additional drawdown from 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 \$40.81 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 \$22.40 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 \$29.38 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 \$27.81 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 \$15.95 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 \$109.05 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 \$25.34 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 \$25.34 million contingency reserve that includes the \$40.3 million in CNPAs is adequate.

MWAA indicates that there are 31 Design-Build Change Orders totaling an estimated \$30.86 million that are under evaluation. In addition, there remain 127 Design-Build Potential Change Orders. MWAA reports that all UR changes have been settled pending final closeout/funding/documentation.

b. Monthly Cost Report, January 2014 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	\$ 1,768,776,265	\$ 27,373,783	\$ 1,796,150,048	
Firm Fixed Price Insurance and Bonds	\$ 65,109,408	\$ 75,692,759	\$ 335,790	\$ 76,028,549	
Firm Fixed Price Subtotal	\$ 1,177,161,581	\$ 1,844,469,024	\$ 27,709,572	\$ 1,872,178,597	
Subcontract Allowance	\$ 430,199,817	\$ -	\$ 3,856,851	\$ 3,856,851	
Design-Build Contract Prices	\$ 1,607,361,398	\$ 1,844,469,024	\$ 31,566,423	\$ 1,876,035,447	
Indexed Commodity Escalation ⁵	\$ 77,469,926	\$ -	\$ 17,138,997	\$ 17,138,997	
Design-Build Contract Total	\$ 1,684,831,325	\$ 1,844,469,024	\$ 48,705,421	\$ 1,893,174,445	97%
Utility Relocation					
Utility Work	\$ 84,312,807	\$ 97,114,374	\$ 5,254,150	\$ 102,368,524	
Terf Tax	\$ -	\$ -	\$ 0	\$ 0	
Project Management and Final Design	\$ 8,423,426	\$ 25,632,528	\$ 343,884	\$ 25,976,412	
Utility Relocation Total	\$ 92,736,233	\$ 122,746,902	\$ 5,598,034	\$ 128,344,936	96%
Right of Way					
Right Of Way Total	\$ 42,443,132	\$ 57,917,160	\$ 4,606,751	\$ 62,523,912	93%
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	\$ 12,985,123	\$ 17,065,654	\$ 30,050,778	
Airports Authority Project Management and Wiehle Ave Garage	\$ 23,225,717	\$ 38,559,538	\$ 1,139,249	\$ 39,698,787	
Project Management Support	\$ 90,004,649	\$ 145,602,821	\$ 10,963,321	\$ 156,566,142	
Airports Authority Services Total	\$ 142,109,519	\$ 197,147,482	\$ 29,168,225	\$ 226,315,707	87%
Contingency⁵					
Contingency Total	\$ 297,762,579	\$ -	\$ 21,561,437	\$ 21,561,437	
Finance Costs⁶					
Finance Costs Total	\$ 509,984,571	\$ 150,473,435	\$ 287,711,136	\$ 438,184,571	
Total Federal (FFGA Scope)	\$ 3,142,471,635	\$ 2,605,083,352	\$ 537,388,282	\$ 3,142,471,635	91% ⁷

1 Reflects Paid costs through January 31, 2014

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 of CNPA adjustments making a contribution to Federal contingency and drawdown from Non Federal contingency

* During October 2013, \$6 million for 4th quarter of 2012 and \$5m for 1st quarter of 2013 were transferred from non-federal to federal as a result of CNPA adjustments making additional drawdown from federal contingency

c. Sources of Capital Funding, January 2014

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 ^{5,6}	VA-03-0113-06		\$ 90,730,505	\$ 90,730,505	100%	\$ -
FFGA Balance	Planned		\$ 198,155,131	\$ 14,449,695	7%	\$ 183,705,436
Subtotal - New Starts		28.64%	\$ 900,000,000	\$ 716,294,564	79.59%	\$ 183,705,436
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	\$ 1,376,158,770	94%	\$ 90,862,864
Subtotal - Local Funds		68.97%	\$ 2,167,471,634	\$ 1,967,234,011	90.76%	\$ 200,237,623
DTR Revenues/Commonwealth Funds³			\$ 3,142,471,634	\$ 2,758,528,575	87.78%	\$ 383,943,059

¹ Reflects costs through *January 31, 2014*.

