PMOC COMPREHENSIVE MONTHLY REPORT

East Side Access (MTACC-ESA) Project
Metropolitan Transportation Authority
New York, New York

Report Period December 1 to December 31, 2015

PMOC Contract No. DTFT6014D00017

Task Order No. 2, Project No. DC-27-5287, Work Order No.2

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Length of time on project: Eight years on project for Urban Engineers

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THIRD PARTY DISCLAIMER

This report and all subsidiary reports are prepared solely for the Federal Transit Administration (FTA). This report should not be relied upon by any party, except FTA or the project sponsor, in accordance with the purposes as described below:

For projects funded through FTA Full Funding Grant Agreements (FFGAs) program, FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a sponsor may develop for project execution. Therefore, the information in the monthly reports will change from month to month, based on relevant factors for the month and/or previous months.

REPORT FORMAT AND FOCUS

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT6014D00017, Task Order No. 002. Its purpose is to provide information and data to assist the FTA as it continually monitors the Grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the Grantee continues to be ready to receive federal funds for further project development.

This report covers the project and quality management activities on the East Side Access (ESA) Mega-Project managed by MTA Capital Construction (MTACC) with MTA as the Grantee and financed by the FTA FFGA.

MONITORING REPORT

EXECUTIVE SUMMARY

1. PROJECT DESCRIPTION

The East River tunnels in Manhattan are at capacity. The ESA project is anticipated to improve LIRR tunnel capacity constraints and enable the growth of the overall system. The project comprises a 3.5 mile commuter rail extension of the Long Island Rail Road (LIRR) service from Sunnyside, Queens, to Grand Central Terminal (GCT), Manhattan, utilizing the existing 63rd St. Tunnel under the East River and new tunnels in Manhattan and Queens, including new power and ventilation facilities. The project includes a new eight track terminal constructed below the existing GCT and a new surface rail yard in Queens for daytime train storage. Ridership forecast is 162,000 daily riders (27,300 new riders) in 2020. The project will provide increased capacity for the commuter rail lines of the LIRR and direct access between suburban Long Island and Queens and a new passenger terminal in Grand Central Terminal (GCT) in east Midtown Manhattan, in addition to the LIRR's current Manhattan connection at Penn Station.

2. CHANGES DURING 4th Quarter 2015

a. Engineering/Design Progress

As of the end of November 2015, MTACC reported that the overall Engineering effort is 98.3% complete, based on Earned Value for Design Deliverables. Its Cost Report shows 91.1% of the overall EIS & Engineering category as invoiced and 91.2% of the budgeted section titled "Design" as having been invoiced.

b. New Contract Procurements

Seven technical/schedule proposals for Contract CM007, GCT Station Caverns and Track, were submitted on September 15, 2015. Seven cost proposals were submitted on October 27, 2015. During November 2015, five proposers of the seven were qualified for continued negotiation. Revised costs and schedules from the remaining qualified proposers, representing the first round of the Best and Final Offers, were submitted on December 30, 2015. The Bids for Contract CH057, Harold Structures Part 3, which includes construction of Tunnel D Approach Structures and the 48th St. Bridge Replacement, were received on July 9, 2015, and MTACC issued the contract award and Notice to Proceed to the contractor on December 3, 2015. Contract VQ033, Mid-Day Storage Yard CILs, was advertised on August 14, 2015, and bids were received on October 30, 2015. The bid review was ongoing as of December 31, 2015.

c. Construction Progress

The Project Management Team (PMT) reported in its November 2015 Monthly Progress Report that total construction progress reached 59.9% complete; the Expedition Cost Report also shows 59.9% of Construction as having been invoiced.

d. Continuing and Unresolved Issues

The current potential shortfall in funding availability continues to be a major issue that could have a significant impact on the program schedule, particularly with regard to the award of Contract CM007 (GCT Station Caverns and Track), which is on the program critical path; exercising options on Contract CS179 (Systems Package 1) and other contracts; and continued funding of force account construction and support work. This issue is discussed further in Section 6.0, Risk Management, of this report.

The PMOC is concerned that the MTACC burn rate of Unallocated Contigency continues to trend poorly and, as a result, there may not be sufficient contingency funding available to award all of the remaining construction contracts. This issue is discussed further in Section 5.0, Project Cost, of this report.

With regard to the "ESA First" Harold Re-sequencing Plan developed in December 2014 and implemented in 2015, the PMOC notes that Amtrak has not been able to provide even the reduced level of force account resources that had been planned in support of the ESA schedule. Additionally, the projected force account costs are trending noticeably higher than planned and the force account contingency budget line item is nearly depleted. ESA is currently engaged in a comprehensive study to identify and evaluate the reasons for the appearance of this situation and to make recommendations. The study is expected to be completed in January 2016.

The PMOC has continuing concerns regarding the impact to the ESA Harold work due to the Amtrak program to harden ERT Lines 3 and 4 in preparation for extended outages for ERT Lines 1 and 2 to complete Hurricane Sandy damage related reconstruction work, earlier scheduled to commence in 2018, but now planned for 2019. Amtrak has not provided any specific details

about the ERT Lines 3 and 4 hardening work, but there is concern that significant Amtrak force account resources will be needed to support the hardening work that could further reduce the Amtrak resources available to support the ESA Harold Re-Sequencing Plan. There is also concern that track outages required for the hardening work may conflict with ESA needs to support the planned Harold work. Delays in completing the Harold Re-Sequencing Plan may result in essential ESA work being pushed back into the timeframe for Amtrak's extended outages for ERT Lines 1 and 2. The PMOC notes, however, that in early November 2015, ESA advised that Amtrak is leaning toward closing ERT Line 2 first in 2019. Although this represents a delay from the earlier 2018 forecast time frame, the selection of Line 2 to close first does support the current ESA Harold schedule.

The PMOC's earlier concern about late approval of the Contract CS179 (Systems Package 1) baseline schedule has been resolved with approval of the contractor's schedule in November 2015.

e. New Cost and Schedule Issues

ESA shows a Forecast cost which includes possible costs that had not been fully reviewed and estimates that have not been officially included. This Forecast, however, does not reflect all Bid or RFP values received (i.e., the CM007 Proposals received are not yet reflected in this Forecast). [redacted]

3. PROJECT STATUS SUMMARY AND PMOC ASSESSMENT

a. Grantee Technical Capacity and Capability

The newly assigned Risk Manager resigned in October 2015. The PMOC is concerned that the risk management area has not been adequately supervised since the re-assignment of the previous Risk Manager nearly seven months ago. The PMT is aware of the PMOC's concern. A Risk Manager candidate has been identified and is expected to start work in January 2016.

There were no other changes in key ESA personnel during 4Q2015.

b. Real Estate Acquisition

MTACC did not report any significant real estate changes in its November 2015 Monthly Report. Details are provided in Section 2.6 of this report.

c. Engineering/Design

Progress for remaining design work continues to lag design milestone targets. The GEC and PMT continue to consistently miss target dates for completing the remaining design activities on the project due to continuing scope transfers between Contract packages. The need to accommodate Positive Train Control capability has also caused some delays. Details are provided in Section 2.1 of this report.

d. Procurement

For the CM007 package, during November 2015, five proposers of the seven were qualified for continued negotiation. Addendum #30 was issued to three of these remaining qualified

proposers who submitted revised costs and schedules, representing the first round of Best and Final Offers, on December 30, 2015. MTACC is currently planning to complete the Best and Final Offer process and make an award recommendation in early January 2016 in support of a January 2016 MTA Board action and a February 2016 Notice to Proceed. The PMOC had previously expressed its concern that the four and half month delay to the technical/schedule due date and the three week delay to the cost proposal due date, have significantly reduced the time for negotiations on this very large contract that is currently on the program schedule critical path. MTACC was not able to award this contract as planned before December 31, 2015, and the program critical path is now being delayed.

Notice of Award and Notice to Proceed for Contract CH057, Harold Structures Part 3, were issued to the contractor on December 3, 2015, after several months of negotiations. The contract value is $79,882,586. $53,352,586 of this amount is in the base contract and $26,530,000 is set aside for options. The Period of Performance for the base contract is 19 months, with 11 additional months for the options.

Contract VQ033, Mid-Day Storage Yard CILs, was advertised on August 14, 2015, and bids were received on October 30, 2015. This contract has not been awarded pending completion of internal administrative requirements that include LIRR sign-off on SAI (Significant Adverse Information).

e. Railroad Force Account (Support and Construction)

During 4Q2015, LIRR Force Account Signal personnel completed the installation and "cutover" of the new "H3" Central Instrument Location (CIL) in Harold Interlocking. Signal personnel also continued to install and terminate cables for nine separate snow melter units in various locations throughout Harold, continued to excavate for and install signal trough and cable at the new "H1" and "H2" CILs, completed three distinct signal revisions in Harold, and installed track wires at the new E35 Signal Bridge. LIRR High Tension personnel continued to install aerial signal power separation cables between towers T36 and T40 and 3rd Rail personnel installed a new third rail switch gap at the #4149 turnout. LIRR Communications personnel installed communications cables between 39th and 48th Sts. at the east end of Harold Interlocking. Amtrak Electric Traction personnel continued to make catenary revisions at the B-913 catenary poles, realigned contact wires over the #747 crossover at "F" Interlocking, and installed new 3rd rail gaps at the E35 Signal Bridge. Amtrak C&S personnel continued to install the retaining wall along Loop 2 Track between Loop and "T" Interlockings, continued to install and terminate signal cables at the new "T" Central Instrument House (CIH) and the F2E signal case, and installed rail jumper cables between "R7" location and the "T" CIH. Amtrak Communications personnel installed communications cables between the High Speed Rail (HSR) Building and the "T" CIH.

f. Third-Party Construction

Manhattan:

During 4Q2015, the CM005 contractor (Manhattan South Structures) started interior wall construction at the GCT 1 & 2 East Wye Cavern, and continued to install pneumatically applied concrete (PAC) in the GCT 1 & 2 West Wye Cavern. Archway PAC in the GCT 1 & 2 East Wye Cavern was completed. The contractor also continued PAC construction in the connector tunnels and other locations including TT1, Air Wye, and Access Tunnel 1. The contractor completed lower level concrete wall construction in the West GCT Cavern, and continued south

end wall construction in both East and West GCT Caverns. The contractor continued liner work at Raised Bore shafts. The contractor's work remains on schedule.

The CM006 contractor (Manhattan North Structures) continued wall, slab and arch construction work at the 55th St. Vent Facility. Duct bench construction was completed at lower level Tunnels 401 and 402, and continued at GCT 4 East and West Wyes and Tunnel EB2. The contractor also continued PAC application at the GCT 4 and GCT 5 East and West Wyes. The contractor continued construction at Cross passages 7 and 8, and Tunnel WB1. The contractor also continued north end slab and wall Back of House construction in the GCT East and West Caverns. The contractor is not meeting the first recovery schedule milestones, and review of a second recovery schedule, submitted three months ago, must be completed to achieve a realistic revised schedule. [Ref: ESA-120-Sep15]

Queens:

During 4Q2015, the CQ032 contractor (Plaza Substation and Queens Structures) continued exterior masonry and started mechanical, electrical and plumbing (MEP) installations at the Yard Services Building. The contractor also continued interior masonry and architectural finishes at the Plaza Vent Building. The contractor completed roof closure of the former Early Access Chamber, and continued Plaza site work, including electrical conduit installation and the sidewalk vent structure along Northern Boulevard. The contractor also completed sidewall construction and continued duct bench construction in the Bellmouth. Fire standpipe installation continued at Tunnel A. The work on the west side of 23rd St. Facility remained on hold pending review of re-design work impact to the CQ032 schedule.

Harold Interlocking:

Contract CH053 (Harold Interlocking, Part 1 and G.O.2 Substation): During 4Q2015, at Amtrak's request, the CH053 contractor conducted a 90-day "burn-in" test period for the new C2 and C3 12kV electric traction feeder circuits between Sub 44 and the Sunnyside Yard Frequency Converter station. The test period was completed in late December 2015, and the test was apparently successful, although Amtrak's approval to cut the circuits over permanently is not expected until January 2016. If Amtrak does approve, the old C2 and C3 circuits will be de-commissioned and the existing 12kV duct bank, which has delayed several aspects of previous CH053 work, will be demolished. Additionally, the CH053 contractor continued to make miscellaneous catenary structure modifications and perform punchlist repairs during 4Q2015.

Contract CH054A (Harold Structures Part 2A): During 4Q2015, the CH054A contractor installed the last of three snow melter units (SMUs) and a Remote Terminal Unit (RTU) in "F" Interlocking to operate the SMUs. After completion of other miscellaneous punchlist repairs, MTACC declared "Substantial Completion" for CH054A on November 25, 2015.

Contract CH057A (Westbound Bypass): The CH057A contractor was hampered by negotiations for two CPRs (for changed field conditions) during 4Q2015 which were not finalized until late in the quarter. As a result, the contractor was not able to accomplish any significant measureable construction during the quarter. As of mid-December 2015, however, the contractor had installed a total of 188 de-watering well points, and these were enough for the contractor to begin an initial de-watering test for the Westbound Bypass Tunnel. The contractor established a maximum pump rate of 694 gallons/minute based on this test, but the test must be conducted for 30 days before the contractor can determine if the present number of well points will be sufficient to draw the water table down below the bottom of the proposed excavation. If

not, the contractor will have to install additional well points. As a result of the prolonged negotitations and the present uncertainty of its de-watering capabilities, the contractor has delayed its scheduled start of excavation with the "jacked box" tunnel shield for the Westbound Bypass Tunnel until late March/early April 2016.

Contract CH057C – 48th St. Bridge and Retaining Wall: During December 2015, the CH057C contractor completed track work on the Westward LIRR Passenger Track and installed all concrete ties and continuous welded rail (CWR) required for the new RPR (Relocated Primary Route) Track in Harold Interlocking. The RPR Track will provide flexibility to make the interlocking totally universal (trains can access every track in either direction, which is not possible with the present configuration) after track construction is complete. CH057C construction of the RPR Track will be complete after it distributes ballast and surfaces the track, which is scheduled for January 2016.

Systems:

Contract CS179 – Systems Facilities Package No. 1: The contractor is progressing with conduit and hanger installations at the B-10, Roosevelt, Vernon, Tunnels B/C and D, Yard Lead Tunnel, 29th Street, 39th Street, and Queens Plaza facilities. Other work underway includes demolition of concrete at the 2nd Avenue facility, fire alarm wiring at the B10 facility, and the pouring of a generator slab at the Queens Plaza facility. The two Stop Work Orders (SWOs) for work in the control rooms at the Vernon and B-10 facilities are still in effect. Although the ESA CM was prepared to negotiate the extra work associated with these SWOs in October 2015, that effort did not take place. No date was given for completion of these negotiations or the rescinding of the SWOs. Work at the 23rd Street facility remains on hold as a result of an issue with the concrete floor.

Contract CS084 Traction Power System Package 4: In December 2015, the contractor installed the property line box that will serve as the interface between the electrical feeders from Consolidated Edison and the signal power feeds for locations in Harold interlocking. The retroactive contract modification that will enable the contractor to progress the rest of the additional signal power work will be finalized in early January 2016.

g. Vehicles

Details of the vehicle procurement (non-federally funded portion) are provided in Section 2.5 of this report.

h. Commissioning and Start-Up

The 4Q2015 Quarterly Operational Readiness briefing was held on December 17, 2015. Details are provided in Section 2.4 in this report.

i. Project Schedule

Table 1 provides a summary of critical milestone dates including PMOC and Grantee forecasts:

Table 1: Summary of Critical Dates

	FFGA	Forecast (F) Completion, Actual (A) Start	
		Grantee*	PMOC
Begin Construction	September 2001	September 2001 (A)	September 2001 (A)
Construction Complete	December 2013	December 2022 (F)	September 2023 (F)**
Revenue Service	December 2013	December 2022 (F)	September 2023 (F)

* Source – Grantee forecast Revenue Operations Date per information presented to the MTA CPOC in June 2014.
**Source –Based on PMOC 2014 schedule trending analysis representing a medium degree of mitigation.

j. Project Cost

Table 2 provides a summary of project cost estimates and expenditures vs. the FFGA forecasts:

Table 2: Project Budget/Cost Table (November 2015)

	FFGA			MTA's Current Baseline Budget CBB		Expenditures	
	(Millions)	(% of Grand Total Cost)	Obligated	(Millions)	(% of Grand Total Cost)	(Millions)	(% of CBB)
Grand Total Cost	$7,386	100.00%	$4,724	$11,214.0	100.00%	$6,589.2	58.76%
Financing Cost	$1,036	14.00%	$617	$1,036.0	9.24%	$617.6	59.61%
Total Project Cost	$6,350	86.00%	$4,107	$10,178.0	90.76%	$5,971.6	58.67%
Federal Share	$2,683	36.30%	$1,148	$2,699.0	24.07%	$2,022.9	74.95%
5309 New Starts Share	$2,632	35.60%	$1,098	$2,436.6	21.73%	$1,760.8	72.26%
Non New Starts Grants	$51	0.70%	$50	$67.0	0.60%	$66.7	99.55%
ARRA	0	0.00%	0	$195.4	1.74%	$195.4	100.00%
Local Share	$3,667	49.60%	$2,959	$7,479.0	66.69%	$3,948.7	52.80%

k. Project Risk

The last monthly risk meeting held by ESA was in January 2015. Since that time, ESA has not succeeded in addressing the risk topics as they had planned during the subsequent monthly cost and schedule review meetings. At the May 20, 2015, monthly cost/schedule review meeting, the

PMOC requested that the monthly stand-alone risk meetings be resumed. ESA had planned to resume the dedicated monthly risk meetings in July 2015, but this did not occur because ESA was transitioning to a new risk manager who then resigned in October 2015. As a result, ESA has provided only limited updates to the PMOC regarding details and changes to the program's overall risk profile. Details are provided in Section 6.0 of this report.

MONTHLY UPDATE

The information contained in the body of this report is in accordance with Oversight Procedure 25, to "inform the FTA of the most critical project occurrences, issues, and next steps, as well as professional opinions and recommendations." Where a section is included with no text, there are no new "critical project occurrences [or] issues" to report this month.

