PMOC COMPREHENSIVE MONTHLY REPORT

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

Report Period June 1 to June 30, 2014

PMOC Contract No. DTFT60-09-D-00007

Task Order No. 7, Project No. DC-27-5235, Work Order No. 1

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Length of time on project: Five 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. DTFT60-09-D-00007, Task Order No. 007. 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 8 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 2nd Quarter 2014

a. Engineering/Design Progress

As of the end of May 2014, MTACC reported that the overall Engineering effort was 98.4% complete, based on Earned Value for Design Deliverables, the same as the previous month. Their Cost Report shows 91.4% of the overall EIS & Engineering category as invoiced and 90.5% of the budgeted section titled "Design" as having been invoiced.

b. New Contract Procurements

Notice of Award for the VS086 (Signal Equipment) Contract was made in June 2014.

c. Construction Progress

The PMT reported in its May 2014 Monthly Progress Report that the total construction progress reached 49.8% complete, an increase of 0.9% from the last report, although the Expedition Cost Report shows 50.1% as having been invoiced.

d. Continuing and Unresolved Issues

The PMOC notes that since 2Q2013, the ESA Project continued to be non-compliant with ELPEP contingency forecasting and is also not meeting the cost and schedule forecasting and reporting requirements of the Schedule Management Plan (SMP) and Cost Management Plan (CMP) sub-plans to the PMP. The PMOC provided the details of ELPEP non-compliance to MTACC 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. A workshop was held on February 27, 2014 to address the FTA and PMOC's concerns. See Section "ELPEP COMPLIANCE SUMMARY" later in this report for more details.

e. New Cost and Schedule Issues

Now that the new baseline total cost and Revenue Service Date have been presented to the MTA CPOC on June 23, 2014; ESA needs to incorporate the new data into its regular reporting processes in a timely fashion and more effectively forecast and manage the scope, schedule and Program Budget. While not a new issue, the current shortfall in funding for the ESA project could have a significant impact on the Program schedule (discussed in more detail in the risk section of this report).

3 PROJECT STATUS SUMMARY AND PMOC ASSESSMENT

a. Grantee Technical Capacity and Capability

The ESA Project Office lost two key staff members during Q2 2014: the senior project scheduler responsible for the IPS; and the Package Manager for the remaining Harold Contract packages.

b. Real Estate Acquisition

Details of the Real Estate acquisition activities are provided in Section 2.6 of this report. The major open issue remains the finalization of an agreement with the property owners of 415 Madison Avenue for the 48th Street Entrance.

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. Details are provided in Section 2.1 of this report.

d. Procurement

The technical proposal submission due date for CM014B (GCT Finishes and Fit-out) Contract Package was extended from July 15, 2014 to July 31, 2014, and the cost proposal submission date was extended to August 13, 2014. The CS084 (Traction Power) Contract Package was advertised in June 2014. The bid opening is currently set for August 7, 2014.

e. Railroad Force Account (Support and Construction)

During 2Q2014, LIRR C&S personnel successfully cutover the new Point Interlocking CIL in late April and continued to pre- and break-down test. They also made circuit revisions for the cutover of the "H4" CIL in Harold Interlocking, although the cutover was postponed from June 2014 until at least September 2014 due to interface problems with Penn Station Central Control (PSCC). LIRR also continued C&S work at 4 other Harold Interlocking CILs in preparation for their eventual cutovers. LIRR Traction Power personnel continued construction of the signal power separation system as they installed all the cables between the new "HP3" and "HP4" signal poles. Amtrak C&S personnel continued construction of Loop Interlocking under work release FQA065, while Amtrak Electric Traction (ET) continued to relocate catenary wires at various locations within Harold Interlocking and support the CH053/CH054A contractors.

f. Third-Party Construction

Manhattan: The CM005 (southern Manhattan structures) Contractor received the NTP in September 2013 and mobilized into the Eastbound and Westbound Caverns and the Tail Tracks to 37th St. MTACC reported a delay of two months from rebar installation in the East Cavern pits impacting Milestones #2 and #3, but does not impact Substantial and Final Completion. The PMOC believes the ESA Construction Manager is taking the correct approach in managing the circumstances. The contractor has submitted a revised CPM Schedule to change rebar installation logic and has added a second work shift (swing) to help mitigate lost time.

On CM013 (50th Street Vent Facility), the Contractor completed the requirement to release the partial Stop Work Order placed by the MTACC Code Compliance Unit (CCU) on placement of pneumatically applied concrete (PAC). Sign-off by the independent engineer continues to be unresolved and this has become an impediment to sign-off for substantial and final completion.

Queens: The CQ032 Contractor (Plaza substation and Queens Structures) continued to progress construction of Plaza Substation in Queens during 2Q2014 with the placement of concrete inverts from the east end of the Open Cut to the portals of Tunnels B/C and D, continued concrete pours for the C07 level of the substation, completion of the B-10 Substation structure, and the beginning of excavation for the foundation of the Yard Services Building (YSB) as well as placement of structural girders over the Open Cut for the YSB. The contractor also continued to make miscellaneous repairs in the 63rd St. Tunnel. Additionally, the ESA CM and the contractor have agreed upon the provisions of the contractor's re-baselined schedule and continue to wait for formal MTACC approval.

Elsewhere in Harold Interlocking, the CH057A Contractor began limited field construction in 2Q2014 with the installation of Signal Bridge 24 east of 48th St. bridge and continued asbestos abatement at various catenary poles scheduled for removal. The Contractor continues to make submittals and prepare for the installation of the Westbound Bypass Tunnel, which is scheduled to start later in this year.

Harold Interlocking: Contract CH053 (Harold Interlocking, Part 1 and G.O.2 Substation):

The CH053 Contractor completed construction of the 43-S2 retaining wall and the ML2/ML4 bridge over 48th St. in Queens and continued 12kV cable pulls and conduit installation at various locations in Harold Interlocking, Queens, during 2Q2014. The contractor also continued construction of the motor generator (MG) control houses in Harold and Woodside Interlockings and resumed installation of soldier piles for the Tunnel A Approach Structure during the quarter. In June 2014, the contractor prepared the realigned ML2/ML4 subgrade from east of 48th St. to 43rd St. for the CH057B contractor.

Contract CH054A (Harold Structures Part 2A): During 2Q2014, the CH054A Contractor continued construction of the sewer system between Sub 44 and Thomson Ave. in F Interlocking and made limited progress on its installation of the 12kV ductbank system.

Contract CH057B (Construction of LIRR ML2 and ML4 Tracks): The CH057B Contractor began installation of concrete ties, continuous welded rail, and ballast for the construction of realigned LIRR Tracks ML2 and ML4 in mid-June 2014. Construction began east of 48th St. and progressed toward 43rd St. in Harold Interlocking. The tracks are being prepared for a scheduled cut and throw of ML4 track on the weekend of July 18-20. ML2 Track is scheduled for realignment on the weekend of August 1-3, 2014.

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

A Quarterly Operational Readiness meeting was held on June 19, 2014. 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*	FTA**
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 CPOC in December 2013
**Source –Based on PMOC 2014 schedule trending analysis representing a medium degree of mitigation. The FTA has not yet formally accepted additional projections by the PMOC.

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

Table 2- Project Budget/Cost Table

	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**	**$10,729**	**100**	***$5,569.90***	***51.91%***
Financing Cost	$1,036	14.00%	$617	$1,036	9.7	***$617.6***	59.61%
Total Project Cost	$6,350*	86.00%	$4,107	$9,693	90.3	***$4,975.00***	***51.33%***
Federal Share	$2,683	36.30%	$1,148	$2,699	27.8	*$1,950.40*	*20.12%*
5309 New Starts share	$2,632	35.60%	$1,098	$2,436.60	25.1	*$1,692.90*	*17.47%*
Non New Starts grants	$51	0.70%	$50	$67	0.7	$62.10	0.64%
ARRA	0	0.00%	0	$195.40	2.0	*$195.4*	2.02%
Local Share	$3,667	49.60%	$2,959	*$6,994*	72.2	*$3,024.60*	*31.20%*

j. Project Risk

The PMOC remains concerned about the continuing failure to fully follow the risk management processes in the Risk Management Plan (RMP). The last monthly risk meeting with the PMOC was held in July 2013. The PMT has also not provided updated risk registers on a regular basis as required. This, in combination with lack of regular risk meetings with PMOC, makes it difficult to determine the effectiveness of the ESA Risk Management process and its integration into the Program.

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 PMOC had previously noted that a TCC review might be warranted given the significant personnel changes to many key upper management level positions, including the Program Executive that occurred in 4Q-2013 and 1Q-2014. The FTA has requested MTACC to update its TCC Plan in response to the FTA/PMOC comments that were generated in November 2013. At the June 19, 2014 ELPEP Quarterly Review Meeting, MTACC stated that the TCC Plan revisions are not yet completed pending finalization of the role, responsibilities and level of authority of the ESA Change Control Committee. As of June 30, 2014, the revised TCC Plan has not been submitted
- **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; Risk-Informed Decision Making.

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 SMP and CMP sub-plans to the PMP. The PMOC's opinion is that this is a serious deficiency and needs to be resolved immediately. The PMOC's major areas of concern include:

- **Cost/Schedule Contingency**: ESA has not accurately calculated the schedule contingency utilization resulting from the repackaging of CM012R and the major procurement delays. ESA has also not addressed the need for utilizing project cost contingency to cover the budget shortfall.
- **Schedule Management Plan**: The ESA project is non-compliant with requirements for IPS Updating, Forecasting, and Schedule Contingency Management.
- **Cost Management Plan**: The ESA project is non-compliant with requirements for Cost Estimating, Contract Level EAC Forecasting, Project Level EAC Forecasting, Project Level EAC Forecast Validation, Monthly Update Process and MTACC Cost Contingency Management and Secondary Mitigation.

A workshop was held on February 27, 2014 to address the FTA and PMOC's concerns regarding ELPEP compliance. Some progress has been made with regard to improved transparency and traceability, but efforts need to continue in these areas. ESA is now holding regularly scheduled cost and schedule review meetings.

Revisions to the ELPEP Document: The FTA and MTACC had previously agreed to hold working meetings to progress development of a revised ELPEP. These meetings had been expected to start during 2Q2013 but were delayed pending agreement on how to proceed without the revised ESA cost and schedule baselines, which are needed to provide a comprehensive

revision to the ELPEP document that will include the new cost and schedule contingency values. Although the 2014 Re-Plan budget number and Revenue Service Date were presented to CPOC on June 23, 2014, MTACC has not yet incorporated the budget and schedule details into its regular monthly reporting. The PMOC expects that these details will be available in the August/September 2014 time frame. The next ELPEP Quarterly Review Meeting with MTACC, FTA-RII, SAS and ESA projects and the PMOC has been scheduled for September 25, 2014.

The ELPEP Quarterly Review Meeting was held on June 19, 2014. Summarizing the significant discussion:

- Revised TCC Plan. (see discussion above)
- ESA 2014 Re-Plan cost and schedule baselines will be included in the monthly FTA report submitted on August 25, 2014, i.e., the July 2014 monthly report.
- ESA 2014 Re-Plan total cost is $10.177 billion with RSD of December 2022. Schedule contingency breakdown: 12 months at end of project; 10 additional months added per discussion with IEC; 5 months "embedded" added per Supplemental Independent Reviewer's concerns regarding ESA propose schedule for Integrated Systems Testing.
- Anticipated package level risk reviews: CM014B, July 2014; CM007, September 2014; CH058, October 2014.
- Independent cost estimates will continue for all current contract packages nearing design completion.
- Revised PMP. (see discussion in Section 1.2b below)
- MTACC Project Procedures Audit. (see discussion below)

MTACC Project Procedures Audit Related to ELPEP: At the March 31, 2014 Quarterly ELPEP Compliance Meeting, MTACC advised that they will be conducting audits on 10 construction related project procedures for contracts CM005, CM013A, CQ032, CH053 and CH057A in the July/August 2014 time frame.

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 ESA Project Office lost two key staff members during Q2 2014: the senior project scheduler responsible for the IPS; and the Package Manager for the remaining Harold Contract packages. ESA needs to re-staff these open key positions as soon as possible.

1.2 Project Management Plan

a) History of Performance

MTACC re-baselined the ESA Project in May 2012. These baselines resulted in a risk adjusted budget of $8.24B [redacted] 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 (CS179; CM014B). This is the third re-planning effort undertaken by ESA since the FFGA in 2006 (the second 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.

b) PMP

The Grantee has updated the PMP and issued Rev. 9 on June 28, 2013. The PMOC completed its review of the revised PMP in August 2013 and incorporated the FTA comments in September 2013. The PMOC and FTA comments were then coordinated, consolidated and finalized. The FTA formally issued final PMP review comments and transmitted them to MTACC in December 2013. At the Quarterly ELPEP Compliance Review Meeting held on June 19, 2014, MTACC notified the FTA and the PMOC that the target date for completion of revised PMP is June 30, 2014, but the document was not received.

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 now has to incorporate the new baseline schedule [redacted] into the IPS and also develop a schedule contingency draw down plan as required by the ELPEP agreement.

b) Cost

MTACC presented its new baseline budget of $10.177B [redacted] to the MTA CPOC in June 2014. The CMP states (Section 5.7 – Monthly Update Process) that "each month the project level EAC is forecasted and the baseline budget is updated". Prior to finalizing the new budget, ESA has failed to comply with this requirement. Now that the new baseline budget has been officially presented; ESA needs to comply with this requirement. They also need to provide a revised contingency draw down plan and cash flow projection as required by the ELPEP agreement.

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 in process. As mentioned above, MTACC presented a new project budget of $10.177B [redacted] and a new schedule with an RSD of December 2022 to the MTA CPOC in June 2014.

b) Federal Regulations

There are currently no issues to report with regard to the Uniform Property Acquisition and Relocation Act of 1970.

1.5 Safety and Security

a) Safety Certification Process

The MTACC Director of Construction Safety presented a brief status of remaining design packages that have to be reviewed and approved by the Safety Certification Committee and a rough schedule for certification of preliminary hazards on remaining design packages at the June 19, 2014 Operational Readiness Quarterly meeting. A brief status on the certification of elements under construction was presented at the meeting. Although there now appears to be an understanding by MTACC of the need to certify elements that have been installed to date, and progress is now being made, the PMOC remains concerned about the lag in certifying elements in existing construction contracts. [Ref: ESA-A47-Mar13]

Technical working groups have been convened to integrate the safety certification related activities of the GEC; CM: Safety; and Quality representatives for each contract package. As of the end of Q2 2014, meetings have been held covering the CH053, CM014A, CM013, and VH051 Contracts.

The MTACC Director of Construction Safety noted at the meeting that efforts continue to establish documentation procedures for the safety certification checklists.

