

PMOC COMPREHENSIVE MONTHLY REPORT

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

Report Period June 1 to June 30, 2012



PMOC Contract No.DTFT60-09-D-00007

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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. 002. Its purpose is to provide information and data to assist the FTA as it continually monitors the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the grantee continues to be ready to receive federal funds for further project development.

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

MONITORING REPORT

EXECUTIVE SUMMARY

1. PROJECT DESCRIPTION

The East River tunnels in Manhattan are at capacity. The ESA project is anticipated to improve LIRR tunnel capacity constraints and enable the growth of the overall system. The project comprises a 3.5 mile commuter rail extension of the Long Island Rail Road (LIRR) service from Sunnyside, Queens to Grand Central Terminal (GCT), Manhattan, utilizing the existing 63rd St. Tunnel under the East River and new tunnels in Manhattan and Queens, including new power and ventilation facilities. The project includes a new 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 current connection to Penn Station in Manhattan.

2. CHANGES DURING 1st Quarter 2012

a. Engineering/Design Progress

As of May 31, 2012, the Engineering/Design effort was reported to be 96.1% complete. Amtrak approved the 90% and 100% Stage 2 catenary designs in June 2012. Amtrak has not approved the 60% Stage 3 Catenary package submitted in April 2012; consequently the 90% catenary design package which was to have been submitted in June 2012, has been delayed.

b. New Contract Procurements

Bids for the CM013A (55th Street Vent Plant) were opened on March 27, 2012, and the MTACC is proceeding towards award to the lowest bidder. The second lowest bidder submitted a bid protest which was evaluated by MTACC and found to be without merit. MTACC is now proceeding with an analysis of findings of no significant impact, with a responsibility hearing scheduled for July 5, 2012.

c. Construction Progress

MTACC reported in the ESA May 2012 Monthly Progress Report that the construction effort reached 48.4% completion vs. 70.7% planned for this period, but was not updated to include the revised baseline cost and schedule. In its April 2012 report, MTACC noted that the construction effort reached 46.8% complete vs. 68.9% planned.

MTACC provided the revised re-baseline cost for construction to be \$ 6,118.9 million. With construction expenditures of \$2,502.8 million as of May 31, 2012, the percent completion is reduced to 40.9%

d. Continuing and Unresolved Issues

The following issues continue to be PMOC major concerns:

- *Although the labor clearance issue has not been formally resolved and it requires the presence of additional Amtrak personnel (hence, increased project cost), nonetheless, the accommodation the labor force has made has allowed the project to move forward without resultant additional schedule delay. The PMOC notes that this situation is unpredictable and could result in future delays if not resolved.*
- *The MTACC's progress to implement its revised ESA project procedures did not occur in accordance with the original schedule to which it committed. As of June 30, 2012, the MTACC has implemented a total of 76 revised procedures (none during 2Q2012), and the PMOC is aware that the MTACC continues to develop 4 additional revised procedures: AD.15 – Program Change Control, CO.09 – Code Compliance – Fire Prevention, DE.11 – Acquisition of Permits and Approvals, and PR.04 – Disputes of Claims. Of these, AD.15, Program Change Control, is critical to the manner in which the MTACC manages the ESA Program. The PMOC believes that it should be implemented as soon as possible.*

e. New Cost and Schedule Issues

Since the new cost and schedule baselines have just been recently issued; the PMOC will monitor performance vs. these baselines going forward.

3 PROJECT STATUS SUMMARY AND PMOC ASSESSMENT

a. Grantee Technical Capacity and Capability

The PMOC completed its review, based on Candidate Revisions, of the ESA PMP Revision 8.0 and forwarded its comments to the FTA in January 2012. Based on FTA's review of the PMOC's comments, the PMOC updated the comments and re-submitted them in May 2012. The revised comments were sent to MTACC in June 2012 and a working meeting with MTACC to resolve the comments is scheduled for July 2012.

b. Real Estate Acquisition

Regarding the easement acquisitions for the 48th Street entrance, the MTA Planning Department is taking the lead in negotiations with the building owner and tenant. Since the development of the easements is in parallel with the negotiation of the consideration, as condemnation is anticipated to be necessary to terminate the HSBC lease, MTA Real Estate is waiting for an updated construction schedule from the ESA Project before choosing a suitable timeframe for the public hearing. The MTA Planning Department is also taking the lead in negotiating with the owners of 280 Park and technical discussion is underway.

The ESA Project has gained access to 335 Madison Avenue to further designs for the easements associated with the construction and operation of 1) an employee elevator that will connect the ESA/LIRR Station Master's Office on the ESA concourse level to the GCT Terminal Management Center on the GCT concourse level and 2) the public ADA elevator in the Biltmore room. The designs are projected for completion in early winter, and progress design schemes are too preliminary for meaningful appraisal purposes. Funding for the ADA elevator has been allocated, but the funding for the employee elevator is still in progress. The window for the public hearing related to easement requirements at this property has been tentative projected for late 2012 to early 2013.

c. Engineering/Design

See Section 2 a. above and Engineering and Design Section 2.1.1 below.

d. Procurement

As of May 2012, the total procurement activity on the project was reported to be 54.1% complete, with \$4.710.4 billion in contracts awarded out of the \$8.708 billion revised budget. Details are provided in Section 2.1.2 of this report.

e. Railroad Force Account (Support and Construction)

Although Amtrak's management and labor changes have resulted in increased support personnel for the project's contractors, the PMOC is concerned that, since track time is subject to a combination of other projects under construction and the vagaries of the daily operations of the railroads, there may eventually be a limited or reduced amount of time that personnel can use the tracks.

f. Third-Party Construction

Manhattan: *The MTACC has reported that the MTA Board approved the re-baselined schedule in May 2012. This schedule projects the Substantial Completion (SC) date for the CM009/019 contract as August 16, 2013. Based on the PMOC's observations of the contractor's improved production during the past nine months, the PMOC believes that this date is attainable.*

The MTACC and its CM009/019 contractor continue to explore and negotiate ways (through scope deletions and shifts) to provide follow-on contracts, especially CM012, earlier access to the project work sites. Some of these are reflected in the re-baselined schedule, while others are still under consideration. The PMOC believes that although MTACC is making every effort to prevent additional schedule creep, it nonetheless realizes that these maneuvers place more risk in the form of additional construction coordination between contractors.

The PMOC continues to be concerned that the two (2) most critical change orders in the CM004 Contract (extended shaft excavation and revised structural steel) continue to not be expeditiously processed. The CM office has advised the PMOC that negotiations for the shaft extension are scheduled for the week of July 2, 2012. The PMOC recommends that MTACC take action to improve the timeline for processing critical changes; particularly owner initiated changes (OIC).

Queens: *On the CQ031 Contract (Queens Bored Tunnels and Structures), the contractor has completed TBM mining and tunnel lining of three tunnels: Track A; Track D; and the Yard Lead Track. Progress of TBM mining for the Track B/C Tunnel is on schedule. The remaining tunneling will include an additional 400ft. extension of the tunnel beneath Switch 813 in lieu of the more difficult open cut construction of this segment in a rail-bound area of Harold Interlocking. TBM mining of this remaining portion of the underground Track B/C section is scheduled to commence on July 9, 2012. This approach represents a significant opportunity to reduce both cost and schedule risk associated with the more difficult open-cut construction originally planned that must also wait until Switch 813 is removed as part of the overall Harold Interlocking reconfiguration. See Section 2.1.3 under sub-heading “Queens Third-Party Contracts” for a more detailed discussion.*

On the CQ039 (Northern Boulevard Crossing) Contract, as of May 31, 2012, based on the latest data available from the grantee, the cumulative actual percent complete is 53.8% versus planned 90.5% on a cost invoiced basis, and 93% of the current approved contract time to Substantial Completion has elapsed. The forecast Substantial Completion date is April 2013, 18 months later than the original date and 8 months later than the current approved Substantial Completion date. The Segmental Excavation Method (SEM) tunneling commenced on April 30, 2012, three months later due to problems with the ground freeze, and is progressing slower than anticipated. See Section 2.1.3 under sub-heading “Queens Third-Party Contracts” for a more detailed discussion.

Harold Interlocking: *ESA-PMT had previously approved the contractor’s re-baselined schedule for Contract CH053 (Harold Interlocking, Part 1 and G.O.2 Substation), which showed a Substantial Completion date of January 2012, 20 months later than the original date of May 2010. The current forecast Substantial Completion date is December 2013, 24 months later than the current date and 44 months later than the original Substantial Completion date. The PMOC is concerned that costs continue to increase dramatically in response to continuing delays to the Substantial Completion date. Continuing late completion of construction work under the CH053 contract has created additional interferences with the CQ031 contract work that causes schedule delays and increased costs to both contracts. The adverse impacts to the CH053 and CH054A construction schedules and budgets have been significant. The PMOC continues to recommend that ESA prioritize the GEC construction support to this contract, expedite resolution of utility interferences, and prioritize the contractor’s requests for track outages and force account support.*

The PMOC also has concerns about Contract CH054A (Harold Structures Part 2A), which are similar to those discussed above for Contract CH053. During March 2011, a new concern

materialized about the relationship between Amtrak and the CH053/054A contractor regarding division of the contract construction work scope between the railroad force account and the third-party CH053/54A contractor. The adverse impacts to the CH053 and CH054A construction schedules and budgets are potentially significant and the contractor's experiences in the spring and fall of 2011 and early 2012 confirm this concern. This issue is still not resolved as of this report, although discussions between MTACC and Amtrak continue.

During March 2012, ESA-PMT noted a significant improvement in Amtrak's support for the project. These favorable changes, if sustainable, should assist the CH053/054A contractor to increase his productivity.

g. Vehicles

During the risk assessment workshops conducted in March 2012, the ESA-PMT provided details of its plan for Federal procurement of 160 vehicles for the Project, and committed to providing the local funding for remaining vehicles. The advertisement of RFP for procurement of these vehicles occurred in June 2012.

h. Commissioning and Start-Up

The Operational Readiness Group continues to refine the definition of roles and responsibilities of stakeholders during the commissioning and start-up phase of the project. Details are provided in Section 2.1.5 in this report.

i. Project Schedule

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	August 2019	September 2019
Revenue Service	December 2013	August 2019	September 2019

* Source – Grantee forecast Revenue Operations Date per information presented to MTA CPOC on May 21, 2012

**Source – ELPEP baseline needs to be adjusted based on 2012 risk assessment results.

j. Project Budget/Cost

The table below lists the FFGA total project cost along with the federal and local shares with corresponding obligated amounts, and compares it with the April 2012 Current Working Budget (CWB) and lists the latest federal and local expenditures. MTACC's May 2012 report (data date May 31, 2012) only included some of the updated data from the new cost and schedule baselines. The PMOC's July 2012 Monthly Report will reflect all of the updated data from the MTACC June 2012 report.

Table 2: Project Budget/Cost Table 

	FFGA (as of December 18, 2006)			MTA's Current Working Budget (CWB)		Expenditures as of May 31, 2012	
	(\$ Millions)	(% of Grand Total Cost)	Obligated (Millions)	(\$ Millions)	(% of Grand Total Cost)	(\$ Millions)	(% of CWB)
Grand Total Cost	\$7,386	100		\$8,827	100	\$3,659.9	41.5
Financing Cost	\$1,036	14.0		\$1,036 (FFGA est.)	11.7		
Total Project Cost	\$6,350	86.0	\$4,107	\$7,791*	88.3	\$3,659.9	47.0
Federal Share	\$2,683	36.3	\$1,148	\$2,699	30.6	\$1,684.3	21.6
5309 New Starts share	\$2,632	35.6	\$1,098	\$2,436.6	27.6	\$1,483.5	19.0
Non New Starts grants	\$51	0.7	\$50	\$67	0.8	\$50.4	0.6
ARRA	0	0	0	\$195.4	2.2	195.4	2.5
Local Share	\$3,667	49.6	\$2,959	\$5,092	57.7	\$2,011.6	25.8

* CWB represents current MTA Board approved \$7,791 budget that includes \$463 million for Rolling Stock Reserve, but excludes financing cost (May 2012).

k. Project Risk

In May 2012, the MTACC's independent risk assessment consultant completed its initial analysis and issued the draft report on May 15, 2012. Also in May 2012, the PMOC completed its update of the 2009 PG47-based risk assessment and issued its ESA Risk Assessment Technical Memorandum in June 2012. Based on the project-wide risk assessment, on May 21, 2012 MTACC presented the new budget and RSD to the MTA Capital Program Oversight Committee: \$8.24 billion (w/o vehicles and financing); August 2019. These figures reflect the decision by MTA's upper management to use the "low degree of mitigation" results from the risk assessment that correspond to a "P80" confidence level. The final low degree of risk mitigation cost results by both MTACC and the PMOC were within \$5 million of each other and with a 4 month difference in RSDs. MTACC used a bottoms-up risk assessment approach while the PMOC used a top-down risk assessment approach. It is the PMOC's opinion that obtaining close results through the use of different risk assessment methodologies validates those results. For more details, see Section 6.2, "Current Risk Update."

MONTHLY UPDATE

The information contained in the body of this report is limited, 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 SUMMARY

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

- **Technical Capacity and Capability (TCC):** The PMOC has completed its review of the Candidate Revisions for the ESA-PMP and has discussed them with the FTA Region II Office. The PMOC and the FTA met with MTACC in April 2012 to discuss the status of the consolidated comments. *A working session to resolve comments had been anticipated in June 2012, but the meeting will now take place in July 2012. Also related to TCC compliance are two outstanding issues requiring MTACC action: MTACC completion of the final sub-plan element, the RMP as discussed below, and the need for MTACC to develop and implement the PMP training process.*
- **Schedule Management Plan (SMP):** On November 3, 2011, the FTA confirmed that MTACC has responded to the Candidate Revisions identified in FTA’s conditional approval letter, dated October 26, 2010, and that the SMP is fully approved. Upon ESA finalization of the new ESA baseline schedule, the PMOC will monitor compliance with the SMP.
- **Cost Management Plan (CMP):** FTA conditional approval of the Cost Management Plan, including five (5) Candidate Revisions was received on September 1, 2011. MTACC has submitted its final revisions to the CMP, which incorporate its responses to those Candidate Revisions.
- **Risk Mitigation Capacity Plan (RMCP):** MTA addressed all PMOC comments in its submittal of the MTACC RMCP, covering both ESA and SAS, on October 28, 2011. Resolution of final comments regarding the RMCP have been coordinated and combined with the PMOC’s review of the ESA and SAS Project Risk Management Plans. FTA-RII provided its conditional acceptance of the RMCP in its May 24, 2012 letter to MTACC.
- **Conformance and Compliance:** MTA’s final conformance and compliance document, the ELPEP Whitepaper, was completed and submitted to FTA-RII. In its May 30, 2012 letter to MTACC, the FTA acknowledged that ESA was in compliance with the ELPEP requirements.
- **Risk Management Plan (RMP):** Drafts of the ESA and SAS Project Risk Management Plans were transmitted to FTA Region II during October 2011. FTA/PMOC review comments on the ESA RMP were sent to MTACC on April 12, 2012. *The PMOC met with MTACC on April 17, 2012 and June 6, 2012 to finalize comments and discuss resolution. MTACC expects to complete its final draft of the update by July 20, 2012.*

The ELPEP Quarterly Review Meeting with MTACC, FTA-RII and the PMOC was held on June 13, 2012. The status of MTACC’s incorporation of FTA/PMOC comments on the ESA Risk Management Plan was discussed. Also discussed was the status of FTA/PMOC review comments on incorporation of the Candidate Revisions to the ESA PMP, as well as use of the ELPEP compliance checklist.