ELPEP COMPLIANCE SUMMARY

The current status of each of the remaining main ELPEP components is summarized as follows:

- **Technical Capacity and Capability (TCC):** The FTA requested MTACC to update its TCC Plan in response to the FTA/PMOC comments that were generated in November 2013 as a result of significant changes in key ESA upper management level positions. MTACC submitted its revised Technical Capacity and Capability Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 7, 2015. MTACC submitted a revised TCC Plan in response to FTA/PMOC comments on June 12, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and recommended a meeting with MTACC to resolve remaining issues. The FTA subsequently provided MTACC with the evaluation. MTACC responded with a reply on September 24, 2015, and the PMOC's review is nearing completion.
- **Continuing ELPEP Compliance:** The following ELPEP components continue to need improvement or are deficient: Management Decision; Design Development; Change Control Committee (CCC) Process and Results; Stakeholder Management; Issues Management; Procurement; Timely Decision Making; and Risk-Informed Decision Making. The PMOC is particularly concerned about the effectiveness of the risk management process over the last ten months due to lack of continuity of leadership because the ESA Risk Manager position is again vacant. ESA plans to fill the position in January 2016.
- **Project Management Plan:** MTACC submitted PMP Rev. 10 to the FTA and PMOC on July 18, 2014. This revision incorporates changes stemming from FTA/PMOC comments on PMP Rev. 9.0, provided in December 2013, as well as changes that resulted from the MTACC's Candidate Revision process. Based on working meetings, dialogue, and additional clarifying review comments from the PMOC, the MTACC made additional changes to the PMP and submitted an updated Rev. 10 on September 18, 2014. The PMOC completed its review and evaluation of MTACC's revisions and responses and submitted its findings to FTA-RII in 4Q2014. MTACC subsequently submitted a revised Rev. 10 on March 13, 2015, that included updated information on the Change Control Committee. The PMOC continues to coordinate with MTACC, arranging working meetings with ESA chapter authors and the corresponding PMOC reviewers to resolve the remaining

outstanding FTA/PMOC evaluation comments. Several working meetings have been held since June 2015 and continued through December 2015.

The PMOC notes that, since June 2013, the ESA project has continued to be non-compliant with ELPEP, and is not meeting some of the more important requirements of the Schedule Management Plan (SMP) and Cost Management Plan (CMP) sub-plans of the PMP. The PMOC's believes that this continues to be a serious deficiency and needs to be resolved as soon as possible. [Ref: ESA-114-Sep13] The PMOC's major areas of concern include:

- **Schedule Management Plan (SMP)**: The ESA project remains non-compliant with requirements for Integrated Project Schedule (IPS) Updating, Forecasting, and Schedule Contingency Management against a current baseline schedule. Given that the new budget and schedule have been put in place, the PMOC expected that MTACC would start to meet the requirements set forth in its SMP in the above-referenced areas. The revised SMP was submitted on October 26, 2015, and the PMOC is nearing completion of its review.
- **Cost Management Plan (CMP)**: The ESA project remains non-compliant with requirements for Project Level EAC Forecasting, Project Level EAC Forecast Validation, and MTACC Cost Contingency Management and Secondary Mitigation. Given that the new budget and schedule were presented to the MTA CPOC in June 2014, these requirements should have been met by now, but MTACC has made very little progress in this area. MTACC submitted its revised Cost Management Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 8, 2015. MTACC submitted a revised CMP in response to FTA/PMOC

comments on June 30, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and met with MTACC on November 16, 2015. MTACC is working on additional agreed upon revisions and is evaluating the PMOC's recommendations in six areas. MTACC provided an initial draft of the revised CMP on December 15, 2015, and the PMOC is currently reviewing this draft.

Revisions to the ELPEP Document: As part of the process of updating the ELPEP document, the PMOC has performed an independent evaluation of the minimum required cost and schedule contingencies going forward. The PMOC's recommendations were presented at several meetings with MTACC, the last on September 17, 2015. On October 14, 2015, the PMOC provided the FTA and MTACC with an expanded basis for the PMOC's recommended minimum schedule contingencies to Revenue Service Date (RSD). MTACC responded on October 27, 2015, with no exceptions taken to the PMOC proposed minimum schedule contingency values. MTACC did, however, have comments on certain bases of the PMOC's position and the PMOC is preparing a response. On December 7, 2015, the PMOC provided MTACC with the PMOC's evaluation of the MTACC proposed values for the ELPEP minimum cost contingency hold points along with the basis for the PMOC's position regarding those values. Additional discussion is required to reach agreement on the cost contingency minimums.

The next ELPEP Quarterly Review Meeting with MTACC, FTA-RII, SAS, and ESA projects and the PMOC has been scheduled for January 21, 2016.

1.0 GRANTEE'S CAPABILITIES AND APPROACH

1.1 Technical Capacity and Capability

a) Organization

There are currently no issues to report pertaining to the MTACC organizational structure.

b) Staffing

The PMOC is concerned about the effectiveness of the risk management process over the last ten months due to lack of continuity of leadership because the ESA Risk Manager position is again vacant. ESA plans to fill the position in January 2016.

1.2 Project Management Plan

a) History of Performance

MTACC re-baselined the ESA Project in May 2012. This baseline resulted in a risk adjusted budget of $8.24B (not including rolling stock reserve and finance cost) and a projected RSD in August 2019. During 2013 and 2014, ESA undertook an extensive re-planning effort to revise the Program budget and schedule as a result of the CM012R bid overrun and continuing delays in several other major procurements (e.g., CS179; CM014B). This is the third re-planning effort undertaken by ESA since the FFGA in 2006 (the first re-planning effort took place in 2009). The current re-planned budget ($10.177B) and schedule (RSD in December 2022) were presented to the MTA CPOC in June 2014 and approved.

b) PMP

MTACC submitted PMP Rev. 10 to the FTA and PMOC on July 18, 2014. This revision incorporates changes stemming from FTA/PMOC comments on PMP Rev. 9.0 provided in December 2013 as well as changes that resulted from MTACC's Candidate Revision process.

Based on working meetings, dialogue, and additional clarifying review comments from the PMOC, MTACC made additional changes to the PMP and submitted an updated Rev. 10 on September 18, 2014. The PMOC reviewed Rev. 10 and provided its comments to the FTA in 4Q2014. A subsequent update to the Rev. 10 document was submitted on March 13, 2105, reflecting only revisions to the ESA Change Control Committee. The PMOC continues to coordinate with MTACC arranging working meetings with ESA chapter authors and the corresponding PMOC reviewers to resolve the remaining outstanding FTA/PMOC evaluation comments. Several working meetings have been held since June 2015 and continued through December 2015.

1.3 Project Controls

a) Schedule

MTACC presented its new baseline schedule to the MTA CPOC in June 2014 with an RSD of December 2022. This date includes 22 months of Program level contingency. The PMT developed a draft schedule contingency drawdown plan as required by the ELPEP agreement and submitted it in December 2014. The ESA schedule contingency drawdown plan and the FTA/PMOC minimum required schedule contingency levels were discussed at several meetings since March 2015, with the latest being on September 17, 2015, and follow-up activities continued through 4Q2015. In October 2015, MTACC agreed to the minimum schedule contingency hold point values proposed by FTA/PMOC.

b) Cost

MTACC presented its Re-Plan baseline budget of $10.177B (excluding Rolling Stock Reserve) to the MTA CPOC in June 2014. The PMT developed a draft cost contingency drawdown plan as required by the ELPEP agreement and submitted it in December 2014. The ESA cost contingency drawdown plan and the FTA/PMOC minimum required cost contingency levels were discussed at several meetings since March 2015 with the latest being on September 17, 2015, and follow-up activities continued through 4Q2015. On December 7, 2015, the PMOC provided MTACC with the PMOC's evaluation of the MTACC proposed values for the ELPEP minimum cost contingency hold points along with the basis for the PMOC's position regarding those values. Additional discussion is required to reach agreement on the cost contingency minimums.

1.4 Federal Requirements

a) FFGA

As a result of MTACC's re-baselining of the ESA Project budget and schedule on three separate occasions (2009, 2012, and 2014) since the FFGA was signed in 2006, an FFGA amendment is currently in process and is forecast to be completed in the January/February 2016 timeframe. As mentioned above, MTACC presented a new project budget of $10.177B (excluding the Rolling Stock Reserve and finance costs), and a new schedule with an RSD of December 2022 to the MTA CPOC in June 2014. The proposed FFGA has a budget of $10.922B ($10.459B before Rolling Stock Reserve and finance costs) and an RSD of December 2023.

b) Federal Regulations

As the PMOC noted in its 3Q2015 (September 2015) Monthly Report, MTACC has approximately 17 turnouts on hand for which it received FRA and FTA "Buy America" waivers to use earlier in 2015. These turnouts will comprise MTACC's track program for 2016 and

2017. However there are approximately 45 turnouts for the years after 2017 (for which MTACC has none on hand), which must be procured in compliance with "Buy America" requirements. Consequently, on behalf of LIRR and Amtrak, MTACC's GEC completed suggested turnout design revisions for both railroads in mid-November 2015. After it reviewed these revisions, MTACC submitted them to each railroad for approval in early December 2015, and it anticipates that the railroads will return their respective approvals by late January 2016. Based on this schedule, the PMOC estimates that an order will not be placed until 2Q2016. Since turnouts are long lead items that could take up to 18 months from order to delivery, the PMOC further estimates that "compliant" turnouts will not begin to arrive until 4Q2017, at the earliest. Based on the PMOC's experience, there are additional factors which could influence when a fabricator can deliver turnouts (e.g. what time of year an order is placed), and the PMOC believes that MTACC must monitor this situation closely in order to avoid delays beyond 4Q2017.

1.5 Safety and Security

a) Safety Certification Process

Documents supplied by ESA at the 4Q2015 Operational Readiness Briefing indicate that safety certification for four design contracts (CM007, CM015, CS079, and CS284 (Former CS086)) and four active construction contracts (CM004, CM013, CM013A, and CM014B) remains to be accomplished. As no schedule information for these activities was available at the December 17, 2015 briefing, a commitment was made by the ESA personnel to provide the PMOC with this schedule information as soon as possible.

The PMOC remains concerned that the Safety and Security Committee has not met on a regular basis in accordance with the ESA Safety and Security Management Plan (SSMP). This lack of regular meetings will hamper the effectiveness of the Committee in coordinating activities related to the Safety Certification.

b) Project Construction Safety Performance

Through November 2015, project safety statistics for lost time accidents and OSHA recordable injuries on active construction contracts are trending below the Bureau of Labor Statistics (BLS) national average with the project wide lost time rate at 0.68* vs. 1.80 (BLS Average) lost time accidents (LTA) per 200,000 hours (national average). The ESA Recordable injury rate through November 2015 was 1.91 vs 3.2 BLS.

* The Grantee uses a 12 month rolling average for their OSHA statistics.

c) Security

The ESA PMT did not report any significant security issues in its November 2015 Monthly Progress Report.

1.6 Project Quality

ESA Quality Staff: The ESA Quality Manager will interview candidates for the replacement of a staff member who resigned once resumes are obtained and submitted for review.

GEC Quality: The GEC Quality Manager's last day on the project was September 4, 2015. The GEC Program Manager named a replacement in October 2015. The ESA Quality Manager requested that a formal request for approval of this replacement individual be submitted by the GEC. As of December 31, 2015, however this had not occurred.

The ESA Quality Manager performed an audit of the GEC Quality Team. He issued an audit report in December 2015. There were no significant findings.

CS179 (Systems Package 1 – Base Contract): On November 1, 2015, the ESA Quality Manager conditionally approved a new Quality Manager for the CS179 contractor. If the new individual performs well after a 90-day probationary period, he will then be approved as the CS179 contractor's permanent Quality Manager.

Conditional Assessment Inspections: Every six months the ESA Quality Manager performs Condition Assessment Inspections. The plan is to perform conditional assessment inspections on the CQ031 and CQ039 contracts in January 2016.

CM013: Two years ago, pipes fabricated in China were installed and are now inaccessible. A non-conformance report (NCR) was generated and will remain open until a disposition is approved. A closeout audit on this contract is scheduled to be held on January 12, 2016, to determine whether any additional quality issues will prevent this contract from closing.

1.7 Stakeholder Management

a) Railroads

The MTACC PMT continues to meet with internal stakeholders MTA, MTA-IEC, the LIRR, and external stakeholders the Federal Railroad Adminstration (FRA) and the PMOC each month to gain FRA's approval to extend ESA project High Speed Rail (HSR) Grant funding beyond September 30, 2017. The grant requires that all HSR funds be expended by that date, but MTACC's "ESA First" Harold Interlocking schedule re-baseline will push Amtrak ESA HSR Force Account projects well beyond that date. Additionally, the sequence in which Amtrak decides to do its own work to reconstruct its East River (ERT) Line 1 and Line 2 tunnels that were damaged by Superstorm Sandy could have a profound impact on the "ESA First" schedule. Amtrak has been advised of MTACC's concern and indicated in November 2015 that Amtrak is leaning towards closing ERT Line 2 first in 2019. Although this represents a delay from the earlier 2018 forecast time frame, the selection of Line 2 to close first does support the current ESA Harold Schedule. Both parties must continue to work together to develop an ERT Line 1 and Line 2 outage schedule that will have the least negative impact on ESA. At present, Amtrak's work is not planned to begin until 2019, so there should be sufficient time to develop such a schedule.

b) Others

Although there are other stakeholder issues that ESA must address, at present there is no evidence that any might have a significant negative impact on the project schedule.

1.8 Local Funding

a) MTA/New York State (Capital Plan)

The funding request for ESA under the 2015 – 2019 Capital Program was submitted to the NYS Capital Program Review Board (CPRB) in September 2014. As it now stands, ESA does not currently have all of the funding in place needed to complete the project and this situation has impacted the procurement of several major contracts. The PMOC does note that MTACC is fully aware of this situation and the critical role that funding serves in the successful completion of the project. MTACC works closely with the MTA finance group and keeps the FTA up to date on developments and issues. The near term issue concerns availability of sufficient funding to award the very large [redacted] CM007 Contract by December 31, 2015, to maintain progress on the program schedule critical path. At this time the expected Award date is the end of January 2016.

b) Other Sources

The total FTA funding commitment, as of December 2015, remained at $2.699 billion, as indicated in Table 2 in the Executive Summary.

1.9 Project Risk Monitoring and Mitigation

a) Risk Management Plan (RMP)

The MTACC RMP, Rev. 2, dated July 2012, is a sub-plan within the ESA Project Management Plan (PMP). The RMP, Rev 2, was updated and incorporated FTA/PMOC review comments to bring it into compliance with the ELPEP principles and requirements. The FTA formally notified MTACC of its conditional acceptance of the RMP by letter dated March 4, 2013. MTACC plans to update the RMP, if needed, after completion of its current updates of both the Cost Management Plan and the Schedule Management Plan.

b) Monitoring

The last monthly risk meeting held by ESA was in January 2015. Since that time, ESA has not succeeded in addressing the risk topics as they had planned during the subsequent monthly cost and schedule review meetings. In response to the PMOC's request, ESA stated that it would resume the dedicated monthly risk meetings and anticipated a restart of these meetings in October 2015. However, the new risk manager resigned in October 2015. As a result, ESA has provided only limited updates to the PMOC regarding details and changes to the program's overall risk profile.

c) Mitigation

Current risk mitigations are discussed in Section 6.3 below.

2.0 PROJECT SCOPE

For the 48th St. Station Entrance, the MTA Board approved the design agreement with the building owner. The building owner will provide the designs for the relocation of the existing interior utilities and will complete some limited structural design. Contract package CM015 will be revised and finalized based on the agreements reached during negotiations between the building owners and MTACC. MTACC is continuing discussions with the building owner and is nearing completion of the required easements and construction agreements.

On Contract Package CQ033 (Mid-Day Storage Yard), resolution is still required between MTACC and LIRR for final determination on the scope of the LIRR Force Account (FA) work regarding the Arch Street Yard Tie-in. MTACC is currently projecting a March 1 , 2016, advertised date for this contract.

2.1 Engineering/Design and Construction Phase Services

As of the end of November 2015, MTACC reported that the overall Engineering effort was 98.3% complete, based on Earned Value for Design Deliverables, compared with a Planned status of 100%. Its Cost Report shows 91.1% of the overall EIS & Engineering category as invoiced and 91.2% of the budgeted section titled "Design" (including Design Settlement) as having been invoiced.

Status:

Final resolution has been reached on the west end of the Mid-Day Storage Yard (CQ033) regarding what work is to be performed by Amtrak (track and signals) to tie into the ERT (East River Tunnels) and what work will be performed by the CQ033 contractor. Scope changes

include the addition of the Sub 4 to Line 2 connection, approved by Amtrak, and the deletion of the Sub 3 to Line 4 connection. The GEC Proposed Change Order was negotiated and the final proposal was submitted to the PMT. Regarding the Arch Street Yard tie-in, resolution is still required between MTACC and LIRR for final determination on the scope of LIRR Force Account (FA) work. The 100% design was completed and sent to the Construction Manager in November 2015. The PMT, GEC, CM, and LIRR completed a site tour on December 9, 2015. LIRR accepted the current plan in principle, but will complete a review of the details. A potential new issue may arise as a result of the planned January 2016 meeting on LIRR Track Standards and variances required for the Mid-Day Storage Yard. The advertise date for CQ033 is currently forecast for 1Q2016**.**

Design work on the new, stand-alone CH061A package (completion of Queens Tunnels "A" and "D") continued. The 100% review submission has been accepted and the package is currently awaiting funding. Contract advertisement had been scheduled for December 14, 2015, but will now be advertised in January 2016.

Contract CH058 work scope is being divided and repackaged into two separate contracts: CH058A will contain the Tunnel B/C Approach Structure and CH058B will contain the East Bound Re-route. Forecast dates for CH058A include: advertise April 12, 2017; bids due June 9, 2017; NTP August 1, 2017. Design work for this package is currently on hold pending completion of a GEC Proposed Change Order. Additionally, the final design for package CH058B is awaiting the completion of a rail traffic simulation study for Harold Interlocking, expected to be completed in January 2016, and the final decision on building the Temporary Eastbound LIRR Passenger (TELP) track.

The remaining work on the Track A Approach Structure has been deleted from the CH053 contract to eliminate the current 12kV duct bank issues. ESA plans to have the work completed under the stand-alone Contract CH061A, Tunnel A Construction.

The CS179 contractor continues to work on the design development of the various contract required systems. In December 2015, the backlog of submittal reviews was significantly reduced and the ESA CM for this contract continues to work with the contractor and the GEC to reduce the backlog even further. During 4Q2015, the contractor submitted Secondary Design documents on several systems in preparation for Secondary Design Reviews (SDRs). Preliminary Design packages for the CCTV and Security Management System are scheduled for submission in 1Q2016.

Contract CS284 (GEC Contract CS086), Tunnel Signal Installation, is a stand-alone package. The MOU with LIRR for inclusion of Positive Train Control (PTC) in this contract is currently in development and progress is advancing. The GEC Proposed Change Order for the addition of PTC is being developed.

For Contract VS086, Systems Package 3 – Signal Equipment Procurement, the GEC design was completed but is now being revised to incorporate the requirements of Positive Train Control (PTC).

Observation:

The GEC and PMT continue to consistently miss many of the target dates for remaining design activities on the project. Some of the delays are caused by the requirement to add Positive Train Control to the associated systems design and equipment. The PMOC remains concerned about

the delays to review of the Contract CS179 Preliminary Design Packages but notes the recent progress made in significantly reducing the backlog of design reviews.