The PMOC remains concerned that the Safety and Security Committee has not met on a regular basis as per the ESA SSMP. This lack of regular meeting will hamper the effectiveness of the Committee in coordinating activities related to the Safety Certification. A calendar showing general meeting dates (by quarter) was presented at the June 19, 2014 Operational Readiness Quarterly Meeting, however this item will remain open until more definitive meeting dates are put on a calendar. [Ref: ESA-96-Sep12]

b) Project Construction Safety Performance

Project safety statistics for lost time accidents on active construction contracts continue to trend above the Bureau of Labor Statistics (BLS) national average at 2.20 vs. 1.70 lost time accidents (LTA) per 200,000 hours. This is slightly lower than last reporting period (2.22). The CM005 Contract has an average of 2.44 LTA, trending higher than the project average. The ESA CM will conduct weekly safety walk-throughs with the Contractor to address on-site safety issues on the CM005 Contract.

c) Security

The PMT did not report any significant security issues during June 2014.

1.6 Project Quality

a) ESA Project Quality Manual (PQM)

A Draft of Revision 7 to the PQM was prepared and sent to the PMOC for review in March 2014. The PMOC returned comments to the ESA Quality Manager that same month. The ESA Quality Manager has finalized Revision 7. It is now with MTACC Headquarters for final review and is expected to be officially issued in July 2014. [Ref: ESA-93-June 12]

b) Submission of As-Builts

Most contractors were deficient in submitting their as-builts on time and in the proper format. The ESA Quality Manager conducted an As-Built Process Audit on contracts CH053, CH054A,

CQ032, CM004, CM014A, CM013, and CM013A in June 2014. All were performing satisfactorily except for CM014A which was not ready for the audit. An audit of CM005 will be scheduled later this year due to the contractor's staff's vacation and scheduling conflicts. CH057A, CS179, and CM006 started recently and there is no data to review. These contracts will be audited by the end of 2014. [Ref: ESA-100-Dec12]

c) CS179 (Systems Package 1 – Base Contract)

The CS179 Contractor has been very slow in producing their initial submittals and staffing a permanent Quality Manager and support staff. As of June 30, 2014 the Contractor reported that they have identified a Quality Manager and a Systems Expert. These individuals must be formally submitted and approved by the ESA Program.

d) Quarterly Quality Oversights (QQOs)

During the second quarter of 2014, the PMOC attended QQOs for the following contracts: CM004/CM014A, CM005, CM013, CM013A, CH053/ CH054A, and CH057A. The following are the PMOC's observations:

Contract	Observations
CM004/CM014A	• This QQO was held on May 1, 2014. • Most action items from the previous QQO that was conducted on February 3, 2014 were closed out. • This was the first ESA contract to use the newly revised MTACC checklist. There were many redundant questions. The numerical rating is calculated to two decimal places. The PMOC met with MTACC's Chief of Quality, Safety, and Site Security and recommended that the rating be rounded off to the nearest percentage and eliminate the two decimal places. This recommendation will be implemented and redundant questions will be eliminated or minimized. • There were 15 action items assigned during this QQO. Among the findings were: daily reports, nonconformance report log, and submittals were not current; the six-week look-ahead schedule should include quality actions, and the contractor's Quality Manager was not signing off on Quality Work Plans. • The ESA auditor conducted an excellent QQO and exit interview.
CM005	• This was the second QQO for this contract and was held on April 10, 2014. • There were 25 action items from the first QQO that was conducted on January 28, 2014. Many were still open. The PMOC expressed concern that these items were not addressed in a timely manner and recommended that each of these open

Contract	Observations
	action items plus any items identified during the current QQO be placed on the Monthly Quality Management Meeting agenda with a projected closure date for each item. • There were 19 action items assigned during this QQO. Among the findings were: daily reports and submittals were not current; nonconformance reports were not submitted in a timely manner; the Inspection and Test Plan was not submitted for all disciplines at the start of the contract; and the six-week look-ahead schedule should include quality actions. • The contractor's Quality Manager had been on probation and was still behind in submitting daily reports and generating nonconformance reports. Following this QQO, the ESA Quality Manager placed the contractor's Quality Manager on a final 30-day probation. [PMOC note: The contractor's Quality Manager's performance has improved and the ESA Quality Manager approved him as the CM005 contractor's Quality Manager.] • The ESA auditor was thorough and professional. He conducted an exit interview.
CM013	• This QQO was held on April 29, 2014. • Most action items from the previous QQO that was conducted on January 24, 2014 were closed. • There were 6 action items assigned during this QQO. Among the findings were: daily reports were not current; the contractor's Quality Plan was not signed by executive management; and inspection and test failures were documented using an observation log instead of generating a nonconformance report. • The contractor was prepared for this QQO and had assembled supporting information on a flash drive. Additional documents that were requested during the QQO were added to the flash drive that was given to the ESA auditor at the conclusion of the QQO. • The ESA auditor did not conduct an exit interview.
CM013A	• This QQO was held on April 16, 2014. • All three action items from the previous QQO that was conducted on January 15, 2014 were closed. • There was only one action item assigned during this QQO: the contractor did not have a standalone Corrective and Preventive Action Request (CAR/PAR) process for systematic problems.

Contract	Observations
	• The contractor's Quality Manager was well prepared for this QQO. She had objective evidence readily available for each of the questions asked. • The ESA auditor conducted an exit interview.
CHO53/054A	• This QQO was held on April 22, 2014. • The contractor had not received the report from the previous QQO that was conducted on January 23, 2014. The PMOC expressed concern that the report has not been issued. This is the second time in less than two years that the contractor had not received the report before the next QQO. The PMOC recommended that each of the open eight items from the January 23, 2014 QQO plus any items identified during the present QQO be placed on the Monthly Quality Management Meeting agenda and that the contractor provide a projected closure date for each item. • There were 11 action items assigned during this QQO. Among the findings were: the contractor should provide a training log, an updated document control procedure, and an updated submittal schedule; the Inspection and Test Plan should differentiate between hold points and special inspections, and a disposition block should be included on the nonconformance report form. • The contractor was well prepared for this QQO. • The ESA auditor was thorough and professional. She conducted an exit interview.
CH057A	• This was the first QQO for this contract and was held on May 2, 2014. • There were 10 action items assigned during this QQO. Among the findings were: the contractor's Quality Plan must include a statement that all obsolete documents be so marked; the Inspection and Test Plan should include a listing of all inspection checklists; and the contractor should include the Preventive Action Request (PAR) process in their Quality Plan. • The ESA auditor gathered information that he said he would review in his office. This is not normal procedure. The auditee should know the findings at the conclusion of the audit. • The ESA auditor did not conduct an exit interview but stated that the contractor did well. • The contractor's Project Manager stated that an internal pre-audit

Contract	Observations
	was conducted prior to this QQO. The contractor's Project and Quality Managers were well prepared to show the auditor the information that was requested. The PMOC recognizes this effort and preparation which resulted in an efficient oversight process.

The ESA quality auditors used a generic checklist when performing their Quarterly Quality Oversights. The Contractor's Quality Plan that was approved by ESA often contained additional requirements. The PMOC recommended to MTACC Quality Management that each QQO checklist be tailored to include the additional requirements from the Contractor's Quality Plan since that would be more meaningful than only auditing to the generic MTACC requirements. MTACC Quality agreed with this suggestion and the revised checklist that was issued does include blocks for additional requirements from the Quality Plan of the contractor being audited.

1.7 Stakeholder Management

a) Railroads

In coordination with Amtrak and LIRR, more weekend outages took place in Harold Interlocking with a focus on the installation of catenary and signal towers. Eighteen (18) catenary poles in Stage 1 remain to be installed, but all of the poles critical for the westbound bypass slab outage were installed in time for the past summer's outage on Lines 2 and 4.

b) Others

No other coordination efforts to discuss for this quarter.

1.8 Local Funding

a) MTA/New York State (Capital Plan)

MTACC announced at the May 2012 CPOC meeting that an additional $720 million had to be identified in the MTA 2015 – 2019 Capital Plan to cover the new project baseline budget. The current re-planned ESA budget, presented to the MTA CPOC in June 2014, is considerably larger than the budget presented to the CPOC in 2012. The funding request for the 2015 – 2019 Capital Program will be 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 has to: delay the planned Full NTP for CM007 and CQ033; split the CS179 Systems Package into a base contract with seven options, to be exercised as funding becomes availabl [redacted]

b) Other Sources

The total Federal funding commitment as of November 2013 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

The MTACC Risk Management Plan (RMP), Rev. 2 dated July 2012, is a sub-plan within the ESA Project Management Plan (PMP). The RMP, Rev 2 was updated and has incorporated the 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. The RMP is currently being revised and was expected to be issued during June 2014. As of this report, this plan was not issued

b) Monitoring

The MTACC committed that PMT would hold monthly risk meetings with the PMOC to review current risk related activities at the end of 2Q2012. The kick-off meeting occurred in January 2013. The last meeting was held on July 31, 2013, almost one year ago. The PMOC has recommended that the PMT reinstate these meetings as soon as possible.

c) Mitigation

Discussion of current mitigations is discussed in Section 6.3 below.

2.0 PROJECT SCOPE

2.1 Engineering/Design and Construction Phase Services

Status:

As of the end of May 2014, MTACC reported that the overall Engineering effort was 98.4% complete, the same as the previous month. Their Cost Report shows only 91.4% of the overall EIS & Engineering category as invoiced and 90.5% of the budgeted section titled "Design" as having been invoiced".

Amtrak provided signed concurrences for the FHA04 Catenary; Signals; Communications, and 60Hz power designs. Amtrak approval for the track design remains open.

NTP for design of the new Concourse Entrance at 43rd Street has been issued to the GEC for the CM014B Contract Package (although this package is already out on the street). Approval for the design of a second new Entrance, at 45th Street was approved at the April 2014 MTA Board meeting. A Proposed GEC Change Order for the design of the support of future Electronic Media into the Concourse, the 48th Street Entrance and the Cavern Station is under review by MTACC Procurement

Under Construction Phase Services (CPS) the GEC is in the process of reviewing existing condition surveys for the approach tunnels and structures for the CM006 Contract, which could potentially lead to a change in the liner designs.

Preparation for the CH057 bid package has begun. Anticipated advertise date for this package is July 2014 (previously forecast for June 2014) with NTP forecast for September 2014. Given that the bid package has not been completed or reviewed by MTACC Legal and Procurement, the PMOC does not believe that the PMT will meet its July 2014 forecast advertise date.

On December 20, 2013, the CCC approved the repackaging of the CH058 Contract and an alternate method for constructing the Eastbound Reroute tunnel to make better use of available extended track outages in the summers of 2015 and 2016. A modification to incorporate these

changes into the GEC contract was approved at the March 2013 MTA Board meeting; and a design NTP was issued on May 2014, with a 90% submission planned for August 2014, and a 100% submission by November 2014.

To date the PMT has received all five anticipated design deliverables from the GEC for the CM007 Contract Package, and the PMT forecasts that the design effort is on schedule to meet the October 2014 target advertisement date. The 60% design submittal for the hybrid design was submitted by the GEC on June 23, 2014 and was subsequently forwarded to LIRR for review and comment. The GEC also submitted a requested white paper, detailing potential options for re-routing the fiber optic network in order to mitigate the Integrated Systems Testing (IST) risk due to delays in completing the CM007 work.

Observation:

The GEC and PMT continue to consistently miss most of its target dates for remaining design activities on the project.

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 PMOC continues to recommend that the PMT develop a design milestone tracking sheet for the remaining design work on the project; similar to what was done for the catenary design work in 2012; in order to more effectively manage the design effort. [Ref: ESA-103-Dec12]

The PMOC also has specific concerns about the CM006 and CM007 Contract Packages. For CM006, the GEC has been asked to re-survey the approach tunnels and structures, which could result in a change in the liner design. A liner design change could impact the Contract schedule. For the CM007 package, the PMOC maintains its long standing concern that a constructability review has not been performed for this package. This is of particular concern given the number of interfaces with other contracts (CM006; CS179; CM014B; CS086).

2.2 Procurement

Status:

As of the end of May 2014, the Cost Report showed total procurement activity on the project as 64.7% complete, with $6.268 billion in contracts awarded out of the $9.693 billion revised budget. Procurement dates for CS284 (track and signal installation) scope remain TBD, given that the package was split into two separate packages, with the track work going into the CM007 package and the signal installation work (CS086) TBD. Notice of Award for the VS086 (Signal Equipment) Contract was made in June 2014. The PMOC notes that it took approximately 19 months from the proposal due date to award the Contract, far longer than planned.

The technical proposal submission due date for CM014B (GCT Finishes and Fit-out) Contract Package was extended from July 15, 2014 to July 31, 2014, and the cost proposal submission date was extended to August 13, 2014.

The CS084 (Traction Power) Contract Package was advertised in June 2014. The bid opening is currently set for August 7, 2014.

CH057C is a second on-call contract (derived from the initial CH057 package) to perform various track construction formerly designated to be performed by LIRR forces. Design has

been completed and the package was sent to prospective bidders on June 3, 2014. Bids were received on June 20, 2014 and a qualifications hearing was held with the low bidder on June 25, 2014. Construction NTP is forecast by the PMT for July 10, 2014.

Concerns and Recommendations:

The lack of stability in the contracting strategy and Contract Packaging Plan remains a concern. The PMT continued to shift and split scope among different packages during 2Q2014, making 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. ESA should adhere to it without shifting scope for the remainder of the project.

The PMOC remains concerned about the continuing scope shift among existing and future Contract packages. The latest major shift is the moving of track work out of the CS284 package (which included track and signal work) into the CM007 package, with a rationale that this shift would help mitigate schedule pressure on the CM007 Contract. This scope shift was presented to the Executive Change Review Committee (ECRC) in May 2014, but was not presented to the CCC as a voting item. The PMOC reviewed the presentation and observed that it was biased towards the benefits of this scope shift; with no discussion of the possible negative impacts of the shift. As such, the PMOC is concerned that this change is going forward without having the benefits of a detailed voting review by the CCC, which should have included a discussion of the pros and cons of this shift, along with the detailed cost and schedule impacts associated with the shift. The ESA PMT is also still considering moving south and north back-of-house work that is currently in CM007, into the existing CM005 and CM006 packages.

2.3 Construction

ESA reported in its May 2014 Monthly Progress Report that the total construction progress reached 49.8% complete on a cost invoiced basis (vs. 51.6% planned), in accordance with its Re-plan budget of March 2014. The Expedition Cost Report shows 50.1% of the Construction budget as invoiced. The data dates for financial and progress figures are May 31, 2014 for all reported contracts. Details for active construction contracts are provided below.