Observation:

Although overall implementation of the ELPEP had tracked behind schedule, the MTACC had already begun implementation and use of the schedule, cost and risk management plans. *Both ESA and SAS have updated their PMPs to support these management documents and processes based upon agreed upon Candidate Revisions, and will make any final adjustments based on FTA/PMOC's review comment on Candidate Revision provided to MTACC in June 2012.*

Concerns and Recommendations:

Development of formal implementation verification and reporting process for each of these ELPEP elements should be given priority. The verification process will help ensure that all benefits associated with the ELPEP are realized to the greatest extent possible.

1.0 GRANTEE'S CAPABILITIES AND APPROACH

1.1 Technical Capacity and Capability

1.1.1 Organization, Personnel Qualifications and Experience

Status:

The ESA Organization Document (including position descriptions, organization charts and resumes) has not been formally updated since December 2008. ESA provides periodic organizational chart updates and has committed to updating the PMP appropriately. The PMOC reviewed the relevant section of Rev. 8 of the PMP and found that it did not adequately replace the function of the ESA Organization document.

Observation:

ESA stated that the Organization Document was produced as a one-time document at the request of the new ESA Project Executive at that time.

Concerns and Recommendations:

ESA provides updated Organization charts in its quarterly reports consequently the PMOC will close this item [Ref: ESA-47-Jan10]

a) Staff Qualifications

At present, the PMOC has not observed any issues related to qualifications of personnel in management positions on the project.

b) Grantee Staffing Plan

Status:

The open Quality Engineer position will be filled by the construction manager who worked on CM002. He has over 4 years of experience on the project and QA/QC experience from managing multiple contracts. He has been working with the incumbent Quality Engineer on the CM004, CM013, and CM014A contracts to get acclimated to them but will not start full time until September 2012 when the incumbent ESA Quality Engineer takes a six-week leave of absence. *The Quality organization will not be fully staffed until mid-October 2012, when the leave of absence is over.*

Observations:

The ESA Quality organization when fully staffed still has limited resources. When one or two staff members leave, it puts an enormous burden on the remaining members. .

Concerns and Recommendations:

The PMOC is concerned that during the acclimation period and six-week leave of absence, the ESA Quality function will still be short staffed until mid-October 2012. It is recommended that the ESA Project should consider hiring one more permanent Quality Engineer. [Ref: ESA-84-Mar 12]

c) History of Performance, Adequacy of Management Systems

Status:

When the FFGA was approved in December 2006, the East Side Access project team anticipated a seven-year project that would cost \$6.350 billion (not including finance cost) and that would have a Revenue Service Date (RSD) of December 31, 2013. *ESA presented its latest baseline cost and schedule baseline to the MTA CPOC in May 2012. These baselines have been risk adjusted, resulting in a risk adjusted budget of \$8.24B (not including rolling stock reserve and finance cost) and a projected RSD in August 2019.*

Observation

This is the second re-baselining effort undertaken by ESA since the FFGA.

Concerns and Recommendations:

ESA needs to make every effort to ensure that these latest baseline numbers are met through strict adherence to the management processes defined in the ELPEP.

1.1.2 Grantee's Work Approach, Understanding, and Performance Ability

a) Adequacy of Project Management Plan and Project Controls

Status:

As of June 30, 2012, the MTACC has implemented a total of 76 revised project procedures, with 4 others as shown in the Executive Summary, Section 2.d, under development. One of these, AD.15 – Program Change Control, is critical to MTACC's program management of the ESA project. The PMOC believes that all of the remaining procedures, especially AD.15, should be implemented as soon as possible.

Observation:

The PMOC believes that all of the remaining procedures, especially AD.15, should be implemented as soon as possible.

Concerns and Recommendations:

The PMOC is concerned that the MTACC has not implemented all of its revised project procedures, which have been in development since 2009. The PMOC is also concerned that, as part of the implementation process, required procedure training is not being given to project participants. The PMOC therefore recommends that the MTACC direct its Consultant Construction Manager in charge of procedure development to complete the remaining revised procedures by July 31, 2012, and that the MTACC begin the necessary training immediately thereafter. [Ref: ESA-49-Jan10]

b) Grantee's Approach to FFGA and other FTA/Federal Requirements

Status:

As a result of MTACC's rebaselining effort, MTACC presented a new budget and RSD to the MTA Capital Program Oversight Committee on May 21, 2012: \$8.24 billion (w/o vehicles and financing); August 2019.

Observations:

The ELPEP will need to be revised to reflect the re-baselined IPS and Cost Estimate.

Concerns and Recommendations:

The PMOC recommends that MTACC begin working on revising the ELPEP document to reflect the new baseline cost and schedule data as soon as possible.

c) Grantee's Approach to Force Account

Status/Observation:

In April 2012, the PMOC reviewed the MTACC's final Force Account Management Plan (FAMP) and believes that it adequately addresses the comments previously provided to the draft FAMP.

Concerns and Recommendations:

Since the MTACC has implemented the FAMP, the PMOC has no further concerns or recommendations concerning it *at this time*.

d) Grantee's Approach to Safety and Security

Status/Observation:

The contractor's safety performance statistics for the CM009/019 (Manhattan Tunnels Excavation/Structures Part 1) contracts continue to be poorer than the industry norm, despite senior management involvement from both the contractor and the MTACC. *For May 2012 (the latest up-to-date report available), the injury ratio for CM009 was 3.03 lost time accidents, for CM019 it was 2.53 lost time accidents, and for CQ039 it was 5.42 lost time accidents per 200,000 hours worked.* Although there has been a slight improvement in the statistics from last month's reporting period, these contracts continue to trend above both the overall project rate of 2.57 lost time accidents; and national industry average of 2.20 lost time accidents per 200,000 hours worked (based on the Bureau of Labor Statistics).

Concerns and Recommendations:

Although the ESA-PMT has made an effort to improve the safety performance on the project, the statistics remain above the national average. ESA should *continue* its efforts to improve overall project safety performance.

e) Grantee's Approach to Asset Management

Status/Observation:

Details on the status of Asset Management related activities on ESA are presented in Section 2.1.5 (Operational Readiness) in this report.

The ESA Operational Readiness Group, working in conjunction with LIRR, continues to develop and refine a well thought out Asset Management Plan that will ultimately be used as a model for LIRR throughout its entire system.

Concerns and Recommendations:

There are no significant concerns or recommendations at this time.

f) Grantee's Approach to Community Relations

The PMOC believes that during the period of April through June 2012, the ESA Community Relations staff has reached out appropriately to inform the community of upcoming and current changes, and has properly handled concerns and complaints from the community. See Section 2.6 for a detailed discussion.

**1.1.3 Grantee's Understanding of Federal Requirements and Local Funding Process
Federal Requirements**

a) Federal Requirements

Status/Observations:

The ELPEP document has not been revised based on the new cost and schedule baselines.

Concerns and Recommendations:

The PMOC recommends that MTACC expedite the incorporation of the new cost and schedule baseline data into the ELPEP document as soon as possible.

b) Uniform Property Acquisition and Relocation Act of 1970

No issues to report.

c) Local Funding Agreements

Status:

\$770 million was appropriated in the New York State Budget in March 2012 to fund the MTA Capital Program; consequently, the following referenced item will be closed. [Ref: ESA-68-Oct10]

Observation:

MTACC is assuming that efficiencies in MTACC projects and the inter-agency Program will fund an additional \$200M commitment needed in the current 2011-2014 Capital Program Plan.

Concerns and Recommendations:

The PMOC is concerned that MTACC stated at the May 2012 CPOC meeting that it is assuming that efficiencies in MTACC projects and the inter-agency Program will fund an additional \$200 M commitment needed in the current 2011-2014 Capital Program Plan. The PMOC believes that there is a reasonable possibility that this level of forecast efficiency savings will not be realized, resulting in a budget shortfall.

1.2 Project Controls

1.2.1 Scope Definition and Control

Status:

A voting session of the CCC was held on April 6, 2012 for the Manhattan work scope transfers. The transfers were initially presented to the CCC for consideration on October 28, 2011. Much of the proposed scope shift on the Manhattan Contracts was to create more access points to allow multiple contractors to work in the tunnels and caverns simultaneously. Work is also being transferred to move the remaining rock excavation in the Manhattan caverns to a contractor that has similar work scope and the experience at the project work site to perform this activity. In addition, concrete work is being removed from a significantly delayed contractor that is performing additional rock excavation. Since that time the final scope transfers were vetted within the PMT, and worked into the revised re-baselining of the IPS and cost forecast. The CCC approved the scope transfers at the April 6th session.

Observation:

The PMOC notes that although the new cost and schedule baselines have been set, and the risk assessment process has been completed, the ESA PMT is considering additional scope shifts going forward.

Concerns and Recommendations:

The PMOC understands ESA's rationale for scope transfer as a method to mitigate risk; however, transfer of large amounts of scope needs to be carefully managed and the cost/schedule impact evaluated in order to avoid new sets of risks resulting from such transfers. This is especially important in light of the recently finalized schedule and cost baselines, which were based on results of the recent MTACC risk assessment.

The PMOC continues to recommend that any new risks incurred resulting from these transfers be carefully analyzed and documented and compared against the benefits of mitigating existing risks to achieve a better overall "risk profile" as set forth in the "ESA Design and Construction Risk Management Plan".

1.2.2 Quality

a) ESA Quality Audit of the GEC

Status:

The ESA Quality Manager conducted an audit of the GEC on June 13, 2012. The PMOC attended this audit and notes that there were no major findings.

Observations:

The ESA Quality Manager agreed to audit the GEC in April 2012 and took several months before conducting the June 13, 2012 audit.

Concerns and Recommendation:

Since there were no major findings this item will be closed. [Ref: ESA-86 -May 12] The PMOC recommends that the ESA Quality Manager issue the report as soon as possible.

b) Construction Work Plans (CWPs) and Quality Training

Status/Observation:

On the CQ031 Contract, separate CWPs and Safe Work Plans (SWPs) are required during each of the different stages of the Yard Lead Emergency Exit work. Around June 20, 2012, work commenced on the current stage without either an approved CWP or SWP. Additional details regarding this issue are provided under the status for CQ031 in this report.

Recently, the ESA Quality Engineer on the CM014A contract dispositioned several CWPs “Revise and Resubmit”. The ESA Construction Manager changed the disposition to “Proceed and Resubmit” without consulting the Quality Engineer. In addition, some “Readiness” meetings have been conducted after work has started. See CM014A status in Construction section below for details.

Concerns and Recommendations:

The PMOC recommends that MTACC or ESA Executive Management issue written direction that no work is to begin without approved SWPs and CWPs.

c) Quality Training

Status:

The MTACC Chief of Quality had committed to provide training to the ESA Quality and Construction Management staffs since February 2011 and has postponed it each month. Training is to be conducted using MTACC construction and quality procedures. Training on MTACC Module #1 was scheduled for June 12, 2012 for contracts CQ031 & CQ039 but was not held.

Observations:

Training continues to slip and it is now over one year since MTACC planned to conduct initial training.

Concerns and Recommendations:

The PMOC is concerned that training has not been held and recommends that training for all ESA Construction Management Managers be held immediately.

d) Quarterly Quality Oversight (QOQs)

Status:

The ESA Quality Organization conducts Quarterly Quality Oversight (QOQ) audits of each Contract. The ESA Quality Engineer assigned to the contract conducts the oversight. Selected sections of the FTA’s 15 QA/QC elements are evaluated each quarter and it is determined whether the contractor is complying with the requirements of the element and associated contractor’s Quality Plan. All 15 elements are evaluated at least once every year.

During the second quarter of 2012, the PMOC attended four QOQs: CM009/019 on May 22, CQ031 on May 24, CH053 on May 31, and CH054A on May 31.

Observations:

The PMOC observed that there were no major findings in any of the audits attended.

The PMOC also observed that audits are not being conducted consistently. During some audits, the status of action items from the previous oversight is included in the agenda while on others, this is not addressed.

Recommendations:

The PMOC recommends that QOOs for each contract be performed by a Quality Engineers from another Contract in order to provide an independent evaluation and also recommends that the status of action items from the previous oversight always be included in the agenda for the current oversight.

1.2.3 Project Schedule

Status:

The finalized revised baseline schedule, adjusted for risk, has been incorporated into the latest IPS and submitted to the FTA/PMOC. Details are discussed in Section 4 of this report.

Observation:

ESA has stated that it will continue to meet with project stakeholders to get feedback on the new risk adjusted baseline schedule.

Concerns and Recommendations:

The ESA PMT has to now coordinate its risk management and mitigation process with the new baseline schedule.

1.2.4 Project Budget and Cost

Status:

MTACC revised its current project budget and schedule plan in May 2012, taking into account past project delays and risk considerations. *In its May 2012 Progress Report, ESA reported that the revised re-baseline budget is \$8.708 billion (without finance charges).*

Observation:

ESA did not provide the cost details based on the new budget in its May 2012 report.

Concerns and Recommendations:

The PMOC is awaiting receipt of the planned project expenditures based on the revised re-baseline schedule, and is therefore unable to review and analyze the monthly project progress and analysis for this report. Upon receipt of the revised project expenditure plan the PMOC will track progress of individual contract packages and analyze progress. Additional information is included in Section 5.1 – Budget/Cost.