Concerns and Recommendations:

The PMT design management team needs to focus on achieving intermediate milestones in a timely fashion and work closely with the GEC to help make this happen. The continual shifting of scope among various packages has made finalizing design documents and drawings extremely difficult. The PMOC had previously recommended that the PMT develop a design milestone tracking process for the remaining design work on the project, similar to what was done for the Harold catenary design work in 2012, in order to more effectively manage the design effort.

2.2 Procurement

As of end of November 2015, the Cost Report showed total procurement activity on the project as 71.7% complete, with $7.298 billion in contracts awarded out of the $10.177 billion current reported budget.

Status:

The CM007 package was advertised on December 23, 2014, and contract documents were made available for proposers on January 15, 2015. The pre-proposal conference and site tour were held in early March 2015. The proposal due date was extended four times from May 2, 2015, to September 15, 2015, when seven technical/schedule proposals were submitted. The cost proposal due date was pushed back several times from October 6, 2015, to October 27, 2015, when seven cost proposals were submitted. The PMT technical ranking recommendation letter was finalized, approved, and issued on October 30, 2015. During November 2015, five proposers of the seven were qualified for continued negotiation. Addendum #30 was issued to the five remaining proposers and revised costs and schedules, representing the first round of Best and Final Offers, were submitted on December 30, 2015. The PMOC notes that ESA has requested the proposers to modify their schedules based on an increase of contract time from 40 to 42 months and, schedule changes to accommodate delayed site access caused by the Contract CM006 Milestone #2 delay. Cost impacts due to these changes are unknown at this time. MTACC is currently planning to complete the Best and Final Offer process and make an award recommendation in January 2016 in support of a January 2016 MTA Board action and a February 2016 Notice to Proceed. The PMOC had previously expressed its concern that these delays have significantly reduced the time for negotiations on this very large contract that is currently on the program schedule critical path. MTACC was not able to award this contract as planned before December 31, 2015, and the program critical path is now being delayed.

Contract CH057, Harold Structures Part 3, bids were opened on July 9, 2015. [redacted] MTACC had originally planned to award the CH057 Contract and issue a Notice to Proceed (NTP) on August 13, 2015, but those events were delayed while contract legal issues were resolved. MTACC issued the Notice of Award and Notice to Proceed to the contractor on December 3, 2015.

Contract VQ033, Mid-Day Storage Yard CILs, was advertised on August 14, 2015, and bids were received on October 30, 2015. This contract has not been awarded pending completion of internal administrative requirements that include LIRR sign-off on SAI (Significant Adverse Information).

Concerns and Recommendations:

The lack of stability in the contracting strategy and Contract Packaging Plan (CPP) remains a concern. The scope shifts among different packages during 2015 have made it difficult to fully understand the impact of these changes to the overall ESA Project. An updated draft Contract Packaging Plan (revision 10.0) was submitted on March 28, 2014. The current CPP update (revision 10.2) was submitted on November 13, 2015, and is currently under review by the PMOC. The PMOC continues to recommend that the ESA PMT should make an effort to adhere to the current version of the CPP and minimize shifting scope for the remainder of the project.

The PMOC had previously expressed its concern that the Contract CM007 proposal due date has been delayed a total of 4.5 months and that this significantly reduced the time for negotiations on this very large contract that is currently on the program schedule critical path. MTACC was not able to award this contract as planned before December 31, 2015, and the program critical path is now being delayed. [Ref: ESA-121-Sep 15]

2.3 Construction

The PMT reported in its November 2015 Monthly Progress Report that the total construction progress reached 59.9% complete vs. 61.3% planned; the PMOC calculations based on data in the ESA Cost Report show that 59.9% of Construction has been invoiced versus 62.1% planned.

Details for active construction contracts are provided below:

Manhattan Contracts

CM004 – 44th St. Demolition and Fan Plant Structure; 245 Park Ave. Entrance :

Status: The PMOC has been advised that there continue to be outstanding items remaining from the construction phase that are preventing this contract from entering the closeout phase. The most significant of these items is the delivery of the remaining limestone facing for the Vent Building, which is a continuing problem for this contract. The ESA Contract Constrcution Manager (CCM) has advised the PMOC that the CM004 contractor did not implement the proper procedures in delivery and storage of this material. As a result, several pieces are either chipped or broken. Accordingly, the CM014B contractor has refused to accept turnover of the stone. If the CM004 contractor has to replace some of this stone, it will have to come from a new quarried batch and will likely not match the color/tone of the existing new stone. As of this report, MTACC is scheduled to perform an inventory of the existing material with the CM004 contractor on Monday, January 11, 2016, to determine a course of action. Previously, the contractor had not responded to attempts to conduct an inventory and has generally shown little interest in resolving the issue.

CM005 – Manhattan South Structures

Status: As of November 30, 2015, the Forecast at Completion for CM005 decreased to $243,718,099. The forecast date for Substantial Completion remained at February 9, 2016. Actual monthly construction progress for November 2015, was 0.9% versus 2.1% planned. Cumulative progress through November 30, 2015, was 93.7% actual versus 94.8% planned.

	1	2	3	4	5	6
	Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost	$200.6M (Award)	$236.9M	+36.3M +18.1%	$243.7M	+43.1M +21.5%	+6.8M +2.9%
Scheduled SC Date	02/06/16	02/06/16		02/09/16		
Duration (NTP-SC)	29 mos.	29 mos.	0 mo. 0.0%	29 mos.	0 mo. 0.0%	0 mo. 0.0%

Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
94.8%	93.7%	30.5%	2.5%	14.3%	2.4%	3.4%/mo.	3.1%/mo.

From November 2015 ESA Monthly Report

Construction Progress: During December 2015, the contractor continued south end wall construction in both the East and West Caverns. The contractor started interior wall construction at GCT 1 & 2 East Wye Cavern. The contractor also continued archway pneumatically applied concrete (PAC) construction at the GCT 1 & 2 West Wye Cavern. The contractor continued duct bench construction in the lower level north connector tunnels. The contractor also continued duct bench construction and archway PAC application in the upper level north connector tunnels. The contractor also continued archway PAC at TT1 upper level, the Air Wye, and at Access Tunnel 1. At the 38th St. Vent Facility the contractor continued rebar and form placement preparation for the start of stitch grouting and acoustical spray liner in the Raised Bore Shafts.

Observations/Analysis: This contract remains on schedule and the contractor still plans to complete work early in 2016 year by the Substantial Completion date. The PMOC has observed that ESA and the contractor continue to work well together.

Concerns and Recommendations: The PMOC has no concerns about the CM005 contract at this time.

CM006 – Manhattan North Structures

Status: As of November 30, 2015, MTACC decreased its Forecast at Completion for CM006 to $348,988,695 due to pending and potential contract modifications. The MTACC forecast for Substantial Completion slipped by two weeks to Januray 10, 2017. Actual construction progress for November 2015 was 3.5% versus 2.6% planned. Cumulative progress through November 30, 2015, was 48.0% actual versus 72.8% planned.

	1	2	3	4	5	6
	Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost	$294.2M (Award)	$317.1M	+22.9M +12.8%	$349.0M	+54.8M +18.6%	+31.9M +10.1%
Scheduled SC Date	11/30/16	11/30/16		1/10/17		
Duration (NTP-SC)	32 mos.	32 mos.	0 mo. 0.0%	33 mos.	1 mo. 3.1%	1 mo. 3.1%

Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
72.8%	48.0%	36.6%	3.0%/mo.	21.1%	3.5%	3.1%/mo.	4.0%/mo.

From November 2015 ESA Monthly Report

Construction Progress: During December 2015, the CM006 contractor continued pneumatically applied concrete (PAC) application at GCT 4 East Wye Cavern and GCT 5 East and West Wye Caverns. The contractor continued overbreak repair work at the 55th St. Vent Facility. PAC construction continued for the walls and arch at the 50th St. Air Plenum. The contractor continued preparations for arch concrete construction in Tunnel WB1. The contractor completed invert slab construction at Cross passage 7 and continued arch construction at Cross passage 8. The contractor continued duct bench construction at GCT 4 East and West Wyes and the EB2 Tunnel. The contractor also continued upper level end wall construction in the GCT Eastbound Cavern. At the GCT Westbound Cavern, mezzanine level wall construction continued.

Observations/Analysis: As reported before, the contractor is not meeting the recovery schedule milestones. In September 2015, ESA reported that a second recovery schedule had been submitted. Milestone #2 is currently forecast to be achieved in May 2016, over three months late.

The CM006 contractor‘s rate of construction progress continues to significantly lag the planned progress rate. The PMOC has observed, however, that ESA and the contractor continue to work well together.

Concerns and Recommendations: ESA must complete their review of the Contractor’s Second Recovery Schedule submittal, and achieve a realistic revised contract schedule. The CM006 contractor has not been able to perform its construction in accordance with its first recovery schedule. The PMOC remains concerned about the contractor’s capability and capacity to perform against any schedule it produces. This delay has already negatively impacted the start of the CM007 Contract.

CM013A – 55th Street Vent Facility

Status: Substantial Completion was declared on November 20, 2015, ahead of the revised date of December 7, 2015. MTACC reports that, through November 30, 2015, the Forecast at Completion decreased slightly to $56,224,346 from the previous $56,347,580. The final project cost is pending closeout procedures, and includes finalization of outstanding change orders. The PMOC will close its reporting on this contract with this report.

Construction Progress:

General: The project has moved into the Final Completion/Closeout stage, completing punchlist items, cleanup, record drawings, and finalizing outstanding change orders.

Observations/Analysis: None at this time.

Concerns and Recommendations: None at this time. This contract is not currently impacting any ongoing or future contracts.

CM014A – GCT Concourse & Facilities Fit-Out

Status: MTACC reports that, through November 30, 2015, its Forecast at Completion for the CM014A Contract has decreased slightly to $58,414,993 from the previous $58,872,191. The forecast Substantial Completion has been extended to January 31, 2016. This extension is due to the contractor's delay in readiness to complete ConEd energization. Actual construction progress for November 2015 was 0.0% versus 0.4% planned. Cumulative progress through November 30, 2015, was 93.4% actual versus 96.9% planned.

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$43.50M (Award)	$58.86M	+15.36M +35.31%	$58.41M	+14.91M +33.27%	-0.45M -0.76%
Scheduled SC Date		4/25/13	12/6/15		1/31/16		
Duration (NTP-SC)		18 mos.	49 mos.	+31 mos. +172.22%	+51 mos.	+33 mos. +183.33%	+2 mos. +4.08%
Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
96.9%	93.4%	N/A	N/A	N/A	N/A	N/A	N/A

From November 2015 MTA Monthly Report

Construction Progress: During December 2015, ConEd completed energization of three (3) of the total six (6) feeds for this contract. The contractor repaired the leaks in a power equipment room and replaced a relay that had suffered water damage. This leak was preventing energization of two (2 of the remaining three (3) feeds and its repair will allow energization of all six (6) feeds. The current forecast is to complete energization of these remaining three (3) feeds by January 31, 2016. MTACC has advised the PMOC that, upon completion of energization, the project will be declared substantially complete. The FM-200 (Fire Suppression) tests will follow completion of permanent power.

Observations/Analysis: The cumulative percent complete reported by MTACC in their October 2015 report is 95.6%. The cumulative percent complete reported in the most recent November 2015 report is 93.4% complete. There is no explanation for this discrepancy.

Concerns and Recommendations: The Project Office has advised the PMOC that it has received several complaints from follow-on Contract CM014B regarding in place work, in place power

equipment, and stored power equipment for the north substation. These issues of acceptance and turnover need to be addressed expeditiously by MTACC upper management.

CM014B – GCT Concourse & Facilities Fit-Out

Status: MTACC reports that, through November 30, 2015, its Forecast at Completion increased slightly to $468,446,075 from the previous $461,057,500. The forecasted Substantial Completion date remains August 18, 2018. Actual construction progress for November 2015 was 0.9% versus 1.6% planned. Cumulative progress through November 30, 2015, was 9.0% actual versus 5.4% planned.

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$404.62M (Award)	$425.33M	+20.71M	$468.45M	+63.83M +15.77%	+43.12M +10.14%
Scheduled SC Date		8/18/18	8/18/18		8/18/18		
Duration (NTP-SC)		42 mos.	42 mos.	0 mo.	42 mos.	0 mo.	0 mo.
Percent Complete		**Actual – 12 mos.***		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
5.4%	9.0%	N/A*	N/A*	9.0%	1.5%	2.52%	2.53%

From November 2015 MTA Monthly Report

*CM014B NTP was issued in Feb 2015; therefore, it has not had 12 months of construction yet.

Preliminary Schedule – The extended preliminary schedule extends through February 16, 2016, and is used as the schedule for managing the work.

Baseline Schedule – The most recent submittal was made on November 6, 2015, and is under review. The contractor completed cost loading the schedule.

Construction Progress: Work Trains are loaded/unloaded at the B/N Yard. Surveying continues throughout and will continue for the duration of the project.

Concourse (Madison Yard) – Demolition of the Hog Houses and MTA Offices in Madison Yard continue to be delayed because the new locations along E. 52nd St. are not complete. Ball & brushing of placed concrete duct banks continued in Zones #1-3. Excavation and placement of duct banks continued in Zones #3-5.

Shaft 3 – Completed placement of shaft lining. Completed stripping forms, rubbing, and patching concrete.

Wellways – Stripping forms, rubbing and patching new concrete in Wellway 32 was completed. Formwork and rebar installation in Wellway #3 nears completion.

Biltmore Connection – Removal of the abated existing steam line in the Burma Rd. neared completion.

Dining Concourse Connection – Demolition for the escalators opening for access from the existing Dining Concourse to the new Concourse was completed. Fabrication of both temporary and permanent support steel continues.

48th St. Entrance – Excavation and temporary support of existing utilities continued under the street decking.

50th St. Vent Building – Coordination drawings for Milestone #2 rooms have been completed. Continuing with layout and core penetrations for the permanent fire standpipe. Began replacement of temporary wiring with permanent LSZH wiring/cables (Low smoke Zero Halogen).

Observations/Analysis:
The PMOC observes that the contractor is having issues with achieving the date of Milestone #1, Complete TMC (Terminal Management Center) - Communications Closet C5 and Communications Room C2, by March 6, 2016. This is reportedly due in part because of coordination and requirement issues between the CM014B and CS179 contracts. The electrical contractor for both the CM014B and for CS179 contracts (Systems) is Five Star Electric. The PMOC also observes that the Project Office reports that CM014A contractor delays in completing the opening for Commuincations Room C2 is also affecting Milestone #1.

Concerns and Recommendations: MTACC needs to expedite approval of the contract Baseline Schedule. The PMOC remains concerned that continued delays in completing the work of CM014A are impacting the work for CM014B.

Queens Third-Party Contracts

CQ032 Contract – Plaza Substation and Queens Structures

Status: As of November 30, 2015, the Forecast at Completion for CQ032 increased to $261,951,466 due to pending and potential contract modifications. The MTACC forecast for Substantial Completion slipped to August 1, 2016. Actual construction progress for November 2015 was 1.3% versus 1.5% planned. Cumulative progress through November 30, 2015, was 92.5% actual versus 83.7% planned.

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$147.4M (Award)	$236.1M	+88.7M +60.2%	$262.0M	+114.6M +77.7%	+25.9M +11.0%
Scheduled SC Date		8/14/14	3/1/16		8/1/16		
Duration (NTP-SC)		36 mos.	55 mos.	+19 mo.	60 mos.	+24 mos. +66.7%	+5 mos. +9.1%
Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
83.7%	92.5%	21.8%	1.8%/mo	11.7%	2.0%	2.8%/mo.	0.9%/mo.

From November 2015 ESA Monthly Report

Construction Progress: During December 2015, the CQ032 contractor continued exterior masonry installation and MEP work in the Yard Service Building. The contractor continued architectural finishes, door installation, interior masonry and roof construction at the Plaza Vent Building. The contractor also continued Plaza site work including conduit and duct bank. Construction of duct benches in the Bellmouth continued in December. The contractor continued fire standpipe installation at Tunnel A. The work on the west side of the 23rd St. facility remained on hold pending ESA review of re-design work and impact to the CQ032 schedule.

Observations/Analysis: The recent contract modification for revised HVAC equipment for the Yard Services Building had extended the projected Substantial Completion date, and the re-design work associated with the 23rd St. facility may also cause delay to the Substantial Completion date.

Concerns and Recommendations: The PMOC has no immediate concerns or recommendations for the CQ032 contract at this time.

Harold Interlocking Contracts

CH053 Contract – Harold Structures Part 1 and G.0.2 Substation

Status: As of November 30, 2015, the MTACC's Forecast at Completion for CH053 increased to $299,975,797. Its forecast for Substantial Completion was extended an additional 10 days to January 29, 2016, to allow for retaining wall construction after the 12kV "burn-in" period is completed. Actual construction progress for November 2015 was 0.1% versus 0.0% planned (the contract was supposed to be complete by now). Cumulative progress through November 30, 2015, was 95.8% actual versus 100.0% planned.

	1	2	3	4	5	6
	Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost	$137.30M (Award)	$297.0M	+159.9M +116.3%	$300.3M	+163.0M +118.7%	+3.3M +1.1%
Scheduled SC Date	5/5/10	2/18/15		12/28/15		
Duration (NTP-SC)	28 mos.	85 mos.	57 mos. +203.6%	95 mos.	+67 mos. +239.3%	+10 mos. +35.7%

Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
100.0%	96.2%	5.7%	0.5%	1.5%	0.3%	N/A	1.0%/mo.

From November 2015 ESA Monthly Report

Construction Progress: During 4Q2015, the CH053 contractor continued the 90 day "burn-in" period for the C2 and C3 12kV traction power circuits that it began in late September 2015. The "burn-in" was successful, with no significant failures reported, and was completed in late December 2015. However MTACC does not anticipate that Amtrak, who had requested the "burn-in", to accept the turnover of the circuits until January 2016. As a result, the contractor's demolition of the existing 12kV duct bank, which had delayed many aspects of its previous construction, will be delayed until at least mid-January 2016. Additionally, the contractor completed modifications to several catenary poles and other miscellaneous punchlist repairs to bridges and retaining walls in Harold Interlocking during 4Q2015.

Observations and Analysis: CH053's "burn-in" period for the new 12kV traction power circuits proceeded smoothly and it now appears as if its path to "Substantial Completion" is finally clear.

Concerns and Recommendations: The PMOC no longer has any concerns about the CH053 contract, although it does recommend that MTACC and the contractor continue to aggressively pursue its eventual "Substantial Completion".

CH054A Contract – Harold Structures Part 2A

Status: As of November 30, 2015, MTACC's Forecast at Completion for CH054A decreased slightly to $57,922,543. Substantial Completion for CH054A was achieved on November 25, 2015, although the MTACC cumulative construction progress curve shows actual progress at only 99.1% complete.