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 *December 25, 2013*, MWAA reports that it has utilized \$348,012,987 of the \$361,800,000 available contingency for the first ten contingency milestones leaving a balance of \$13,787,013. 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 *December 25, 2013*, the project has an estimated balance at project completion of \$21,561,437. 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 (31) Change Orders totaling an estimated \$30.86 million that remain under evaluation, and a large number of Potential Change Orders (127). The Potential Change Orders, which are not yet valued, represent a cause for concern. Given the delay in achieving SSCD which will inevitably result in claims by the contractor, MWAA should evaluate whether or not the remaining contingency amount is sufficient.**

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. *MWAA provided their response on February 25, 2014. On January 17, 2014, MWAA submitted their CNPA list for 3rd Quarter of 2013. Both documents are under review by PMOC.*

- 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 *January 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, February 2014

RISK NUMBER	RISK DESCRIPTION	RISK STATUS			
		SINCE INCLUSION ON TOP TEN LIST		Since April 2013 Update	
		COST	SCHEDULE	COST	SCHEDULE
70.R.27	Delay in 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. Currently the primary challenge relates to the resolution of ATC problems and rework.	Unchanged	Unchanged	Unchanged	<i>decreased</i>
80.C.20	WMATA deliverables scope of work – including technical support may exceed the schedule and therefore the budget.	Unchanged	Unchanged	Unchanged	<i>decreased</i>
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	<i>decreased</i>
50.S.2	WMATA required points of testing for acceptance. (Supervisory Control and Data Acquisition (SCADA) Testing Required Points)	Decreased	Decreased	Unchanged	<i>decreased</i>
20.C.40	Delay in Station Finishes (Platform Granite Edge, Platform & Mezzanine Paving Tile, Ceilings and Ceiling Lighting)	Unchanged	Unchanged	Unchanged	<i>decreased</i>
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	Unchanged	<i>decreased</i>
70.S.1	Insufficient number of Rail Cars for Safe Braking Dynamic Testing	Unchanged	Unchanged	Unchanged	<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	Unchanged	<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 did not include the start and completion dates for which WMATA is responsible. <i>WMATA submitted Rail Activation Plan, Revision 4.0 dated December 13, 2013.</i> Initial document reviews and interviews with MWAA were conducted on January 14 and 15, 2014. <i>MWAA continues to update the roadmap at monthly update meetings.</i>	R
2	2B.04	Transfer the value of CNPAs out of the federal portion and add to contingency as they arise	MWAA submitted Letter No.09051 dated September 26, 2013 with CNPA items for FTA review and approval for the 2 nd Quarter 2013. MWAA also submitted Letter No. 09555 dated January 17, 2014 regarding CNPAs for the 3rd Quarter of 2013 for FTA review and approval.	Y	N	N	Additional information about both recommendations was requested with information regarding the September 26, 2013 submittal received on February 26, 2014. <i>This material is under review by PMOC.</i>	R
2	2B.05	<i>Evaluate the cost of Potential Change Orders (PCOs) and possible delay claims relative to remaining contingency.</i>	<i>The impact of non-valued PCOs and potential delay claims due to the protracted SSCD attainment may exceed remaining contingency.</i>	N	N	N	<i>As the Project nears completion, MWAA needs to determine what their cost exposure, if any, could be and assess financial capacity.</i>	R

KEY ITEM

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

LEGEND

PRIORITY (PR)

1- Most Critical
2- Critical
3- Least Critical

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)
<i>RTU</i>	<i>Remote Terminal Unit</i>
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
SITCC	Startup Integration Testing Conformance Checklist
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: *March 27, 2014* (reporting current through *February 2014* - Financials through *January 2014*)

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
05/01/14	Revenue Service Date (RSD) per DTP's SSCD Update of <i>January 25, 2014</i> .		

99.0% Percent Complete Construction as of *February 28, 2014*.