1.2.5 Project Risk Monitoring and Mitigation

Status:

Through June 2012, ESA-PMT continued its efforts to identify and mitigate specific risks that may adversely affect the program's cost and schedule performance. Ongoing and significant new risk mitigation initiatives include the following:

- *In response to continued delays experienced on the Queens contracts to date, ESA-PMT and the associated ESA construction managers continue to manage all Queens area work to the critical CQ031 milestones related to TBM mining of the remaining rail tunnel for and Track B/C.*
- *ESA-PMT worked with LIRR, Amtrak and the ESA-CMs to evaluate the impacts that the Amtrak planned capital improvements for the East River Tunnels (ERT) will have on the track outages needed for the Harold Interlocking work. This effort has continued into 2012. However, earlier in the year, Amtrak experienced delays in their ERT program due to a broken rail situation and this did affect track outage coordination with the ESA project.*
- *ESA-PMT is studying the construction of the Manhattan tunnels bench walls to optimize access to the contractors involved in its construction.*
- *ESA-PMT has, to date, been successful in pursuing a significant opportunity to mitigate potential cost and schedule risk by TBM mining of an additional 400ft. of tunnel for Track B/C instead of constructing this section by open-cut means as originally planned.*

For a full discussion of the above cited mitigations, see Section 6.4.2 of this report.

In May 2012, the MTACC's independent risk assessment consultant completed its initial analysis and issued the draft report on May 15, 2012. Also, in May 2012, the PMOC completed its update of the 2009 PG47-based risk assessment and issued its Risk Assessment Technical Memorandum in June 2012.

Observation:

Since the signing of the FFGA in December 2006, MTACC has missed all but one of the basic annual mitigation milestones regarding design completion, contracts awarded, and construction completion (details are in Section 6.4.1 of this report). The ESA project has not met the cost and schedule commitments established in the FFGA.

MTACC announced at the September 26, 2011 MTA Capital Program Oversight Committee (CPOC) meeting that they are analyzing the impact of the construction delays experienced on ESA to date as well as the anticipated delays caused by Amtrak's 4-year program for major track replacement work in all four East River Tunnels. At the January 26, 2012 executive meeting with the MTACC president, MTACC-ESA notified the FTA that it plans to complete a full risk assessment of the re-baselined project cost and schedule and plans to present its findings to the MTA Board in May 2012.

Based on the project-wide risk assessment, on May 21, 2012 MTACC presented the new budget and RSD to the MTA Capital Program Oversight Committee: \$8.24 billion (w/o vehicles and financing); August 2019. These figures reflect the decision by MTA's upper management to use the "low degree of mitigation" results from the risk assessment that correspond to a "P80" confidence level. *The final low degree of risk mitigation cost results by both MTACC and the PMOC were within \$5 million of each other and with a 4 month difference in RSDs.* MTACC used a bottoms-up risk assessment approach while the PMOC used a top-down risk assessment approach. It is the PMOC's opinion that obtaining close results through the use of different risk assessment methodologies validates those results.

During June 2012, ESA-PMT continued its coordination efforts.

Concerns and Recommendations:

The PMOC had previously expressed concern about the "schedule compression" required to meet MTACC's then stated goal of an April 2018 RSD (*now August 2019*) that will force "contract stacking" in the many constricted work areas in Queens, Harold Interlocking and Manhattan, which will create new coordination risks for MTACC-ESA. These new risks may expose MTACC-ESA to adverse cost and schedule impacts as well as potential quality issues. The PMOC had recommended that ESA-PMT should continue to work with the CMs, GEC and Amtrak/LIRR to fully evaluate the increasing exposure to new critical risks. *Upon detailed review of the new cost and schedule baselines and a revised CPP, the PMOC will evaluate if these potential new risks have been adequately addressed.* If so, then issue ESA-80-Jun11 in Section 7.0 will be closed.

See Section 6.0, Project Risk, for a more detailed discussion of these issues and concerns.

1.2.6 Project Safety and Security

Status:

Details of project safety statistics are presented in Section 1.1.2, d, above.

The following activities related to the safety certification process took place during the 2Q-2012:

- *The LIRR System Safety and Security Certification Committee Chairperson was replaced (as a result of the retirement of the previous Chairperson). The MTACC Safety Director indicated that a briefing on the process is required and that the Committee will need to be*

reviewed to determine who will be nominated to replace additional committee members who have left the committee. This review is planned to be conducted within the next quarter of 2012.

- *System security discussions with respect to the 48th Street entrance design (in CM015 package) and the revision of the Threat, Vulnerability, and Risk Analysis (TVRA) to include this area were conducted with the MTA PD and the GEC. The objective is to ensure that the operational needs of the MTA PD are included in the analysis.*
- *System Safety and Security Certification training was developed and designed to train the CM teams on the process requirements. Training links the certification process with the function of quality so that construction and testing requirements are tracked satisfying the hazard/vulnerability checklists.*

Observation:

Issues related to the safety certification process continued to be progressed during the 2Q-2012, however there continues to be a significant turnover on the Safety and Security Certification Committee.

Concerns and Recommendations:

Although issues related to Safety Certification are being progressed, the PMOC continues to recommend to the MTACC Safety Director that the Safety and Security Certification Committee meet on a regular basis to keep the certification process moving. In addition the PMOC has expressed its concern to the MTACC Safety Director about the instability of the Committee in terms of participation. Industry experience shows that having a stable committee throughout the certification process is beneficial to getting consensus and expediting the ultimate sign-off that the System is safe for revenue service.

1.3 FTA Compliance

On August 11, 2011, FTA-RII approved the MTACC Recovery Plan submitted on June 29, 2011. However, due to the current comprehensive cost and schedule re-baselining, the Recovery Plan will need to be revised. Based on MTACC's current forecast for completion of the cost and schedule re-baselining in July 2012, the Recovery Plan cannot be revised until Q3-2012.

1.3.1 FTA Milestones Achieved

The last key FTA milestone achieved was entry into the Full Funding Grant Agreement in December 2006.

1.3.2 Readiness for Revenue Operations

Status/Observation:

A detailed status of the operational readiness activities taking place during the Q2-2012 is presented in Section 2.1.5 of this report.

The Operational Readiness group continued to progress and refine the activities comprising ESA project commissioning and start-up during the Q2-2012.

Concerns and Recommendations:

The Operational Readiness Group has developed a comprehensive and well-thought-out strategy for preparing the ESA project for revenue service. The challenge going forward remains keeping

all of the stakeholder representatives who will be involved in commissioning and start-up activities fully engaged in the project until the RSD.

2.0 PROJECT SCOPE

2.1 Status of Design/Procurement/Construction

MTACC reported that as of May 31, 2012, the Engineering/Design was 96.1%. The Engineering/Design effort increased by 0.2%, but was planned to 100% complete. The total construction progress reached 46.8% complete vs. 70.7% planned, on a cost invoiced basis, in accordance with MTACC's re-baselined budget of September 2009 (note: MTACC did not revise these numbers to the new baseline budget in its May2012 monthly report).

2.1.1 Engineering and Design

Detailed Status:

As of May 31, 2012, the Engineering/Design effort was reported to be 96.1% complete. Amtrak approved the 90% and 100% Stage 2 catenary designs in June 2012. Amtrak has not approved the 60% Stage 3 Catenary package submitted in April 2012; consequently the 90% catenary design package which was to have been submitted in June 2012, has been delayed.

Preliminary design efforts for the 48th Street entrance to GCT (CM015) continued in June 2012, with the 30% design submittal forecast for mid-August 2012.

The 90% submittal for CH058 was previously forecast by ESA for the end of July 2012; this date has now slipped to October 2012 pending completion of the analysis of the feasibility of alternate construction methods and sequencing for the East Bound Re-Route and B/C Tunnel Approach Structure with the goal of reducing the overall construction schedule.

ESA is addressing LIRR comments on the 100% design package for CM014B (GCT) package and are still awaiting comments from Metro North Railroad from the on-board design review meeting held with them on April 25, 2012. ESA had previously forecast completion of the bid set for this package by July 1, 2012, however this date will not be met.

Notice-to-Proceed (NTP) to the GEC to begin development of the bid documents for Contract CM014B ((GCT) Concourse/Cavern Finishes) was given in January 2012. A progress printing of the bid set was given to MNR and LIRR for review. An on-board review with Metro-North Railroad (MNR) was held on April 25, 2012, and final comments were expected during the week of May 14, 2012; however, as of this report, ESA-PMT did not receive the comments. An on-board review with Long Island Rail Road (LIRR) was held on May 11, 2012; with comments due back to ESA by June 4, 2012. The current ESA schedule forecasts completion of this bid set July 1, 2012.

Summary Observations:

There was considerable progress in submitting ET design packages and during the first quarter of 2012, however, progress is lagging in the second quarter; with one package (60% design for Stage 3, outstanding since April 2012.

Summary Concerns and Recommendations:

It is important for the project to stay on schedule to get the remaining ET packages submitted and approved in a timely manner. It is important to note that the catenary installation is on the critical path for the Harold work, and is on the near critical path for the project schedule. Regarding an overall plan for addressing the multiple issues that have been delaying Harold, the schedule re-baselining and risk assessment efforts have addressed many of the issues related to the Harold work, consequently this item will be closed. [Ref. ESA-A43-Jun11]

2.1.2 Procurement

Detailed Status:

As of May 2012, the total procurement activity on the project was reported to be 54.1% complete, with \$4.710.4 billion in contracts awarded out of the \$8.708 billion revised budget.

The CM012 solicitation was cancelled in November 2011 and the solicitation was reissued on March 12, 2012, with modifications to the Contract bid package based upon discussions with perspective bidders after the cancellation of the previous solicitation. *Bid due dates continue to slip since the May 2012 reporting period (bids were previously due on May 8, 2012, May 22, 2012; then May 30, 2012; June 20, 2012, July 10, 2012, and now August 15, 2012) due to the issuance of several addenda.*

ESA has adjusted its forecast of NTP from September 2012 to November 12. This delay will possibly impact the CM014B and CS179 Contracts, which have interfaces with this Contract.

Of particular concern is the continuing slippage of the proposal due date for the CS179 package. The ESA-PMT transferred a significant amount of work (by addenda) that is not systems-related, into the CS179 package including the tunnel bench walk, the 63rd Street tunnel rehabilitation work, and various scope items in the Manhattan running tunnels. To address this delay, ESA separated the due dates for the Technical proposals and Cost and Schedule proposals. The Technical proposals were received on March 7, 2012, and oral presentations for them have been held. Schedule and cost proposal due dates slipped to April 24, 2012, and May 1, 2012 respectively (previous forecast for both was April 17, 2012). Schedule and cost proposals were received, and MTACC has submitted its ranking of proposers to its Procurement Group in May 2012.

Discussions with proposers continued in June 2012. As previously forecast by the PMOC, ESA will not be able to make a recommendation for award at the MTA July 2012 Board meeting; consequently award of this contract will be delayed by at least two months, since the MTA Board does not meet in August. The PMOC believes that at this point, it may be difficult to be ready with a recommendation to award for the September MTA Board meeting, given the complexity of the contract.

Bids for the CM013A (55th Street Vent Plant) were opened on March 27, 2012, and the MTACC is proceeding towards award to the lowest bidder. *The second lowest bidder submitted a bid protest which was evaluated by MTACC and found to be without merit. MTACC is now proceeding with an analysis of findings of no significant impact, with a responsibility hearing scheduled for July 5, 2012.*

Summary Observation:

The PMOC notes that the schedules for each of the above packages have slipped significantly in one phase of the procurement process or another in the first two quarters of 2012.

Summary Concerns and Recommendations:

CS179 and CM012 are high-dollar-value contracts and have long durations. *The delays in these procurements to date continue. Although ESA initially adjusted the procurement dates in the new baseline schedule, the continuing slippage will most likely impact the new schedule.*

2.1.3 Construction

Harold Interlocking Contracts

Detailed Status:

CH053 Contract – Harold Structures Part 1 and G02 Substation

- Original Contract value: \$137.3 million
- *Approved Change Orders: \$41.3 million*
- *Current Contract value: \$178.6 million*
- Current Estimate-at-Completion: \$200.2 million (includes approximately \$15 million for additional work scope to be transferred from CH054 and Harold Stage 2 Force Account package).
- NTP date: January 2, 2008
- Original contract Substantial Completion date: May 2010.
- Current approved plan Substantial Completion date: January 2012 (20-month delay)
- *Current forecast Substantial Completion date: December 2013 (44-month delay)*
- *The original contract final completion date was September 2010. The current forecast final completion date is March 2014.*

Schedule: ESA-PMT had previously approved the contractor's re-baselined schedule, which had a Substantial Completion date of January 2012, 20 months later than the original date of May 2010. *The forecast Substantial Completion slipped 2 months from mid-November 2013 to the end of December 2013, 44 months later than the original date. As of May 31, 2012, the scheduled completion by cumulative cost was 67.0% actual versus 100% planned, based on the contractor's current approved re-baselined schedule and 100% of the revised contract time to Substantial Completion has elapsed. The schedule completion by cost expenditure for the May 2012 reporting period was 1.4% actual versus an unspecified percentage planned based on a proposed new baseline. The PMOC notes that the contractor is re-baselining the schedule. The March 22, 2012 re-baselined IPS draft shows that CH053 is on the critical path. The PMOC notes that MTACC is currently finalizing the new IPS.*

Cost: Recognizing the impact of the continuing delays to the schedule caused by differing field conditions, changes due to re-designs and added scope, ESA-PMT increased the Estimate at Completion (EAC) from \$191.7 million to \$200.2 million in August 2011. *77 contract modifications (change orders) totaling \$41.3 million have been executed as of May 31, 2012. The EAC is now \$56.1 million, or 39%, over the original budget.*

Construction status for the period of April – June 2012:

- *Completed erection of superstructure between center pier and east abutment of ML4 Bridge over 43rd Street; completed foundations for Signal Bridge QB3-QB4.*
- *Continued fabrication of steel catenary structures; erection of catenary poles; construction of 12kV duct bank and manholes; construction of foundations for signal towers and catenary poles at various locations in Harold Interlocking; erection of signal tower poles; installation*

of support-of-excavation for WBBY west abutment foundations; and internal wiring and equipment testing for G.O.2 Substation.

Work on remaining portions of the Track A Approach Structure is still on hold awaiting relocation of existing catenary poles and signal towers. As a result, the CQ031 contractor was required to relocate the Track A TBM reception pit.