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$21.8M (Award)	$56.2M	+34.4M +157.8%	$57.9M	+36.1M +165.6%	+1.7M +3.0%
Scheduled SC Date		12/21/10	11/26/14		11/25/15 (A)		
Duration (NTP-SC)		16 mos.	63 mos.	47 mos.	75 mos.	+59 mos. +368.8%	+12 mos. +19.0%
Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
100.0%	98.2%	7.9%	0.7%	2.1%	0.4%	N/A-Past Due	N/A-SC Achieved

From November 2015 ESA Monthly Report

Construction Progress: The CH054A contractor installed Snow Melter Unit #3 (SMU #3) and a Remote Terminal Unit (RTU) to operate all three SMUs in "F" Interlocking in mid-November 2015. Additionally, the contractor completed punchlist repairs.

Observations and Analysis: The CH054A contractor completed all construction scope included in its contract.

Concerns and Recommendations: The PMOC has no concerns or recommendations for the CH054A contract at this time. The PMOC will close this item with this Monthly Report.

Contract CH057A – Part 3 Westbound Bypass

Status: As of November 30, 2015, MTACC's Forecast at Completion for the CH057A increased slightly to $146,506,754 due to inclusion of potential contract modifications and scope increases. MTACC extended its forecast for Substantial Completion three months to April 16, 2017. Actual construction progress for November 2015 was 0.5% versus 4.8% planned. Cumulative progress through November 30, 2015, was 29.3% actual versus 84.6% planned.

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline**	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$103.3M (Award)	$109.2M	+5.9M	$146.5M	+43.2M +41.8%	+37.3M +34.5%
Scheduled SC Date		1/31/16	1/31/16		4/16/17		
Duration (NTP-SC)		26 mos.	26 mos.	0 mo.	41 mos.	+15 mos. +57.7%	+15 mos. +57.7%
Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
84.6%	29.3%	16.3%	1.4%	7.2%	1.2%	3.8%/mo.	4.2%

From November 2015 ESA Monthly Report

Construction Progress: As noted in the Executive Summary, the CH057A contractor's construction activities were hampered during 4Q2015 by on-going negotiations for CPR Nos. 23 and 25, which prevented the contractor from progressing major items of work. During December 2015, however, the contractor did intsall eight (8) soldier piles for the East Approach Structure of the Westbound Bypass Tunnel after a catenary structure, which had also hindered progress, was removed. The contractor also began the tunnel de-watering process in mid-December 2015.

Observations/Analysis: If the de-watering rates prove to be sufficient to draw the water table below 24" of the proposed tunnel invert by mid-January 2016, the contractor will begin to transfer the "jacked box" tunnel shield from its assembly yard in Newark, NJ, to the job site. The shield is so large, however, that the contractor will need to dis-assemble it for transfer and then re-assemble it at the job site, which could take 4-6 weeks in total. As a result, the contractor now anticipates beginning excavation of the Westbound Bypass Tunnel (WBY) in late March/early April 2016. Earlier in 2015, the contractor had scheduled start of excavation in

September 2015, so a March/April 2016 start will result in a 6 to 7 month delay from the originally projected start.

Concerns and Recommendations: The CH057A contract has competed with Contracts CH053 and CH054A for limited Amtrak Force Account resource support since CH057A began. CH054A has achieved Substantial Completion and CH053 will have a decreased need for Amtrak Force Account support as it also projects Substantial Completion during 1Q2016. As a result, CH057A should be able to progress its work that required such support without impediment for much of the remainder of its contract. However, the tunnel excavation is now six to seven months behind its original schedule. Continued delays on Contract CH057A will require use of limited Amtrak Force Account personnel longer than planned and may impact availability of these resources for support of Harold work scheduled to commence in 2016.

CH057C – 48th St. Bridge and Retaining Wall:

Status: As of November 30, 2015, MTACC's Forecast at Completion for CH057C decreased slightly to $2,779,804 and its forecast for Substantial Completion remained at February 18, 2016. Actual construction progress for November 2015 was 9.3% versus 0.0% planned. Cumulative progress through November 30, 2015, was 79.4% actual versus 100.0% planned. Due to the on-call nature and its present work scope, the PMOC has not developed a table similar to other long-standing work packages for CH057C.

Construction Progress: During 4Q2015, the CH057C conctractor installed all concrete ties and continuous welded rail (CWR) on the RPR (Relocated Primary Route) Track in Harold Interlocking. The only remaining work on the RPR Track is distribution of ballast and final surfacing.

Observations/Analysis: The contractor is doing a satisfactory job of constructing the RPR Track, although it is slightly behind its schedule.

Concerns and Recommendations: The PMOC has no concerns about or recommendations for the CH057C at this time.

Systems Contracts

VH051 (Part 1) – Harold and Point Central Instrument Locations (CILs) and Harold Tower Supervisory Control Ssytem (VH051 Part 2)

Status: VH051 Part 1 and 2 are procurement packages for LIRR Communications and Signal (C&S) system equipment and apparatus for the Harold and Point Interlocking Central Instrument Locations (CILs) (Part 1) and Harold Tower Supervisory Control System (Part 2), respectively. Purchase of all materials has already been made and delivery of remaining CILs will be a "just in time" for "ESA First" scheduled installation. Factory Acceptance Testing will be done prior to scheduled delivery of each CIL. The Harold Tower Supervisory Control System (Part 2) is in service. To date, both the "H4" and "H3" CILs in Harold Interlocking have been placed in service. "H5", "H6", and Location 30 CILs are presently scheduled for cutover in 2017 and "H1" and "H2" CILs are scheduled for 2018.

CS179 - Systems Package 1-Base Contract

Status: As of November 31, 2015, the reported Forecast at Completion for CS179 is at $614,410,480 as compared to the $606,938,540 reported by MTACC in its October 2015 report. This is an increase of $7,471,940 and MTACC indicates it is a result of the addition of future option costs and bid contingency. The MTACC forecast for Substantial Completion remained at November 25, 2019. MTACC reports that the Baseline Schedule was procecssed in early November 2015 with a status of "Proceed", which the ESA CM will now be able to use to ascertain contract progress. In its November 2015 monthly report, MTACC shows a progress curve for the CS179 contract that presents actual contract progress as 15.4% versus a planned 4.8%; numbers that are based on actual versus projected costs, not physical construction efforts. As presented, these progress numbers imply that the contract is ahead of schedule; however, without seeing MTACC's comments on an anlysis of the contractor's monthly schedule updates, it is unclear to the PMOC how MTACC can reach this conclusion from a physical design and construction perspective. On November 6, 2015, MTACC exercised three contract options with a total value of $154.8M, with no change to the overall contract price. Two of these options, Option No. 6 – Obsolescence Management and No. 7 – Specialty Equipment for Options, were executed on the day specified in the conformed CS179 contract documents. The third option, No. 2A – 63rd Street Tunnel, although also executed on the day specified in the conformed CS179 contract documents, was only one-half of the "Option No.2" specified in the conformed contract. The other portion of this option, now designated "No. 2B – Manhattan Work", must still be executed although no specific date for the execution of this 2B option is forecast as of yet. A tentative time frame of April 2016, for Option 2B has been provided, pending availability of funding.

Construction Progress: The contractor is progressing with conduit and hanger installations at the B-10, Roosevelt, Vernon, Tunnels B/C and D, Yard Lead Tunnel, 29th Street, 39th Street, and Queens Plaza facilities. Other work underway includes demolition of concrete at the 2nd Avenue facility, fire alarm wiring at the B10 facility, and the pouring of a generator slab at the Queens Plaza facility. The two Stop Work Orders (SWOs) for work in the control rooms at the Vernon and B-10 facilities are still in effect. These SWOs were issued because of the design conflict between the room size and equipment layout in the control rooms. The GEC is still working on solutions to this issue. Although the ESA CM was prepared to negotiate the extra work associated with these SWOs in October 2015, that effort did not take place. No date was given for completion of these negotiations or the rescinding of the SWOs. Work at the 23rd Street

facility remains on hold as a result of an issue with the concrete floor and the ESA CM indicated that some discussions are still underway with the CQ032 contractor regarding this issue. The contractor again noted that it wants to begin work at this location. No CS179 contract work is underway in Tunnel A, as a "hand-over" inspection from the CQ032 contractor is still required. New work that will start within the next six weeks includes HVAC ductwork installation at the Roosevelt facility and HVAC ductwork removal at the 2nd Avenue facility. In July 2015, it was noted that in the contractr's schedule update that 10 out of 15 established contract milestones were delayed between 1 and 7 months. When the PMOC inquired as to the impact that these delayed milestones would have, especially the seven-month delay in Milestone #1, the contractor indicated that it was holding the Substantial Completion date while it reviewed all other work activites. Based on MTACC's evaluation, however, MTACC believes that only one of the contract milestones (Milestone #1 for the Traction Power Room at the Vernon Facility) is delayed but that this delay will not impact the overall contract schedule. An analysis of the contractor's monthly schedule updates will be needed to ascertain if the milestones are delayed by any amount and what impact they might present to the completion of the contract.

Throughout the 2Q2015 and 3Q2015 period, the PMOC reported that backlog of overdue submittal reviews by ESA continued to increase every month. In December 2015, the ESA CM advised that the number of overdue submittal and RFI reviews was reduced to approximately 120, a dramatic reduction from that previously reported by the PMOC. The ESA CM will continue to work with the GEC to reduce the overdue backlog even further.

Concerns and Recommendations: The PMOC has concerns related to the timely delivery and discussion of the contrator's monthly schedule updates. These schedule updates are currently not available for discussion at the monthly Progress meetings, nor are they, or the MTACC's comments about them, made available to the PMOC for review and evaluation.

CS084 - Traction Power System Package #4

Status: In its November 2015, monthly report, MTACC indicated that Forecast at Completion for CS084 increased and is now at $79,276,757 which is $902,985 greater than the $78,373,772, project budget. MTACC indicates that this increase is a result of the anticipated additon of the L3 signal eletrical work. The MTACC forecast for Substantial Completion is slated for December 2, 2019. In September 2015, MTACC gave the contractor "conditional approval" of a baseline schedule, citing minor issues with the resource loaded components in the schedule. The contractor and MTACC continue to work on finalizing the resource loading issues so that an "unconditionally" approved baseline schedule is available. Meanwhile, the "conditionally" approved baseline, without the resource loading, is being used to ascertain progress of the contract. In its November 2015 Monthly Report, MTACC shows a progress curve for the CS084 contract that presents actual contract progress as 2.7% versus a planned 3.6%, numbers that are based on actual versus projected costs, not physical construction efforts. An analysis of the status of the work activities shown on the approved baseline schedule and the monthly schedule updates are necessary to determine the status of the progress of physical work on this contract. The PMOC has requested, copies of the CS084 approved baseline schedule and the monthly schedule updates in Primavera format for review and evaluation.

Design Progress: The contractor continues with its design development of the substations. Once the first substation design, in this case the C08 substation, is approved, it will be used as the basis for the rest of the substation designs.

Construction Progress: During 4Q2015, the CS084 contractor continued performing field surveys to identify work requirements at the various contract sites and the procurement of materials needed to progress the work. In December 2015, the contractor installed the property line box that will serve as the interface between the electrical feeders from Consolidated Edison and the signal power feeds for locations in Harold interlocking. The retroactive contract modification that will enable the contractor to progress the rest of the additional signal power work will be finalized in early January 2016. Several construction conflicts in the existing Vernon facility have been noted and are under review by the ESA CM and the contractor to identify potential resolutions.

Concerns and Recommendations: The PMOC encourages the ESA PMT to quickly resolve any outstanding design comments on the C08 substation so that the final desing for this facility can be approved and other substation designs can progress.

PMOC Note about Amtrak Force Account Packages FHA01, FHA02 and FQA65: The Substantial Completion dates shown in the following Amtrak Force Account sections reflect MTACC's "ESA First" schedule, which originally extended each of the work packages approximately 24 months. Since the original extension, MTACC has continued to update those dates on a monthly basis.

Harold Stage I Amtrak FA (FHA01)

Status: As of November 30, 2015, MTACC's Forecast at Completion for FHA01 remained at $18,824,861, and its forecast for Substantial Completion remained at May 4, 2018. Actual construction progress for November 2015 was 0.9% versus 0.0% planned. Cumulative progress through November 30, 2015, was 98.8% versus 99.2% planned.

	1	2	3	4	5	6
	Original Baseline	**Current Approved Baseline***	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost	$9.5M (Award)	$18.8M	+9.3M +97.9%	$18.8M	+9.3M +98.0%	$0.0 0.0%
Scheduled SC Date	9/30/10	2/4/16		5/4/18**		
Duration (NTP-SC)	39 mos.	103 mos.	64 mos. +164.1%	130 mos.	+91 mos. +233.3%	+27 mos. +26.2%

Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
99.2%	98.8%	1.5%	0.1%	1.0%	0.2%	N/A- Past Due	0.04%/mo.

From November 2015 ESA Monthly Report

*The term "baseline" is a misnomer with Force Account work. In Amtrak's case, the "original baseline" has increased to account for scope changes as detailed in the Project Initiations (PIs) that have been executed for Stage 1. It is presented in the table to be consistent with the contract tables contained elsewhere in this report.

**Substantial Completion dates for all Amtrak Force Account Work packages extended as a result of the MTACC's "ESA First" Schedule re-baseline.

Construction Progress: Amtrak Force Account personnel did not perform any significant Stage 1 construction during 4Q2015.

Observations and Analysis: As a result of the adoption of the "ESA First" construction schedule, MTACC has de-emphasized its previous program of construction by "stages". Consequently, the remaining former Stage 1 constuction elements are not presently ESA PMT priorities.

Concerns and Recommendations: Because the "ESA First" schedule re-baseline extended much of the remaining Amtrak Force Account construction, the PMOC presently has no concerns that Amtrak has the technical capacity and capability to perform the work by the revised Substantial Completion date. As a result, the PMOC has no recommendations at this time.

Harold Early Stage 2 Amtrak FA (FHA02)

Status: As of November 30, 2015, MTACC's Forecast at Completion for FHA02 remained at $60,150,231, and its forecast for Substantial Completion remained at April 10, 2020. Actual construction progress for November 2015 was 3.5% versus 0.0% planned. Cumulative progress through November 30, 2015, was 106.5% actual versus 97.8% planned (MTACC accounts for construction progress based on costs invoiced against its current approved budget. Amtrak has invoiced 106.5% of MTACC's budget.).

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline***	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$9.70M (Award)	$45.4M	+35.7M +368.0%	$60.2M	+50.5M +520.6%	$14.8M +32.6%
Scheduled SC Date		9/30/13	8/15/17		4/10/20**		
Duration (NTP-SC)		58 mos.	106 mos.	48 mos. +82.8%	138 mos.	+80 mos. +137.9%	+32 mos. +30.2%
Percent Complete		**Actual – 12 mos.**		**Actual- 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
97.8%	106.5%	16.1%	1.3%	10.7%	1.8%	1.7%	N/A-Over 100%

From November 2015 ESA Monthly Report

* The term "baseline" is a misnomer with Force Account work. In Amtrak's case, the "original baseline" has increased to account for the scope changes as detailed in the Project Initiations (PIs) that have been executed for Stage 2. It is presented in the above table to be consistent with the contract tables contained elsewhere in this report.

**Substantial Completion dates for all Amtrak Force Account Work packages extended as a result of the MTACC's "ESA First" Schedule re-baseline.

Construction Progress: During 4Q2015, Amtrak Electric Traction personnel continued to make catenary modifications at the B-913 catenary structures, realigned trolley wires over the #747 crossover, and installed 3rd rail gaps at the new E35 Signal Bridge. Amtrak C&S personnel continued to support the LIRR cutover of the new "H3" CIL.

Observations/Analysis: Substantial Completion for FHA02 has been extended as a result of MTACC's adoption of the "ESA First" Schedule. The PMOC believes that Amtrak will be able to perform all remaining FHA02 work by the new Substantial Completion date.

Concerns and Recommendations: The PMOC has no concerns about or recommendations for FHA02 construction at this time.

Loop Interlocking CIL Amtrak FQA65

Status: As of November 30, 2015, MTACC's Forecast at Completion for FQA65 remained at $33,287,863, and its forecast for Substantial Completion remained at December 10, 2022. Actual construction progress for November 2015, was 0.7% versus 1.3% planned. Cumulative progress through November 30, 2015, was 15.2% actual versus 48.4% planned (as explained in FHA02, above, MTACC bases percentage complete on the amount invoiced versus its present budget. To date, Amtrak has invoiced 15.2% of MTACC's budget for the work it has performed, whereas MTACC had planned for 48.4% of the budget to be spent by now).

		1	2	3	4	5	6
		Original Baseline	**Current Approved Baseline***	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost		$9.1M (Award)	$21.0M	+11.9M	$33.3M	+24.2M +265.9%	$12.3M +58.6%
Scheduled SC Date		8/12/18	8/12/18		12/10/22**		
Duration (NTP-SC)		55 mos.	55mos.	No Change	107 mos.	+52 mos. +94.5%	+52 mos. +94.5%
Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
48.4%	15.2%	7.9%	0.7%	5.5%	0.9%	1.8%	1.0%/mo.

From November 2015 ESA Monthly Report.

* The term "baseline" is a misnomer with Force Account work. In Amtrak's case, the "original baseline" has increased to account for the scope changes as detailed in the Project Initiations (PIs) that have been executed for Stage 2. It is presented in the above table to be consistent with the contract tables contained elsewhere in this report.

**Substantial Completion dates for all Amtrak Force Account Work packages extended as a result of the MTACC's "ESA First" Schedule re-baseline.

Construction Progress: During 4Q2015, Amtrak C&S personnel continued to install the retaining wall along Loop 2 Track between Loop and "T" Interlockings, continued to install and terminate signal cables at the new "T" Central Instrument House (CIH) and the F2E signal case, and installed rail jumpers between the "R7 " location and the "T" CIH. Amtrak communications personnel installed communications cables between the High Speed Rail (HSR) Building and the "T" CIH.

Observations/Analysis: Substantial Completion for FQA65 has been extended as a result of MTACC's adoption of the "ESA First" Schedule. The PMOC believes that Amtrak will be able to perform all remaining FQA65 construction by the new Substantial Completion date.

Concerns and Recommendations: The PMOC has no concerns about or recommendations for FQA65 at this time.

Harold Stage 1 LIRR FA (FHL01)

Status: As of November 30, 2015, MTACC's Forecast at Completion for FHL01, remained at $24,379,363. Its forecast for Substantial Completion was extended by one month to September 19, 2016. Actual construction progress for November 2015 was 0.1% versus 0.0% planned. Cumulative progress through November 30, 2015, was 86.7% actual versus 100.0% planned.

	1	2	3	4	5	6
	Original Baseline	**Current Approved Baseline***	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost	$28.8M	$24.4M	+-$4.4M -15.3%	$24.4M	+4.4M -15.3%	$0.0 0.0%
Scheduled SC Date	9/30/10	4/9/15		9/19/16		
Duration (NTP-SC)	39 mos.	94 mos.	+55 mos. +141.0%	111 mos.	+72 mos. +184.6%	+17 mos. +18.1%

Percent Complete		**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
100.0%	86.7%	18.1%	1.5%	17.2%	2.9%	0.1%	1.2%/mo.