Manhattan Contracts

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

Status: MTACC reports that through June 30, 2014, the EAC has decreased from $55.28 million to $55.14 million. The Forecast Substantial Completion date for the CM004 contract has been extended to July 15, 2014 from the previous April 1, 2014. Beneficial Use for the 245 Park Entrance was achieved October 21, 2013. The actual percent complete was 99.5% versus 100% 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	$40.77M (Award)	$55.28M	+14.51M 35.59%	$55..14M	+$14.37M 35.24%	-.14M -0.25%
Scheduled SC Date	09/16/11	4/1/14		07/15/14		
Duration (NTP - SC)	24 mos.	55.5 mos.	+31.5 mos.	56 mos.	+32 mos.	+.5mos. %.90

% Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
100%	99.5%	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*

From May 2014 ESA Monthly Report
*MTACC reports that the curve for percentage of completion was redesigned again.

Construction Progress: The Substantial Completion walkthrough with Long Island Railroad (LIRR) was conducted on June 4, 2014. The contractor continued working on the water connections on E. 44th St. MTACC reports that the pressurization of the Fire Standpipe lines is being transferred to the CM014-A contract. The Project Office has reported to the PMOC that the CM005 contractor has submitted their MPT drawings to NYDOT for approval as they prepare to take over this contract site.

Observations/Analysis: At 245 Park, portions of the failed terrazzo floor in portions of the passageway and street entrance corridor continues to be an issue, The Project Office has reported to the PMOC that the GEC has inspected the areas and determined that at the entrance area the wrong bonding compound was used and at the lower area sufficient waterproofing was not used. The contractor has been directed to replace both terrazzo areas. This is not impairing the use of this entrance to MNR.

Concerns and Recommendations:

None at this time.

CM005 – Manhattan South Structures

Status: As of May 31, 2014, the MTACC increased the Estimate at Completion for CM005 to $208,448,985 due to its reinstatement of the contract modification for the lining of Access Tunnels 1 and 2. The forecast date for Substantial Completion remained at February 6, 2016. Actual construction progress for May 2014 was 6.1% versus 5.4% planned. Cumulative progress through May 31, 2014, was 30.0% actual versus 26.6% 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	$200.6M (Award)	$202.2M	+1.6M +0.8%	$208.4M	+$7.8M +3.9%	+$6.2M +3.1%
Scheduled SC Date	02/06/16	02/06/16		02/06/16		
Duration (NTP - SC)	29 mos.	29 mos.	0 mos. 0.0%	29 mos.	0 mos. 0.0%	0 mos. 0.0%

% Complete		**Actual - 12 mos.***		**Actual - 6 mos.***		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
26.6%	30.0%	NA	NA	23.5%	3.9%	4.3%/mo.	3.2%/mo.

From May 2014 ESA Monthly Report

Construction Progress: During 2Q2014, the CM005 contractor completed installation of the concrete inverts in the Eastbound Cavern and GCT 1&2 East Wye, as well as installation of the archway concrete in the eastbound Tail Track T402 between 38th St. and the Eastbound Cavern. Additionally, the contractor began to install re-bar mats along the sidewalls of GCT 1&2 East Wye, invert re-bar in the Westbound Cavern, and archway concrete in westbound Tail Track T403.

Observations/Analysis: The PMOC has observed that the contractor continues to make excellent construction progress and remains ahead of its construction schedule while also remaining within its established baseline budget.

Concerns and Recommendation: The PMOC has no concerns about the CM005 contract at present and recommends that the contractor continue to progress the work in the same manner that it has to date.

CM006 – Manhattan North Structures

Status: The MTACC awarded the CM006 Contract on March 31, 2014, and issued the Notice to Proceed (NTP) on that date. The Contract award was $294,201,750 and the projected Substantial Completion date is November 17, 2016. As of May 31, 2014, the MTACC and the Contractor were not able to agree upon a baseline schedule. The MTACC has not generated a Progress Curve for CM006 yet. The PMOC will incorporate its Progress Table in its monthly report when the MTACC generates its Progress Curve.

Construction Progress: The contractor has made submittals, began to mobilize, and applied for permits since NTP, but has not begun any significant field construction yet.

Observations/Analysis: The contractor continues to mobilize and appears to the PMOC to still be organizing its overall approach to the project.

Concerns and Recommendation: The PMOC is concerned about what appears to be disorganization on the contractor's part and recommends that it decide upon its approach to the project and that it develop its baseline schedule as quickly as possible.

CM013 – 50th Street Vent Facility

Status: MTACC reports that through June 30, 2014, the EAC is $96.43 million, slightly lower than the previous $96.82 million. As of June 30, 2014 MTACC continues to report the Forecast Substantial Completion date as March 20, 2014. As of May 31, 2014, the actual percent complete was 100% vs. 100% 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	$118.35M (Award)* $94.35M	$97.44M	+$3.09M +3.27%	$96.44M	+$2.09M 2.21%	-1.0M -1.0%
Scheduled SC Date	06/10/12	3/20/14		3/20/14		
Duration (NTP - SC)	29 mos.	50 mos.	+21mos. +72.4%	50 mos.	+50mos. +72.4%	+0mos. 0%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
100%	100%	NA	NA	NA	NA	NA	NA

From May 2014 ESA Monthly Report

*Previously, MTA has reported the financial summary to include the total award price of $118,355,000 which included $94,355,000 for CM013 and $24,000,000 for work performed by the owner of the 300 Park Ave. building. The $24,000,000 has been removed from the current reporting. No reason for this change is provided.

Construction Progress The work is complete for this contract. There was a walkthrough with LIRR and MTACC reports that there were no issues.

Observations/Analysis: The Project Office continues to advise the PMOC regarding the partial Stop-Work-Order issued by the Code Compliance Unit (CCU). The CCU must still hire a new independent engineer to sign off on the coring results of the pneumatically applied concrete mockup. The physical work is complete but this issue is preventing official sign-off on both substantial and final completion.

Concerns and Recommendations: None at this time. The ongoing delay in signing off on substantial and final completion is not impacting other contracts at this time.

CM013A – 55th Street Vent Facility

Status: MTACC reports that through June 30, 2014 the EAC remained $57.08 million. Forecast Substantial Completion remains April 5, 2015. MTACC reports that the actual percent complete continues to track ahead of schedule at 44.9% vs.43.3% planned.

	Original Baseline	Current Approved Baseline	Change to Original (2 – 1)	EAC / Forecast	Change to Original (4 – 1)	Change to Current (4 – 2)
Contract Cost	$56.04M	$57.05M	+$1.01M +1.80%	$57.08M	+$1.04M 1.86%	+.03M +.05%
Scheduled SC Date	04/05/15	04/05/13		04/05/15		
Duration (NTP - SC)	31 mos.	31mos.	+0 mos.	31 mos.	+0mos.	+0mos.

Percent Complete		Actual - 12 mos.		Actual - 6 mos.		Avg. Req'd. Progress	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
43.3%	44.9%	33.2%	2.8%	19.8%	3.3%	55.1%	5%

From May 2014 ESA Monthly Report

Construction Progress:

Plenum: Completed shoring and formwork for roof sections #5 & 6 in East Plenum & began rebar installation. Completed placement of lower bench wall #1 & upper bench wall #7 in East Plenum. Completed plenum bench drainage and formed & placed lower bench wall #1 & #2 in West Plenum.

Cavern: Continued with perimeter cavern walls. Continued with placement of slab and interior walls at the Facility Power level. Began shoring, formwork for the Lower Fan Level slab

Observations:

Although there are some existing utility support issues in the caverns, these are under review by the GEC for mitigation measures. The overall work, both in the Plenum, and Caverns continues to move forward smoothly and slightly ahead of schedule.

Concerns and Recommendations:

None at this time.

CM014A – GCT Concourse & Facilities Fit-Out

Status: MTACC reports that through June 30, 2014, the EAC is $55.91 million. Forecast Substantial Completion has been extended to January 15, 2015 from the previous December 15, 2014. Through May 2014,the actual percent complete reported was 64.4% versus 77.2% planned.

The large gap between percent complete versus planned continues to be attributed to the overall Supervisory Control and Data Acquisition (SCADA) system redesign (based on LIRR requirements),and recent ongoing discussions among the Contractor, the Project Office and LIRR on some of the finer specific requirements in the SCADA design, but also on the contractor's slow rate of progress. The forecast dates for Con Edison to energize the system are also factoring into the extensions of forecast Substantial Completion.

	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)	$51.96M	+$8.46M +.19.45%	$55.91M	+$12.41M +28.52%	+3.95M +7.60%
Scheduled SC Date	04/25/13	12/15/14		01/15/15		
Duration (NTP - SC)	18 mos.	38 mos.	+20 mos. +111.11%	+39 mos	+21 mos. +116.66%	+1 mo. +2.63%

% Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total.**	**Avg./mo**	**Contract SC**	**Forecast SC**
77.2%	64.4%	NA	NA	NA	NA	35.6%	4.45%/mo.

From May 2014 MTA Monthly Report

Construction Progress:

Garage:

The contractor is preparing to begin permanent power cable pulling. This will take approximately 1 week.

Concourse:

Installation of firestopping continues. CMU erection is ongoing. Painting of CMU walls continue. Ductwork and piping installation is ongoing. Branch feeder and conduit installation is ongoing throughout. Erection of the permanent stair in Shaft #2 continues. Installation of 16340 switchgear is ongoing. Installation of 16341 switchgear will begin on August 1, 2014.

Concourse (CM014-B Scope Transfer Work):

Some the utility work has been completed and the remaining is on hold pending resolution of the related changes in the work. The block wall along Track 115 is temporarily on hold pending an

RFI response from MTACC. For the ramp work this still is slated to be removed from this contract due to significant utility interference that must be relocated by MNR.

Observations/Analysis

The finalization of the installation of equipment and Con Ed energizing the system, final testing and commissioning is the most critical portion of the work for this contract. If completion of this work delays significantly into 2015 it could impact the upcoming CM014-B contract as this is the planned source for temporary construction power for CM014-B.

Concerns and Recommendation:

The PMOC continues to recommend that MTA direct MNR to prioritize removal/relocation of the obstructing utilities to the new ramp, stairs and escalator in the south concourse area. Continuing deference of this work by MNR could impede the ability to do this work in the upcoming CM014-B contract.

Queens Third-Party Contracts

CQ032 Contract – Plaza Substation and Queens Structures

Status: The Estimate at Completion for CQ032 increased to $230,746,188 as of May 31, 2014, due to MTACC's reforecast of existing contract modifications. Actual construction progress for May 2014 was 3.7% versus 3.1% planned. Cumulative progress was 59.4% actual versus 58.3% planned (based on the contractor's re-baselined schedule, which was not approved as of 6/30/14)

	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)	$207.7M	+$60.3M +40.9%	$230.7M	+$83.3M +56.5%	+$23.0M +11.1%
Scheduled SC Date	08/14/14	10/7/15		10/7/15		
Duration (NTP - SC)	36 mos.	50 mos.	+14 mos.	50 mos.	+14 mos. +38.9%	+14 mos. 38.9%

Percent Complete		**Actual - 12 mos.***		**Actual - 6 mos.***		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
58.3%	59.4%	9.8%	0.8%	9.2%	1.5%	2.8%/mo.	2.7%

From May 2014 ESA Monthly Report

PMOC calculations using ESA May 2014 Monthly Report re-baselined schedule data for CQ032; this has not yet been approved by MTACC.

Construction Progress: During 2Q2014, the CQ032 completed concrete pours for the track level inverts between the Open Cut and the Tunnel B/C and Tunnel D portals and its construction of the B-10 Substation. The contractor also continued temporary strut removal as it progressed structural steel installation, concrete floor pours, and sidewall shotcrete application of the C06 and C07 levels of the Plaza Substation. Additionally, the contractor continued to make miscellaneous repairs in the existing 63rd St. Tunnel and punchlist repairs at the wayside vent facilities.

Observations/Analysis: Although the Estimate at Completion increased significantly during 2Q2014, the amount remains within MTACC's budget of $234,177,227. Additionally, the MTACC has incorporated the re-baselined schedule it in its Progress Curve even though it has not been fully executed yet. As a result, the contractor's cumulative construction progress is slightly ahead of plan with a little less than 60% of the project complete.

Concerns and Recommendations: The final execution of the contractor's re-baselined schedule will eliminate the large discrepancy (up to 32%) that previously existed between actual and planned construction progress. The PMOC recommends that the MTACC CM "encourage" the contractor as aggressively as possible to execute its responsibilities of the re-schedule agreement. [Ref: ESA-105-Mar13]

Harold Interlocking Contracts

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

Status: As of May 31, 2014, the Estimate at Completion (EAC) for CH053 increased to $302,302,658 due to the addition of 28 contract modifications totaling over $65 million. The MTACC extended its forecast Substantial Completion date to January 28, 2015, an increase of one month over its latest forecast. Actual construction progress for May 2014 was 1.0% versus 2.3% planned. Cumulative progress through May 31, 2014, was 89.4% actual versus 93.0% 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	$137.30 M (Award)	$239.0M	+$107.7M +74.7%	$302.3M	+165.0M +120.2%	+$63.3M +26.5%
Scheduled SC Date	05/05/10	9/9/14		1/28/15		
Duration (NTP - SC)	28 mos.	80 mos.	+52 mos. +185.7%	85 mos.	+57 mos. +203.6%	+5 mos. +6.3%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
93.0%	89.4%	11.1%	0.9%	3.5%	0.6%	N/A	1.5%

From May 2014 ESA Monthly Report

Construction Progress: During 2Q2014, the CH053 contractor completed construction of the Westbound Bypass and 48th St. bridges and the 43-S2 retaining wall. The contractor resumed installation of soldier piles west of 39th St. for the Tunnel A Approach Structure, continued to install conduits and pull utility cables in previously bored micro-tunnels throughout Harold Interlocking, and continued construction of motor-generator (MG) control houses in Harold and Woodside Interlockings. In late June 2014, the CH053 contractor prepared the subgrade for the realignment of LIRR's ML2 and ML4 Tracks between Woodside and Harold Interlockings.

Observations/Analysis: As of May 31, 2014, the MTACC extended its forecast Substantial Completion date for CH053 to January 28, 2015 (as the PMOC had forecast in its March 2014 Quarterly Report). Based upon its present rate of construction, however, the PMOC now forecasts that the CH053 contract will not achieve Substantial Completion until May 2015 at the earliest.

Concerns and Recommendations: The PMOC remains concerned that actual construction continues to lag behind planned construction and that costs will continue to escalate due to the extended schedule. The PMOC has previously indicated that the MTACC is responsible to allocate limited Force Account support (which plays a significant role in the contractor's construction) among the contracts that it administrates. The PMOC therefore recommends that the MTACC re-prioritize its other contracts that also require Force Account support in order to more fully support CH053 to achieve Substantial Completion.