During the period April – June 2012, the ESA-CM did not report any significant quality or security issues. There were three first aid injuries for Contracts CH053 and CH053A.

Observations:

During May 2012, which is the latest data available from the grantee, the contractor achieved 1.4% actual versus an unspecified percentage planned based on a proposed new baseline. The August 2010 adjustment to the EAC results in a total increase of \$62.2 million, or 45.8%, to the original contract award value of \$137.3 million. Past delays due to late Amtrak final approval for the 12kV duct bank re-designs, catenary package re-designs and limited Amtrak force account support have caused additional construction delays. The General Engineering Consultant's (GEC) late responses to contractor's Requests-for-Information (RFIs) and late completion of catenary construction staging plans through 2008, 2009, 2010 and into 2011 have contributed significantly to the contractor's inability to recover lost time.

Significant issues that remain are as follows:

- *Based on the contractor's experiences in the field starting in April 2011, the arbitration board ruling in favor of Amtrak unions' claim to catenary pole and signal tower work that is a significant part of the CH053 base contract scope of work is likely to continue to have the potential to adversely impact the CH053/CH054A schedules and budgets.*
- The CH053 contractor continues to experience access and work zone conflicts with the CQ031 contractor. The CH053 contractor will sometimes be required to wait until the CQ031 contractor finishes work in a particular area and then returns the access/work zone back to the CH053 contractor. This leads to lower productivity and delays to the completion of certain structures.

During March 2012, ESA-PMT noted a significant improvement in Amtrak's support for the project. ESA reported that Amtrak approved three pending ET designs on February 29, 2012. At the FTA Quarterly Review Meeting on March 19, 2012, ESA further noted that the Amtrak ET Design Director is now accepting the quality assurance review of the design packages performed by the engineering firm retained by ESA at the request of Amtrak, without having to review the packages himself (which was the reason for bringing the firm on board in the first place). The PMOC notes that additional positive changes included: both a new Director and a new ET Supervisor at the project (ESA) level; Amtrak has elevated the track outage/usage management from the Amtrak division level to the Amtrak corporate level; and force account labor changes involving crew assignments and lengthening shifts to 10 hours to better support the ESA third-party contractor for work in Harold Interlocking and tunneling beneath mainline tracks. *These favorable changes, if sustainable, might facilitate increased productivity of the CH053/054A Contractor. To date, however, no sustained productivity increases have yet been realized.*

Concerns and Recommendations:

Overall, the CH053 contractor failed to meet the rate of construction progress required to meet the goals of the contract re-baselined schedule due to the issues discussed in the Observations section above. Because of this, the PMOC remains concerned that the contractor may not be able to achieve and maintain any higher level of production rate. *Historical progress has averaged approximately 1.3% per month, yet the contractor's re-baselined schedule shows that construction progress would now need to average 1.7% per month to meet the current forecast Substantial Completion date of December 2013. The current production rate is 5.6% for January 2012 through May 2012, an average of 1.1% per month. Given that continuing problems remain unresolved, and new problems, such as the Amtrak labor unions claim to CH053 work, continue to arise, the PMOC does not believe that any significant increase in construction productivity is possible.* The PMOC is very concerned about the continuing adverse impacts to the CQ031 contract as well as the follow-on Harold Interlocking Contracts CH057 and CH058. *Given that continuing problems remain unresolved and new problems, such as the Amtrak labor unions claim to CH053 work, continue to arise, the PMOC does not believe that any significant increase in construction productivity is possible consequently this item will be closed and progress monitored vs. the new ESA schedule baseline.* [Ref: ESA-62-Mar10]

The adverse impacts to the CH053 construction schedule and budget due to the March 2011 arbitration board ruling in favor of Amtrak labor are potentially significant, and the contractor's experience in the field during April 2011, October 2011, November 2011 and January 2012 confirms these concerns. For more details about this issue, see the discussion under "Harold Stage 1 Amtrak FA (FHA01)" later in this Section. [Ref: ESA-77-Mar11]

CH054A Contract – Harold Structures Part 2A

- Original Contract value: \$21.78 million
- Approved Change Orders: \$3.87 million
- Current Contract value: \$25.65 million
- Current Estimate-at-Completion: \$38.1 million
- NTP date: August 24, 2009 (A)
- The original contract Substantial Completion date: December 2010.
- Current approved planned Substantial Completion date: December 2010.
- *The current forecast Substantial Completion date: June 2013 (30-month delay)*
- The original contract Final Completion date was March 2011. *The current forecast date is September 2013.*

Status:

Cost: *As of May 31, 2012, the EAC remains the same at \$38.1 million. 25 change orders (contract modifications) totaling \$3.87 million have been approved.*

Schedule: *The forecast Substantial Completion date has slipped 1 month from May 2013 to June 2013, 30 months later than the original date of December 2010. Contract work has been delayed by late mobilization, differing site conditions, adverse weather, late Amtrak approval of the re-design of the 12kV duct bank and delayed completion of associated CH053 work. As a result,*

actual construction progress continues to fall well below the late finish progress curve. *As of May 31, 2012, based on the latest data available from the Grantee, cumulative actual percent complete is 56.1% versus planned 76.5% on a cost invoiced basis and based on a forecast progress curve. Substantial Completion was originally planned for December 2010. The PMOC notes that the contract has not been modified to reflect the current forecast Substantial Completion and Final Completion dates. The March 22, 2012 re-baselined IPS draft shows that CH054A is not on the critical path. The PMOC notes that MTACC is currently finalizing the new IPS.*

Construction status for the period April – June 2012: *Completed work on E34 South T-Wall construction and construction of foundations for Signal Bridges E32 and E34. Construction of 12kV duct bank and manholes continued.*

Lack of adequate Amtrak ET support for planned construction activities, late completion of critical CH053 work and the inability to schedule the required track outages has delayed completion of portions of the CH054A contract work and slowed overall progress.

Observation:

Construction progress is already lagging by 20.4% under the revised progress schedule.

Concerns and Recommendations:

The PMOC is concerned that work progress is very slow and continues to fall behind schedule. The PMOC is also concerned that continued inadequate construction progress and late completion will put additional demands on both Amtrak and LIRR force account support services. The PMOC is also concerned that delay costs will exceed the budgeted post-bid contingency. The PMOC recommends that the grantee evaluate this situation, work on possible solutions with the contractor, develop the most cost-effective approach to minimize the delay impacts, and reach an agreement with the contractor on a revised re-baseline schedule that is realistic. [Ref: ESA-56-Feb10]

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

- Original Contract value: \$25.8 million
- Current Contract value: \$26.0 million
- NTP date: May 2009
- Substantial Completion date: *July 31, 2015* (previous forecast August 31, 2013)
- Final Completion date: *August 28, 2015* (previous forecast September 30, 2013)

Status:

The installation of Point CIL was accomplished in the Q4-2011; however, the subsequent CIL deliveries (H3 and H4) have slipped due to changes required for the 843 switch; the updating of code charts; and the length of time anticipated for factor acceptance testing of H4. *Currently the H4 CIL is forecast to be shipped in late July 2012. As a result of the delays in CIL deliveries for H3 and H4, substantial completion has been reforecast to July 2015.*

Observation:

Delays in receiving GEC and 3rd party review comments will negatively impact the schedule for manufacturing the remaining CILs.

Concerns and Recommendations:

LIRR and GEC's timely review of remaining contract submittals is critical to keeping remaining work on schedule. *In order to mitigate potential delays, the GEC has added resources to their signal design team.*

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

- Original Contract value: \$5.4 million
- Current Contract value: \$7.1 million
- NTP date: February 2009
- Substantial Completion date: December 31, 2012
- Final Completion date: November 23, 2013

Status:

The "F" Harold Alternate Control System (FHACS) was shipped to Amtrak on May 9, 2012 and factory acceptance testing of the FHACS began at the end of March 2012. The equipment was installed at the Penn Station Control Center (PSCC) in June 2012. The Contractor will be on site during the week of July 9, 2012 to power up the equipment and start testing with Amtrak. They will remain in NYC for the following week and train Amtrak personnel on Hardware and Software Maintenance and conduct Operator Training. Once that takes place, GATE Interlocking will be tested in shadow mode where the equipment is set up side by side (this means that Amtrak will continue to operate GATE Interlocking on the existing system, as they do presently, but with ARINC's equipment indicating train movement at the same time so Amtrak can monitor it and ensure performance is as intended). Once Amtrak is satisfied that the equipment is working as intended, they will put the new system on-line and retire the old. LIRR's HTSCS will then follow.

Observation:

Substantial Completion forecast (December 2012) remains unchanged from last month.

Concerns and Recommendations:

LIRR, Amtrak, and ESA need to carefully plan the balance of work anticipated for the remainder of 2012 which includes the cutover of the GATE interlocking on the FHACS; testing of the HTSCS; cutover of F interlocking, and work on existing POINT and Harold interlockings.

Queens Third-Party Contracts

CQ031 Contract – Queens Bored Tunnels and Structures

- Original Contract value: \$648.9 million
- Approved Change Orders: \$106.2 million
- Current Contract value: \$755.1 million
- Current Estimate-at-Completion: \$763.5 million (includes \$58.4 million option)
- Award/NTP date: September 28, 2009 (Actual)
- Start date: September 28, 2009 (Actual)
- The original contract Substantial Completion date: September 2012

- Current approved plan Substantial Completion date: September 2012
- The current forecast Substantial Completion date: *April 2013 (7 month delay)*
- The original contract Final Completion date was January 2013. *The current forecast date is July 2013.*

Status:

Schedule: *The Substantial Completion date slipped 1 month from March 2013 to April 2013, a 7-month delay to the original date. As of May 31, 2012, based on the latest data available from the grantee, the cumulative actual percent complete was 80.4% versus planned 94.7% on a cost invoiced basis, and 88% of the contract time to Substantial Completion has elapsed. The March 22, 2012 re-baselined IPS draft shows that CQ031 is not on the critical path. The PMOC notes that MTACC is currently finalizing the new IPS.*

The contractor commenced TBM mining of the Yard Lead Tunnel on May 17, 2011 and completed the tunnel on February 9, 2012. The TBM mining for the Track A Tunnel started on August 9, 2011 and was completed on December 22, 2011. *The TBM mining for the Track D Tunnel started on March 29, 2012 and was completed on May 29, 2012. TBM mining for the Track B/C Tunnel commenced on May 7, 2012.*

Cost: *As of May 31, 2012, the Estimate-at-Completion has decreased \$15 million from \$778.5 million to \$763.5 million. As of May 31, 2012, the PMT reported that \$605.3 million has been invoiced, representing 80.2% of the current contract value and 79.3% of the Estimate at Completion. 57 contract modifications (change orders) totaling \$106.2 million have been approved.*

Construction status for the period April – June 2012:

- *Completed: TBM mining and construction of the Track D Tunnel; Harold CIL underpinning for TBM mining; soldier pile installation for WBBY structure at Honeywell Street Bridge.*
- *Continued: TBM mining for the Track B/C Tunnel; construction of the Yard Lead Emergency Exit/Ventilation sub-structure; construction of the CO8 Substation; secant pile installation for WBBY structure at the Honeywell Street Bridge; environmental monitoring, water quality sampling and groundwater elevation readings for the Long Island Well Permit report.*
- *Commenced construction of the Substation B13 foundation.*

The ESA-CM reported that there were three recordable accidents, three lost-time accidents and 23 first-aid injuries during this period. No security issues were reported for this period.

Observation:

During the 3Q-2010, ESA-CM identified eight critical interfaces related to TBM mining schedule between Contract CQ031 and Contract CH053, Harold Interlocking, Part 1. Since that time, seven interfaces were resolved with re-designs, construction workarounds and scope deletions. *The single remaining critical interface, tunneling beneath the existing/operating G.O.2 Substation, was successfully completed in June 2012. As the CQ031 work advances; however, the contract continues to be impacted by new interferences resulting from late completion of work under the CH053 contract. These new interferences often result in schedule delays and increased costs.*

ESA-PMT has, to date, been successful in pursuing a significant opportunity to mitigate potential cost and schedule risk by TBM mining of an additional length for the Track B/C Tunnel. The remaining tunneling will include an additional 400ft. extension of the tunnel beneath Switch 813 in lieu of the more difficult open cut construction of this segment, as originally planned, that is located in a rail-bound area of Harold Interlocking. TBM mining of this remaining portion of the underground Track B/C section is scheduled to commence on July 9, 2012. ESA-PMT has accomplished critical preparatory work under Contracts CH053 and CQ031 in support of this effort and has secured temporary required temporary service reductions from LIRR. This approach represents a significant opportunity to reduce both cost and schedule risk associated with the more difficult open-cut construction originally planned that must also wait until Switch 813 is removed as part of the overall Harold Interlocking reconfiguration. Accordingly, both cost and schedule risk will be reduced upon successful completion of this additional tunnel extension, now expected to be completed by late July 2012 or early August 2012.

Concerns and Recommendations:

With successful completion of TBM mining of the Track B/C Tunnel beneath the existing/operating G.O.2 Substation, the contractor has resolved all eight critical CQ031/CH053 construction interfaces identified in Q3-2010. Therefore, the PMOC recommends that Issue No. ESA-67-Sep10 now be closed.

The PMOC remains concerned about the costs of the additional CQ031 work required to mitigate the potential delays caused by continued late completion of key work by the CH053 contractor. The PMOC continues to recommend that ESA-CM closely monitor the schedule performance of both the CQ031 and CH053 contractors to ensure adherence to current work schedule, thus minimizing additional costs exposure.

Contract CQ031 Quality Performance – Construction Work Plans (CWPs) and Safe Work Plans (SWPs)

Status:

About June 20, 2012 work commenced on the current phase of the CQ031 Yard Lead Emergency Exit without either an approved Construction Work Plan (CWP) or Safe Work Plan (SWP). The CWP was not received by the ESA CQ031 Quality Engineer until June 26, 2012. His comments were returned to the contractor with a “Revise and Resubmit” disposition. The revised CWP was resubmitted and unilaterally dispositioned “Proceed and Resubmit” (PNR) by the ESA Construction Manager.

Observation:

The PMOC has observed that the ESA Construction Manager provided the disposition of a CWP without getting concurrence from the Quality Engineer.