From November 2015 ESA Monthly Report

* The term "baseline" is a misnomer with Force Account work. In the LIRR's case, the "original baseline" has decreased to account for the scope changes as detailed in the Memoranda of Understandings (MOUs) that have been executed for Stage 1. It is presented in the above table to be consistent with the contract tables contained elsewhere in this report.

Construction Progress: LIRR Force Account personnel did not perform any significant Stage 1 construction during 4Q2015.

Observations and Analysis: Recent ESA PMT priorities have been on Stage 2 and Stage 3 work. Significant remaining LIRR Stage 1 construction includes completion and commissioning of the new signal power separation system and the new G02 Substation.

Concerns and Recommendations: The PMOC remains concerned that, because of MTACC's present emphasis on Stage 2 and Stage 3 construction, Stage 1 work will be left undone until the end of the project. The PMOC believes that work not done when scheduled will tend to accumulate and eventually delay the project's RSD further than it already is. The PMOC recommends that the ESA PMT monitor incomplete or unstarted tasks, develop a master list of critical ones, and develop a plan to address them well before the RSD date approaches.

Harold Early Stage 2 LIRR FA (FHL02)

Status: As of November 30, 2015, MTACC's Forecast at Completion for FHL02 remained at $92,932,559. Its forecast for Substantial Completion was extended nine months to May 15, 2019. Actual construction progress for November 2015 was 2.1% versus 1.7% planned. Cumulative progress through November 30, 2015, was 81.4% actual versus 91.6% planned.

	1	2	3	4	5	6
	Original Baseline	**Current Approved Baseline***	**Change to Original (2-1)**	**EAC/ Forecast**	**Change to Original (4-1)**	**Change to Current (4-2)**
Contract Cost	$7.40M	$65.0M	+-$57.6M +778.4%	$92.9M	+85.5M +1155.4%	$27.9M +42.9%
Scheduled SC Date	11/30/15	11/26/16		5/15/19		
Duration (NTP-SC)	75 mos.	87 mos.	+12 mos. +16.0%	117 mos.	+42 mos. +56.0%	+30 mos. +34.5%
Percent Complete	**Actual – 12 mos.**		**Actual - 6 mos.**		**Avg. Reqd. Progress**	
Plan / **Actual**	**Total**	**Avg./mo.**	**Total**	**Avg./mo.**	**Contract SC**	**Forecast SC**
91.6% / 81.4%	19.8%	1.7%	9.8%	1.6%	1.3%/mo.	0.4%/mo.

From November 2015 ESA Monthly Report.. *The term " baseline" is a misnomer with Force Account work. In LIRR's case, the "original baseline" has increased to account for the scope changes in the MOUs that have been executed for Stage 2. It is presented in the above table to be consistent with the contractor tables contained elsewhere in this report.

Construction Progress: During 4Q2015, LIRR Signal personnel completed and "cutover" of the new "H3" Central Instrument Location (CIL) in Harold Interlocking. Signal Personnel also continued to install and terminate cables for nine (9) separate snow melter units in various locations throughout Harold Interlocking, continued to excavate for and install signal trough and cables at the new "H1" and "H2" CILs, completed three (3) distinct signal revisions in Harold, and installed track wires at the new E35 Signal Bridge. LIRR High Tension personnel continued to install aerial signal power separation cables between towers T36 and T40 and 3rd Rail personnel installed a new 3rd rail switch gap at the #4149 turnout. LIRR Communications personnel installed communications cables between 39th and 48th Sts. at the east end of Harold Interlocking.

Observations/Analysis: The PMOC notes that cutovers of the "H5", "H6", and Location 30 CILs, which had been programmed for 2016 in the initial "ESA First" Schedule, have now been re-scheduled to 2017 based on the length of time it took LIRR to make the recent "H3" cutover. The PMOC considers three (3) major cutovers in one year to be very ambitious and believes that LIRR, based on past cutovers, may be hard-pressed to accomplish this goal. As a result, the

PMOC believes that the cutover of at least one of these CILs may have to be re-scheduled beyond 2017.

Concerns and Recommendations: As with FHL01, the PMOC is concerned that Stage 2 work may not be completed on schedule and will continue to accumulate along with leftover Stage 1 and future Stage 3 work. The PMOC recommends that the ESA PMT monitor incomplete and unstarted tasks, create a master list of critical tasks, and develop a plan to address them well before the RSD date approaches.

2.4 Operational Readiness

The 4Q2015 Quarterly Operational Readiness meeting was held on December 17, 2015. The following Operational Readiness progress was made since the last quarterly meeting:

- Task Group (TG) No.1, Operational Readiness: Volume Nos.2 and 3 of the Rail Activation Plan (RAP) remains under revision to address continuing comments from stakeholders and updates on ESA Project status. The RAP is a "living' document that will continue to be refined as the Project progresses. This TG will be reviewing the entire ESA Integrated Project Schedule (IPS) to perform a "reality check" and update RAP activities as may be necessary to reflect the current status of activities and planson the various ESA contracts;
- Task Group No.2, Train Service and Operations: Continued work on the development of ESA Service Disruption Plans and developed a draft matrix for rush hour service disruption actions;
- Task Group No.3, Infrastructure, Systems, and Engineering: The LIRR ESA Team continued its review of the MTACC/ESA Memorandum of Understanding (MOU) related to Positive Train Control (PTC) and worked on other MOUs with Metro-North Railroad (MNR) regarding elevator and room designations at Grand Central Terminal;
- Task Group No.4, Asset Management: Maximo, the Database application being used for Asset Management on the ESA project, and which will used by the LIRR after the turnover of the ESA project and entry into the Revenue Service, is being used in a "production" environment for substantially completed Contracts CQ031, CM013, and CM004. Problem Codes and Cause and Remedies, used for failure analysis, have been developed and loaded into Maximo Production database for CQ031, CM013, CM013A, and CM004;
- Task Group No.4, Asset Management: Contractor training on the Maximo database is continuing with workshops held for the CM013A and CM014A contractors;
- Task Group No.5, Grand Central Terminal: It was noted that meetings and a "walk-thru" of the GCT areas (terminal and caverns) had taken place with four major cellular phone carriers. The purpose of these meetings was to convey to the cellular carriers the general overview of the requirements for, and extent of, cellular coverage needs on the ESA project;
- Task Group No.6, Staffing and Training: Continued refining LIRR staffing and training requirements and timelines for all disciplines by occupation to determine peak hiring and training periods;

- Task Group No.7, Safety and Security: Continued to develop the system safety requirements for certification of the designs of each of the ESA contracts and to develop the joint LIRR/MNR GCT Emergency Operations Plan. Documents supplied by ESA at the 4Q2015 Operational Readiness Briefing indicate that safety certification for four design contracts (CM007, CM015, CS079, and CS284 (Former CS086)) and four active construction contracts (CM004, CM013, CM013A, and CM014B) remains to be accomplished. As no schedule information for these activities was available at the meeting, a commitment was made by the ESA personnel to provide the PMOC with this schedule information as soon as possible;
- Task Group No. 8, Public Information and Marketing: Worked on re-confirming configuration scale, and placement locations for future digital media advertising throughout the LIRR Concourse;
- Task Group No. 9, Agreements: Working on a Memorandum of Understanding (MOU) for Positive Train Control (PTC) between MTACC and the LIRR to facilitate the use of the LIRR's PTC consultant's participation in the installation and testing of the PTC system at Harold Interlocking and integration of the PTC work into the overall ESA IPS; and,
- Task Group No. 9, Agreements: Working on a MOU with MNR regarding trash removal at GCT.

Observation: The Operational Readiness Group continues to coordinate ESA PMT activities into a cohesive plan required to commission the project for daily operations. However, the PMOC noted that definitive dates for the completion of safety certifications need to be identified.

Concerns and Recommendations: As a result of discussions at the 4Q2015 briefing, it appears to the PMOC that schedules for completion of the safety certification process for the various design and construction contracts and for the commencement of the security certification process are not readily available, raising a concern regarding ESA's ability to effectively manage these processes. The PMOC will follow up on this concern once ESA provides the certification process scheduling documentation.

2.5 Vehicles

Status: During 4Q2015, the ESA Vehicle Project Management Team (PMT) completed development of M9a vehicle specifications to be included in the RFP (which will be ordered pending funding approval of the 2015-2019 MTA capital program) and provided locomotive specifications to the LIRR.

Observations:

The ESA PMT and the railroads continue to progress the procurement of the M-9/M-9a vehicles, although slightly behind schedule.

Concerns and Recommendations:

Although procurement of the vehicles is slightly behind schedule, the PMOC has no significant concerns about or recommendations for the ESA vehicle procurement at this time.

2.6 Property Acquisition and Real Estate

Status/Observations:

During 4Q2015, the MTA continued the following activities in support of the CM014B Contract in Manhattan: negotiations with the General Manager of 335 Madison Ave to relocate and reframe support struts for construction of the Biltmore Room escalators in GCT; Coordination and approval of work permits from the NTC Department of Buildings for a third party contractor to perform construction on privately owned properties; and discussions with a real estate company representing 250 Park Ave to lower a building strut. For Queens construction, MTA continued to prepare an agreement with the New York Presbyterian Church for a contractor to paint and remove graffiti from a modular retaining wall.

Concerns and Recommendations: The PMOC has no concerns or recommendations for MTA real estate issues at this time.

2.7 Community Relations

Status:

The ESA Community Relations staff continued its outreach efforts during 4Q2015, which included: a project update presentation to queens Community Board #2 Land Use Committee; commencement of monthly meetings with JP Morgan Chase to discuss construction activities along 48th St.; coordination with MTA and NYC agencies to address issues and conditions under the 43rd St. Bridge in Queens; continued monthly mailings to Sunnyside (queens) residents to notify them of constrcuion activities in the area; and continued outreach to stakeholders, residents, and businesses along the entire ESA alignment to address present issues and concerns as well as future planned construction.

Observations and Analysis: The MTACC Community Relations Staff continues to perform its outreach campaign in an entirely effective manner.

Concerns and Recommendations:

The PMOC has no concerns about ESA community relations at this time and recommends that the ESA Community Relations staff continue to perform its duties in the same manner as it has in the past.

3.0 PROJECT MANAGEMENT PLAN AND SUB PLANS

Status:

MTACC submitted PMP Rev. 10 to the FTA and PMOC on July 18, 2014. This revision incorporates changes stemming from FTA/PMOC comments on PMP Rev. 9.0 provided in December 2013, as well as changes that resulted from the MTACC's Candidate Revision process. Based on working meetings, dialogue, and additional clarifying review comments from the PMOC, MTACC made additional changes to the PMP and submitted an updated Rev. 10 on September 18, 2014. The PMOC completed its review and evaluation of MTACC's revisions and responses and submitted its findings to FTA-RII in 4Q2014. MTACC subsequently submitted a revised Rev. 10 on March 13, 2015, that included updated information on the Change Control Committee. The PMOC continues to coordinate with MTACC arranging a series of working meetings with ESA chapter authors and the corresponding PMOC reviewers to resolve the outstanding FTA/PMOC evaluation comments. Several working meetings have been completed starting in May 2015 and continuing through December 2015.

Observation: The PMOC is working with MTACC to resolve the remaining issues with the PMP and will follow up with FTA in finalizing responses.

Concerns and Recommendations: There are no major concerns at this time.

3.1 PMP Sub-Plans

Status:

The status of the key PMP sub-plans is discussed in the ELPEP Compliance Section of this report. MTACC issued updates to its TCC and Cost Management Plans in June 2015. The PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments on both the TCC and the CMP and recommended meeting with MTACC to resolve remaining issues. The FTA subsequently provided MTACC with the TCC and CMP evaluations for their review and action. MTACC responded with a reply for the TCC on September 24, 2015.

MTACC submitted its revised Cost Management Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 8, 2015. The MTACC submitted a revised CMP in response to FTA/PMOC comments on June 30, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and met with MTACC on November 16, 2015. MTACC is working on additional agreed revisions and is evaluating the PMOC's recommendations in six areas. MTACC issued an interim revision update in December 2015.

MTACC issued its revised Schedule Management Plan (SMP), which now includes both the ESA and SAS projects, on October 26, 2015, and the PMOC is nearing completion of its review

Observations:

MTACC has revised its TCC Plan, Cost Management Plan, and its Schedule Management Plan. The PMOC anticipates updates to the Risk Management Plan.

Concerns and Recommendations:

MTACC needs to ensure that the proper candidate revisions are prepared and presented to the CCC for approval before any changes are incorporated into these plans.

3.2 Project Procedures

Status: Revisions to the CMP and SMP may require updates to the referenced Project Procedures. The PMOC will evaluate this upon receipt and review of the revised CMP and SMP.

Observations: None

Concerns and Recommendations: There are no significant concerns at this time.

4.0 PROJECT SCHEDULE

4.1 Integrated Project Schedule

Status: This report is based on the submitted ESA IPS #76, data date December 1, 2015, and its variance report. The IPS reflects an early Revenue Service Date (RSD) of March 25, 2020, a target RSD of February 12, 2021, inclusive of 324 days of IST contingency, and a late RSD of December 13, 2022, inclusive of 324 days of IST contingency plus 669 days of program-level contingency. Overall, the IPS has had 993 calendar days of contingency since the July 1, 2014, baseline. This amount of contingency is equivalent to 47% of the remaining IPS duration.

ESA's critical path goes through the following contracts and tasks, and it is slightly different from the baseline IPS of July 2014 (see discussion under Section 4.2);

- Procurement of CM007;
- Design/fabrication/delivery of the first CM007 precast elements;
- CM007 structural element construction at the Mezzanine level in the Cavern GCT;
- CM007 overhead smoke plenum construction in the Cavern GCT;
- CM007 platform element construction at the Lower Level Cavern GCT;
- CM007 Elevators 6/8/5/7/18/19 construction from the Lower Level to the Upper Level in the GCT Cavern;
- CM007 ready for IST and turnover to CS179 in the Caverns;
- CS179 commence IST at various locations/systems; Jamaica Station, CM007 installed equipment, TMC, MTA Police, TOC;
- CS179 Contract Contingency;
- CS179 Substantial Completion;
- Various ESA contingency activities; and
- LIRR Revenue Service Date (RSD).

The PMT has indicated that, because of delay in Contract CM006 that will effect NTP of Contract CM007, RSD of March 2020 is no longer achievable.

Additionally, completion dates and hand-offs for the following contracts are less than 45 days off the ESA critical path detailed above:

- CM014B: GCT Concourse & Facilities Fit Out (hand off to CS179 IST);
- CM006: Manhattan North Structures (hand off to CM007 access via critical path above);
- CH057D: Harold Track Work: PW1/NH1/WBY (hand off to CH058A) – Future Contract;
- CH058A: Harold Structures – Part 3 A, Tunnel B/C Approach Structures;
- FHL02/03/04: Harold LIRR Force Account Work);
- CS084: Tunnel Systems Package 4 – Traction Power Procurement and Installation; and,
- FQA65: Loop Interlocking – Amtrak Force Account work.

Observations and Analysis:

It is noted that the ESA 2012 Schedule Re-Baseline was in place for only two years before the next re-baseline was established in 2014. This is indicative of the need for an updated Basis of Schedule that would address the issues that caused the failure of the 2012 baseline.

The PMOC is concerned about the basis of ESA's schedule and the fact that the IPS baseline has not been preserved since July 2014:

1. ESA has acknowledged that RSD of March 2020 is not achievable. The current IPS, however, does not show changes in Manhattan Contracts. Furthermore, ESA does not have any forecast of delays that will affect CM007 NTP that states that, after negotiation with CM007 contractor the PMT will release a new IPS.
2. ESA IPS does not have a WBS and it is not clear how the PMT traces productivity from the Contract Packaging Plan to Package-Specific Estimates and the IPS. An example of this issue is that the PMT does not have total Work-Hours in its estimate for Contract CM007 [redacted] nor does it include Work-Hours in its IPS or package-specific schedule. The PMOC's estimate for Contract CM007 Work-Hours is at least 4 million Work-Hours based on the performance of Contracts CM005, CM006, and SAS Contract C-26007 (C4B). The PMOC has estimated a 53 month schedule for Contract CM007 with an additional three months for contingency. The PMT's baseline estimate however, was a forty month schedule but in this month's variance report, the PMT indicates a forty three month schedule;
3. The ESA Basis of Schedule stated that the ESA critical path goes through Substantial Completion of CM005 Manhattan South Structures, then through CM007 GCT Caverns Completion. The critical path then goes from Substantial Completion of CM007, to CS179 System Package 1 – Facilities Systems installation, then to Integrated Systems Testing in the GCT caverns. Less than a year later, the PMT pushed back the NTP of CM007 for 4 months. Unfortunately, however, Contract CM006 Manhattan North Structures is experiencing significant delay in its Milestone #2 which will constrain physical access, as originally planned, to the caverns for Contract CM007. The PMOC's schedule had considered that NTP for Contract CM007 depends upon the three conditions shown below. Simply creating a start milestone for the NTP in the IPS does not address the complexities of either access or funding issues.

   It should also be noted that the PMOC has assumed three conditions should be satisfied so Contract CM007 can start its work, and that's a major reason for such difference between the PMOC and ESA dates for NTP of this package. These three conditions are:

   - CM005 finishes on time; contract is currently scheduled to finish on Feb. 2016;
   - CM006 MS#2 to be finished before April 2016. The Contractual date of this milestone is Feb. 2016; however, current contractor's forecast for this milestone is delayed 6 months although ESA only recognized 45 calendar days; and

- There won't be a funding constraint for the award of this package.

Currently, only the first condition is forecast to be satisfied. MTA has advised that an interim funding solution will need to be developed that allow MTA to award the CM007 contract in January 2016. The second condition continues to slip however, which indicates that ESA's Basis of Schedule included inaccurate assumptions.

The PMOC's baseline schedule (July 2014) for ESA and the PMT's are plotted in tables below:

TABLE 4.1 - ESA July 2014 Baseline

Contract	Start	Duration (month)	Finish
CM005	1-Sep-13	31	6-Apr-16
CM007	6-Apr-16	39	8-Jul-19
IST	8-Jul-19	10	13-May-20
Start up	13-May-20	15	10-Sep-21
Contingency	10-Sep-21	15	**13-Dec-22**

TABLE 4.2 - PMOC Baseline

Contract	Start	Duration (month)	Finish
CM005, CM006 (MS#2), and funding certainty	1-Sep-13	34	15-Jul-16
Contingency	15-Jul-16	3	16-Oct-16
CM007	16-Oct-16	53	15-Apr-21
Contingency	15-Apr-21	3	15-Jul-21
IST	15-Jul-21	15	15-Oct-22
Start Up	15-Oct-22	8	15-Jun-23
Contingency	15-Jun-23	6	**31-Dec-23**

The fundamental differences between the two schedules are the PMOC's estimated duration for CM007 is fifty three months with three months of contingency versus ESA's original estimate of forty months, although ESA is projecting a forty three month schedule in this month's IPS #76. Additionally, the PMOC believes that Integrated Systems Testing will require a full fifteen months, without disturbance, at the end of all construction work. ESA's schedule, however, indicates that the majority of IST will be done while other construction work is going on. This represents a fundamental disagreement and is the basis for a significant part of the schedule differences between ESA and the PMOC.