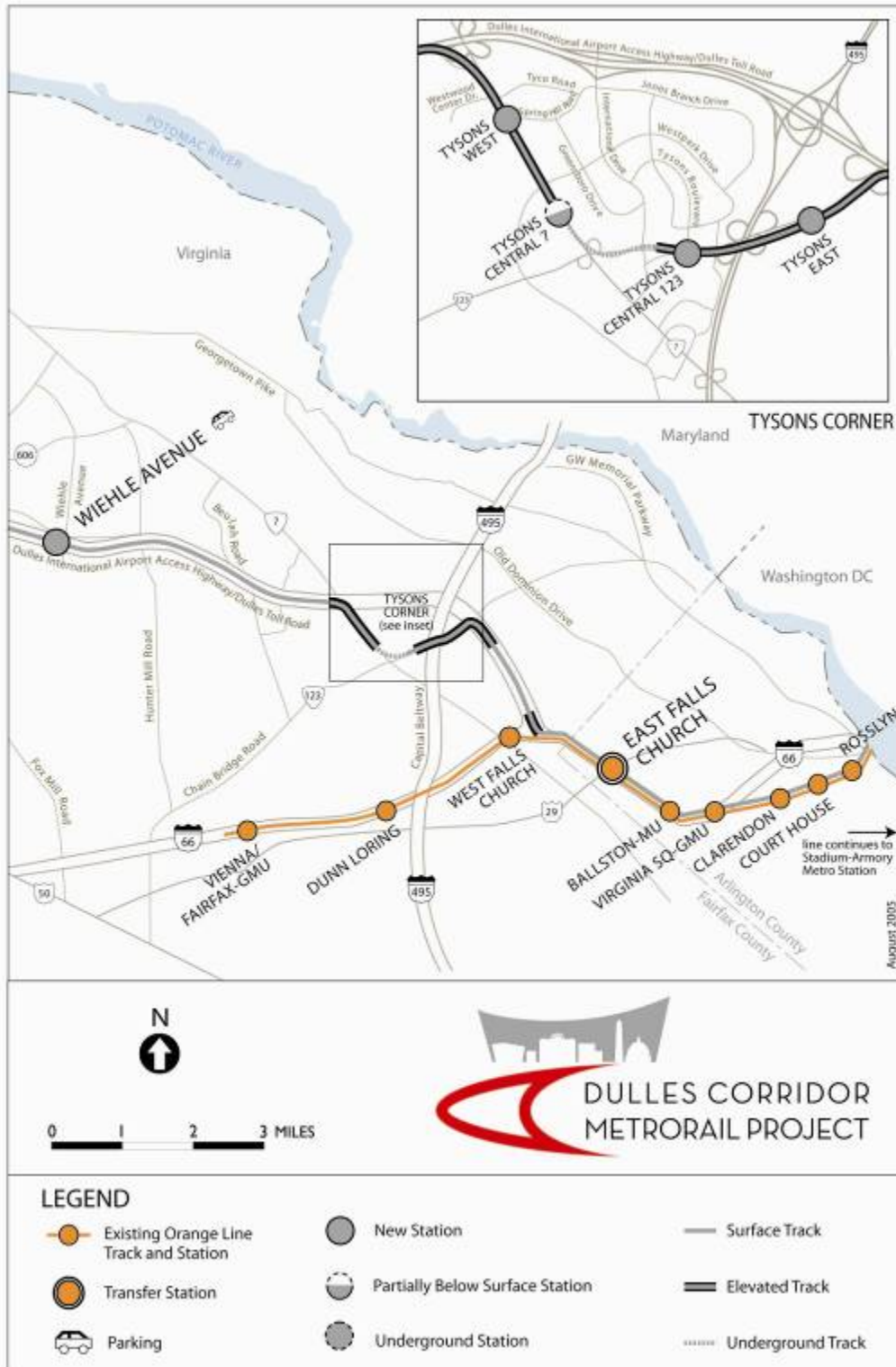
86.7% Percent Complete Time based on RSD of December 1, 2014 (based on FFGA)