Concerns and Recommendation:

The PMOC is concerned that the contractor began work without an approved CWP and SWP. The PMOC is also concerned that the ESA Construction Manager unilaterally dispositioned the returned CWP without consulting with the ESA CQ031 Quality Engineer. The PMOC recommends that ESA Executive Management issue written direction that no work is to begin without approved SWPs and CWPs.[Ref: ESA-89-June 12]

CQ032 Contract – Plaza Substation and Queens Structures

- Original Contract value: \$147.4 million
- Approved Change Orders: \$1.21 million
- Current Contract value: \$148.6 million
- Current Estimate-at-Completion: \$162.1 million
- Award/NTP date: August 10, 2011 (Actual)
- Start date: August 10, 2011 (Actual)
- Original contract Substantial Completion date: August 2014
- Current approved plan Substantial Completion date: August 2014
- Current forecast Substantial Completion date: *November 2014*
- Original contract Final Completion date: November 2014
- Current forecast Final Completion date: *February 2015*

Status:

Schedule: *The contractor's baseline scheduled has been approved. The forecast Substantial Completion date has slipped 3 months from August 2014 to November 2014. As of May 31, 2012, based on the latest data available from the grantee, the cumulative actual percent complete was 7.1% versus planned 7.8% on a cost invoiced basis. The March 22, 2012 re-baselined IPS draft shows that CQ032 is not on the critical path. The PMOC notes that MTACC is currently finalizing the new IPS.*

Cost: *The contractor has revised and resubmitted the Detailed Cost Breakdown Schedule. The Estimate-at-Completion remains the same at \$162.1 million. 11 contract modifications (change orders) totaling \$1.21 million have been approved.*

Construction Status for the period April – June 2012:

- Roosevelt Island facility: *Continued structural modification work, including the stairway.*
- Vernon Boulevard facility: *Continued structural modifications and started construction of the new communications room.*
- 12th Street facility: *Completed lead paint abatement and continued demolition work.*
- 23th Street facility: *Continued demolition of various structural and systems elements and installation of new drainage. Started structural repairs and fire standpipe repairs.*
- 29th Street facility: *Completed stairway repairs and demolition of existing HVAC and electrical systems. Continued lead paint abatement and fire standpipe repairs.*
- B10 Substation: *Completed installation of soldier piles and lagging and commenced mass excavation.*

The ESA-CM reported one first-aid injury.

Observation:

Release of Access Restraint #1 area (west end of Open Cut Excavation Area and Early Access Chamber area), scheduled for August 24, 2012, will be delayed due to late completion of the Northern Boulevard tunnel by the CQ039 contractor.

PMOC Concerns and Recommendations:

The PMOC is concerned about late release of Access Restraint #1 as well as ESA-PMT's coordination efforts required for CQ032 access to the B10 Substation site.

CQ039 Contract – Northern Boulevard Crossing

- Original Contract value: \$85.0 million
- Approved Change Orders: *\$11.9 million*
- Current Contract value: *\$96.8 million*
- Current Estimate-at-Completion: \$101.0 million
- NTP date: February 3, 2010 (Actual)
- The original contract Substantial Completion date: October 2011
- Current approve plan Substantial Completion date: August 2012
- The current forecast Substantial Completion date: *April 2013 (18 month delay)*
- The original contract Final Completion date was February 2012 and revised to November 2012. *The current forecast date is July 2013.*

Status:

Schedule: *As of May 31, 2012, the forecast Substantial Completion date slipped one month from March 2013 to April 2013, a 187-month delay to the original date. The ground freeze commenced on November 27, 2011 and was forecast to be completed within 50 days, about mid-January 2012. Tunnel excavation would then follow starting in late January 2012 or early February 2012. There were problems achieving acceptable ground freeze that required additional grouting to seal groundwater leaks and this caused an additional three months of delay. Tunnel mining commenced on April 30, 2012. The March 22, 2012 re-baselined IPS draft shows that Contract CQ039 is not on the critical path. The PMOC notes that MTACC is currently finalizing the new IPS.*

Cost: *The EAC remained the same at \$101.0 million. As of May 31, 2012, based on the latest data available from the Grantee, the cumulative actual percent complete 53.8% versus planned 90.5% on a cost invoiced basis and 93% of the current approved contract time to Substantial Completion has elapsed. 15 contract modifications totaling \$11.8 million have been executed as of May 31, 2012.*

Construction status for the period April – June 2012:

- *Completed ground freeze remediation grouting.*
- *Started sequential excavation method (SEM) mining on the first and second drifts.*
- *Continued maintenance of ground freeze.*

The ESA-CM reported that there were three first-aid injuries during this period. No security or significant quality issues were reported for this period.

Observation:

The SEM mining started late due to problems establishing and maintaining acceptable ground freeze of the soil arch. The current progress of the SEM mining is slower than planned due to actual soil conditions, challenging site working conditions and modifications to means and methods to suit conditions encountered.

Concerns and Recommendations:

The PMOC believes that this complex and challenging contract will likely continue to experience delays. Some of these delays have already emerged. Difficulties with the initial ground freeze have caused significant schedule slippage that will delay the start of Contract CQ032 (Plaza Substation and Queens Structures) work in the Early Access Chamber area. The PMOC is also concerned about the contractor's ability to maintain acceptable progress during the sequential excavation method (SEM) mining due to the particular characteristics of this contract including: very limited site access; labor intensive excavation/construction work; NYCT oversight of the construction work; a high probability of encountering unforeseen field conditions during tunnel excavation that may result in re-design and a change in the construction means and methods. Continued schedule slippage will delay turnover of the Milestone 1A Area, currently scheduled for July 30, 2012, and the start of Contract CQ032 (Plaza Substation and Queens Structures) work in the Early Access Chamber area (CQ032 Access Restraint #1, August 24, 2012). The PMOC estimates that this will be a 4-6 month delay and recommends that ESA-PMT work closely with the CM, the contractor and the GEC to minimize any further delays to the SEM mining beneath Northern Boulevard. [Ref: ESA-85-Mar2012]

Manhattan Contracts

The PMOC Observations and Concerns and Recommendations for the below GCT contracts are incorporated at the end of this section:

CM004 – 44th St. Demolition and Construct Fan Plant Structure and 245 Park Ave. Entrance
Original Contract Value: \$40.77 million

- *Current Contract Value: \$42.12 million*
- *Approved Change Orders: \$1.35 million*
- *EAC: \$52.80 million*
- *NTP Date: September 2009*
- *Substantial Completion: August 2012 for 245 Park; November 2012 for 44th St. Vent Plant*

MTACC reports in the May 2012 Monthly Report that the above noted schedule dates have not been updated to the revised re-baseline.

Status:

The excavation of the vertical Shaft #1 to the original contract invert of Elevation 282 is complete.

The ESA revised forecast for completion of Shaft #1, which now includes the added scope of extending the shaft excavation from Elevation 282 down to Elevation 233 is now November 17, 2012.

The contractor has advised the CM office that the subcontracted fabricator for the structural steel has advised that they are going out of business. Although the Contractor has promised to honor the fabrication contract for this project the contractor is looking for another fabricator.

Construction progress for 44th Street for the period April - June 2012:

- *Completed original contract rock excavation to Elevation 282. Began line drilling of perimeter and production holes for the upcoming electronic sequence blast of the remaining shaft down to the horizontal shaft mined by the CM019 contractor.*
- *Completed construction of elevator shaft walls to Elevation 356 (approximate street elevation).*
- *Continued construction of concrete slab on grade at the Concourse level.*
- *The contractor continues to work day and night shifts. Most work in the shaft is being done during the second shift (6:30PM – 10:30PM).*

Construction Progress for 245 Park Avenue for the period April – June 2012:

- *The completion of 245 Park was delayed during April 2012 when MNR requested additional scope with additional security at the doors and additional cameras.*
- *Continued work in the electric closet.*
- *Continued completion of installation of stainless steel panels and cladding at the escalator.*
- *Began closing up ceiling panels in coordination with MNR work in the areas.*

As of May 31, 2012, the total amount invoiced was \$33,275,000, which represents 79% of the Current Total Contract Value. Forty five (45) contract modifications have been executed for a total of \$1,358,499. Seventeen have been negotiated for a total of \$2,729,425 and are awaiting approval. Actual work performed is 79.4% versus 100% planned.

Observation:

Although the Contractor has begun mobilizing and performing pre-blast drilling, he has advised the CM office that they will not proceed with the blast until they have an approved change order. Fabrication of Contract and revised steel has also been delayed by the lack of timely processing of critical change orders. This has caused delays to the Contract along with associated additional costs.

Concerns and Recommendations:

The PMOC continues to be concerned that the two (2) most critical change orders to the Contract (extended shaft excavation and revised structural steel) continue to not be expeditiously processed. The CM office has advised the PMOC that negotiations for the shaft extension are scheduled for the week of July 2, 2012. The PMOC recommends that MTACC take action to improve the timeline for processing critical changes; particularly those initiated by MTACC.

CM009 Contract – Manhattan Tunnels Excavation

- *Original Contract Value: \$427.95 million*
- *Current Contract value: \$411.81 million*
- *Approved Change Orders: (\$16.14 million)*

- NTP Date: July 2006
- Start Date: September 2007
- Substantial Completion: *August 31, 2013 (new approved re-baselined schedule)*

Status:

The ESA PMT reported that the MTA Board approved the re-baselined schedule for the ESA project, including the combined CM009/CM019 contract, in May 2012. This schedule incorporates the delays (some milestone delays were as great as 14 months) that CM009/CM019 incurred prior to its approval. As a result, the new Substantial Completion date is August 31, 2013. The PMOC believes that, based on its recent site visits and its observation that the contractor has been able to keep up with its recent projected 8 Week Look-Ahead Schedules, that the CM009/CM019 contractor is fully capable of and in a position to meet this milestone. [Ref: ESA-38-Apr09]

As of May 31, 2012, the total amount invoiced for CM009 was \$376,390,000, which represents 91.3% of the Current Contract Value of \$411,811,000. Thirty-seven contract modifications have been executed for a total credit of \$16,142,240. Actual work performed based on the previous schedule is 91.4% versus 93.0% planned.

CM019 Contract – Manhattan Structures Part 1

- Original Contract value: \$734.0 million
- Current Contract value: \$772.0 million
- Approved Change Orders: \$38.0 million
- NTP Date: April 2008
- Substantial Completion: *August 31, 2013 (new approved re-baseline schedule)*

Status:

As with CM009, the ESA PMT reported that the MTA Board approved the re-baselined schedule for the ESA schedule, including the combined CM009/CM019 contract, in May 2012. This schedule incorporates the delays (some milestone delays were as great as 14 months) that CM009/CM019 incurred prior to its approval. As a result, the new Substantial Completion date is August 31, 2013. The PMOC believes that, based on its recent site visits and its observation that the contractor has been able to keep up with its recent projected 8 Week Look Ahead Schedules, that the CM009/CM019 contractor is fully capable of, and in a position, to meet this milestone. Since the CM009/CM019 milestones have been revised, and it appears to the PMOC that the contractor can meet them, the PMOC will close this item. [Ref: ESA-38-Apr09]

As of May 31, 2012, the total amount invoiced for CM019 was \$641,348,000, which represents 83.1% of the Current Contract Value of \$772,010,000. Fifty-one contract modifications have been executed for a total of \$38,010,115. Actual work performed based on the previous schedule is 83.1% versus 82.4% planned.

CM009/CM019 Contracts – Manhattan Tunnels Excavation/Structures Part 1

Combined Status:

In an effort to recover overall project schedule, as the combined CM009/CM019 re-baselined schedule was being developed, the ESA PMT and the contractor jointly developed opportunities for follow-on contractors to access project sites earlier than previously planned. These opportunities were incorporated into the re-baselined schedule and the two parties continue to develop additional opportunities for follow-on contractors.

During the 2Q-2012, the contractor completed placement of archway concrete in the Eastbound Cavern, and now both cavern archways are complete, as is Escalator Way #4. The contractor continued bench and pillar excavation between the upper and lower levels of the Westbound Cavern (all but a working platform of the bench is removed), excavated the west side of the bench in the Eastbound Cavern, continued well-way excavation in Escalator Ways #2 and #3, began shotcrete placement on the archway of Escalator Way #1, continued construction of various cross-passageways between the East- and Westbound Caverns, as well as excavation of the 55th St. ventilation plant.

Although there has been some recent improvement in the CM009/CM019 contractor's safety performance, its overall performance still remains unacceptable to the MTACC. The combined CM009/CM019 safety performance for the period March 15, 2012, through June 21, 2012, resulted in 46 first aid and 5 recordable injuries. The cumulative safety performance through May 31, 2012, resulted in a 3.06 injury ratio for CM009 and a 2.53 injury ratio per 200,000 work hours for CM019. The Bureau of Labor Statistics (BLS) National Industrial Average ratio is 2.20.

Construction Status for the period April 2012 – June 2012

- *Completed: shotcrete placement of the archways in the Eastbound Cavern and Escalator Way #1, placement of the invert concrete in tunnel EB2 lower level, and construction of well-ways #3 and #4 (escalator ways are now complete).*
- *Continued: bench and pillar excavation between the upper and lower levels of the Westbound Cavern, bench excavation between the two levels in the Eastbound Cavern, excavation of well way #2, construction of various cross passageways between the East- and Westbound Caverns, and excavation of the ventilation plant at 55th St.*

Observations:

The contractor has maintained its construction pace, which has resulted in continued project advancement in both caverns (including cross passageways), all four escalator ways (two are now complete), the eastbound tunnels, the tail tracks, and the 55th St. ventilation plant. According to its weekly excavation status reports, the CM009/CM019 contractor still has approximately 90,000 CY of excavation to complete its contract. At its present rate of excavation, the PMOC optimistically estimates that this will take at least 5 months to complete. A more likely amount would be 7 months, however. Based on the contractor's performance of the last several months, however, the PMOC believes that the contractor has the capacity and the volition to meet its revised Substantial Completion date of August 31, 2013, barring unforeseen circumstances.

The PMOC continues to update its analysis of the CM009/CM019 contract milestones against their respective schedules, which have been revised due to the approval of the re-baselined

schedule. Nonetheless, the PMOC will adjust its analysis (Appendix G of this report) accordingly and continue to provide it using the new baseline milestones.

Concerns and Recommendations:

The contractor previously addressed all the PMOC's stated construction issues and continues to prove that it has the technical capability and capacity to complete its remaining construction in accordance with the approved ESA re-baselined schedule.

The PMOC does remain concerned, however, about the contractor's safety performance. The contractor's recent performance has improved only slightly and its historic performance has not been acceptable (for May 2012 (the latest up-to-date report available) the injury ratio for CM009 was 3.03 lost time accidents, for CM019 it was 2.53 lost time accidents). The PMOC therefore recommends that both the MTACC and the contractor continue to focus constant attention on safety so that the total number of injuries can be greatly reduced for the remainder of the project.