4.2 90-Day Look-Ahead of Important Activities

Table F-2 in Appendix F shows package-specific 90 day Look Ahead. Table 4.3 below is a list of upcoming contracts in the next two quarters prior to the FTA's first hold point, which is scheduled to take place in 3Q2016.

TABLE 4.3 – 1Q and 2Q2016 Upcoming Contracts

Contract Description	Advertise Date	Bid Date	NTP	Project Period	Substantial Completion
CM007 GCT Caverns	12/19/2014 (A)	Technical Bid: 9/15/2015 (A) Cost Bid: 10/27/2015 (A)	2/3/2016	43 Months	7/24/2019
CQ033 Mid-Day Storage Yard	3/1/2016	4/15/2016	5/27/2016	36 Months	5/28/2019
VQ033 Mid-Day Storage Yard CIL Procurement	8/17/2015 (A)	10/30/2015 (A)	1/4/2016	42 Months	5/28/2019
CH057 48th Street Bridge / D Pit and Approach Structure	4/7/2015 (A)	7/9/2015 (A)	12/3/2015	19 Months 30 Months	7/5/17 (base scope only) 5/25/2018 (w/ options)
CH061A Tunnel A	1/4/2016	2/15/2016	4/1/2016	16 Months	8/1/2017

4.3 Critical Path Activities

The ESA Critical path has changed since its re-baseline of July 2014. The Table 4.4 below shows the changes:

TABLE 4.4 - IPS# 76, Data Date December 1, 2015, Critical Path

Activity Name	Original Duration	Start	Finish
CM007 Contract	1054	06-Mar-15 A	19-Apr-19
IST INTEGRATED SYSTEM TESTING (PART OF CS179)	153	19-Apr-19	26-Nov-19
STARTUP/TESTING/COMMISSIONING/REVENUE SERVICE	1113	27-Nov-19	13-Dec-22
Early Revenue Service Date*			**25-Mar-20**
ESA IST Contingency 1 (IST Completion Contingency to LIRR)	170	27-Nov-19	14-May-20
Stakeholder agreed additional IST Contingency 2 (5 months)	154	15-May-20	15-Oct-20
COMPLETION OF INTEGRATED SYSTEM TESTING (WITH CONTINGENCY)	0		15-Oct-20
Target Revenue Service Date			**12-Feb-21**
ESA Program Schedule Contingency	365	16-Oct-20	15-Oct-21
Stakeholder agreed additional Program Contingency (10 months)	304	16-Oct-21	15-Aug-22
ESA Project Substantial Completion for LIRR Final 3 Months	0		15-Aug-22
ESA Planning Contingency Ready for LIRR Final 3 Months Period	30	16-Aug-22	14-Sep-22
LIRR Final 3 Months Period	90	15-Sep-22	13-Dec-22
LATE - Begin LIRR Revenue Service To GCT	0		13-Dec-22
Late Revenue Service Date			**13-Dec-22**

* The PMOC notes that MTACC is no longer considering this early RSD as achievable.

Harold critical path goes through the following packages; however it should be noted that the following critical path has changed twice since re-baseline of 2014.

- CH058B: Harold Structures – Part 3B, Eastbound Reroute Structure (HSR)
- CH059: Harold Structures – Part 4, Car Washer & Loop Box Structure Extension (HSR)
- FQA65: Loop Interlocking CIL
- Ch057A: Harold Structures – Part 3, Westbound Bypass
- FHA/L03: Harold Stage 3: LIRR/Amtrak Force Account/Catenary
- FHA/L04: Harold Stage 4: LIRR/Amtrak Force Account
- VHA/L03: Procure Materials Stage 3 Amtrak/LIRR
- VHA/L04: Procure Materials Stage 4 Amtrak/LIRR

The PMOC is also concerned about the status of CQ033, and strongly believes that Harold has two concurrent critical paths; the above mentioned path and a separate path that goes through CQ033. The PMT has stated that "changes/Adjustments to the Harold portion of the IPS during the next few months, major changes/adjustments will be made to the activities in the IPS. These will include many of the High Speed Rail contracts as well as risk mitigation tasks associated with the major risks above. Meetings will be conducted with the LIRR, Ansaldo, and PMT Project Controls regarding activities leading to Central Instrument Location (CIL) cutovers for H5/H6/L30 and H1/H2. Once these activities and corresponding logic are finalized, they will be finalized in the IPS."

Manhattan's key critical contracts and near critical contracts include CM006 – Manhattan North Structures, and Harold 3rd party and Force Account contracts as well as the CS179 Systems contract.

- CM006 is experiencing a significant amount of delay. At this point the PMOC projects about 6 months delay in Substantial completion and Milestone #2 that would provide access to Contract CM007. The PMT has reported over three months of delay, but the PMOC projects that there will be at least five to seven months of delay beyond the original date of February 2016 for the CM006 contractor to finish Milestone #2.
- Contract CM014B is the construction of the new LIRR Grand Central Terminal (GCT) Concourse Facility. The PMT has stated that preliminary review of schedule update #08 indicates potential non-excusable delays to Milestone #5A (Completion of 48th St. work) and Milestone #8 (Substantial Completion). The PMOC has not received the contractor's schedule yet and cannot confirm the amount of delay.
- Contract CS179 is a very complicated contract with 7 options and 63 interface milestones dates involving interface with 13 ongoing and future MTA ESA contracts. In addition, CS179 is also required to interface with multiple outside agencies and is required to coordinate its work with work installed by LIRR, MNR, NYCT, and Amtrak Force Account personnel.

Table 4.5 below shows the contractor's variance schedule thus far:

TABLE 4.5 - CS179 Contractor Milestone Dates

Milestone	Description	Contract Date	Last Month	Current Month	Delta (CD)
MS#1	Complete All Work in TPSS C05 at Vernon Blvd Ventilation Facility	8/18/2015	6/28/2016	6/28/2016	-315
MS#2	Complete All Work in Yard Lead Tunnel Sta 1231+00 to West End of Plaza Interlocking	4/19/2016	5/19/2016	5/19/2016	-29
MS#3	Complete All Work Plaza Rooms (CIR, Signal Reactor, Interlocking 1D, TPSS C06 & C07)	9/6/2016	10/5/2016	10/5/2016	-28
MS#4A	Complete All Work in Traction Power S/S C04 on Level P1 in 2nd Ave Vent Facility	5/4/2016	3/2/2017	3/2/2017	-302
MS#4B	Complete Relocation of Temporary Power Equipment in 2nd Ave Ventilation Facility	5/4/2016	8/29/2016	8/29/2016	-117
MS#5	Complete All Work in GCT-6 CIR to Room Ready Condition	8/17/2016	10/8/2016	11/1/2016	-24
MS#6	B10Complete All Work in Bulk Power Substation for Energization of 13.2 kV Cables	6/23/2016	10/26/2016	10/26/2016	-124
MS#7	Complete All Work in GCT-5 CIR to Room Ready Condition	12/20/2016	1/8/2017	1/8/2017	-18
MS#8	Complete All Work in GCT-4 CIR to Room Ready Condition	3/5/2017	3/24/2017	3/24/2017	-18
MS#9	Complete All Work in Traction Power Substations C01 and C02 - Tail Tracks	6/8/2017	6/8/2017	6/8/2017	0
MS#10	Complete All Work in GCT-3 CIR to Room Ready Condition	9/6/2017	9/6/2017	9/6/2017	0
MS#11	Complete All Work in Traction Power Substations C03 at 55th Street Vent Facility	12/26/2017	12/26/2017	12/26/2017	0

MS#12A	Complete All Work in the TMC, TOC, BCS, and FON to Commence IST	9/1/2018	8/31/2018	8/31/2018	1
MS#12B-1	Complete Integrated Testing of all equipment installed under contract CM007	7/24/2019	7/24/2019	7/24/2019	0
MS#12B-2	Complete Integrated Testing of all equipment installed under contract CM014A	7/24/2019	7/24/2019	7/24/2019	0
MS#12B-3	Complete Integrated Testing of all equipment installed under contract CM014B	7/24/2019	7/24/2019	7/24/2019	0
MS#13	Substantial Completion	11/25/2019	11/25/2019	11/25/2019	0

4.4 Project Schedule Contingency Analysis

ESA's IPS #76 reflects an early Revenue Service Date (RSD) of March 25, 2020, that is no longer achievable. The PMT has an early RSD of February 12, 2021, inclusive of 324 days of IST contingency, and a late RSD of December 13, 2022, inclusive of 324 days of IST contingency and 669 days of program-level contingency.

The PMOC's schedule has been presented in Section 4.1 with specific contingency allocated to packages that have a total of 12 months of contingency for the RSD of December 2023.

5.0 PROJECT COST

Note: All references to expenditures in this report are with respect to the current cost baseline that was agreed upon at the MTA CPOC meeting in June 2014.

5.1 Budget/Cost

On June 23, 2014, MTACC presented a budget for the ESA project of $10,178M (excluding the $463M Rolling Stock Reserve and financing cost) to the MTA CPOC. Table 5.1 below shows the changes in the SCC budget breakdown between the FFGA Baseline budget and the 2014 re-planned budget.

Observations: During the re-planning effort, the PMT re-examined each of the contract packages. Some budgets changed due to major re-estimates, others due to adjustments in the Contingencies. Some scope transfer between packages occurred and some work was rebudgeted to Regional Investments (RI). Subsequent to the Budget Re-Plan, several packages have required re-estimating and other have exceeded the re-plan budget.

Concerns and Recommendations: Whereas SCC breakdowns are assigned to scope transfers, there still remain issues of proper allocation of contingencies by SCC.

Table 5.1: Comparison of Standard Cost Categories: FFGA vs. CBB

Standard Cost Category (SCC) No.	FFGA SCC baseline (YOE $) M	June, 2014 Re-Plan (YOE $)	October 2015 SSC (YOE $) M	November 2015 SSC (YOE $) M	November 2015 % of Re-Plan	Oct '15 to Nov '15 Change $M	CBB Variance from FFGA %
10	1,989	3,405	3,421	3,422	100.5%	1	72.05%
20	1,169	2,238	2,339	2,338	104.47%	-1	100.0%
30	356	474	474	474	100.00%	0	33.15%
40	205	611	593	593	97.05%	0	189.27%
50	619	606	565	565	93.23%	0	-8.72%
60	165	220	219	219	99.55%	0	32.73%
70	957	210	210	210	100.00%	0	-78.06%
80	1,184	1,975	1,975	1,975	100.00%	0	66.81%
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Subtotal	**6,813**	**10,178**	**10,178**	**10,178**	**100.00%**	**0**	**49.39%**
100	1,036	1,036	1,036	1,036	100.00%	0	0.00%
Total Project Cost (10 – 100)	**7,849**	**11,214***	**11,214***	**11,214***	**100.00%**	**0**	**42.87%**

*This total amount does not include Regional Investment amount of $758,260,953.

Reasons for Changes to SCC Codes:

60: $1,777,500 decrease due to elimination of three (3) real estate easements.

80: $657,069 increase due to elimination of three (3) real estate easements.

[redacted]

5.2 Project Cost Management and Control

Status:

The PMT has reported that, as of November 30, 2015, the actual total project progress was 60.0% vs. 60.9% planned progress resulting from the June 2014 re-baseline; a review of the actual project progress vs. the planned based on invoiced amount and the new budget shows that 60.0% was invoiced vs. 62.0% planned. In addition, since the ESA Cash Flow chart goes one-year farther than ESA's current target schedule, the planned performance is lower than needed to make its target dates. At the September 2015 Cost Review meeting, the ESA Project Controls Manager stated that it is ESA's projection that all of the Contingency will be used, and therefore the Cash Flow chart differs from previous ESA positions that Contingency will not be fully required. Table 5.2 shows the budget status of contracts awarded to date and invoiced amounts to date.

Table 5.2: Project Budget and Invoices As of November 2015

Elements	Baseline Total Budget (June 2014)	Current Baseline Budget (Nov 2015)	Actual Awards (Nov 2015)	Paid to Date (Nov 2015)	Actual % Budget Paid
Construction	$7,379,296,706	$7,436,531,440	$5,602,766,126	$4,326,844,516	58.18%
Soft Costs Subtotal	**$2,798,474,304**	**$2,741,239,570**	**$1,694,769,089**	**$1,644,725,503**	**60.00%**
Engineering	$720,615,810	$720,272,879	$671,021,064	$657,320,439	91.13%
OCIP	$282,613,620	$282,613,620	$210,470,653	$210,056,154	74.33%
Proj Mgmt.	$972,168,644	$972,168,644	$697,315,739	$662,988,509	68.20%
Real Estate	$182,076,230	$180,298,730	$115,961,633	$114,360,401	63.43%
Rolling Stock	$202,000,000	$202,000,000	$0	$0	0.00%
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Subtotal w/o Financing & RI	**$10,177,771,010**	**$10,177,771,010**	**$7,297,535,215**	**$5,971,570,019**	**58.67%**

Observations:

The PMT has been providing package estimates for future contract packages but sometimes has not included them in the latest Forecast at Completion amount. This was a significant problem with CM007 Estimates over the last year.

Concerns and Recommendations:

The use of a single integrated cost reporting system would strengthen the capacity for analysis and for a joint review of the cost relationships. The PMOC recommends that ESA continue to work to improve the accuracy and timeliness of its new cost reporting and control system.

5.3 Change Orders

Table 5.3 below shows the executed mods greater than $100,000 during November 2015.

Table 5.3: ESA's Change Order Log in November 2015 (>$100,000)

BA #	Package	Mod#	Description	Mod. Amount ($)	November 2015 package value ($)
916	CM014A	27	Material Handling for CM007	$2,799,400	$58,038,413
916	CM014A	47	Deletion and Addition of miscellaneous contract work from CM014A	-$1,780,000	$58,038,413
916	CM014A	51	44th St. Garage incentive deletion	-$100,000	$58,038,413
917	CM014B	6	500KCMILCable per ConEd's Specs	$267,040	$426,195,736
904	CS179	4	Switch gear and Transformer equipment modifications	$205,000	$412,496,023
N/A	GEC	104	Catenary Poles West of Yard Lead Portal	$386,677	$302,653,924

Note: When multiple Contract Modifications (MODs) are executed in the same month for the same contract, ESA supplied documentation does not indicate order of execution or values before or after that specific MOD.

Status/Observation:

The estimated values for MODs at the Pending and Potential levels used for "Assigned to MODs" is often very different from the settlement amounts. This has led to significant swings in the contingency levels from month to month. The level of variance between estimates by the CM and the Executed MODs continue to be significant and the CM estimating approach needs to be reviewed to increase reliability.

Concerns and Recommendations:

While the cost forecasts prior to the Re-Plan included all the possible costs for MODs, no matter their status, ESA generally excluded some of those costs in the Estimate at Completion (EAC). As of last month, ESA is now providing Forecast values for packages which include all stages of MOD development. To improve its project forecasts, the PMOC recommends that ESA directly address the reliability of CM-estimated MODs and the large variances that occur within them.

5.4 Project Funding

a) Federal Funding

As shown in Table 5.2 above, as of November 30, 2015, the PMT has awarded a total of $7.298 billion in contract work. The Federal share of awarded contracts is $2.333 billion. The total Federal funding commitment, as of November 30, 2015, remained at $2.699 billion (See Appendix G.1 for project cash flow, and Table 2 for detailed cost distribution.)

b) Local Funding

The obligated local share was $5,065M. There has been a $617,607,000 incurred finance cost (for local share) to date.

5.5 Cost Variance Analysis

ESA has not been presenting any cost variance reporting or analyses for review by the PMOC.

6.0 RISK MANAGEMENT

The last monthly risk meeting held by ESA was in January 2015. Since that time, ESA has not succeeded in addressing the risk topics as they had planned during the subsequent monthly cost and schedule review meetings. In response to the PMOC's request, ESA had planned to resume the dedicated monthly risk meetings in October 2015, but this did not occur because the newly assigned Risk Manager resigned in October 2015. The PMOC is particularly concerned about the effectiveness of the risk management process over the last ten months due to lack of continuity of leadership because the ESA Risk Manager position is again vacant. ESA plans to fill the position in January 2016.

The CM007 contract risk workshop was conducted over a two-day period on April 8 and 9, 2015. The preliminary risk report was forecast to be issued by April 28, 2015, but this did not occur. At the FTA/MTACC Executive Meeting on May 21, 2015, the FTA and the PMOC were advised that the distribution of the draft risk report was discussed by upper management at ESA-PMT, MTACC, and MTA, and included the MTA President. Because of the very high level of conern about the confidentiality of the risk results, MTA decided to proceed with a very limited internal distribution of the draft risk report and a very small group participated in the May 1, 2015, internal briefing. The FTA noted that they and the PMOC had participated in the workshops and would now like to review the report written by the MTACC's risk facilitator. MTACC responded that they would discuss FTA's request with MTA upper management and provide an answer to the FTA. As of December 31, 2015, MTACC has not provided the draft risk report.

The PMOC has continuing concerns regarding the impact to the ESA Harold work due to the Amtrak program to harden ERT Lines 3 and 4 in preparation for extended outages for ERT Lines

1 and 2 to complete Hurricane Sandy damage related reconstruction work, earlier scheduled to commence in 2018, but now planned for 2019. Amtrak has not provided any specific details about the ERT Lines 3 and 4 hardening work, but there is concern that significant Amtrak Force Account resources will be needed to support the hardening work, which could further reduce the Amtrak resources available to support the ESA Harold Re-Sequencing Plan. There is also concern that track outages required for the hardening work may conflict with ESA needs to support the planned Harold work. Delays in completing the Harold Re-Sequencing Plan may result in essential ESA work being pushed back into the timeframe for Amtrak's extended outages for ERT Lines 1 and 2. The PMOC notes, however, that in early November, ESA advised that Amtrak is leaning toward closing ERT Line 2 first in 2019. Although this represents a delay from the earlier 2018 forecast time frame, the selection of Line 2 to close first does support the current ESA Harold schedule.

With regard to the implementation of the "ESA First" Harold Re-sequencing of late 2014, the PMOC notes that Amtrak has not been able to provide even the reduced level of force account resources that has been planned in support of the schedule. Additionally, the projected force account costs are trending noticeably higher than planned and the force account contingency budget line item is nearly depleted. ESA is currently engaged in a comprehensive study to identify and evaluate the reasons for the appearance of this situation and to make recommendations. The study is expected to be completed in January of 2016.

6.1 Risk Process

Status/Observations:

As discussed above, MTACC has not released the results of the package level risk assessment completed in April 2015 for the CM007 contract. Conducting the CM007 Risk Assessment after the RFP is advertised is of concern, given the fact that ESA did not conduct a full constructability review for the final configuration of this package, as called for in its management plans.