CH054A Contract – Harold Structures Part 2A

Status: Harold Structures Part 2A: As of May 31, 2014, the Estimate at Completion (EAC) for CH054A increased to $61,693,505 due to the re-forecast of several contract modifications. The MTACC forecast for Substantial Completion was extended to December 19, 2014, an increase of 2 months. Actual construction progress for May 2014 was 1.9% versus 5.8% planned. Cumulative progress through May 31, 2014, was 80.1% actual versus 89.1% 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	$21.80M (Award)	$44.8M	+$23.0M +105.5%	+$61.7M	+$39.9M +183.0%	+$16.9M +37.7%
Scheduled SC Date	12/21/10	8/9/14		12/19/14		
Duration (NTP - SC)	16 mos.	60 mos.	+44 mos.	+48 mos.	+44 mos. +275.0%	+48 mos. +300.0%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress ***	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
89.1%	80.1%	35.0%	2.9%	16.7%	2.8%	N/A – Past Due	3.3%

From May 2014 ESA Monthly Report

Construction Progress: During 2Q2014, the CH054A contractor continued construction of the sewer system between Thomson Ave. in F Interlocking and Sub 44 in Harold Interlocking and made limited progress on its installation of the 12kV ductbank system.

Observations/Analysis: As with CH053, the CH054A Contractor frequently experiences sporadic availability of Force Account personnel to support its construction. As a result, its actual construction continues to fall further behind its planned construction.

Concerns and Recommendations: The PMOC also makes the same recommendation for CH054A as it does for CH053, i.e. that the MTACC re-prioritize its contracts in order to better support CH054A with Force Account personnel.

Contract CH057A – Part 3 Westbound Bypass

Status: The MTACC issued the Notice to Proceed for the CH057A contract on December 2, 2013. The Estimate at Completion is $104,300,000. The MTACC forecast for Substantial Completion is March 14, 2016, which is 2 months later than the current baseline date. The contractor's preliminary schedule is still under MTACC review. As a result, the MTACC has not developed its Progress Curve yet.

	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	$104.3M	$104.3M	No Change	$104.3M	No Change	No Change
Scheduled SC Date	1/31/16	1/31/16		3/14/16		
Duration (NTP - SC)	26 mos.	26 mos.	0	28 mos.	+2 mos. +7.6%	+2 mos. +7.6%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress ***	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
N/A	N/A	N/A	N/A	N/A	N/A	3.8%/ mo.	3.6%/ mo.

From May 2014 ESA Monthly Report

Construction Progress: To date, the Contractor's field construction has been limited to the installation of Signal Bridge 24 and asbestos remediation at several catenary poles that are scheduled for removal in Harold Interlocking. The Contractor continues to make submittals, install instrumentation to monitor track profile deviations when it installs the Westbound Bypass Tunnel under the main lines, and perform preliminary surveys.

Observations/Analysis: Until the CH053/CH054A Contracts each achieve Substantial Completion, the CH057A contract will be competing with them for limited Force Account support personnel. The PMOC foresees that this could result in a slow start for CH057A construction. The PMOC believes that the construction progress that the CH057A Contractor makes during the next quarter, 3Q2014, will greatly determine the relative success of the Contract.

Concerns and Recommendations: The PMOC recommends that the MTACC and the contractor work very closely to develop construction activities that will help the contractor get a good construction start during 3Q2014.

Contract CH057B – LIRR ML2 and ML4 Tracks

Status: The MTACC awarded the CH057B Contract to an on-call contractor in May 2014 to construct new tracks for the realignment of LIRR ML2 and ML4 Tracks between Harold and Woodside Interlockings. The Contractor began work in June 2014 and was 80% complete with the installation of concrete ties, continuous welded rail, and ballast as of June 30, 2014. The tracks must be ready for the cuts and throws (realignments), which are scheduled to begin on the weekend of July 18-20, 2014. Due to the short duration of the contract, the PMOC will not generate a Progress Table for CH057B.

Construction Progress: The Contractor completed approximately 80% of the installation of ties, rail, and ballast by the end of June 2014.

Observations/Analysis: The contract duration is approximately 6 weeks. The PMOC believes that the Contractor will be able to complete the remainder of the work within the time allotted.

Concerns and Recommendations: The PMOC recommends that the Contractor continue its construction in the same manner it has progressed the initial 80%.

Systems Contracts

VH051A (Part 1) – Harold and Point Central Instrument Locations (CILs)

Status: The Estimate at Completion is $27.59M through May 2014. Forecast Substantial Completion remained the same. Actual Progress was 80%% versus 84% 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	$30.89M (Award)	$30.72M	-0.17M -0.6%	$27.59M	-3.3M -10%	-3.13M -10%
Scheduled SC Date	06/25/12	06/25/12		07/31/15		
Duration (NTP - SC)	37 mos.	37 mos.	+ 0mos. (+0%)	74 mos.	37 mos. 100.5%	37 mos. 100.5%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
84%	80%	-	-	-	-	(N/A)	10%/mo.

From May 2014 ESA Monthly Report

Construction Progress:

The H2 CIL was completed and is being stored at the manufacturer's plant, awaiting site preparation prior to shipment. LIRR test witnessing of H1, the last of the CILs to be manufactured, is scheduled for July 2014. Shipment of the CIL is scheduled two weeks after the test witnessing, but H1 may also be stored at the manufacturer's plant if the site hasn't been prepared.

Observations/Analysis:

LIRR issued a signal design criteria change resulting from the recent MNR derailment (civil speed enforcement). This change may affect operations through Harold Interlocking and could impact future CIL cut-over dates. The GEC is evaluating the impact of the design criteria change on this package. A decision on what/if any changes will occur remains pending

Concerns and Recommendations:

The PMT needs to assess the GEC findings for the civil speed enforcement and agree upon an effective course of action that minimizes schedule impacts to the extent possible. Also, the H4 cutover has been delayed for a number of reasons including: issues with circuit design revisions; loss of LIRR circuit design personnel; and network communications issues. In order to minimize impact to the remaining CIL cutovers, these issues need to be resolved as quickly as possible

VH051B (Part 2) – Harold Tower Supervisory Control System (HTSCS)

Status: The Estimate at Completion was $9.12M through May 2014, an increase of approximately $300K from last month due to escalation and cost of Contract extension to July 2015. Forecast Substantial Completion remained the same. Actual Progress was 96% versus 100% 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	$7.10M (Award)	$8.58M	+$1.48M +20.8%	$9.12M	+$1.02M +14%	$.54M 6%
Scheduled SC Date	08/24/10	08/24/10		07/31/15		
Duration (NTP - SC)	18 mos.	18 mos.	+0 mos. 0%	74 mos.	56	56

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
100%	96%					(N/A)	

From May 2014 ESA Monthly Report

Construction Progress:

Previously shipped and installed workstations were installed at PSCC.

Observations/Analysis:

Substantial completion of this project cannot be achieved until the remaining CILs are cutover.

Concerns and Recommendations

The PMT needs to stop making changes to the configuration of the Harold Interlocking and if changes are absolutely required, should review the changes with the LIRR and GEC to confirm constructability and operability.

CS179 (Systems Package 1-Base Contract)

Status: MTACC awarded this contract in March 2014. As of April 30, 2014, the Estimate at Completion for CS179 is $550,388,000. The MTACC forecast for Substantial Completion is November 25, 2019. Contractor schedule has not been submitted yet.

Construction Progress:

The Contractor is in the mobilization stage of the Contract. Also since this is the base Contract which is primarily geared towards equipment purchase and manufacturing, there is no construction planned for the immediate future

Observations/Analysis:

The Contractor has not submitted an acceptable preliminary schedule. The ESA CM informed the Contractor that payment requests will not be reviewed until the preliminary schedule has been submitted and accepted.

Concerns and Recommendations:

The PMOC is concerned that this Contract is not off to a good start. In addition to unacceptable schedule submittals, the Contractor has been late with its QA/QC submittals, and has submitted a Safety Plan that was not accepted. The ESA CM continues to work with the Contractor to try to improve its performance to date.

Railroad Force Account Construction Packages

Harold Stage I Amtrak FA (FHA01)

Status: As of May 31, 2014, the Estimate at Completion (EAC) for FHA01 remained at $18,824,861. The MTACC's forecast for Substantial Completion remained at February 25, 2016. Actual construction progress during May 2014 was 0.4% versus 0.4% planned. Cumulative progress through May 31, 2014, was 96.2% actual versus 96.4% planned.

FHA01	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	$9.50M	$18.8M	+$9.3M +97.9%	+$18.8M	+$9.3M +97.9%	0 0
Scheduled SC Date	09/30/10	2/4/16		2/25/16		
Duration (NTP - SC)	39 mos.	104 mos.	+65 mos. +166.7%	105 mos.	+66 mos. +169.2%	+1 mo. +1.0%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
96.4%	96.2%	7.6%	0.6%	2.3%	0.4%	N/A – Past Due	0.2%

From May 2014 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.

Construction Progress: Limited Stage 1 catenary wire transfers and signal power cable relocations between Thomson Ave. and Sub 44 in Harold Interlocking were made during 2Q2014

Observations/Analysis: Amtrak Electric Traction Force Account personnel continue construction on the pace required by the schedule.

Concerns and Recommendations: The PMOC has no concerns about FHA01 construction at this time.

Harold Early Stage 2 Amtrak FA (FHA02)

Status: As of May 31, 2014, the Estimate at Completion for FHA02 remained at $41,683,606. The MTACC's forecast for Substantial Completion remained at September 6, 2017. Actual construction progress for May 2014 was 1.4% versus 2.0% planned. Cumulative construction progress through May 31, 2014, was 81.6% actual versus 81.6% planned.

FHA02	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	$38.6M	+$28.9M +298.0%	$41.7M	+$32.0M +329.9%	+$3.1M +8.0%
Scheduled SC Date	9/30/13	8/15/17		9/6/17		
Duration (NTP - SC)	58 mos.	105 mos.	+47 mos. +81.0%	106 mos.	+48 mos. +82.8%	+1 mo. +1.0%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
81.6%	81.6%	22.0%	1.8%	5.8%	1.0%	1.7%	0.5%

From May 2014 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.

Construction Progress: During 2Q2014, Amtrak C&S personnel continued to install conduit and signal cable for the cutover of E35 signal bridge as well as support the LIRR cutover of new Point Interlocking in April 2014. Observations/Analysis: The PMOC calculates that Amtrak has invoiced approximately 91.7% of FHA02 while it is only 81.6% complete.

Concerns/Recommendations: The PMOC recommends that Amtrak and the MTACC develop a management strategy to bring FHA02 back within its budget.

Harold Early Stage 3 Amtrak (FHA03)

Status: All construction for the first phase of FHA03 Stage 3 was completed in 3Q2013 and the remainder of FHA03 has not been scheduled. The PMOC will discontinue reporting on FHA03 until work is scheduled to resume.

Harold Stage 1 LIRR FA (FHL01)

Status: As of May 31, 2014, the Estimate at Completion for FHL01 remained at $20,804,621. The MTACC's forecast for Substantial Completion remained at February 26, 2015. Actual construction progress for May 2014 was 4.5% versus 1.2% planned. Cumulative progress through May 31, 2014, was 83.1% actual versus 82.3% planned.

FHL01	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	$28.80M	$20.80M	-$8.00M -27.8%	$20.8M	-$8.0M -27.8%	$0 0%
Scheduled SC Date	09/30/10	4/9/15		2/26/15		
Duration (NTP - SC)	39 mos.	94 mos.	+55 mos. +141.0 mos.	93 mos.	+54 mos. +138.5%	-1 mo. -1.0%

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
82.3%	83.1%	7.9%	0.7%	5.8%	1.0%	N/A	2.1%

From May 2014 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: During 2Q2014, LIRR Traction Power personnel installed all signal power cables between new poles HP-1 and HP-2.

Observations/Analysis: The PMOC calculates that the LIRR construction of FHL01 is approximately $1 million over budget for the percent complete that it presently is.

Concerns and Recommendations: The PMOC recommends that the MTACC and the LIRR jointly develop a management strategy that will bring the cost of FHL01 back within budget.

Harold Early Stage 2 LIRR FA (FHL02)

Status: As of May 31, 2014, the Estimate at Completion for FHL02 remained at $71,189,359. The MTACC's forecast for Substantial Completion remained at November 25, 2016. Actual construction progress for May 2014 was 2.4% versus 3.3% planned. Cumulative progress through May 31, 2014, was 37.6% actual versus 44.2% planned.

FHL02	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	$48.2M	+$40.8M +551.4%	$71.2M	+$63.8M +862.2%	+$23.0M +47.7%
Scheduled SC Date	11/30/15	11/25/16 -		11/25/16		
Duration (NTP - SC)	75 mos.	87 mos.	+12 mos. +16.0%	87 mos.	+12 mos. +16.0%	No Change

Percent Complete		**Actual - 12 mos.**		**Actual - 6 mos.**		**Avg. Req'd. Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
44.2%	37.6%	12.7%	1.1%	7.7%	1.2%	1.3%	3.5%

From May 2014 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 Memoranda of Understanding (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 2Q2014, LIRR Signal personnel completed cutover of new Point Interlocking in April, began installation of the H4 and H6 CILs in Harold Interlocking (approximately 56% and 88% complete, respectively), and installed conduits for the Signal Bridge 20 location while communications personnel relocated communications cables at the new H3 CIL.

Summary Observation: The PMOC calculates that LIRR has invoiced 46.3% of the EAC while it has only constructed 37.6% of FHL02.

Summary Concerns and Recommendations: The PMOC recommends that the MTACC and the LIRR jointly develop a management strategy that will bring the cost of FHL02 back within budget.

Harold Early Stage 3 LIRR F/A (FHL03)

Status: All construction for the first phase of FHL03 Stage 3 was completed in 3Q2013 and the remainder of FHL03 has not been scheduled. The PMOC will discontinue reporting on FHL03 until work is scheduled to resume.

Loop Interlocking CIL Amtrak FQA65

Status: Amtrak C&S personnel began construction of Loop Interlocking in February 2014. Funding for this work is 100% Regional Investment and the present Estimate at Completion is $33,163,652. The MTACC's forecast for Substantial Completion is September 1, 2018. Actual construction progress during May 2014 was 3.1% versus 3.3% planned. Cumulative progress was 13.8% actual versus 15.2% planned.

FQA65	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	$9.1M	No Change	+$33.2M	+$24.1M +264.8%	+$24.1M +264.8%
Scheduled SC Date	8/12/18	8/12/18		9/1/18		
Duration (NTP - SC)	55 mos.	55 mos.		56 mos.	+1 mo. +0.2%	+1 mo. +0.2%

Percent Complete		**Actual – 12 mos.**		**Actual – 6 mos.**		**Avg. Req'd Progress**	
Plan	**Actual**	**Total**	**Avg./mo**	**Total**	**Avg./mo**	**Contract SC**	**Forecast SC**
15.2%	13.8%	N/A	N/A	N/A	N/A	1.8%/mo.	1.4%/mo.

From May 2014 ESA Monthly Report

Construction Progress: During 2Q2014, Amtrak C&S personnel continued to install conduit and trough in Loop Interlocking.

Observations/Analysis: Amtrak has made a good start with its construction at Loop Interlocking.