93.1% MWAA's Estimate of Project Earned Value through *January 2014*

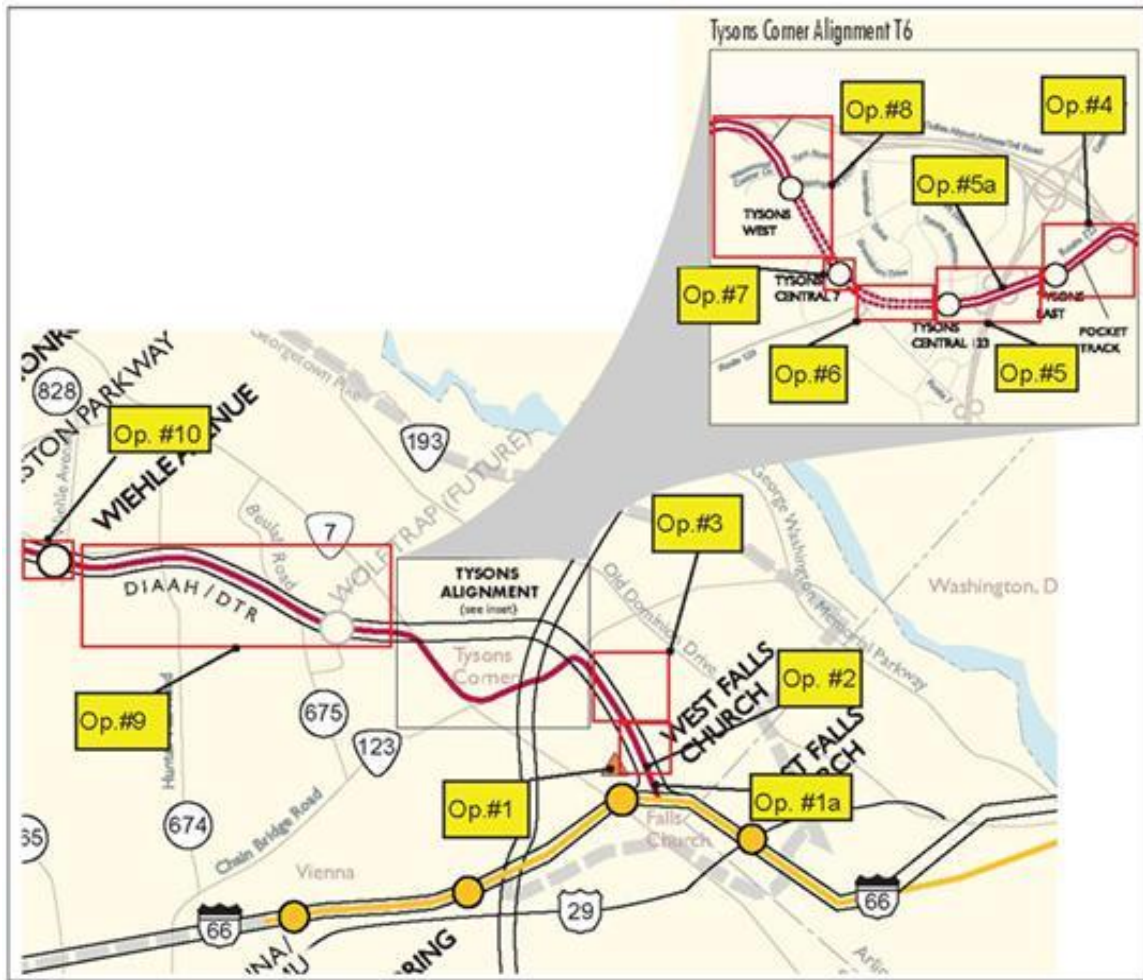
Cost

\$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
\$2.605 billion	Expenditures through <i>January 2014</i>
91.0%	Percent complete based on federal expenditures.
\$21.56 million	Total project contingency remaining (allocated and unallocated) through <i>January 2014</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 submitted SSMP Rev.9 dated March 2012 for review in March 2012 and FTA accepted it on April 13, 2012.
Safety and Security Certification Plan	3/2012	4/13/12	WMATA's SSCPP March 2012 Revision is included as Appendix E to MWAA's SSMP Revision 9, which FTA accepted on April 13, 2012.
System Safety Program Plan	1/2012	N/A	On April 6, 2012, WMATA submitted an updated SSPP dated January 2012 that the TOC approved on April 23, 2012.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)	3/2012	N/A	WMATA's submitted s revised SEPP to TOC in March 2012 that the TOC approved on April 23, 2012.
Construction Safety and Security Plan	1/23/13	1/25/13	Addressed in PMP. FTA approved PMP Version 8.0 Final on January 25, 2013.

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	The TOC approved an updated WMATA SSPP dated January 2013.
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 attends the quarterly meetings, including the most recent on December 17, 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	The Silver Line Project 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. Volpe conducted a TVA that 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	MWAA developed the integrated test plan that WMATA approved on 3/15/2013.
Has the grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	N	This will occur after SSCD. Per page 61 of PMP, WMATA is to participate in the review and accept; and MWAA is to participate and issue final acceptance.
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	WMATA meets bi-weekly with MWAA to review the status of the RAP. This meeting is attended by all of WMATA's key staff responsible for implementing the various aspects of the RAP.
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 518 first aid cases and eight lost time cases in 14.393 million project man-hours, which is below the national average.
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	

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

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[REDACTED]

[REDACTED]

[REDACTED]

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