CM013 – 50th Street Vent Facility

- *Original Contract Value: \$118.35 million (includes \$24.0 million for work by Property Owner)*
- *Current Contract Value: \$119.60 million (includes \$24.5 million for work by Property Owner)*
- *Approved Change Orders: \$0.74 million.*
- *EAC: \$99.07 million for CM013. The EAC reported in the MTACC May 2012 report lists To Be Determined (TBD) for the EAC for the work by the Property Owner.*
- *NTP Date: January 2010*
- *Substantial Completion: March 2013.*

MTACC reports in the May 2012 Monthly Report that the above noted schedule dates have not been updated to the revised re-baseline.

Status:

The MPT along 49th and 50th Street is ongoing and is being maintained successfully. The focus at the Vent Plant is completing the lining of the deep shaft from invert Elevation 309 down to approximate Elevation 219, and completion of the below grade wall concrete lining, which will allow the erection of the Vent Plant building to commence.

MTACC reports as of May 31, 2012, the contractor's schedule update shows 45 days of delay to Substantial Completion and 22 days delay to the new Milestone #5. The CM office is forecasting a potential additional 44 days of delay beyond that. MTACC further reports that delays have been caused by problems with submittal delays and slow production in concrete placement.

Construction Progress for 50th Street Vent Plant for the period April – June 2012:

- *In the Service Tunnel, completed waterproofing and began placement of cast-in-place concrete wall lining; completed construction of electrical manholes and duct banks; and began construction of various rooms.*
- *Continued with erection of steel framing for the vertical utility shaft on the existing building in the southeast corner of the site.*

- *Began erection of the new crane platform on 50th St. for the relocation of the mobile crane that has previously been placed at the lower building deck. The crane, when relocated, will continue to assist with deep shaft lining completion and assist with upcoming building steel erection.*
- *Continued with gunite concrete placement in the deep shaft and began gunite placement along the lower walls of the Vent Plant.*

As of May 31, 2012, the total amount invoiced was \$80.8 million, of which \$24,590 is for work performed by the Property Owner. This represents 68% of the total Current Total Contract Value. Twenty two (22) contract modifications have been executed for a total of \$740,193 and MTACC reports that the project is on budget. Actual work performed is 58.4% versus 65.1% planned.

Observation:

The MTACC introduction on new Milestone #5, which is intended to allow early access to the deep shaft is delayed. The original milestone date of August 2012 has been extended to November 2012, which is 3 months past the original 6 months forecast.

The GEC has informed the PMOC that the project has experienced some concerning Non Conformance Reports (NCRs), specifically regarding improper concrete placement. The mitigation, according to the GEC representative is to replace the Special Inspection team that is charged with reviewing the hold points before concrete placement.

Concerns and Recommendations:

The MTACC CM should continue to work with the contractor to ensure that the delays to Milestone #5 are mitigated and access to upcoming contracts is not delayed. The PMOC will continue to review the NCR issue with concrete placement to determine whether this is just a single incident or an organizational problem.

CM014A – GCT Concourse & Facilities Fit-Out

- *Original Contract Value: \$43.5 million*
- *Current Contract Value: \$43.5 million*
- *Approved Change Orders: \$0.00*
- *EAC: \$46.5 million*
- *NTP Date: November 7, 2011*
- *Substantial Completion: July 2013*

MTACC reports in the May 2012 Monthly Report that the above noted schedule dates have not been updated to the revised re-baseline.

Status:

Construction Progress for the period April - June 2012:

- *Continuing with site surveys and layout. This will continue for some time due to the nature of the project.*
- *Trench excavation continued.*

- *The loading out of concrete debris and contaminated soil continued along with the importation of clean fill.*
- *Sub drainage underground work continued.*

As of May 31, 2012, the total amount invoiced was \$2.89 million, which represents 5% of the Current Contract Value. There has been one contract modification negotiated for the amount of \$151,153 which is awaiting approval. Total percentage complete is 6.7% versus 8% planned.

The primary focus of this project is the procurement and installation of the transformers and switchgear. MTACC that the SCADA system design has undergone conflicts and is being reissued. The contractor has reported that they and the CM office are working to resolve the delays in ordering, processing submittals and beginning fabrication of the switchgear and transformers. Current forecast is for delivery of this equipment by December 2012 with full power achieved by May 2013.

Observations:

In a previous report it was noted the in the March 2012 MTACC Monthly Report it was stated that the amount invoiced for this contract was \$2 million. In the April report the amount reported as invoiced was \$1.8 million. The PMOC investigated this apparent discrepancy with the ESA CM office. It now appears that the invoice amounts reported in the monthly reports were in error. According to number obtained by the PMOC from the CM office the following were the approved invoice amounts from March to May 2012:

- *March 31, 2012 - \$1,507,211*
- *April 30, 2012 – 1,008,363*
- *May 31, 2012 - \$377,479*

Concerns and Recommendations:

The apparent discrepancies in total invoice amounts have been corrected and the above total of \$2.89 million corresponds exactly with the \$2.89 million reported in the May 2012 MTACC Monthly report. Therefore the PMOC has no concerns or recommendations at this time.

Contract CM014A Quality Performance – Construction Work Plans (CWPs) and Readiness Reviews

Status:

Recently, the ESA Quality Engineer on this Contract dispositioned several CWPs “Revise and Resubmit” but the ESA Construction Manager changed the disposition to “Proceed as Noted and Resubmit”. In addition, some “Readiness” meetings have been conducted after work has started.

Observation:

The PMOC has observed that the ESA Construction Manager changed the suggested disposition made by the Quality Engineer of some of the CWPs and that Readiness reviews were conducted after the fact.

Concerns and Recommendations

The PMOC recommends that the ESA Construction Manager discuss disposition of a submittal with the Quality Engineer before returning it to the Contractor. The PMOC recommends that that Readiness Reviews be conducted before work begins. [ESA-90-June 12]

2.1.4 Force Account (FA) Construction Contracts

Harold Stage 1 Amtrak FA (FHA01)

- Original Agreement Value: \$9.50 million
- Current Agreement Value: \$16.83 million
- Commence Stage 1: June 2007
- Stage 1 Completion Date: *Originally June 2012, presently December 2012*

Status:

As of May 31, 2012, the total amount invoiced for FHA01 was \$14,820,000, which represents 88.1% of the Current Agreement Value of \$16,824,000 to date (note: the agreement value may change in the future due to scope transfers between Stages 1 through 4 of the of construction since ESA may elect to accelerate or delay work based on existing construction status). There has been one amendment to the agreement for \$1,500,000. Actual work performed, based on the previous schedule, is 76.3% versus 75.4% planned.

Harold Early Stage 2 Amtrak FA (FHA02)

- Original Agreement Value: \$9.7 million
- Current Agreement Value: *\$18.1 million*
- Commence Early Stage 2: December 2008
- Stage 2 Completion Date: Originally September 2010, presently September 2013

Status:

As of May 31, 2012, the amount invoiced for FHA02 was \$16,085,000, which represents 88.9% of the Current Agreement Value of \$18,102,000 to date (note: the agreement value may change in the future due to scope transfers between Stages 1 through 4 of the of construction since ESA may elect to accelerate or delay work based on existing construction status). Actual work performed, based on the previous schedule, is 56.5% versus 52.5% planned. Amtrak, as authorized by the MTACC, continues to proceed with limited Stage 2 C&S construction without a formal Project Initiative in place.

Combined Construction Status FHA01 and FHA02 for period April – June 2012:

- *Completed catenary wire relocations and removal of existing cross spans at catenary poles B-928W, B-929W, and B-930W, relocation of bond wires for the LIRR signal tower installation, and installation of the #771 and #747 crossovers in “F” Interlocking.*
- *Continued installation of C&S trough and conduit at various locations throughout the project site and support of the CH053/CH054A contractor as it installs catenary poles and signal towers.*

- *Began assembly of the #749 turnout for the 2013 Track Program.*

Observation:

The overtime and labor clearance issues which were reported in previous monthly reports and which plagued the program until early 2012 have been greatly mitigated by the management and labor personnel changes which Amtrak implemented during 1Q2012. Although the labor clearance issue has not been formally resolved and it requires the presence of additional Amtrak personnel (hence, increased project cost), nonetheless, the accommodation the labor force has made has allowed the project to move forward without resultant additional schedule delay. The PMOC notes that this situation is unpredictable and could change for the worse in the future.

Concerns and Recommendations:

The PMOC remains concerned that, even though Amtrak has instituted management and personnel changes which have had a positive impact on its project work and support, the labor clearance issue has not been resolved. As a result, there is no assurance that Amtrak's Electric Traction labor force will continue its project participation if another situation that could upset this delicate balance develops. Therefore, the PMOC recommends that if the MTACC does not elect to continue formal resolution of the situation, it will continue to do everything possible to maintain the status quo. This item will be closed and the situation monitored by the PMOC. [Ref: ESA-77-Mar11]

Harold Stage 1 LIRR FA (FHL01)

- Original Agreement Value: \$28.78 million
- Current Agreement Value: \$20.78 million
- Commence Stage 1: June 2007
- Stage 1 Completion: Originally September 2010, presently September 2013

Status:

As of May 31, 2012, the total amount invoiced for FHL01 was \$17,204,000, which represents 82.8% of the Current Agreement Value of \$20,782,000. Actual work performed based on the previous schedule is 72.3% versus 73.0% planned.

Harold Early Stage 2 LIRR FA (FHL02)

- Original Early Agreement Value: \$7.35 million
- Current Early Agreement Value: \$15.02 million
- Commence Early Stage 2: August 2009
- Early Stage 2 Completion: Originally September 2011, presently June 2015

Status:

As of May 31, 2012, the total amount invoiced for FHL02 was \$13,565,000, which represents 90.3% of the Current Agreement Value of \$15,024,000. Actual work performed, based on the previous schedule, is 24.3% versus 21.0% planned. The LIRR, as authorized by the MTACC, continues to proceed with limited Stage 2 Communications and Signal construction without a formal Memorandum of Understanding in place.

Combined Construction Status of FHL01 and FHL02 for period April – June 2012:

- Completed fiber optic Communications cable pulls between 43rd and 48th Streets.
- Continued Signals installation of cross track conduits, trough, and pull box installation at various locations in Harold and “F” interlockings, installation of temporary poles for the “F2” CIH and “F2E” power supply, preparation for the LIRR signal line relocation between new towers #34 and #49, and support for Amtrak’s catenary wire transfers.

Observation:

As noted in previous monthly reports, the LIRR’s reconfiguration of its Westward Passenger Track, which had originally been scheduled for 2Q2012, has been postponed until 4Q2012. This has caused the successor activity turnout installation, which had been scheduled for 3Q2012, to be delayed until 2013, most likely 2Q2013, at the earliest.

Concerns and Recommendations:

The PMOC is *still* concerned that the LIRR has historically re-scheduled many aspects of its track work program without considering the effect on the overall ESA construction program. In the PMOC’s opinion, this could cause deferred construction work to accumulate at the end of the program, when the LIRR already has 45 turnouts scheduled for installation between 2013 and 2017 (about 75% of the total). The PMOC believes that it is a possibility, based on past postponements, that LIRR Harold track work could be postponed beyond 2017, which could greatly impact the project end date. The PMOC also believes that it is management’s responsibility to do everything it can now to prevent this from happening in the future. *To avoid such schedule creep, the PMOC recommends that the LIRR and the MTACC agree on a project schedule now and develop the mutual management fortitude and commitment to maintain this schedule by establishing a “can do/will do” culture within their respective project teams. [Ref: ESA-91-June12]*

2.1.5 Operational Readiness

Status:

The ESA Operational Readiness group has focused their effort in several areas discussed below during the Q2-2012 and the ESA Operational Readiness Quarterly meeting was held on June 21, 2012.

Asset Management

- The Operational Readiness Group’s efforts since last quarter have been focused on completing the Asset Inventory with input from LIRR. There are currently 14,000 assets identified. Draft asset attributes have been developed for some of the assets and a process is underway to confirm current attributes for those assets and establishing attributes for the remaining assets.

Operations & Maintenance Plan

- Volume 2 – Infrastructure of the Operations and Maintenance Plan (rev. 6) is completed. The first round of review by LIRR has been completed and revisions based on this review are being incorporated into the document. Target date for release of the document is now Q3 2012 (note: previous forecast for release was Q3-2012). The Operational Readiness Group is working on Revision 7 of the O&M Plan will include a re-written Volume 1 – Train Operations, since the original version of Volume 1 is dated.

Rail Activation Planning

- *Volume 1 of the Rail Activation Plan has been modified to incorporate activities pertaining to Metro North Railroad (MNR) and is currently being reviewed by MNR. MNR is now fully participating in the regular meetings pertaining to rail activation. The planning phase for rail activation is finishing up and the Operational Readiness team is now starting to look at implementation (e.g. looking at staffing levels, integration with LIRR existing operations). The Senior Level Management Group for Rail Activation (including members of LIRR and MNR) met on April 19, 2012.*

Transition Strategy

- *The Technical Scope of Work for the upgrade of the cab simulator is being finalized. The next steps in the process will be to finalize the cost estimate; develop a procurement schedule; and work with LIRR Procurement and Logistics on moving forward with the procurement for the upgrade.*

Observation:

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

Concerns and Recommendations:

There are no significant concerns or recommendations at this time.

2.2 Third-Party Agreements

As of June 30, 2012, ESA and Amtrak continue to negotiate Stage 2 of the Communications and Signals (C&S) Project Initiative (PI).

2.3 Contract Packages and Delivery Methods

Status:

There has been a significant amount of scope shift, particularly in the Manhattan Contracts, that has taken place during the ESA re-baselining process that began in 2011. These shifts have been captured in the new project schedule baseline. *As of the end of June 2012, ESA is contemplating further scope shifts.*

Observation:

The PMOC observes that ESA's contemplation of further scope shifts after the new risk adjusted cost and schedule baselines have been developed could impact these new baselines.