Concerns/Recommendations: The PMOC recommends that Amtrak continue its construction at Loop Interlocking in the same fashion it has begun.

2.4 Operational Readiness

A Quarterly Operational Readiness meeting was held on June 19, 2014. There were several topics discussed at the meeting including: asset management plan; rail activation plan; highlights of efforts by rail activation task groups; and a report on safety certification activities during Q2 2014. It was announced that the Asset Manager position for the Operational Readiness team has been filled, and the new manager was introduced to the group.

Asset Management Plan

Verification of asset listings for contract repackaging is ongoing, with the CM007 package currently under review. Asset Inventory template training was conducted during Q2 2014 for: CM004; CM014A; and CQ032. Maximo is being implemented by means of uploading asset codes on a QA server in a test environment.

Rail Activation Plan

The draft outline of Volume 3 of the Rail Activation Plan (Monitoring and Verification) is complete and kick-off discussions with MNR and LIRR began in February 2014. The Operational Readiness Team is working on a strategy for scheduling the take-over of assets by LIRR and incorporating these hand-offs into the IPS. They will also soon release a glossary of definitions pertaining to testing and commissioning, since there has been some confusion at various meetings on definitions of turnover; acceptance; etc.

Quarterly Report on Safety Certification Activities

This item is discussed in Section 1.5 above.

Observation:

The Operational Readiness group continues to progress activities comprising system start-up and commissioning.

Concerns and Recommendations:

Given that many of the operational readiness activities are still several years away, the Operational Readiness team need to keep the momentum going. The Operational Readiness Program has been well structured and necessary pre-revenue activities have been clearly defined.

2.5 Vehicles

Board Approval was received and Notice of Award executed September 18, 2013 for the LIRR M-9 vehicle procurement. These cars will initially be part of the M-3 replacement program and will be used for ESA when it comes on line (this procurement does not use federal funding).

Status:

Since the last reporting period technical specification review meetings have continued with the car builder and its major subcontractors. Initial design review (IDR) meetings for vehicle components and systems were also held during Q2 2014.

Observations:

All IDRs are scheduled to be completed by the end of July 2014, with Preliminary Design Reviews (PDR) to follow in August through October 2014.

Concerns and Recommendations:

There are no significant concerns at this time.

2.6 Property Acquisition and Real Estate

415 Madison Ave:

MTA met with the property owner on May 27, 2014 to discuss the following outstanding issues associated with property acquisition.

- The MTACC Design team has been meeting with the property owner's technical staff to review the needed easements. The property owner is in possession of MTACC 100% complete design drawings for the new entrance. There is no change in this status**.**
- The retail space on the ground floor of the building will be impacted and is currently occupied by a large bank whose lease is up in April 2015.
- The property owner is looking into the possibility of doing some work to their building in addition to the work that the project will need to complete for the new entrance. This work can be done while the project is doing the work associated with the entrance in the street and underground, which is outside and adjacent to their property.

280 Park:

The Sub-surface excavation for the elevator is complete. The final details of design are being coordinated with the owners of 280 Park. There is no change in this status.

335 Madison Ave:

The appraisal for this parcel has been received and a review is in process.

The Project has made the decision to follow a dual track (negotiated agreement and condemnation) for property acquisition, since regular communication with the property owner is difficult. MTA Real Estate took the Staff Summary and Resolution to MTA's February 2014 Board; which approved the negotiated purchase or condemnation of permanent and temporary easements for elevators

Extensions of two easements in Queens are being negotiated. No Change

- 48-39 Barnett Ave East (Block 119 Lot 150)

- 39-10 43rd Street (Block 183 Lot 332)

# of Parcels Identified	# Parcels Closed	# Parcels Under Contract	# Parcels In Negotiation	# Parcels In Appraisal	# Parcels In Condemnation	# Parcels Right of Occupancy
127	117	0	5	3	0	2

Concerns and Recommendations:

The PMOC remains concerned about the length of time it is taking to finalize all of the Real Estate aspects of the 48th Street Entrance to GCT. MTA Real Estate has no control on the protracted timeframes.

2.7 Community Relations

Status:

The ESA Community Relations staff continued its outreach efforts during Q2 2014. The effort included the following activities:

- Presented project progress updates to the Manhattan Community Boards 5 and 6 transportation committees;
- Attended site walk with the CM006 CM team and Contractor to identify potential site-specific issues that could affect the community before Contractor mobilization begins;
- Attended site visit with ESA senior project management to observe current issues with work behind the buildings along 37th Avenue in Sunnyside, Queens and met with the affected property owners; and
- Developed a new outreach strategy for the Sunnyside community in response to a planned accelerated work schedule.

Observation:

The ESA Community Relations staff, working with the ESA Construction Managers and MTACC management, continues to reach out to inform the Manhattan and Queens communities affected by the ESA project, of upcoming construction work and planned changes.

Concerns and Recommendations:

There are no significant concerns at this time.

3.0 PROJECT MANAGEMENT PLAN AND SUB PLANS

3.1 Project Management Plan

Status:

The Grantee updated the Project Management Plan (PMP) and issued Rev. 9 on June 28, 2013. The PMOC completed its review of the revised PMP in August 2013 and incorporated the FTA comments in September 2013. The PMOC and FTA comments were then coordinated, consolidated and finalized. The FTA formally issued final PMP review comments and transmitted them to MTACC in December 2013. MTACC had targeted completion of incorporation of the comments by June 30, 2014, but the updated PMP was not provided.

Observation:

MTACC utilized a task force approach to updating the PMP and Candidate Revisions to the PMP were presented to the CCC for review and approval. However, they were presented to the CCC after the PMOC had already reviewed them and the PMOC notes that this in not in the correct order.

Concerns and Recommendations:

Candidate changes to the PMP should not be in the revision given to the FTA and PMOC for review until after they have been approved by the CCC.

3.2 PMP Sub-Plans

Status: The status of the key sub-plans is discussed in the ELPEP section of this report. At the Quarterly ELPEP Compliance Review Meeting held on December 12, 2013, MTACC notified the FTA and the PMOC that they anticipate full revisions to the CMP and SMP, using the Candidate Revision process, within the next few months. Subsequently, MTACC advised at the March 2014 Quarterly ELPEP Compliance Review Meeting that the CMP and SMP will be revised after the current update to the PMP was completed.

Observations:

As of the end of June 2014; MTACC has not indicated when the CMP and SMP revisions will be issued.

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.

3.3 Project Procedures

Status:

The PMOC understands that the decision to move the track work from the CS284 Package into the CM007 Package was approved by the Executive Change Review Committee (ECRC), a new senior level group comprising four MTACC Executives. This decision was presented to the CCC on June 12, 2014 “after the fact” as a non-voting agenda item.

Observations:

A major scope shift was made without the benefit of a review by the CCC; as called for in the MTACC's Change Control Procedure.

Concerns and Recommendations:

The PMOC has several concerns about this circumvention of the Change Control process which it has raised at the MTACC/FTA monthly Executive meeting: the CCC comprises various stakeholders (including LIRR and MTACC Risk Management) that did not have the opportunity to "weigh in" on proposed changes/shifts; there is no evidence that cost impacts of this scope shift (including GEC costs for repackaging; costs of splitting procurements) were identified and presented for review and approval. The PMOC strongly recommends that MTACC present any proposed major changes to the CCC first, as called for in its Change Control Procedure; if it is accepted at that level, it should then be presented to the ECRC for review and approval.

4.0 PROJECT SCHEDULE

4.1 Integrated Project Schedule

Status:

ESA submitted its IPS #58, data date June 1, 2014, and its variance report. The IPS has RSD of September 10, 2021, however ESA submitted a newer RSD to the MTA CPOC on June 23, 2014 that indicates RSD of December 2022. In its report to the MTA CPOC, the project also pledged the delivery of following items;

- Update cost and schedule reporting (internal, external)
- Finalize funding needed and submit 2015- 2019 Capital Program
- Revise and prepare FFGA submission
- Finalizing impact of new cost & schedule on Regional Investments

The project critical path goes through contracts: CM005 Manhattan South Structures, CM007 GCT Caverns, and CS179 Integrated System Testing. Active Harold Contracts CH053 and CH054A are both forecasting Substantial Completion by 1st Quarter 2015, and CH057A is forecasting Substantial Completion during the first Quarter of 2016. ESA's IPS#58 indicates that the Harold critical path depends upon the 2016 long-term outage. Major works for Harold Critical path are:

- Year 2016 Long-term Outage (Eastbound Reroute)
- Remove 811/821/813 Switches
- Retire Harold CIL
- Construct B/C Approach Structure
- Install Switch, Track and 3rd Rail for B/C
- Cutover 4D – LK1, U1,LK2

Observation:

ESA's IPS #58 does not match ESA's official RSD of December 2022, therefore the ESA should update its IPS and create an official baseline IPS for the aforementioned date. Additionally the IPS should clearly states the amount of contingency in ESA that PMT is managing the project with.

The PMOC understands that are some significant delays in MS#1 (Escalator/Cavern Connections - Complete Wellways 1 thru 4), and MS#2 (Complete North Half of EB Cavern Slab) in CM005 schedule. Contracts schedule currently shows that there are 28 days, and 19 days of delay for MS#1 and 2 respectively. The Contractor also shows about 20 days of delay in substantial and final completion. Meanwhile the ESA's estimated delay for MS#1 is three months.

Although Contract CM006 is not on ESA's critical path, the finish of Milestones #1 (CM006 Milestone #1, 63rd Street Work Complete, scheduled September 29, 2015) and Milestone #2, (CM006 Lower Level Tunnels & 50th scheduled for February 1, 2016) will affect Contract CM007, and CS179, which are on the project critical path. Meanwhile ESA has rejected the

Contractor's initial baseline schedule for CM006, and there is an issue with alignment of tunnels, specifically WB1.

The most problematic (delayed) Contract among ESA active Contracts is CQ032. Some of the issues are due to the fact that Contractor was granted access to the site late.

Table 4.1: CQ032 Contract Milestones

Milestone	Baseline Schedule	Contractor CPR#32	Δ
Milestone No. 1	19-Jun-13	7-Aug-14	(414)
Milestone No.2	9-Jun-13	1-Oct-14	(479)
Milestone No. 3	7-Sep-13	21-Jul-15	(682)
Milestone No. 4A	12-Sep-12	31-Oct-14	(779)
Milestone No. 4A1	10-Jan-13	23-Jun-14	(529)
Milestone No. 48	31-Mar-13	10-Apr-15	(740)
Milestone No.5	4-Jun-14	7-Oct-15	(490)
Milestone No. 6 (substantial Completion)	13-Aug-14	7-Oct-15	(420)
Milestone No. 7 (final Completion)	11-Nov-14	5-Jan-16	(420)

ESA has also mentioned in its variance report that:

- A re-baseline schedule accounting for the access restraint delays by adjacent Contractors and corresponding corroborating correspondence is being investigated.
- The extent of the delays will be reported upon review and acceptance of the proposed re-baseline schedule.

Contract CS179's Contractor's baseline schedule was rejected by ESA, and the ESA has reported that the Contractor is "off with a slower than expected start."

The PMOC has developed a preliminary schedule risk model based on the Integrated Project Schedule Relationship and base durations (IPS# 57 data date May 1, 2014). The Risk Analysis approach estimated the schedule by developing a probabilistic distribution of each package based on a modified OP40 cost analysis, and translating each package cost risk to schedule slippage for each package on the critical and near critical path. Initial results of this preliminary analysis indicate that there is less than a 10 percent probability (P10) that the project will be completed on or before August 13, 2023, with the 90 percentile (P90) for the ESA project RSD indicated as March 2024. This is of concern given the fact that the ESA schedule presented to the MTA CPOC forecasts revenue service for December 2022.

Concerns and Recommendations:

Over the last quarter, the PMOC and the ESA PMT had two schedule review meetings discussing schedule control and reporting requirements going forward. The followings are the PMOC's recommendations that were agreed upon by the ESA PMT:

- Establish the project baseline schedule that matches CPOC presented RSD of December 2022. [ESA-109-June 13]
- Develop a clear contingency drawdown based on the ELEP requirements.

- Develop critical milestones based on the baseline IPS, and report quarterly on the achievements of these milestones.
- ESA develops a cash flow diagram that explains the FTA's hold points and contingency draw down. In addition this cash flow diagram should match MTACC's funding flow.

4.2 90-Day Look-Ahead of Important Activities

Table 4.2 below shows significant milestones in next 90 days.

Table 4.2: 90 Day Look Ahead

Activity ID	Activity Name	Original Duration	Start	Finish	IPS-Contract
MTACC-1230	CH057 Advertise Date	0	21-Jul-14		CH057
FHL02.SI.00045	Installation of Switch D1 (4164)	0		27-Jul-14	FHL02
0700-95401	Complete MicroTunnel	0		31-Jul-14	CH054A
FHL02.TK.57760	Cut & Throw ML2	0		3-Aug-14	FHL02
CM014-B5005	CM014 Bid Due Date - Bid Opening	0		8-Aug-14	CM014B
FHL02.SI.00054	Installation of Switch (4178E) / Remove 849 Switch	0		10-Aug-14	FHL02
FHL02.SI.00134	Install Switch H3 (6167W)	0		24-Aug-14	FHL02
CH58-H0070	90% Design Submission - Contract CH058	0		1-Sep-14	CH058
FHL01-1010	Cut & Throw ML2	0		6-Sep-14	FHL01
FHL02.SI.315	Installation of 6776 MPD Switch	0		7-Sep-14	FHL02
A4390	Cutover 12KV Ductbank	0		10-Sep-14	CH053
FHL02.SI.00114	Install Switch K4 (6176 E)	0		14-Sep-14	FHL02
FHL02.MS.00025	MS - Cutover H4 CIL(2D)	0		21-Sep-14	FHL02
CH57-H00110	CH057 - Bid Due Date	0		22-Sep-14	CH057
0700-9530	Complete 12KV Ductbank	0		23-Sep-14	CH054A
CH054A-DM1230	CH054A - Complete 12KV Cutover	0		23-Sep-14	FHA02.2
FHL02.SI.00064	Installation of Switch (4178W)	0		28-Sep-14	FHL02
CM012-Cavern-P20	CM007 Advertise	0	1-Oct-14		CM007

4.3 Critical Path Activities

As stated above, the ESA's critical path goes through contracts CM005 and CM007, and part of Integrated System Testing (IST) under Contract CS179 and LIRR testing and commissioning.

4.4 Project Schedule Contingency Analysis

ESA's IPS#58 shows the RSD of September 2021 with one year of contingency; however MTACC just presented its new baseline schedule to the MTA CPOC with an RSD of December 2022. This date includes 22 months of Program level contingency. The PMT has to incorporate the new baseline schedule (including contingency) into the IPS and also develop a schedule contingency draw down plan as required by the ELPEP agreement.

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 May 2012.