Concerns and Recommendations:

In the PMOC's opinion, funding availability continues to be a significant risk on the ESA project. Funding uncertainty has resulted in the PMT's delay of the CM007 contract award until early 2016 due to budget constraints and the restructuring of the CS179 contract by splitting it into a base contract with seven options, based on access restraints imposed by the CM006, CM007, and CM014B packages, which will significantly increase the interface risks.

The PMOC had previously expressed its concern that procurement delays have significantly reduced the time for negotiations on the CM007 contract that is currently on the program schedule critical path. MTACC was not able to award this contract as planned before December 31, 2015, and the program critical path is now being delayed.

The segmentation of construction packages has resulted in multiple inter-contract interfaces and milestones. The probability of successfully achieving all of them is low, in the PMOC's opinion, and leads to the possibility of a ripple effect of delays and coordination difficulties between contracts. There are very limited opportunities for the contractors to make up time lost to interface delays. Managing inter-contract handoffs and interfaces will be challenging. Some schedule and cost risks have been realized because funding was not in place to fully award the three options in the CS179 Contract Package as planned in November 2015. Access Restraints in the CS179 contract are correlated to the options in the Contract and the CS179 contract will

also have multiple interfaces with the CM007 contract, which has not yet been awarded. Given that this work is on the project critical path, delays in awarding the options will result in the use of Program schedule contingency.

The PMOC remains concerned about the coordination risk retained by MTACC on the completion of the work in Manhattan, especially with regard to the construction and testing interface management for the systems work. When combined with the extensive scoping re-configuration changes associated with the Harold Interlocking work, the PMOC believes that this may create significant changes to the overall project risk profile.

6.2 Risk Register

Status/Observation:

Due to the lack of continuity of leadership for the risk management process caused by the resignation of the ESA Risk Manager in October 2015, the PMT has not been able to update the risk register on a regular basis.

Concerns and Recommendations:

ESA needs to resume submission of the Risk Register updates to the FTA and PMOC on a regular basis as called for in the RMP.

The PMOC considers the major risks for the East Side Access Program to be:

- Program Funding;
- Successful execution of dozens of hand-off interfaces across multiple contracts;
- Contractor access and work area coordination in Manhattan;
- Previous lack of approved baseline schedule on the CS179 contract [resolved in November 2015];
- Duration of integrated systems testing;
- Continued availability of adequate Amtrak and LIRR force account resources for both construction and third-party contractor support in Harold Interlocking [increasing risk trend noted in 4Q2015]; and
- Continued availability of required track outages in the Harold Interlocking.

6.3 Risk Mitigations

Status/Observation:

Current Risk Mitigation Efforts: The PMOC notes that the PMT is implementing mitigation strategies for a number of identified risks. Examples include advancing procurement of the eight CILs for the Mid-Day Storage Yard and actively engaging Amtrak to develop some specific strategies to mitigate many of the identified risks, to pursue labor agreements that will provide flexibility and additional resources to allow more third-party work in Harold Interlocking. Implementation of the Harold schedule re-sequencing to support the "ESA First" approach of advancing work elements required to provide LIRR service into GCT will help mitigate some of the schedule delay risks. Success of the Harold re-sequenced schedule, however, is contingent on both Amtrak and LIRR providing the necessary force account support to the third-party contractors and completing their own force account construction work elements on schedule.

Concerns and Recommendations:

Having performed several programmatic risk assessments and multiple package level risk reviews, the PMOC believes that MTACC is capable of developing effective mitigation strategies for the risks identified, tracking and reporting on them on a regular basis as required by the RMP. MTACC needs to continue to focus on developing, updating, and implementing effective mitigation plans for the identified major risks.

The many external stakeholder issues with Amtrak and LIRR, however, will remain beyond MTACC's direct control and this is likely to complicate problem resolution essential to completion of the project, especialy those portions related to Harold Interlocking.

7.0 PMOC CONCERNS AND RECOMMENDATIONS

Priority in Criticality column

1 – Critical 2 – Near Critical

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
ESA-114-Sep13	3.0 ELPEP Compliance	ELPEP Compliance: With MTACC's submission of its East Side Access FTA Quarterly Report (Apr, May, June '13) and then continuing with all subsequent reports through December 2015, the PMOC notes that the ESA project continues to not be in compliance with ELPEP and is not meeting some of the more important requirements of the SMP and CMP sub-plans to the PMP. Status Update: Specific areas of non-compliance were provided to MTACC at the September 12, 2013 ELPEP Quarterly Review Meeting and additional details provided on October 30, 2013. MTACC provided preliminary draft responses (partial) to the PMOC list of ELPEP non-compliances at the December 12, 2013, ELPEP Quarterly Compliance Meeting. MTACC and the PMOC met on February 27, 2014, to discuss the FTA and PMOC's concerns. At that meeting, MTACC acknowledged the need for more transparency/clarity in documenting the cost/schedule management processes to support traceability in the decision making process. Since that time, the PMOC has endeavored to engage the ESA Project Controls in productive discussions regarding improvements to cost and schedule reporting during the monthly cost and schedule review meetings. MTACC noted that both Cost and Schedule Management Plans will be revised, after completion of the PMP update, to improve the management processes and reporting. MTACC submitted the revised CMP on June 30, 2015 and two review cycles culminated in a working meeting on November 16, 2015 to review outstanding PMOC issues/concerns. MTACC issued an interim revision update of the CMP in December 2015. The revised SMP was submitted by MTACC on October 26,2015. The PMOC notes that the updated TCC Plan was expected earlier in 2014 but was submitted on June 11, 2015, based on finalization of the role, responsibilities, and level of authority of the ESA Change Control Committee. The FTA has provided MTACC	1

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
		with the PMOC review comments on both the TCC and the CMP. The PMOC is in the process of resolving all remaining issues with MTACC via working level meetings. Recommendation: The PMOC will continue to work with MTACC at the monthly cost and schedule review meetings to advance progress in this area. Although some improvements to the transparency/clarity and traceability of the decision-making process with regard to cost and schedule have been noted, the PMOC's opinion is that MTACC's continued efforts to improve are still needed.	
ESA-119-Jun15	4.1 Schedule	CS179 Contract Schedule: The Baseline Schedule for Contract CS179 has yet to be approved. The Baseline Schedule represents an overall contract work plan that all stakeholders must agree upon and use to effectively progress the work. Status Update: MTACC authorized the CS179 Baseline Schedule to "proceed" in early November 2015. As a result this concern has been addressed and this ISSUE WILL BE CLOSED with this report. Recommendation: The PMOC no longer has any recommendations concerning this issue	
ESA-120-Sep15	3.f Third Party Construction	CM006 (Manhattan North Structures): The contractor is behind schedule and is not meeting its recovery schedule. Status Update: The contract is significantly behind schedule: Actual cumulative total construction progress is only 48% complete versus a planned total of 72%. The contractor was not able to achieve its approved recovery plan from 1Q2015 and continues to trend poorly. This delay may impact hand-off interfaces with the CM007 contract that is on the program critical path. Recommendation: Working with the contractor, MTACC needs to finalize and implement an achievable recovery plan. The PMT should start development of schedule delay mitigation strategies regarding the CM006 and CM007 hand-off interfaces.	1
ESA-121-	2.2 Procurement	CM007 (GCT Caverns and Finishes): The procurement of this contract that is on the program schedule critical path continues to be extended.	1

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
Sep15		Status Update: The PMOC is concerned that the CM007 contract proposal due date has been delayed a total of 4.5 months. This significantly reduced the time for negotiations on this very large contract that is currently on the program schedule critical path. Award of this contract had been scheduled to be awarded by December 31, 2015, but was not achieved. Recommendation: The PMOC recommends that the ESA PMT begin developing mitigation strategies to address schedule and cost impact due to the late award of CM007.	

8.0 GRANTEE ACTIONS FROM QUARTERLY AND MONTHLY MEETINGS

Priority in Criticality column 1 – Critical 2 – Near Critical

Number with Date Initiated	Section	Grantee Actions	Criticality	Projected Resolution Date
ESA-A46-Dec12	Section 4.2	The ESA PMT agreed at a meeting held with FTA/PMOC on July 30, 2012, to develop a set of critical metrics jointly with the FTA/PMOC and MTA IEC that would be used as an early indicator of issues that need to be addressed by senior management. The need to do this was reiterated at the November 8, 2012, ESA/SAS mini-quarterly meeting. Critical metrics cannot be properly updated until approved baseline schedules are fully incorporated into their respective IPSs. At present, ESA has incorporated the latest Harold Re-Sequencing, developed in December 2014, into the IPS schedule. MTACC is currently working to correct discrepancies in the schedule baseline related to the activity ID numbering so that an accurate comparison can be completed between the July 2014 baseline and the monthly IPS updates.	2	6/30/16

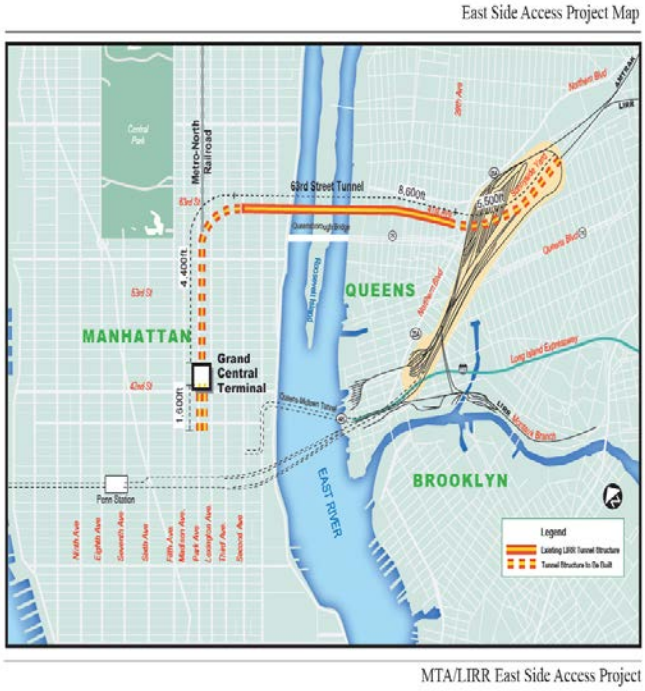
APPENDIX A - LIST OF ACRONYMS

ARRA	American Recovery and Reinvestment Act
CBB	Current Baseline Budget
C&S	Communication and Signals
CCC	Change Control Committee
CCM	Consultant Construction Manager
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CPOC	Capital Program Oversight Committee
CR	Candidate Revision
CIL	Central Instrument Location
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
DCB	Detailed Cost Breakdown
ELPEP	Enterprise Level Project Execution Plan
ERT	East River Tunnel
ESA	East Side Access
ET	Electric Traction
FA	Force Account
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
GCT	Grand Central Terminal
GEC	General Engineering Consultant
HTSCS	Harold Tower Supervisory Control System
IEC	Independent Engineering Consultant (to MTA)
IFB	Invitation for Bid
IPS	Integrated Project Schedule
IST	Integrated System Testing
LIRR	Long Island Rail Road
LTA	Lost Time Accidents
MEP	Mechanical/Electrical/Plumbing
MNR	Metro-North Railroad
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority Capital Construction
N/A	Not Applicable

NTP	Notice to Proceed
NYCT	New York City Transit
NYSPTSB	New York State Public Transportation Safety Board
PE	Preliminary Engineering
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PMT	Project Management Team
PQM	Project Quality Manual
PWE	Project Working Estimate
QA	Quality Assurance
RAMP	Real Estate Acquisition Management Plan
RAP	Rail Access Plan
RFP	Request for Proposal
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROW	Right of Way
RSD	Revenue Service Date
SC	Substantial Completion
SCC	Standard Cost Category
SMP	Schedule Management Plan
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Technical Capacity and Capability
WBS	Work Breakdown Structure
WBY	Westbound Bypass Tunnel

APPENDIX B-- PROJECT OVERVIEW AND MAP

Project Overview and Map – East Side Access



Scope

Description: This project is a new commuter rail extension of the Long Island Rail Road (LIRR) service from Sunnyside, Queens to Grand Central Terminal (GCT), Manhattan, utilizing the existing 63rd Street tunnel under the East River and new tunnels in Manhattan and Sunnyside yard. Ridership forecast is 162,000 daily riders (27,300 new riders).

Guideway: This two-track project is 3.5 route miles long, it is below grade in tunnels and does not include any shared use track. In Harold interlocking, it shares ROW with Amtrak and the freight line.

Stations: This project will add a new 8 track major terminal to be constructed below the existing GCT. The boarding platforms and mezzanines of the new station will be located approximately 90 feet below the existing GCT lower level. A new passenger concourse will be built on the lower level of the terminal.

Support Facilities: New facilities will include: the LIRR lower level at GCT, new passenger entrances to the existing GCT, the East Yard at GCT, the Arch Street Shop and Yard, a daytime storage and running repair/maintenance shop facility in Queens, and ventilation facilities in Manhattan and Queens.

Vehicles: The scope and budget for the ESA project include the procurement of 160 new electric rail cars to support the initial service.

Ridership Forecast: MTA projects that, by 2020, the ESA project will handle approximately 162,000 daily riders to and from GCT. This Ridership projection is based on a 2005 study performed by DMJM/Harris (AECOM).

Original Schedule

9/98	Approval Entry to PE	12/10	Estimated Rev Ops at Entry to PE
02/02	Approval Entry to FD	06/12	Estimated Rev Ops at Entry to FD
12/06	FFGA Signed	12/13	Estimated Rev Ops at FFGA
08/19	Revenue Service Date at date of this report (MTA schedule)		

Cost ($)

4,300 million	Total Project Cost ($YOE) at Approval Entry to PE
4,350 million	Total Project Cost ($YOE) at Approval Entry to FD
7,386 million	Total Project Cost ($YOE) at FFGA signed
11,936.0 million	Total Project Cost ($YOE) at Revenue Operations
11,972.1 million	Total Project Cost ($YOE) at date of this report including $ 1,036.1 million in Finance Charges
5,971.6 million	Amount of Expenditures as of November 30, 2015, based on the Total Project Budget of $10,177.8 million
60.0	Percent Complete, based on the Re-plan budget of $10,177.8 million and invoices in the November 2015 report
[redacted]	[redacted]
59.9*	Construction Percent Complete
60.0	Overall Project Percent Complete

*As of November 30, 2015, based on the June 2014 ESA Re-plan Budget and excluding $463 million for Rolling Stock Reserve, as provided by ESA in its December 2015 Report.

[redacted]

APPENDIX C – LESSONS LEARNED

#	Date	Phase	Category	Subject	Lessons Learned
1	Dec-12	Construction	Construction	Muck Handling	During cavern excavation, the CM019 contractor became muck-bound, which caused a project delay of several months. The PMOC recommended that the contractor make extraordinary effort to evacuate the muck. After several months, it finally did, but the schedule time could not be recovered by that point. Lesson learned was to develop a well thought out muck handling plan (including establishment of proper haul roads) before work begins and to follow it during excavation.
2	Dec-12	Construction	Management	Stakeholder Management	The CH053 contractor incurred many months of initial construction delay because Amtrak did not approve the Electric Traction design documents on the project's schedule. A major contributing factor to this was because the MTACC had not established a contractual working relationship with Amtrak prior to letting the CH053 contract. The PMOC recommended that the MTACC and its GEC more closely design the project in accordance with the comments that Amtrak was submitting. To date, the MTACC has exhibited some improvement in this matter, but there are still 2+ Stages to construct, and improvement has not been fast enough or consistent over time. Lesson learned was to develop good working relationships with all project stakeholders before any contracts are let.
3	June-13	Construction	Planning/ Construction	Haul Roads	Haul roads to remove muck need to be passable (preferably paved with a mud slab) with locations pre-determined in areas of confined space such as caverns and tunnels.

#	Date	Phase	Category	Subject	Lessons Learned
					Deep, muck-filled haul roads contributed to the contractor's slow progress in removal of muck during construction. Lesson learned was to plan haul roads in advance and ensure that the muck haulers can travel at a specific rate of speed in order to meet production goals.
4	June-13	Construction	Training	Operator Skill with drill rigs	Lack of proper operator training contributed to inconsistent drilling of 10' deep blast holes which resulted in under/overbreak of excavated material, thus requiring rework to achieve desired results. Lesson learned was to ensure that drill rig operators are properly trained before being allowed to operate a production drill rig.
5	June-13	Procurement	Contract Development	Contract Packaging	Access to work sites, interface with other contracts, and contract staging must be considered when projects employ multiple contractors that may conflict with each other, particularly in confined spaces such as tunnels and caverns. Lesson learned is to carefully consider the access that each contractor may require, perhaps developing a scale model of the expected operation, so that expected operation of each contractor is included in its contractual requirements.
6	June-13	Administration	Quality	Submittals	Identification and resolution of quality issues (e.g. As-Built drawings, NCRs, etc.) must be managed on a daily basis to avoid creation of a backlog. Lesson learned is for the owner to have a well-trained staff with a consistent, coordinated approach (including appropriate pre-approved corrective action) when obtaining contractually required documents from contractors.

#	Date	Phase	Category	Subject	Lessons Learned
7	June-13	Contract Specs/ Construction	Construction	Pneumatically Applied Concrete (PAC)/ Shotcrete	Mismanagement of PAC/Shotcrete application has many different aspects which could adversely affect a project. Lesson learned is that all projects which anticipate use of PAC/shotcrete should carefully examine all aspects of its use and that a careful engineering analysis of the expected use be made so that the approved use can be included in the contract documents for the project.
8	June-13	Procurement/ Construction	Procurement	Qualified Personnel	Ensure that project key personnel are properly qualified and experienced for the positions they will fill on the project. Lesson learned is that personnel not properly qualified, experienced, or possessing the requisite credentials can do more harm than good. The owner should ensure that it is getting the contractor's best personnel when excavating a tunnel or cavern.
9	June-13	Scheduling	Construction	TBM Production	Project management should ensure that accurate, up-to-date, production rates for machinery are used when project schedules are developed. PMOC analysis has revealed that ESA schedules for the Manhattan Tunnel Boring Machines were based on a planned excavation rate of 53 linear feet/day. Actual TBM excavation averaged 34 LF/day, a difference of 35%. Lesson learned is that, depending on the length of excavation, inaccurate estimates can have a large negative impact on project schedule.