Concerns and Recommendations:

The PMOC has expressed its concern to ESA about the stability of the Contract Packaging Plan in the past, and the need to carefully evaluate the impacts of all proposed scope moves. Given the large amount of scope shifts among the various contract packages, *the PMOC continues to recommend that ESA consider issuing another revision to the Contract Packaging Plan (CPP) to accurately capture the current state of the project.*

2.4 Vehicles

Status:

There has reportedly been some activity by MTACC/LIRR to remove the rail vehicle procurement from the federally funded ESA project, the details of which have not been shared with the PMOC. ESA has represented that the funds dedicated to rail car procurement will be reassigned to contingency in their report to the MTA Board. The PMOC was informed by the FTA Region II Office in April 2011 that the MTA has been notified to put back the original funding allocated for the purchase of rail vehicles and abide by the federal procurement rules and regulations to purchase the vehicles. *During the risk assessment workshops conducted in March 2012, ESA-PMT provided details of their plan for Federal procurement of 160 vehicles for the Project, and committed to providing the local funding for remaining vehicles, consequently this item is closed*[Ref: ESA-A26-Feb09].

Observation:

The LIRR RFP for the procurement was initially planned for release in August or September 2010, then January 2012. *LIRR informed the PMOC that the RFP was advertised in June 2012.* The contract was to be signed in 2011 with a 3-year production leading to a pilot test. The production units could then begin to deliver all ESA vehicles by opening day. Completion of pilot testing of 14 cars is now planned for June 2016.

Concerns and Recommendations:

Given that the new RSD is August 2019, the PMOC does not have a concern at this time regarding the availability of the new vehicles needed for revenue service.

2.5 Property Acquisition and Real Estate

Status/Observation:

See discussion in Section 3 b. of the executive summary.

2.6 Community Relations

Status:

During the period of April 2012 through June 2012, the ESA project team performed the following community outreach activities:

- Distributed updated community flyers, newsletters and monthly updates to property representatives, residents and the local community board regarding construction work at various locations in Manhattan.
- Continued to provide community updates about planned construction work along Northern Boulevard, at the 63rd Street Tunnel facilities and in the area of Sunnyside Gardens, Queens.
- *MTA and New York City signed and executed an indenture agreement regarding improvements to the existing Vernon Boulevard facility.*
- *Responded to NY Friar's Club concerns regarding Contract CM013A (55th Street Ventilation Facility).*
- *Met with Queens Community Board 2 regarding removal of TBM No. 1 from the Yard Lead Reception Pit along 43rd Street.*

- *Continued coordination with JP Morgan Chase regarding shafts located within their building at 383 Madison Avenue and assisted with resolution of basement level air quality concerns.*
- *Conducted public outreach with Second Avenue Subway project regarding controlled blasting in Treadwell Farms Historic District.*
- *Met with Manhattan Community Board 6 regarding use of Park Avenue ventilation grates for construction access.*
- *Completed outreach with property owners along 58th Street regarding additional construction activity at the Manhattan site.*
- *Met with NYC Housing Authority and provided update of status on work on the Vernon Boulevard Facility in Queensbridge Park (current CQ032 and future CS179).*
- *Met with the Union League Club regarding complaints about work along Park Avenue south of Grand Central Terminal.*

Observation:

The PMOC believes that the ESA Community Relations staff is reaching out appropriately to inform the community of upcoming and current changes, and has properly handled concerns and complaints from the community.

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 PMOC completed its review of MTACC's incorporation of the candidate revisions. Based on the FTA's review of the PMOC's comments, the PMOC updated and re-submitted them in May 2012. The revised comments were sent to MTACC in June 2012 and a working meeting with MTACC to resolve the comments is scheduled for July 2012.

Observation:

MTACC is utilizing a task force to address the FTA/PMOC comments on incorporation of the PMP candidate review.

Concerns and Recommendations:

There are no specific PMOC concerns or recommendations at this time.

3.2 PMP Sub-Plans

Status:

The LIRR Rail Fleet Management Plan was updated in March 2011; however the PMOC did not receive a copy of this revision until the 1Q-2012. *The PMOC is nearing completion of its review of this plan consequently this item will be closed.* [Ref: ESA-A09-Jun07]

The MTACC released its final draft Force Account Management Plan (FAMP), dated December 2010, on March 16, 2011, for review. The PMOC completed its review of the MTACC FAMP and forwarded a copy of its comments to the FTA and the MTACC on June 17, 2011. *MTACC forwarded Revision 1 of the FAMP (dated September 2011) to the PMOC in April 2012. The PMOC has completed its review of this plan and will forward its findings to the FTA Region II Office in July 2012.*

ESA transmitted a copy of its updated SSMP to the PMOC on March 10, 2011. The PMOC completed its review of the SSMP and forwarded a copy of its comments to the FTA and MTACC on June 20, 2011. ESA provided responses to the comments on the SSMP in November 2011. *The PMOC has completed its review of this plan and will forward its findings to the FTA Region II Office in July 2012.*

Observation:

ESA took a considerable amount of time to submit revised plans.

Concerns and Recommendations:

The PMOC does not have any recommendations to make at this time.

3.3 Project Procedures

Status:

The MTACC did not implement any additional procedures during June 2012. The total number of revised procedures remains 76. The PMOC is aware that the MTACC considers the procedure development process to be dynamic and that it continues to develop additional procedures. As stated in the Executive Summary, Section 2.d, above, there are 4 additional procedures which

remain in development. The PMOC consults with the MTACC's Chief, Quality, Safety and Site Security (the MTACC responsible person for the development of the revised procedures) each month to determine the status of development for the previous month. The Chief has explained on several occasions that the procedure development is dynamic and that the MTACC may continue to develop additional procedures as the need arises.

Observations:

The PMOC notes that finalization of AD.15-Program Change Control, continues to lag significantly behind schedule.

Concerns and Recommendations:

The PMOC is concerned that the MTACC has not completed the implementation of the revised procedures after over 2 years of development. Additionally, the PMOC believes that AD.15 – Program Change Control is critical to the management of the program. [Ref: ESA-A34-Jan10]

The PMOC recommends that the MTACC direct its Contract Construction Manager in charge of developing the revised procedures to finish all remaining procedures by no later than July 31, 2012, and that the MTACC begin the implementation and training process immediately thereafter.

4.0 PROJECT SCHEDULE STATUS

4.1 Integrated Project Schedule

Status:

The ESA-PMT issued the IPS#36 with data date of June 01, 2012. This schedule has RSD of August 31, 2019 with 359 days of contingency from September 01, 2018 to August 31, 2019. Due to the re-baselining effort from ESA and development of a new RSD, the PMOC will close action item ESA-78-Mar11.

Observations/Analysis:

The PMOC performed a review of the ESA schedule performance since MTACC's re-baseline of 2009 and divided the civil construction packages into the following three categories (note that the PMOC did not consider the force account contracts in this analysis because the complexities involved in its performance makes for difficult prediction):

- a) Active contract packages since July 2009. These packages were under construction when the PMT re-baselined its IPS in July 2009;
- b) Future construction packages, which are scheduled for award in 2012 and 2013;
- c) Active construction packages that have been awarded between July 2009 and December 2011.

The following is a breakdown of these categories:

A. Active Contract Packages

The PMOC analyzed the schedule and cost performance of these packages and the results are presented in Tables 4-1 through 4-9. The PMOC compared the July 2009 re-baseline duration of each package (total of 7 packages) with the current duration forecasted by the PMT as presented in Table 4.1. In addition the PMOC calculated the amount of schedule contingency by subtracting the current EAC from the duration of the award duration of each package. The PMOC also considered the Contractor's estimate for Substantial Completion of these packages. In July 2009, the ESA estimated its RSD to be in September 2016, with 131 days of contingency. At that time, the IPS critical path ran through the Queens Contracts CQ031, CQ032, and the Systems packages. The Manhattan Contracts (CM009/019 and CM012) had over 200 days of float.

The PMOC additionally compared each contract's award amount and projected post bid contingency in the 2009 time frame with the current contingency projection (December 2011). As seen in Table 4.1 and 4.2 for each contract, the forecasted post-bid cost contingency is greater than the baseline post-bid cost contingency. The difference between these values must be allocated from a pool of unallocated cost construction contingency in the ESA budget. (Please see the Cost Contingency section for a more detailed discussion). Table 4.1 and 4.2 show cost growth and duration increases of these packages since the 2009 baseline.

Table 4.1: July 2009 Baseline Performance Measurement for Active Construction Packages

Contract	Baseline Calendar Days	NTP	2009 Substantial Completion	Award Value	Baseline Post-Bid Cont. %	Baseline Budget
MANHATTAN ALIGNMENT CONTRACTS (Active)						
CM004	713	15-Jul-09	28-Jun-11	\$40,765,000	5%	\$42,803,000
CM008A	444	10-Mar-09	28-May-10	\$38,983,000	5%	\$40,932,000
CM009	1482	10-Jul-06	31-Jul-10	\$427,954,000	5%	\$449,351,000
CM019	1460	1-Apr-08	31-Mar-12	\$734,000,000	3%	\$756,020,000
QUEENS ALIGNMENTS CONTRACTS (Active)						
CQ031	1100	3-Aug-09	7-Aug-12	\$648,884,000	17%	\$756,763,000
HAROLD INTERLOCKING CONTRACTS (Active)						
CH053	1127	2-Jan-08	2-Feb-11	\$137,280,000	5%	\$144,144,000
CH054A	483	4-Aug-09	30-Nov-10	\$21,778,000	24%	\$27,067,000
Total	N/A	N/A	N/A	\$2,049,644,000	N/A	\$2,217,080,000

Table 4.2: June 2012 Performance Measurement for Active Construction Packages

<i>Contract</i>	<i>June 2012 Duration</i>	<i>NTP</i>	<i>June 2012 Substantial Completion</i>	<i>June 2012 EAC</i>	<i>Baseline Duration</i>	<i>Duration Increase factor compare with 2009 baseline</i>
MANHATTAN ALIGNMENT CONTRACTS (Active)						
CM004	1171	16-Sep-09	30-Nov-12	\$55,699,446.00	713	1.64
CM008A	759	10-Mar-09	8-Apr-11	\$42,676,662.66	444	1.71
CM009	2518	10-Jul-06	1-Jun-13	\$413,415,206.00	1482	1.70
CM019	1887	1-Apr-08	1-Jun-13	\$793,879,640.00	1460	1.29
Total				\$ 1,305,670,955		1.59
QUEENS ALIGNMENTS CONTRACTS (Active)						
CQ031	1291	28-Sep-09	11-Apr-13	\$766,673,689.00	1100	1.17
Total				\$ 766,673,689		1.17
HAROLD INTERLOCKING CONTRACTS (Active)						
CH053	2189	2-Jan-08	30-Dec-13	\$267,802,855.00	1127	1.94
CH054A	1400	4-Aug-09	4-Jun-13	\$46,199,562.00	483	2.90
Total				\$ 314,002,417		2.42
Total	N/A	N/A	N/A	\$ 2,386,347,061	N/A	1.77

To date, the ESA project had over 16% contingency usage (\$2,386,347,061/\$2,049,644,000=16.41%) for these active contract packages. Most of these packages are less than 75% constructed, so the PMOC believes the actual contingency usage should be closer to 20% at 100% completion.

[REDACTED]

[REDACTED]

[REDACTED]

C. Contract Packages Awarded Since 2009

The ESA has awarded 6 packages since July 2009. Table 4.8 below summarizes the package slippages.

Table 4.5: Comparison of Planned vs. Updated contract Substantial Completion dates

Contract	July 2009 Duration (Calendar days)	NTP	July 2009 Substantial Completion	Award Amount	June 2012 Duration (Calendar days)	NTP	June 2012 Substantial Completion	Estimate At completion	Post bid contingency	Schedule slippage	Percent construction completion
CM002	Did not exist			\$ 4,500,000	416	9-May-11	28-Jun-12	\$ 4,772,229	106.05%	N/A	72%
VM014	1770	3-Mar-10	6-Jan-15	\$ 24,170,000	2561	27-Sep-10	1-Oct-17	\$ 52,881,690	218.79%	1.446893	2%
CM013	875	1-Jan-10	25-May-12	\$ 94,400,000	1159	4-Jan-10	8-Mar-13	\$ 99,800,000	105.72%	1.324571	58.40%
CM014A	It was part of CM014			\$ 43,500,000	625	7-Nov-11	24-Jul-13	\$ 46,533,229	106.97%	N/A	6.70%
CQ039	601	30-Oct-09	23-Jun-11	\$ 84,950,000	1153	3-Feb-10	1-Apr-13	\$102,097,882	120.19%	1.918469	53.80%
CQ032	1078	6-Dec-10	18-Nov-13	\$147,377,000	1188	10-Aug-11	10-Nov-14	\$165,134,912	112.05%	1.102041	7.10%

It is evident that the packages that are more than 50% constructed are having more than 5% post bid contingency planned for in 2009 budget, and the schedule slippage for these packages is 156% of the original duration.

Concerns and Recommendations:

The PMOC presented a historical trend analysis of ESA packages and came to the conclusion that actual schedule slippage since the award of the contract is in the neighborhood of 150-170% and the post bids contingency is in the neighborhood of 15-20% and the ESA has budgeted only for 5% of their future packages. The PMOC recommends that ESA create a contingency draw-down plan for the 359 days proclaimed schedule contingency in addition to creating an unallocated cost contingency pool for contracts to be awarded in the future.

4.2 90-Day Look-Ahead of Important Activities

The PMOC received variance report for IPS update #36 (data date Jun 01, 2012). The ESA-PMT has announced a new RSD is August 2019. Table 4.6 shows important 90-day look-ahead activities:

Table 4.6: 90 Day Look Ahead

<i>Activity Name</i>	<i>Duration</i>	<i>Start</i>	<i>Finish</i>
CM002-Substantial Completion	0		2-Jul-12
CM019- Main Cavern - Cross pass #1~#8 - Exc/supp Bench	70	26-Jul-12	1-Nov-12
CM012 Bid Due date	0		15-Aug-12
CM013: 50th Street Tunnel Arch/Lining	44	1-Jun-12	2-Aug-12
CM013: A Issue Notice of Award	0		2-Jul-12
CM014A: Power Equipment Procurement	120	24-Aug-12	15-Feb-13
CM014B: Preparation for CM014B Advertisement	54	3-Jul-12	14-Sep-12
CM015: GEC 60% Design Submission	77	16-Aug-12	30-Nov-12
ECQ039: Excavate Drift 3	25	25-Jul-12	28-Aug-12
CH057-100% Design Completion	0		22-Jun-12
CH061: GEC Design 90% Submission*	105	1-Jun-12	15-Sep-12
FHL01: Testing & Commissioning G02 Substation	0		16-Aug-12
FHA02-Stage 2 - Catenary 90% ~ 100% Design	67	1-Jun-12	3-Sep-12
FHA03-100% Design Completion	0		6-Jun-12
CS179 Sys Pkg 1: Possible BAFO	4	30-Jul-12	2-Aug-12
CS284 - Advertisement	0	27-Jun-12	

* CH061 is a new contract that is going to be at "tunnel A area"

Observation:

The PMOC received the revised re-baseline IPS and has not been able to perform a detailed review the IPS and discuss its concerns with the ESA in time for this report, however after a brief analysis of the IPS, the PMOC observed the following:

There are two near critical path in the current IPS with total float of less than 40 work days. Contract CM014B is only 9 days off the critical path and this violates the Schedule Management Plan (section 6.1 FFGA Schedule Contingency Management) requirement of Minimum float in near critical path. The Plan states that "differences between the individual Project-level critical path and the next longest path(s) (namely "near critical" paths) for both projects shall be 25 calendar days. The Current IPS will be re-evaluated quarterly to validate the "near critical" paths for each project. Should the float associated with any project "near critical" path fall below 25 calendar days, it will be reported on and analyzed each month as part of the Project-level Monthly Report. Float will be monitored by reviewing the output of the IPS update. If a "near critical" path encroaches within 25 days of the critical path, the Program Executive and MTACC Vice President of Project Controls will be notified and opportunities for recovery will be explored. If the float cannot be recovered prior to the monthly meeting, it will be highlighted in the variance report and executive summary accompanying the IPS."