5.1 Budget/Cost

On June 23, 2014 MTACC presented a Budget for the ESA project of $10,177M [redacted] to the MTA CPOC The detailed monthly cost reports received by the PMOC reflect the budget as of the end of May 2014, so budget details supporting this new number have not been provided as of the end of June 2014. Table 5.1 below shows the changes in the SCC budget breakdown between the 2012 Baseline budget and the 2014 re-planned budget.

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

Standard Cost Category (SCC) No.	FFGA SCC baseline (YOE $) M	July 2, 2012 Re-baseline (YOE $)	April 2014 SSC (YOE $) M	May 2014 SSC (YOE $) M	May 2014 % of Rebaseline	Mar '14 to May''14 Change $M	CBB Variance from FFGA %
10	1,989	2,943	3,363	3,363	114.27%	0	169.08%
20	1,169	1,514	2,169	2,169	143.26%	0	185.54%
30	356	388	502	502	129.38%	0	141.01%
40	205	488	517	517	105.94%	0	252.20%
50	619	698	616	616	88.25%	0	99.52%
60	165	204	204	204	100.00%	0	123.64%
70	957	674	34	34	5.04%	0	3.55%
80	1,184	1,649	1,922	1,922	116.56%	0	162.33%
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Subtotal	**6,813**	**8,708**	9,693	9,693	111.31%	0	142.27%
100	1,036	1,116	1.036	1,036	92.83%	0	100.00%
Total Project Cost (10 – 100)	**7,849**	**9,824**	**10,729**	**10,729**	109.21%	0	136.69%

*This total amount does not include Regional Investment amount of $590,732,003.

Observations:

The Re-planning effort has provided the opportunity for the PMT to re-examine each of the Contract packages and every active Contract Package value. Some budgets changed due to major re-estimates, other due to adjustments in the Contingencies. Some Contracts packages were redefined by splitting off sections of work or re-allocating portions of the budget to Regional Investments (RI).

Concerns and Recommendations:

ESA has stated that its new SCC allocations reflects the proper SCCs for each work element and is not simply a function of the major definition of the overall package as has been recommended by the PMOC and required by the Cost Management Plan. It has also informed the PMOC that, per PMOC recommendation, if there are future Scope Transfers, the scope will carry the proper SCC and not the overall 'mix of SCCs' in the former package; consequently this PMOC Concern/Recommendation will be closed. [Ref: ESA-106-Dec12].

5.2 Project Cost Management and Control

Status:

The PMT has reported that as of May 31, 2014, the actual total project progress was 52.4% vs. 53.7% planned progress resulting from the July 2012 re-baseline, however the actual construction progress was 49.8% vs.51.3% planned based on invoiced amount. Due to the new Re-Plan values the percentages of actual completion have decreased over the last quarter.

As stated above, MTACC ESA presented a new budget to the MTA CPOC in June 2014. The latest cost reports provided by ESA have not incorporated the new budget numbers; they provided percentages of 'Planned' progress vs. the January 2014 Preliminary Re-Plan values, but were already lagging that forecast, since the new Re-Plan budget is nearly $500M higher ($10.177B vs. $9.693B). ESA has not provided any cost based schedule for anticipated cash flow as of this report, so planned percentage complete at any point in still unknown. It is expected that when ESA provides its cash flow curves, they will begin at a 'balance' point and the actual will be 'at plan' because it will have been set at that level, and then in the months following the variances will be able to be tracked and reported.

Table 5.2 shows the current budget status of contracts awarded to date and invoiced amounts to date.

Table 5.2: Project Budget and Invoices as of May 31, 2014

Elements	Baseline Total Budget (Feb 2014)	Current Baseline Budget	Actual Awards	Paid to Date	Actual % Budget Invoiced
Construction	$7,230,916,480	$7,230,916,480	$4,677,001,261	$3,509,859,146	48.54%
Soft Costs Subtotal	**$2,462,573,223**	**$2,462,573,223**	**$1,590,919,027**	**$1,465,159,318**	**59.50%**
Engineering	$706,910,398	$706,910,398	$643,304,786	$626,376,546	88.61%
OCIP	$288,913,620	$288,913,620	$187,960,159	$156,904,955	54.31%
Project Mgmt.	$925,930,891	$925,930,891	$645,173,393	$569,268,655	61.48%
Real Estate	$166,318,314	$166,318,314	$114,480,689	$112,609,162	67.71%
Rolling Stock	$7,500,000	$7,500,000	$0	$0	0.00%
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project subtotal w/o Financing & RI	**$9,693,489,703**	**$9,693,489,703**	**$6,267,920,288**	**$4,975,018,464**	**51.32%**
Regional Investment Subtotal	**$632,029,343**	**$632,029,343**	**$194,305,923**	**$62,530,464**	**9.89%**
Construction (RI)	$506,313,421	$506,313,421	$134,890,821	$26,693,106	5.27%
Design (RI)	24,595,433	24,595,433	$24,595,434	$15,976,887	64.96%
OCIP (RI)	$16,939,198	$16,939,198	$16,939,198	$16,939,198	100.00%
Project Mgmt. (RI)	$24,181,291	$24,181,291	$17,880,470	$2,921,273	12.08%
Real Estate (RI)	$0	$0	$0	$0	0.00%
Rolling Stock(RI)	$50,000,000	$50,000,000	$0	$0	0.00%
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Subtotal W/O Financing	**$10,325,519,046**	**$10,325,519,046**	**$6,462,226,211**	**$5,037,548,928**	**48.79%**
Finance Charges	$1,036,100,000	$1,036,100,000	$617,607,000	$617,607,000	59.61%
Grand Total	**$11,361,619,046**	**$11,361,619,046**	**$7,079,833,211**	**$5,655,155,928**	**49.77%**

[redacted]

Table 5.3 below shows the PMOC's cost forecast, based on a trending analysis using date provided by ESA in Q4 2013 (note: this forecast has not changed since then).

Table 5.3: PMOC ESA Cost Forecast

Category	Cost
Construction*	$ 7,859,922,230
PM/CM; OCIP; RE; and Engineering*	$ 2,243,759,078
Rolling Stock	$ 202,000,000
[redacted]	[redacted]
ESA Budget Forecast	$10,455,681,308
[redacted]	[redacted]
ESA Total Forecast	$10,918,681,308

*PMOC Forecast is based on Historical trends; known costs; and schedule slippage. ESA provided data is utilized

**Figures represents Low Degree of Risk Mitigation, The PMOC had developed summary levels of Forecast cost values at the Medium Degree of Mitigation($10.772B) and High Degree of Mitigation ($10.587B Levels also.

Observations:

The PMOC notes that ESA had continued to report its Management Reserve under the Construction budget when computing Construction progress and to exclude rolling stock reserve in its calculation of project progress. The PMOC believes that Management Reserve is a Program reserve and should not be included in the Construction progress calculation and also that the rolling stock reserve should be included in the project progress calculation.

The PMT has been providing package estimates for future contract packages; however what is provided often is in formats without the underlying coding structures and without an adequate Basis of Estimates (BOE), which hinders analysis. Without a BOE, thorough analysis is difficult and one cannot identify the assumptions of the Estimator. [Ref: ESA-107-Dec12]

Concerns and Recommendations:

The PMT provides monthly cost reporting data in a series of update documents provided by separate PMT staff instead of in a unified report. This lack of singular reporting responsibility and the lack of a single integrated cost document weaken the capacity for analysis and for a joint review of the cost relationships. In June 2013, ESA stated it was working on an Integrated Cost System but no progress had been demonstrated through December 2013 when the new Project Controls Manager discussed several changes he intended to implement in the reporting and measures to assure greater validity of the data. But this data is not backed up with any methodology for integrated cost management and reporting. It is recognized that the major ESA effort has been on developing a Re-Plan budget but has not shown the PMOC the development

of controls mechanisms.. At a March 19, 2014 meeting with the PMOC, ESA described its progress in integrating data in its Primavera Oracle Unifier system which it stated should be providing reports within two months. While this shows an advance, the lack of data migration or data warehousing structures renders it still underdeveloped as too much physical hand re-entry will be required. ESA provided a development schedule which forecast completion by the end of May 2014 and then system testing during June 2014 with operations by the end of June 2014. To date ESA has not shown any of the progress to the PMOC and has not discussed how and when the reporting will reflect this data integration. The PMOC has requested this demonstration occur at the July 2014 Monthly Cost Review meeting.

The PMOC has been concerned about the lag of invoiced amount for construction and total project to date compared to the forecast amount in the projected cash flow. This continues the trend of ESA not keeping up with its monthly expenditure plans; the cash flow is currently averaging approximately only 50% of the planned value. The PMT should reforecast its monthly cash flow curve, linking it to the current schedule forecast [Ref: ESA-99-Dec12]. The PMOC recommends that ESA continue to work to finalize its new cost reporting and control system as soon as possible to verify the new Re-Plan budgets and management of costs. [Ref: ESA-112-June 13].

5.3 Change Orders

Table 5.4 below shows the executed mods greater than $100,000 during May 2014.

Table 5.4: ESA's Change Order Log in May 2014 (>$100,000)

BA # *	Package	Mod#	Description	Mod. Amount ($)	May 2014 package value ($)
N/A	CH053	115	Microtunnel Runs 1-4 Layout Changes	2,100,000	335,701,307
N/A	CM005	4	Replenishment of Allowance Item #7	1.285,000	219,311,991
N/A	CQ032	43	Stage 1 EAC Construction Sequence	560,000	234,177,227
N/A	CQ032	44	63rd Street Tunnel Extension and Bellmouth Backfill	5,500,000	234,177,227
N/A	GEC-D0600	54	Harold Repackaging (CH058)	1,097,952	407,844,005
N/A	GEC-D0600	55	CPS Additional Funding	18,890,316	407,844,005

Notes: When multiple MODs are executed in same month for the same contract, ESA supplied documentation does not indicate order of execution or values before or after that specific MOD. The majority of the Contract Modifications were funded from Mod Allowance, AWO Contingency, and Package Scope Transfer sub-budgets. The PMOC does not recognize sub-budgeting for Mod Allowance and Scope Transfer. Because ESA is still in the process of its Re-Plan, it is not doing Budget Adjustments outside of the overall Re-Plan.

Status/Observation: In analyzing the data, the PMOC found that executed MODs were running over 12% of the re-baseline budget for packages and when the Pending, Possible, and Potential were added, the percentage was close to 20%, although a recent analysis on a more defined classification system shows nearly 40% of MODs are due to Re-Packaging. ESA had not budgeted enough to cover these changes and it is not yet clear that the Re-plan will be adequate,

although it is more clearly developed. The Re-plan Budget shows a category for Risk Contingency which is used in place of Management Reserve on the Contingency Chart.

Concerns and Recommendations: The PMOC recommends that the PMT perform a more thorough analysis of the change order trends and budget for them, and also prepare an analysis and outline its plan for allocated and unallocated contingency consumption. It also suggests the PMOC be invited to attend major negotiations where MODS exceed $10M or relate to settlements. [Ref: ESA-108-May12]

5.4 Project Funding

a) Federal Funding

As shown in Table 5.2 above, as of May 31, 2014, the PMT has awarded a total of $6.628B, in contract work. The Federal share of awarded contracts is $2.030B. The total Federal funding commitment as of May 31, 2014 remained at $2.699 billion (See Appendix G.1 for re-baseline project cash flow and Table 2 for detailed cost distribution.

b) Local Funding

The obligated local share was $4.238M. There has been a $617,607,000 incurred finance cost (for local share) to date.

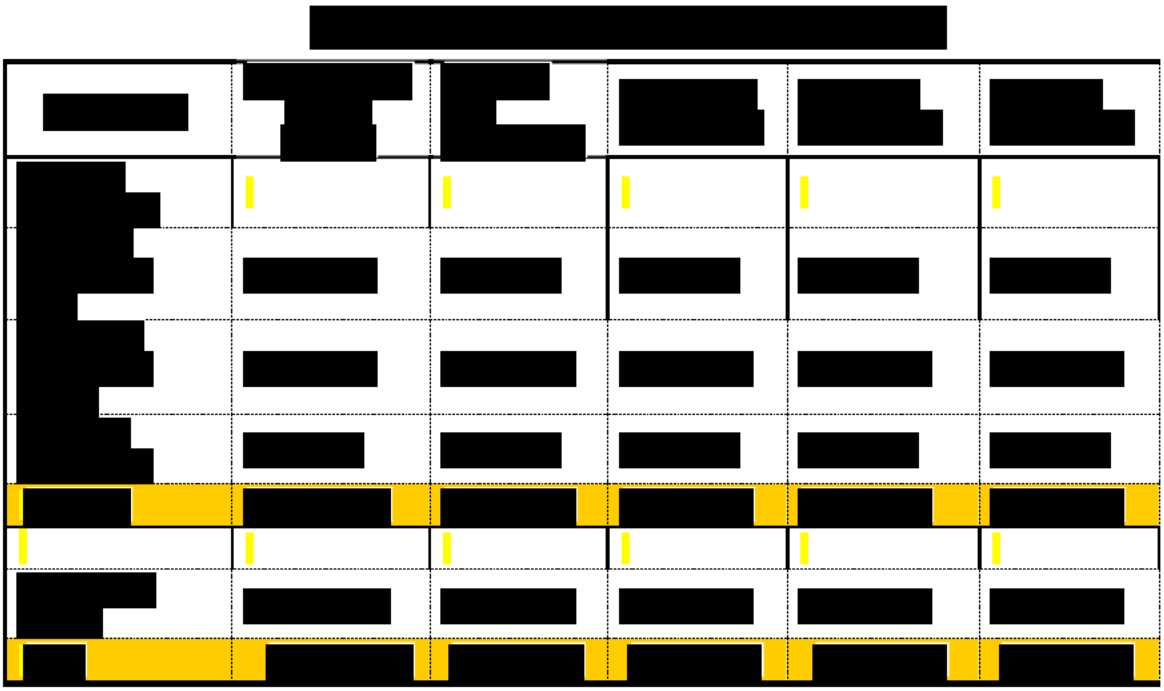
5.5 Cost Variance Analysis

ESA has been working on its variance analysis primarily for use in its proposed Re-Plan Budget, which it presented at the June 2014 CPOC meeting. It has not provided any of the detailed back up to the PMOC as of this report.

5.6 Project Cost Contingency

[redacted]

[redacted]



[redacted]

Concerns and Recommendations:

Although ESA presented this new Re-Plan Budget to the MTA CPOC, the PMOC remains concerned that changes may still occur, and continues to recommend that ESA finalize its re-planned project cost estimate as soon as possible, and officially provide this to the FTA/PMOC. In addition, since the new Budget was developed prior to the independent CM007 Estimate, the PMOC is concerned that a significantly higher CM007 cost may quickly diminish the Contingency.