APPENDIX D – SAFETY AND SECURITY CHECKLIST

Project Overview			
Project mode (Rail, Bus, BRT, Multimode)	Rail		
Project phase (Preliminary Engineering, Design, Construction, or Start-up)	Construction		
Project Delivery Method (Design/Build, Design/Build/Operate/Maintain, CMGC, etc.)	Primarily Design Bid/Build		
Project Plans	**Version**	**Review by FTA**	**Status**
Safety and Security Management Plan	12/2010 Rev. 2	2012	Grantee has forwarded the revised SSMP directly to FTA.
Safety and Security Certification Plan	11/2008 Rev. 1		Is within the SSPP of LIRR.
System Safety Program Plan	11/2008 Rev. 1		N/A
System Security Plan or Security and Emergency Preparedness Plan (SEPP)	11/2010		Is within the SSPP of LIRR.
Construction Safety and Security Plan	3/2007 Rev. 1		Project Construction Safety and Security Plan, contractors' site specific safety and security plans.
Safety and Security Authority	**Y/N**		**Notes/Status**
Is the Grantee subject to 49 CFR Part 659 state safety oversight requirements?	Y		
Has the state designated an oversight agency as per Part 659.9?	Y		The New York State Public Transportation Safety Board (NYSPTSB) is the SSOA. The SSOA has stated that they will not interface with the safety certification process for ESA until such a time as it is signed and certified by LIRR.
Has the oversight agency reviewed and approved the Grantee's SSPP as per Part	In Development		In Q4 of 2013, the SSOA has asked the FTA for

Project Overview		
659.17?		guidance on approving the SSPP.
Has the oversight agency reviewed and approved the Grantee's Security Plan or SEPP as per Part 659.21?	In Development	The New York State Public Transportation Safety Board (NYSPTSB) is the SSOA. The SSOA has stated that they will not interface with the security review process for ESA until such a time as it is signed and certified by LIRR.
Did the oversight agency participate in the last Quarterly Program Review Meeting?	N	The SSOA has no plans to attend these meetings. Grantee to transmit SSMP to SSOA through the Grantee's System Safety Dept., in accordance with new MAP- 21 provisions, the FTA recently audited the NYS SSOA. Preliminary FTA findings indicate a need for more funding in order for the SSOA to accomplish its mandate from FTA. Simultaneously, the SSOA was able to transfer an existing NYS employee into the SSOA. It is anticipated that the above events will lead to a greater ability for the SSOA to more effectively and efficiently accomplish its mission moving forward. The SSOA has stated that they will not interface with the safety certification process for ESA until such a time as

Project Overview		
		it is signed and certified by LIRR**.**
Has the Grantee submitted its safety certification plan to the oversight agency?	Y	The Grantee has submitted its safety certification plan to the NYS SSOA.
Has the Grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	The MTA unified threat vulnerability methodology was applied to the ESA design. A vulnerability log was developed for ESA based on the feedback from the applied methodology. Controls within the design have been implemented to reduce the relative risk of those vulnerabilities identified. Analysis indicated that the controls within design were adequate for the vulnerabilities identified.
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	Grantee has forwarded the revised SSMP directly to FTA.
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.	Y	The safety certification designee for MTACC, as well as the MTACC quality chief, meets regularly with the project management team. The CCM and the Grantee's safety and security personnel are integrated

Project Overview		
		into the management team. Integration is also achieved through implementation of ESA HASP, monthly project wide safety meetings, quarterly audits, OCIP inspections, weekly MTACC and contractor joint safety audits, and interface w/MTA Police and NYPD Infrastructure Protection Unit of the NYPD's Counter-Terrorism Division. The Grantee has added a "security function" assessment to its internal quarterly contractor audit.
Does the Grantee maintain a regularly scheduled report on the status of safety and security activities?	Y	Safety and Security are reported on during the monthly safety meetings and are incorporated into Grantee's monthly project reports.
Has the Grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	Y	Contained within the Grantee's safety procedure documents.
Does the Grantee update the safety and security responsibility matrix/organizational chart as necessary?	Y	To be incorporated into the next revision of the SSMP.
Has the Grantee allocated sufficient resources to oversee or carry out safety and security activities?	Y	MTA, GEC, CCM, and contractors provide personnel and resources to carry out safety and security activities. Additionally, an MTACC consultant conducted a safety and security review of all MTACC projects. The

Project Overview		
		consultant's report included programmatic and system security recommendations that are currently being reviewed by MTACC and MTA Police.
Has the Grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y	The Safety Certification Committee process is comprehensive and provides for this.
Does the Grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	Safety Certification committee meetings as well as project wide monthly safety meetings take place.
Does the Grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Accomplished through daily audits by contractor and CCM and through the comprehensive SSMP Committee process.
Does the Grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	Y	The Safety Certification Committee process provides for TVRA, safety, and security analysis as well as input from subject matter experts on the SSMP Committee.
Has the Grantee ensured the development of safety design criteria?	Y	The Safety Certification Committee has validated the safety design criteria developed by the GEC.
Has the Grantee ensured the development of security design criteria?	Y	Accomplished through the SSMP Committee process.
Has the Grantee ensured conformance with safety and security requirements in design?	Y	Achieved through the Safety Certification Committee process.

Project Overview		
Has the Grantee verified conformance with safety and security requirements in equipment and materials procurement?	Y	The Grantee has not verified conformance for materials procured to date. Thus far, the Grantee has relied on design specifications and manufacturers' quality controls for verification. The PMOC has advised that this course of action is insufficient and does not align with FTA established guidelines. The Grantee is attempting to devise a workable solution. Since the 4th quarter of 2014, the Grantee has begun to document said verifications by use of their Quality Department reports and CM inspection reports.
Has the Grantee verified construction specification conformance?	Y	Through ongoing contract review.
Has the Grantee identified safety and security critical tests to be performed prior to passenger operations?	N	Although the Grantee has established preliminary hazard analysis (PHA) and a system test plan, the Grantee needs to identify safety and security critical tests in its Test Program Plan. The Grantee is working within the PMP to identify critical submittals relevant to system certification. PMOC has expressed concerns, both at meetings and in reports, about the non-linear pattern of completed

Project Overview		
		construction vs. incomplete critical testing. Grantee believes that all hazards listed on the PHA log are either safety and/or security critical.
Has the Grantee verified conformance with safety and security requirements during testing, inspection and start-up phases?	In Development	Project is not at these phases yet. The Grantee is in the process of implementing requirements of the SSMP to conform to construction testing and integration requirements.
Does the Grantee evaluate change orders, design waivers, or test variances for potential hazards and /or vulnerabilities?	In Development	Systems area design modifications not originally evaluated per the unified methodology are analyzed and controls are incorporated into the design. Controls have been put in place whereby the GEC verifies that any change orders and/or waivers do not affect the certification analysis process.
Has the Grantee ensured the performance of safety and security analyses for proposed workarounds?	In Development	
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	Y	An Emergency Preparedness Plan was promulgated by the Grantee in 11/2010. The EAP operational readiness group has been finalized to include MNR, LIRR, MTAPD, and FDNY. The first meeting took place in March of 2013. A Safety Certification

Project Overview		
		update has been incorporated into this meeting, with the MTACC Assistant Chief of Safety and Security providing regular status report. Task work group meetings have resulted in a white paper being formulated. The paper suggests that management hierarchy of GCT be presented as a single establishment (incorporating MNR and LIRR) in accordance with SIMS and NIMS requirements. The Grantee has advised that the white paper reflecting the incident management hierarchy is being presented to the respective executives of each railroad, with the recommendation that LIRR and MNR's GCT incident commanders report to a unified incident commander from MTA Headquarters.
Has the Grantee issued final safety and security certification?	N	Project is not at this stage.
Has the Grantee issued the final safety and security verification report?	N	Project is not at this stage.

APPENDIX E – ON-SITE PICTURES
(TRANSMITTED AS A SEPARATE FILE)

APPENDIX F - COST AND SCHEDULE ANALYSIS TABLES

Table F-1: ESA Planned Cash Flow as of 9/30/15

Quarter/year	Construction $ (000)	Engineering $ (000)	OCIP $ (000)	Project Mgmt. $ (000)	Real Estate $ (000)	Rolling Stock $ (000)
Paid To Date	**3,660,194,771**	**646,377,892**	**155,604,955**	**580,041,291**	**112,634,547**	**0**
Remaining	**3,719,144,273**	**74,237,918**	**127,008,665**	**392,127,353**	**69,441,683**	**202,000,000**
3Q2014	209,340,620	-3,311,163	4,774,951	16,667,454	0	0
4Q2014	168,280,817	-3,290,689	4,774,951	16,667,454	75,948	0
1Q2015	134,568,200	-3,183,384	4,619,246	16,123,950	4,506,241	0
2Q2015	147,357,357	-3,290,689	4,774,951	16,667,454	4,658,137	0
3Q2015	169,688,509	-3,290,689	4774,951	16677,454	4,658,137	0
Remaining Planned	**2,889,908,770**	**90,604,532**	**103,289,617**	**309,333,586**	**55,543,220**	**202,000,000**
Remaining Actual	**3,131,108,273**	**68,305,598**	**72,652,003**	**318,574,077**	**67,729,960**	**202,000,000**
4Q2015	201,239,698	-3,290,689	4,774,951	16,667,454	4,658,137	0
1Q2016	193,275,933	-3,219,153	4,671,147	16,305,118	4,556,873	0
2Q2016	180,854,738	-3,290,689	4,774,951	16,667,454	4,658,137	8,666,545
3Q2016	181,988,455	-1,983,850	4,774,951	16,652,320	4,658,137	13,070,855
4Q2016	214,173,807	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
1Q2017	210,556,624	6,509,009	4,619,246	15,450,479	4,506,241	12,644,631
2Q2017	199,737,103	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
3Q2017	189,382,506	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
4Q2017	182,084,699	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
1Q2018	174,210,593	6,509,009	4,619,246	15,450,479	4,506,241	12,644,631
2Q2018	170,524,739	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
3Q2018	168,497,619	6,728,414	4,774,951	15,971,281	4,658,137	14,014,767
4Q2018	155,245,094	6,728,414	4,774,951	15,971,281	50,632	14,014,767
1Q2019	148,441,548	6,509,009	4,619,246	15,450,479	0	13,557,764
2Q2019	110,893,994	6,728,414	4,774,951	15,971,281	0	14,014,767
3Q2019	93,559,944	6,728,414	4,774,951	15,971,281	0	14,014,767
4Q2019	71,649,848	6,728,414	4,774,951	15,971,281	0	14,014,767
1Q2020	20,704,406	6,582,144	4,671,147	15,624,080	0	5,043,553
2Q2020	11,682,057	6,728,414	4,774,951	15,971,281	0	943,912
3Q2020	7,573,078	2,267,183	4,947,825	5,381,627	0	0
4Q2020	2,750,374	0	5,035,679	0	0	0
1Q2021	881,913	0	3,256,771	0	0	0
BL Subtotal	**3,719,144,273**	**74,237,918**	**127,008,665**	**392,127,353**	**69,441,683**	**202,000,000**

Table F-2: 90 Day Look-Ahead Schedule

ACTIVITY ID	ACTIVITY DESCRIPTION	SCHEDULED DATE
CM007-1020	CM007 NTP	3-Feb-16
CQ032: Plaza Substation & Queens Structures		
CS078-TOYL.01	CQ032 MS YARD LEAD Concurrent Access for CS179	8-Dec-15
CQ032-MS13	MILESTONE #13 - COMPLETE B10 MANHOLES	15-Dec-15
CQ032-MS013	MILESTONE#13 B10 Manholes	15-Dec-15
CS078-T1300	Completion of 1st Concrete Slab (Invert) Ready for Trackwork @ Yard Lead	21-Jan-16
VQ033: CIL Procurement - Mid-Day Storage Yard		
VQ33-1010	VQ033 Notice To Proceed (NTP)	4-Jan-16
CH053: Harold Structures - Part 1 & G.O.2 Substation		
CH053-5140	Con-Ed Energize High Voltage Service at G02 Substation	22-Dec-15
CH053-2040	MILESTONE 4 Church Parking Lot	4-Jan-16
CH053-2090	Cutover 12KV Ductbank - C3 & C2 Feeders	4-Jan-16
CH053-2020	MILESTONE 02A Tunnel A Approach Structure - East of 39th Street.	11-Jan-16
CH053-1010	Milestone #2 - Track A Pit & Approach Structure	11-Jan-16
CH053-6110	G02 Accepted - CH053 Perini Complete	21-Jan-16
CH053-5190	Turnover G02 Substation to LIRR - Prior to Burn In of Substation	21-Jan-16
CH053SC	Milestone #9 - CH053 - Substantial Completion	29-Jan-16
CH057: Harold Structure - 48th Bridge and D Pit & Approach Structure		
CH057-2050	Issue Notice of Award (CH057)	2-Dec-15
CH057NTP	NTP CH057-Harold Struct Pt 2/3: 48th Bridge and D pit & Appr	3-Dec-15
CH057A: Westbound Bypass Structure (exclude Slab)		
CH057A-5580	CH057A Milestone 2 - Signal Bridge 16	10-Jan-16
CH057A-1860	Complete CPR-21 Work	24-Jan-16
CH057C: Harold Track Work - 48th Street Bridge and Retaining Wall		
CH057C.1170	CH057C - Access Restraint For RPR Track - NTP + 93 - Driven by H3 Cutover	14-Dec-15
CH057C.SC	CH057C - Substantial Completion - NTP + 123 (Contract - 11/14/2014)	18-Feb-16
CH058B: Eastbound Reroute Structure		
CH057-MS1000	Remove Signal Hut "B" - after H3 CIL cutover	14-Dec-15
CH061A: Tunnel A		
CH061A-2200	CH061A Advertise Date	4-Jan-16

ACTIVITY ID	ACTIVITY DESCRIPTION	SCHEDULED DATE
CH061A-2130	CH061A - Bid Due Date	15-Feb-16
FHA01: Harold Stage 1 - Amtrak F/A		
CH053-DM001B	CH053 - Substantial Completion	29-Jan-16
FHL01: Harold Stage 1 - LIRR F/A		
FHL01-1140	Complete Trough H1 to H2 (WBY)	14-Dec-15
FHL01-1400	12 KV Cutover + Demo existing (CH053)	8-Jan-16
FHL01-1210	Testing & Commissioning G02 Substation	21-Jan-16
VH051 (Part 1): Harold & Point CILs		
VH51C0340	FIAT COMPLETED (w/HTSCS Contract)	29-Jan-16
CS179: System Package 1 - Facilities Systems		
CS179-1220	CS179 AR 6B - Yard Services Building	1-Dec-15*
CS079-B4660	CR-110 @ 2nd Ave. - TEST - Start of Subsystem Testing (SST)	15-Dec-15
CS079-B11550	CR -115 @ 12th Street - TEST - Start of Subsystem Testing (SST)	25-Jan-16
FHA02: Harold Stage 2 - Amtrak F/A: Balance Work		
FHA02-1060	CH054A - Completed SMUS 1 & 2 / Install New RTU	8-Dec-15
SUMFHA02-1650	Install DN2 Switch (743B)	16-Jan-16
SUMFHA02-1540	Cutover - ZJ1/ZJ2 (747)	7-Feb-16
SUMFHA02-1560	Cutover - DN2 (743B)	7-Feb-16
FHL02: Harold Stage 2 - LIRR F/A		
FHL02-7280	L-4 Service Operational	1-Dec-15*
FHL02-7310	Woodside MG Operational	30-Dec-15
FHL02.SI.00205	Install Signal Bridge 16 (H4 & H5)	11-Jan-16
FHL02-3190	Ready to Demo Rack at Woodside	22-Jan-16
FHL02.SI.00210	Install Signal Bridge 23 (H1)	8-Feb-16
VHA04: Procure Materials for Harold Stage 4 - Amtrak F/A		
VHA04-1000	NTP VHA04 - Procure Materials Stage 4 - Amtrak	1-Dec-15*
VHL04: Procure Materials for Harold Stage 4 - LIRR F/A		
VHL04-1000	NTP VHL04 - Procure Materials stage 4 - LIRR	3-Feb-16
FQA65: Loop Interlocking - Amtrak F/A		
FA65-8040	Complete F/A Acceptance Process - Begin Track / ET	1-Dec-15*
FQA65-1510	FQA65-100% Design Completion w/ Concrete tie	1-Dec-15*
VS086: System Package 3 - Signal Equipment Procurement		
VS086-MS01	VS086 Milestone #1 - Furnish Catalog Cuts for Tunnel Sig. Equip and CIR Layouts (NTP+300CD)	29-Dec-15

APPENDIX G - ESA CORE ACCOUNTABILITY ITEMS

Table G – ESA Core Accountability Items

Project Status:		Original at FFGA	Current*	ELPEP **
Cost	Cost Estimate	$7.368B	$10.178B	$8.119B
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
Schedule	RSD	December 31, 2013	December 2022	April 30, 2018

Total Project %Complete	Based on Invoiced Amount	60.0% (ESA Figure)
Project Performance Rate	Based on Earned Value	83.6% of Re-Baselined Plan (PMOC Calculation)

Major Issue	Status	Comments
Major Procurements Delays	CM014B was advertised in May 2014; ESA was not able to award the CM014B contract in November 2014, as it had forecasted. ESA did award the CM014B Contract and issue Notice to Proceed, however, on February 2, 2015. Additionally, ESA was not able to meet its forecast date of November 2014 to advertise the CM007 Contract. It did, however, advertise the CM007 Contract in late December 2014, and, accept technical proposals in September 2015 and cost proposals in October 2015. Award of the CM007 Contract is contingent upon funding availability. As of December 31, 2015, the contract had not yet been awarded.	PMOC remains concerned about the potential project schedule impacts of procurement delays on these two packages, CM014B and CM007, since they are on the critical and near critical paths for the project. Seven CM007 technical/schedule proposals were received on September 15, 2015, and seven cost proposals were received on October 20, 2015. The three remaining qualified proposers submitted Best and Final Offers on December 30, 2015.
Project Schedule	MTACC presented a new baseline schedule to the MTA CPOC in June 2014, with an RSD in December 2022. This schedule incorporates 22 months of Program level contingency. It should be noted that there have been significant changes in elements comprising the baseline schedule, including full re-sequencing of the Harold work and restructuring of the CM007 package.	The 2014 baseline schedule was adversely impacted by the CM006 Contract, which has experienced significant delays and has yet to meet its production goals included in two recovery schedules. The CM006 performance issue has already impacted the CM007 work that is on the poejct critical path. The PMOC is also concerned about the continuing lack of sufficient Amtrak Force Account resources to support the current schedule of work in Harold Interlocking.
Harold Re-planning	The Harold baseline schedule that formed the basis of the Program schedule presented to the CPOC in June 2014 is no longer valid. Based on continuing issues with slow progress and inadequate railroad force account support, ESA completed a Harold schedule re-sequencing in December 2014, also known as "ESA First", that advances work elements required for the new LIRR service to GCT and delays the FRA funded High Speed Rail Work beyond 2017.	Work on Harold Interlocking is subject to influences outside of the control of ESA. Continuing issues with the level of Amtrak force account support, currently providing only 70% of required resources, to support the "ESA First" schedule, could further delay completion of the Harold Interlocking work.

* Current Budget was approved by MTA CPOC in June 2014.

** 2010 Enterprise Level Project Execution Plan (ELPEP) reflecting medium level of risk mitigation, excluding financing cost of $1,116 million.