6.0 RISK MANAGEMENT

6.1 Risk Process

Status/Observations:

MTACC previously conducted a comprehensive four-day Risk Assessment Workshop for the remaining construction at Harold in March 2014, as a well as limited risk assessment for the remaining Manhattan/Systems Contracts in January 2014. In lieu of a full Programmatic Risk Assessment (which the PMOC recommended) MTACC decided to combine the results of the Manhattan/Systems and Harold Risk Workshops to determine total Program Risk. A meeting was held on April 30, 2014, to present the results of this effort. Results of the combined risk models were presented: For the schedule, the model indicated that there is an 80% probability of achieving RSD by August 2021, and a <1% chance of achieving the IPS date of March 2020. For the cost, the model indicated that there is an 80% probability that the total cost for the project would not exceed $9,826M, which is $133M more than the Re-plan number of $9,693M. Given that the methodology for merging the results of the two separate risk assessments was not presented at the meeting, and the number of open questions that the PMOC has regarding the Manhattan/Systems Risk Workshop, the PMOC cannot attest to the validity of the presented results. At the request of the PMOC, MTACC's risk facilitator re-ran the risk model in May 2014, using maximum, deterministic values to replace the base uncertainties used in the previous running of the model and came up with November 2021 as the new RSD. In the PMOC's opinion, this date was also too optimistic.

As mentioned in last month's report, the MTA's Independent Engineering Consultant (IEC) engaged a systems specialist via the Supplemental Independent Reviewer (SIR) to review the current Integrated Systems Testing (IST) and produce an independent schedule for IST activities. This review uncovered several significant flaws and inconsistencies in the project's IST schedule related to IST schedule logic and duration of uninterrupted access for completion of the IST process. Based on these findings, the independent consultant's IST schedule shows the start of IST activities five months later than project schedule; and IST activities ending 21.5 months beyond the project's forecast IST duration. At the suggestion of the PMOC, MTACC's risk facilitator re-ran the risk model inserting the IST schedule developed by the SIR. The results pushed the RSD out to January 2023 at an 80% confidence level.

MTACC released a draft report for combined risk models used to simulate the programmatic risk assessment as mentioned above. The PMOC expressed its concern to MTACC that one of the top risks for the Manhattan/Systems work, interface and coordination risks, did not appear in the "tornado chart" listing the top risks.

MTACC was planning to conduct a package level risk assessment for the CM014B (GCT Finishes) in June 2014, two months after it advertised the package. This risk assessment is now forecast for August 2014, after proposals for the package are scheduled to be received. The PMOC has commented in the past about the timing of package level risk assessments, and the necessity to perform them before the packages are advertised for bid. MTACC has stated that they plan to perform a package level risk assessment for CM007 once the design is finalized (currently forecast for August 2014).

Concerns and Recommendations:

The PMOC is concerned about the continuing failure to fully follow the risk management processes in the Risk Management Plan (RMP). The last monthly risk meeting with the PMOC was held in July 2013. The PMT has also not provided updated risk registers on a regular basis as required. This in combination with lack of regular risk meetings with PMOC makes it difficult to determine the effectiveness of the ESA Risk Management process and its integration into the Program. The PMOC recommends that ESA adhere to the processes defined in its Risk Management Plan. [Ref: ESA-116-June14]

Funding availability continues to be a major risk on the ESA project, and is a significant concern. Funding uncertainty has resulted in: the PMT's delay of CM007 contract award until July 2015 with a limited NTP due to budget constraints; and the restructuring of the CS179 Contract by splitting it into a base contract with seven options, based predominately on access restraints imposed by the CM005; CM006; CM007; and CM014B packages, which will significantly increase the interface risks. This segmentation of construction packages has resulted in 63 inter contract interfaces and milestones. The probability of successfully achieving of all of them is marginal in the PMOC's opinion, and leads to the possibility of a ripple effect of delays and coordination difficulties between contracts. There is little room for contractors to make up time. Managing inter-contract handoffs and interfaces will be challenging. Schedule risks will be exacerbated if funding is not in place to award the options in the CS179 Contract Package as planned. 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 will create significant changes to the overall project risk profile.

6.2 Risk Register

Status/Observation:

The PMT provided a Systems risk register in January 2014. The last full project risk register was issued in August 2013.

Concerns and Recommendations:

Updating and distribution of the ESA Program Risk Register has been infrequent and ESA should automatically submit Risk Register updates to the FTA and PMOC on a regular basis as called for in the RMP.

6.3 Risk Mitigations

Status/Observation:

Current Risk Mitigation Efforts: The PMOC has not seen evidence of any efforts by the PMT at this point to develop mitigation strategies for the key risks identified in the Manhattan/Systems and Harold/Queens Risk Workshops held during Q1 2014.

Concerns and Recommendations:

Having performed the risk workshops noted above, MTACC should develop mitigation strategies for the risks identified in the workshops reference above, and track and report on them on a regular basis as required by the RMP.

7.0 PMOC CONCERNS AND RECOMMENDATIONS

Priority in Criticality column

1 – Critical 2 – Near Critical

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
ESA-93-June12	1.6 Quality	Project Quality Manual (PQM): The ESA Quality Manager had committed to update Revision 6 of the ESA Project Quality Manual (PQM) that was issued in February 2009 by the end of February 2013. Status Update: The PMOC received a Draft copy of Revision 7 to the PQM in March 2014 and provided comments to the ESA Quality Manager that same month. The ESA Quality Manager has finalized Revision 7. It is now with MTACC Headquarters for final review and is expected to be officially issued in July 2014. Recommendation: This item will be closed when Revision 7 is officially issued.	2
ESA-95-Sep12	2.3 Construction: Queens	Contract CQ032: The PMOC is concerned about the potential cost and schedule impacts to the CQ032 contract resulting from the access delays created by late turnover of work areas by the CM009/019, CQ031 and CQ039 contractors. Status Update: The MTACC and the contractor have agreed upon the terms of the re-baselined schedule and the PMOC has been informed that the necessary documents were returned to the contractor in June 2014 for execution. As of June 30, 2014, the contractor had not executed the documents to activate re-baselined schedule, however. Recommendation: The PMOC recommends that the ESA CM "encourage" the contractor to execute its portion of the re-baselined schedule documentation as aggressively as possible.	1
ESA-96-Sep12	1.5 Safety and Security	Safety Certification Process: The PMOC remains concerned that the Safety and Security Committee has not met on a regular basis as per the ESA SSMP. This lack of regular meeting will hamper the effectiveness of the Committee in coordinating activities related to the Safety Certification Process.	2

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
		Status Update: A calendar showing general meeting dates (by quarter) was presented at the June 19, 2014 Operational Readiness Quarterly Meeting. Recommendation: The PMOC recommends that the Safety Certification Committee produce a calendar for regularly scheduled meetings and adhere to it.	
ESA-98 Sep 12	5.6 Cost Contingency Analysis	ELPEP Contingency Drawdowns: The schedule and cost contingency drawdown plans in the ELPEP document have been superseded by the new (2012) schedule and cost baseline. Status Update: MTACC provided to the FTA and the PMOC their proposed revisions to the ELPEP on March 19, 2013. This document was an abridged version of the original ELPEP agreement. Until ESA determines a revised schedule and budget for the project; meaningful update of the schedule and cost contingency drawdowns will not be possible. As of the end of February 2014, ESA has submitted a tentative revised re-plan schedule and budget for the project. It must now finalize these and establish Contingency Drawdown and Cash Flow schedules from them. During May 2014, contingencies was increased by $2.8M due to shifts from Allowed For MODs. Recommendation: MTACC needs to update the ELPEP document and create new contingency drawdown plans. ESA will first have to provide a finalized re-plan budget and schedule.	1
ESA-99-Dec12	5.2 Project Cost Management	The PMOC is concerned about the continuing lag of invoiced amount for construction and total project to date compared to the forecast amount in the re-baseline cash flow. This continues the trend of ESA historically not keeping up with its monthly expenditure plans. Status Update: As of the end of May 2014, ESA has only achieved 49.8% of Construction against the Planned 51.6% (those figures are per the re-plan budget). Recommendation: ESA should reforecast its monthly cash flow curve, linking to the adjusted schedule forecast, and extend the date for the end of the payout curve.	1
ESA-	1.6	As-Builts: Several Contractors are deficient in submitting their as-builts on time and in	2

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
100-Dec12	Quality	the proper format. Status Update: The ESA Quality Manager conducted an As-Built Process Audit on contracts CH053, CH054A, CQ032, CM004, CM014A, CM013, and CM013A in June 2014. All were performing satisfactorily except for CM014A which was not ready for the audit. An audit of CM005 will be scheduled later this year due to the contractor's staff's vacation and scheduling conflicts. CH057A, CS179, and CM006 started recently and there is no data to review. These contracts will be audited by the end of 2014. Recommendation: The ESA Manager confirmed that with the exception of the CM014A contract, the other contractors are now properly submitting as-builts. This issue is now closed.	
ESA-101-Dec12	2.3 Construction (FHL02)	The PMOC remains concerned that the LIRR can produce the quantity of SSWPs that will be required for future construction on the fast pace that will dictate their need. Status Update: As of June 30, 2014, the LIRR was 3 weeks away from its first activity which requires an SSWP and it had not finished the SSWP for that activity. Recommendation: The PMOC recommends that the LIRR SSWP authors confer with LIRR construction personnel to streamline the SSWP development process.	2
ESA-103-Dec12	2.1 Engineering Design	The GEC and PMT continue to consistently miss most of their target dates for remaining design activities on the project. In several instances (CM014B; CH057), this has resulted in delaying the procurement packages. Status Update: As of the end of June 2014, the PMT has not developed a design milestone tracking sheet. Recommendation: The PMOC recommends that the PMT develop a design milestone tracking sheet for the remaining design work on the project, similar to what was done for the catenary design work, in order to more effectively manage the design effort.	2
ESA-105-Mar13	2.3 Construction:	Contract CQ032: The PMOC is concerned that actual progress continues to lag planned progress at a rate that has increased from 2.7% to 15.9% in the last 6 months. Status Update: The PMOC understands that the parties have theoretically agreed upon	1

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
	Queens	the provisions of the re-baseline schedule and accompanying cost impact. This will eliminate the gap between actual and planned construction which, at one time, exceeded 30%. The documentation to enact the re-baseline is presently with the contractor for execution. Recommendation: The PMOC recommends that the ESA CM "encourage" the contractor as aggressively as possible to execute the documentation.	
ESA-106-Dec12	5.1 Budget Cost	SCC Tracking and Control: The SCC categories were used in Contract setup in a way that does not reflect the actual category of work if scope is transferred to other packages. The PMT provides identification of the SCC's affected strictly through scope transfers that then drive budget transfers; however budget is identified not by the type of work but by a pro-rata percentage of the existing package. Status: As part of the Budget Re-Plan ESA provided a SCC chart in April 2014 with values for each SCC and sub-SCC, however it has not shown how it developed those values from the previous budget. ESA contends that the new SCCs reflect the actual cost element classifications and the previous misallocations have been corrected. Resolution: ESA has stated that its new SCC allocations reflects the proper SCCs for each work element and is not simply a function of the major definition of the overall package as has been recommended by the PMOC and required by the Cost Management Plan. It has also informed the PMOC that, per its recommendation if there is future Scope Transfers, the scope will carry the proper SCC.	1
ESA-107-May 13	5.2 Project Cost Management and Control	Contract Package Engineer's Estimates: ESA has more frequently been providing the PMOC with the backup for the package Estimates; however, what is provided often is not in formats useful for analysis and generally delivered too late to fully prepare for Risk Workshops. The Basis of Estimate, when provided, generally does not provide enough detail for thorough analysis, nor to identify to the PMT the assumptions of the Estimator. No opportunity for reconciliation or explanation as to why those costs are to be used was provided.	1

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
		Status Update: The ESA PMT provided the CM007 Contract Estimate in December 2013, but at the March 2014 Harold Risk Assessment provided only summary level estimate values with no Basis of Estimate documents, and without the planned scope movement of the Track and has stated it will provided an updated independent Estimate by an independent estimator retained by MTACC. As of the end of June 2014, this information was not provided. Recommendation: The PMOC continues to recommend that the MTACC's Project Control Manager submit estimates and proper documentation for review as well as a full analysis of the elements in the ESA estimate prior to each package bid date, allowing adequate time for review and comment. The PMT should also invite the PMOC to attend reconciliation meetings with the Estimating Firm(s) providing the Estimates. ESA should make sure the Estimating firms provide full and inclusive Basis of Estimate (BOE) documents as an integral part of the Estimate deliverable. The PMOC additionally recommends that the PMT have the estimates for the major packages, to be identified in collaboration with the PMOC, for independent cost review, as well as have the CCM perform a "check estimate" and conduct a constructability review prior to estimate. The PMOC recommends that all costs provided by ESA to MTA as the basis for the Contract Bid be incorporated into the PWE and EAC for the package/project and then be replaced upon actual opening of Bids. A thorough analysis of the Estimate is essential for estimate validation needed for the Risk Assessment that must be held prior to going out to Bid.	
ESA-108-May 13	5.3 Change Order	Estimate at Completion: ESA had introduced a budget line item named "allocated for mods" in its CBB to adjust active packages budget for specified anticipated change orders. 	1

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
		Recommendation: The PMOC recommends that the PMT perform a more thorough analysis of the change order trends and budget for them, and also prepare an analysis and outline its plan for allocated and unallocated contingency consumption.	
ESA-109-June 13	4.1 Schedule	Project Schedule: The IPS update does not adequately represent the current state of the project and events that have transpired since the 2012 baseline schedule was instituted. Status: The latest IPS update does not incorporate the new RSD of December 2022 that was presented to the MTA CPOC in June 2014. Recommendation: Establish the project baseline schedule that matches CPOC presented RSD of December 2022.	1
ESA-112-June 13	5.6 Project Contingency	Project Cost Reporting: The Re-Plan Budget has now been included in the ESA reporting however it has promised for the last 6 months to provide an integrated Cost System and Report but has not delivered nor provided system development updates. Status: In September 2013 ESA said they were developing an Integrated Tracking and Reporting System; in March 2014 ESA notified the PMOC that they had hired a Unifier developer who was working with staff to get data and would provide the new reporting very shortly. As of June 2014, ESA has not provided evidence of having this system fully functional. The PMOC requested a status update at the next cost review meeting in July 2014. Recommendation The PMOC recommends that ESA continue to work to finalize its new cost reporting and control system as soon as possible to verify the new Re-Plan budgets and management of costs.	1
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 May 2014, 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.	1

Number/ Date Initiated	Section	Issues/Recommendations	Criticality
		Status: 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. MTACC noted that both Cost and Schedule Management Plans will be revised after completion of the PMP update, due by June 30, 2014 but not yet submitted, to improve the management processes and reporting. 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-116-June14	6.1 Risk Process	Risk Management Processes: The PMOC is concerned about the continuing failure to fully follow the risk management processes in the Risk Management Plan (RMP). Status: The last monthly risk meeting with the PMOC was held in July 2013. The PMT has also not provided updated risk registers on a regular basis as required. This in combination with lack of regular risk meetings with PMOC makes it difficult to determine the effectiveness of the ESA Risk Management process and its integration into the Program. Recommendation: The PMOC recommends that ESA adhere to the processes defined in its Risk Management Plan.	

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 re-iterated at the November 8, 2012 ESA/SAS mini-quarterly meeting. Critical metrics cannot be properly updated until the newly approved baseline schedule is incorporated into the IPS.	2	6/30/14

APPENDIX A -- LIST OF ACRONYMS

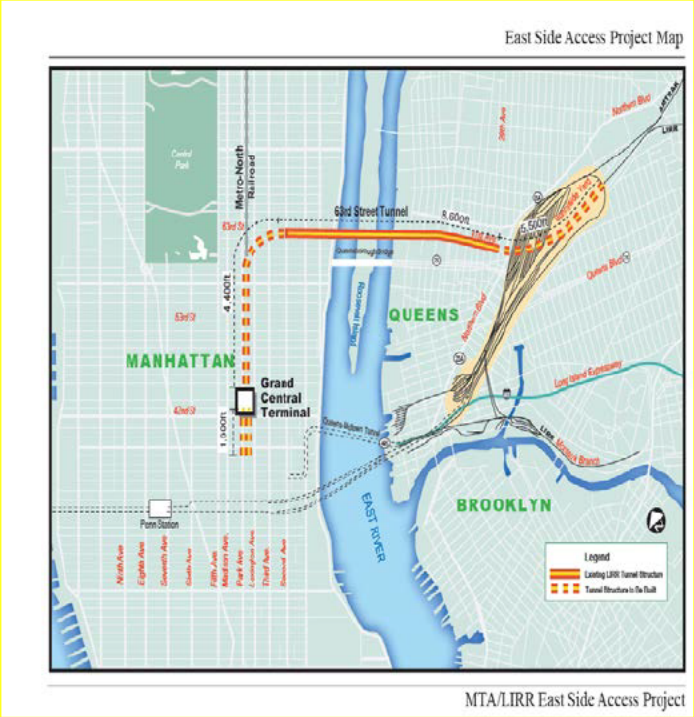
AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
BA	Budget Adjustment
CBB	Current Baseline Budget
C&S	Communication and Signals
CCC	Change Control Committee
CCM	Consultant Construction Manager
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CPOC	Capital Program Oversight Committee
CR	Candidate Revision
CSSR	Contact Status Summary Report
CIL	Central Instrument Location
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
DCB	Detailed Cost Breakdown
ELPEP	Enterprise Level Project Execution Plan
EPC	Engineering-Procurement-Construction
ERT	East River Tunnel
ESA	East Side Access
ET	Electric Traction
FA	Force Account
FAMP	Force Account Management Plan
FHACS	"F" Harold Alternate Control System
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
MNR	Metro-North Railroad
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority Capital Construction
N/A	Not Applicable
NTP	Notice-to-Proceed
NYAR	New York and Atlantic Railroad
NYCDEP	New York City Department of Environmental Protection
NYCDOB	New York City Department of Buildings
NYCT	New York City Transit
NYSPTSB	New York State Public Transportation Safety Board
OCO	Office of Construction Oversight (MTA)
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
RFP	Request for Proposal
RMCP	Risk Mitigation Capacity Plan
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
VE	Value Engineering
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).

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 ($YOE) at FFGA signed
9,744.1 million	Total Project Cost ($YOE) at Revenue Operations
11,361,6 million	Total Project Cost ($YOE) at date of this report including $ 1,036.1 million in Finance Charges
5,037.5 million	Amount of Expenditures as of May 31, 2014 based on the Total Project Budget of $10,156.5 million
49.6	Percent Complete based on the Re-plan budget of $10,156.5 million and expenditures in the May 2014 report
[redacted]	[redacted]
49.8*	Construction Percent Complete
52.4*	Overall Project Percent Complete

*As of May 31, 2014, based on the March 2014 ESA proposed Re-plan Budget [redacted] as provided by ESA in its May 2014 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. Deep,

#	Date	Phase	Category	Subject	Lessons Learned
					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 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 E – 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	The Grantee has set a target date of Q2 2014 for updating the SSMP. Among other items, newly formulated flow charts associated with the safety certification process will be added.
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 SOA has stated that they will not interface with the safety

Project Overview		
		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 659.17?	In Development	In Q4 of 2013, The SSOA has asked the FTA for 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 Grantee is currently in communication with a representative of NYS SSOA.
Did the oversight agency participate in the last Quarterly Program Review Meeting?	N	Grantee to transmit SSMP to SSOA through the Grantee's System Safety Dept. The SSOA's representative has had a meeting with NYCT system safety and the grantee. The PMOC attended a meeting with the grantee and the SSOA. Additionally, 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.

Project Overview		
		The SOA 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 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?	In review by MTACC Assistant Chief of Safety and Security.	The Grantee will undertake an update of the SSMP in the second quarter of 2014. A flowchart was created representing the next phase (from design into construction) for

Project Overview		
		incorporation into the SSMP. The PMOC reminded the grantee o this. Recent SSMP modifications are expected to be approved internally by the Grantee within in one month.
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 Assistant Chief of Safety and Security for the MTACC meets regularly with the project management team. The CCM and the Grantee's safety and security personnel are integrated 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 meeting and are incorporated into Grantee's monthly project reports.

Project Overview		
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 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 SSMP 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	SSMP 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.

Project Overview		
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	Y	The SSMP 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 SSMP Committee has established the safety design criteria.
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 SSMP Committee process.
Has the grantee verified conformance with safety and security requirements in equipment and materials procurement?	N	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.
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

Project Overview		
		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 construction vs. incomplete critical testing. The grantee is uncertain as to what determines criticality for testing purposes.
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 with construction testing and integration requirements.
Does the grantee evaluated 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.
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	Y	An Emergency Preparedness Plan was promulgated by the Grantee in 11/2010. The EAP operational readiness group has been finalized to include

Project Overview		
Emergency Operations Plan		MNR, LIRR, MTAPD, and FDNY. The first meeting took place in March of 2013. A Safety Certification 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 is finalized and that it is undetermined at this time who the incident commander will be employed by; LIRR, MNR or MTA Headquarters. The EAP is in the process of being revised with be tested via a full scale exercise with FDNY and MTA PD.
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 F – ON-SITE PICTURES
(TRANSMITTED AS A SEPARATE FILE)

APPENDIX G

COST AND SCHEDULE ANALYSIS TABLES

Table G-1: ESA Planned Cash Flow

(Must be updated as part of ESA Re-plan Budget)

Quarter/year	Construction $(000)	Engineering $(000)	OCIP $(000)	Project Mgmt. $(000)	Real Estate $(000)	Rolling Stock $(000)
Remaining	**3,378,075**	**72,979**	**70,377**	**320,650**		**665,000**
2Q2012	0	0	0	0	0	0
3Q2012	222,294	4,316	6,491	19,004	27,996	0
4Q2012	210,086	4,316	0	19,231	12,762	0
1Q2013	197,258	4,222	13,158	18,693	100	0
2Q2013?	140,095	4,269	0	18,300	100	0
3Q2013	88,877	4,316	0	17,696	25,065	0
4Q2013	107,716	4,316	0	17,842	0	133,000
1Q2014	133,847	2,451	16,724	18,016	0	2,015
2Q2014	187,386	2,478	0	17,870	0	6,045
3Q2014	231,954	2,506	0	17,244	0	50,761
4Q2014	253,979	2,506	0	17,000	0	50,761
1Q2015	260,374	2,451	18,186	16,146	0	50,761
2Q2015	270,030	2,478	0	15,630	0	50,761
3Q2015	272,517	2,506	0	14,082	0	50,761
4Q2015	246,154	2,506	0	13,742	0	50,761
1Q2016	194,243	2,478	15,818	12,390	0	50,761
2Q2016	143,159	2,478	0	12,046	0	50,761
3Q2016	90,925	2,506	0	11,260	0	50,761
4Q2016	50,410	2,506	0	11,109	0	67,091
1Q2017	25,987	2,451	0	8,481	0	0
2Q2017	14,425	2,478	0	7,519	0	0
3Q2017	10,051	2,506	0	6,377	0	0
4Q2017	9,116	2,506	0	5,352	0	0
1Q2018	5,911	2,451	0	3,497	0	0
2Q2018	5,439	2,478	0	1,649	0	0
3Q2018	4,584	2,506	0	379	0	0
4Q2018	1,256	0	0	94	0	0
1Q2019	0	0	0	0	0	0
2Q2019	0	0	0	0	0	0
3Q2019	0	0	0	0	0	0
4Q2019	0	0	0	0	0	0
Subtotal	**3,378,075**	**72,979**	**70,377**	**320,650**	**66,023**	**665,000**

Table G-2: 90 day look ahead Schedule

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	IPS-CONTRACT
VM014	VM014-Vertical Circulation - Escalators & Elevators Construction	1200	27-Sep-10 A	24-Jul-19	25	VM014
FML14	FML14-GCT Concourse & Cavern Finishes-LIRR	1235	07-Nov-11 A	24-Jul-19	35	FML14
FMM14	FMM14-GCT Conc. & Cavern Finishes - MNR Support	1235	07-Nov-11 A	24-Jul-19	35	FMM14
LOE1010	Submittal/Review Process	41	09-Sep-13 A	28-Apr-14	50	CM005
CM005	New Contract (CM005) - Manhattan South Structures (22 Months)	554	09-Sep-13 A	5-Feb-16	0	CM005
LOE580	GCT 1 & 2 EB - Invert Concrete	28	26-Mar-14	2-May-14	0	CM005
LOE180	Waterproof - WB GCT Caverns 1 & 2	10	26-Mar-14	8-Apr-14	74	CM005
1080	CM005 Access thru Eastbound	281	28-Mar-14	11-May-15	92	CM006
200	Mobilization	63	28-Mar-14	25-Jun-14	92	CM006
A16669	Install B-924WA K-Frame (South)	1	19-Apr-14	19-Apr-14	65	CH053
BLAM02-8640	Cutover F1/F2 Crossover (771): ****WITH OUT NEW SNOW MELTER**	2	26-Apr-14	27-Apr-14	84	FHA02.2
BLAM02-6820	Cutover: F1/F2 (771) (Signal) **WITH OUT NEW SNOW MELTER CASE**	2	26-Apr-14	27-Apr-14	84	FHA02.2
FHL0203580	Point CIL Cutover (2C)	2	26-Apr-14	27-Apr-14	84	FHL02
SUMFHA02-1530	Cutover - F1/F2 (771)	0		27-Apr-14	84	FHA02.2

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	IPS-CONTRACT
FHL02.MS.00015	Cutover New Point CIL	0		27-Apr-14	84	FHL02
LOE910	Prep & Install Services @ 30th Street Vent Facility (Relocate Tel/EMH/Electrical/Hydrant/Water Ser)	27	29-Apr-14	5-Jun-14	48	CM005
LOE590	GCT 1 & 2 EB - East Sidewalls (Inv. to Mezz)	19	5-May-14	30-May-14	0	CM005
LOE600	GCT 1 & 2 EB - West Sidewalls (Inv. to Mezz)	19	2-Jun-14	26-Jun-14	0	CM005
LOE1300	Vent Building Underground - Base Slab	17	6-Jun-14	30-Jun-14	48	CM005
LOE650	WB GCT 1 & 2 - Invert Concrete	23	20-Jun-14	23-Jul-14	0	CM005
CH057A-5100	Erect Signal Bridge 30 Structure - Loc 30	2	21-Jun-14	22-Jun-14	86	CH057A
400	Additional Backfill Invert	5	26-Jun-14	2-Jul-14	92	CM006
LOE610	EB GCT 1&2 Interior Walls and Mezzanine Slab	95	27-Jun-14	12-Nov-14	37	CM005
LOE1310	Vent Building Underground - Lower Walls	21	1-Jul-14	30-Jul-14	48	CM005
100142	Tunnel 404 Invert	4	3-Jul-14	9-Jul-14	92	CM006

Table H-1 – ESA Core Accountability Items

Project Status:		Original at FFGA	Current*	ELPEP **
Cost	Cost Estimate	$7.368B	$10.156B	$8.119B
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Schedule	RSD	December 31, 2013	September 2021	April 30, 2018

Total Project Percent Complete		
	Based on Expenditures	52.4 ***
	Based on Earned Value	NA

Major Issue	Status	Comments
Impact of CM012R solicitation cancellation, scope repackaging and re-bidding.	Scope from CM012R (Manhattan Structures 2) solicitation was split among existing and three new contract packages (CM005; CM006; CM007). CM005 and CM006 packages have been awarded and are underway. Design work for a hybrid design (pre-cast and cast in place concrete) based on input from RFEI, is at the 60% design level..	The PMT continues working on developing the remaining contract package (CM007). ESA developed a cost estimate for this package; MTACC engaged an independent estimator to also produce an estimate. As of this report, MTACC has been unwilling to share this information with the PMOC/FTA, despite numerous requests.
Major Procurements Delays	A recommendation for award of VS086 (Signal Equipment) was also made to the MTA Board in January 2014, award was made in June 2014. CM014B was advertised in May 2014; Technical proposals are currently due at the end of July 2014. The CS084 (Traction Power) Contract Package was advertised in June 2014. The bid opening is currently set for August 7, 2014	Partial NTP for the CM007 Package cannot be made before July 2015 due to budget constraints. The Project continues to experience protracted procurement cycles which are not adequately taken into account in the Project Schedule
Project Schedule	MTACC presented a new baseline schedule to the MTA CPOC in June 2014, with an RSD in December 2022. This schedule incorporates five months of contingency within the IST portion of the schedule and 22 months of Program level contingency.	Although MTACC has added an additional five months of contingency into the IST duration in the schedule; the PMOC believes that the issues uncovered by the SIR with IST will result in the utilization of much of the Program Contingency. As such the

		PMOC believes that the RSD of December 2022 does not have a high probability of being met.
Integrated Systems Testing	The MTA's Independent Engineering Consultant (IEC) engaged a systems specialist to review the current Integrated Systems Testing (IST) and produce an independent schedule for IST activities. Findings indicated the start of IST activities five months later than project schedule; and IST activities ending 21.5 months beyond the project's IST duration.	The PMOC notes that findings of the independent consultant are consistent with previous findings of the PMOC regarding the validity of the IST schedule. Although ESA has added an additional five months of contingency in the IST duration, all of the findings of the IEC special reviewer were not adequately addressed in the PMOC's opinion, leaving a considerable amount of risk remaining in IST.

* Current Budget has not been formally approved by MTA CPOC

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

*** Expenditure percentage based on dividing ESA Invoiced" figure by "Current Baseline Budget" [redacted]