In addition majority of Harold contracts are part of the secondary near critical path of the project shown in table 4.7 below.

Table 4.7: Harold Contracts Total Float

Activity Name	Total Float
CH057: Harold Structures - Part 3, W/B Bypass Structures, Y/L Approach	14
CH058: Harold Structures - Part 3, Eastbound Reroute, D Approach, B/C	46
FHA02 Harold Stage 2 - Amtrak F/A: Balance Work	48
FHL02: Harold Stage 2 - LIRR F/A	34
FHL03: Harold Stage 3 - LIRR F/A	18
FHA04: Harold Stage 4 - Amtrak F/A	34
FHL04: Harold Stage 4 - LIRR F/A	18

The ESA PMT has included the following Contract interfaces in its IPS variance report. The PMOC agrees that these interfaces are important milestones to measure overall project performance (metrics) and will recommend that status of these milestones be reported on at the FTA Quarterly Review meetings:

- 1. Contract Interface – 01: CM009-019 WB Cavern/EB Cavern Turnover and Substantial Completion are planned for 01-Jun-13. The importance of this milestone is that all future Manhattan contracts depend on completion of these CM009/019's Milestones*
- 2. Contract Interface – 02: CM012 Turnover GCT Concourse Access to CM014B. This interface is defined for CM012 logistic plan to have an access from BN Yard. It may be a key to the following CM014B contract's construction for substations and conduits as well as mechanical room construction because it may be interrupted by the CM012 contract logistic usage of the temporary 165 track, even if ESA will require the CM014B contract to figure out a solution for construction means/methods. Milestone Date: 01-Dec-14*
- 3. Contract Interface – 03: CM012 Substantial Completion for CS179 Bench/Cables and CS284 Track work- This interface is one of the most important interfaces because the bench/cables and track work in the new Manhattan Tunnels are planned to be completed thru 2016 year in order to start System Integration Testing from 2017. Milestone Date: 01-Mar-16*
- 4. Contract Interface – 04: CM012 Upper Level Tunnels and WB1 LL GCT6-GCT5-GCT4 Turnover to CS179 Bench Cables and CS284 Track work. - This interface is important interface because of the bench/cables and track work in the WB3/EB4 upper level tunnels. - WB1 GCT6-GCT5 Lower Level tunnel is included because of CS179/CS284 access to the upper level tunnels from Yard Lead thru 63rd St Tunnel. Milestone Date: 01-Sep-15*
- 5. Contract Interface – 05: CS284 Track work Completion to Integrated System Testing. It is important for ESA to complete all track work/signal/traction power installed prior to the final signal/track's system integration testing, even if lots of system integration testing will be completed in advance. 27-Aug-17*

The followings are the major milestones in Harold contracts;

- 1. Slab for Westbound Bypass Structure (CH057/ Amtrak / CH058)
Completion of the slab is dependent upon removal of existing Catenary structure (B-921W). The CH057 contractor installs foundation and structure for replacing B-921W existing structure and then Amtrak ET Catenary relocates the wire from existing to new. Once all wire transfers are completed, Ch057 demolish the existing Catenary structure for installing slab. Due to conflict of weekend track outage, the slab for WBBY and EBRR cannot be constructed in same weekend. The slab of WBBY has "Finish to Start" relationship with slab of EBRR. 27-July-14*
- 2. Loop Box Structure (CH057 and CH058) The CH057 contractor completes loop box structure extension and hand over to CH058 contractor. CH058 contractor uses the loop box structure for access road to construct eastbound reroute structure. 02-Oct-13.*

3. *43-N1 Wall (CH053 & Amtrak) Completion of the wall is dependent upon removal of the existing 12KV Duct Bank ML4 Bridge – 43-S2 Retaining Wall (CH053 & LIRR) Signal Power Towers 38-46 must be removed to begin ML4 and retaining wall. The drainage pipe is designed to install under the existing LIRR signal Tower. LIRR signal tower will be demolish after completing LIRR signal power cable from old to new tower structure(Tower 38 ~ Tower 48). All new LIRR signal tower are up except Tower 36, Tower 37 and Tower 38. 31-scheduled for August-2012.*
4. *Relocated Mainline 2 and 4 Bridges at 48th Street (LIRR and CH053) After Ch053 completes the 48th street Bridge and retaining wall, the site is handover to LIRR for build new mainline 4 and mainline 2 tracks. 08-Sep-13*
5. *A TBM Reception Pit and Track A Approach Structure (CH053 & Amtrak & LIRR) The beginning of A reception pit and completion of approach structure is dependent upon the followings:*
 - Cutover 12kV (CH053 - C feeder) 18-Apr-13
 - Remove LIRR signal tower 27
 - Remove B-931W Catenary structure at North 26-Aug-13
 - Remove LIRR Signal Tower 27 ~ Tower 33 13-Aug-12
6. *HON-N1 Wall and Roadway AR-N1 (CH053 & Amtrak, Completion of the wall is dependent upon removal of the existing B-928W and B-929W north poles and completion of MG duct bank which is across under Hon-N1 retaining wall Cutover ZII/2 Switches 12-Oct-12*
7. *D pit & approach structure (CH053 / CH054A / CH057 / LIRR / CH058) CH053 completes some catenary structure located in footprint of A pit and approach structures (B-931W / B-946C / B- 947C) on 28-Jan-13, and CH054 completes the43-S1 retaining wall on 04-Jun-13. After demolishing structure and completing retaining wall, the D pit and approach structure will be constructed on following sequence:*
 - CH057 construct D pit and approach structure
 - FHL02 install new Mainline 4 track at south side of approach structure and on the roof of D reception pit
 - Cutover ML4 and remove existing Mainline 4
 - CH058 construct the east end portion of approach structure.

Concerns and Recommendations:

The PMOC is concerned about the number of near critical paths with a small amount of float off the critical path. Although the PMT is claiming that the current IPS has 359 days of contingency, the PMOC does not think that this will be sustainable.

4.4 Schedule Contingency Analysis

Status:

The ESA has developed a new re-baseline IPS with the RSD of August 31, 2019. In this IPS the ESA has 359 days of contingency. In addition to this contingency the PMT has created some interface contingency in multiple contracts that are shown in the following table. ESA developed a new RSD with new amount of contingency in its IPS; therefore, the PMOC will close its action item [Ref: ESA-76-Feb11].

Table 4.8: IPS Interface Contingency Plan

Contract	Original Duration	Start	Finish
CM009-019: Planning Contingency from CM919 MS#5A4 to CM012 Cavern EB	3	3-Jun-13	5-Jun-13
CM009-019: Planning Contingency from CM919 MS#2 to CM012	0	20-Nov-12	20-Nov-12
CM009-019: Conveyor Belt Removal in Bellmouth/Queens	21	3-Jun-13	1-Jul-13
CM013A: Planning contingency (tied from CM919 ML#8 Completion of Excavation)	60	31-May-13	30-Jul-13
CM014B: Planning Contingency from CM012 Wellway 1/2 to CM014B	20	2-Dec-14	29-Dec-14
CM014B: Planning contingency for CM014B AR8	55	1-Jun-12	27-Jul-12
CM014B: Planning Contingency for CM014B AR05	20	31-Oct-14	28-Nov-14
CM014B: Planning Contingency	28	7-Aug-13	5-Sep-13
CM014B: planning contingency	108	1-Jun-12	19-Sep-12
VQ065: Planning Contingency	92	1-Jun-12	31-Aug-12
CH057: (CH057 Jack) Interface Planning Contingency for Weekend Slab works (2weeks)	4	2-Aug-14	10-Aug-14
CH058: Planning Contingency	5	25-Feb-14	3-Mar-14
CH058: (CH058 Jack) Interface Planning Contingency for Weekend Slab works (4weeks)	8	4-Oct-14	2-Nov-14
CS079: Ready for NTP - Project Control Contingency	2	27-Sep-12	28-Sep-12
Start up: Train Contract Staffs LIRR prior to LIRR 3 Months Period	30	4-May-18	2-Jun-18
Ready for LIRR Final 3 Months Period	30	4-May-18	2-Jun-18

Without these interface contingencies the RSD for the ESA project would be 02-Aug-18, and the presence of this contingency would make the RSD on 01-Sep-18, therefore the interface contingencies would count for only one month of contingency on the critical path of ESA.

Table 4.9: Schedule Contingency

Schedule	Forecasted RSD W/O Cont.	Total Contingency (Calendar Days)	FTA RSD
ESA Baseline July 2009 IPS #3	30-Sep-16	552	1-Apr-18
ELPEP	4-Aug-17	240	1-Apr-18
ESA Baseline June 2012 IPS # 36	01-Sep-18	359	30-Septem-ber-2019

Observation/Analysis:

The PMOC calculated that there are 6,749 activities in the new IPS to be completed. The PMOC also broke down the number of activities that are planned to be completed in each quarter and table below represent it. As of 3Q of 2011, when the ESA announced that they are able to achieve the RSD of 2016, the ESA was supposed to finish 750 activities per quarter to achieve the RSD of 2016. The actual numbers of finished activities was 168 activities per quarter (23%). The current IPS has average of 420 activities per quarter until the last quarter of 2016, and, from then, on the number of activities would decrease significantly.

Table 4.10: Number of Activities Needed to be Finished per Quarter

Finish	Activity Count
29-Sep-12	552
31-Dec-12	370
31-Mar-13	318
30-Jun-13	328
29-Sep-13	444
31-Dec-13	307
31-Mar-14	251
30-Jun-14	304
29-Sep-14	455
31-Dec-14	412
31-Mar-15	364
30-Jun-15	392
29-Sep-15	289
31-Dec-15	250
31-Mar-16	300
30-Jun-16	329
29-Sep-16	282
31-Dec-16	210
31-Mar-17	110
30-Jun-17	115
29-Sep-17	110
31-Dec-17	80
31-Mar-18	55
30-Jun-18	69
29-Sep-18	30
31-Dec-18	20
31-Mar-19	0
30-Jun-19	0
29-Sep-19	3
31-Dec-19	0
Total	6749

Concerns and Recommendations:

The PMOC is concerned that ESA has to increase its schedule performance significantly until the end of 2016 in order to achieve the current RSD of 2019. ESA historically was able to achieve the planned finish date of only 168 activities per quarter; however, the current schedule has an average number of 420 activities per quarter which needs to be explained.

In addition, as mentioned in pervious section, the current schedule has one primary critical path and two near critical path with less than 15 days and two months off the critical path. Considering the magnitude of ESA construction operation, there is a significant possibility of a critical path change in the near future and, if that happens, the ESA PMT will have to use the 359 days of contingency soon. The PMOC recommends that ESA define the new “hold points” date, in conjunction with the FTA and PMOC and create a schedule contingency draw down curve to monitor the contingency consumption. [Ref: ESA-79-Apr11]

5.0 PROJECT COST

5.1 Budget/Cost

Status:

MTACC completed its revised project cost and schedule re-baseline in May 2012. In its May 2012 Monthly Progress Report, MTACC provided a summary of the revised project budget of \$8.708 billion (excluding finance cost).

The updated Project Cost Table is shown in the Executive Summary as Table 2 in the front of this report. Table 5-1 below shows a comparison of the MTA's Current Working Budget (CWB) as of May 31, 2012. The PMOC notes that MTACC has not yet updated the figures per the revised baseline vs. the FFGA Baseline Budget in Standard Cost Categories (SCC).

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

Standard Cost Category (SCC) No.	Description	FFGA baseline (\$)	MTA's Previous Reporting Period CWB (\$) – (April 30, 2012)	MTA's CWB (\$) – May 31, 2012
10	Guideway & Track Elements	1,988,741	2,593,996	<i>TBD</i>
20	Stations, Stops, Terminals, Intermodal	1,168,655	1,522,804	<i>TBD</i>
30	Support Facilities: Yards, Shops	356,264	349,132	<i>TBD</i>
40	Site Work & Special Conditions	205,105	366,381	<i>TBD</i>
50	Systems	619,343	640,216	<i>TBD</i>
60	ROW, Land, Existing Improvements	165,280	203,639	<i>TBD</i>
70	Vehicles	493,982	674,372*	<i>TBD</i>
80	Professional Services	1,184,000	1,439,978	<i>TBD</i>
90	Unallocated Contingency	168,529	0	<i>\$150,000</i>
Subtotal		6,349,899	7,791,000	8,708,000
100	Finance Charges	1,036,104**	1,036,104	1,036,104**
Total Project Cost (10 – 100)		7,386,003	8,827,104	9,744,104

*Rolling Stock (“Vehicles”) includes passenger revenue vehicles, construction locomotives, and construction flat cars for both federal and non-federal rolling stock costs.

** Current Budget Finance Charges are estimated at the same value as the FFGA.

Observations:

In the latest (May 2012) Monthly Progress Report, MTACC has not updated the SCC values to reflect the revised re-baseline project budget. The revised project re-baseline effort started in August 2011 and was to be completed by December 2011, it was finally completed in April 2012, but only the project cost summary was issued with MTACC May 2012 Progress report.

During May 2012 reporting period, MTACC made changes to SCC Codes 10, and 20, as shown in Table 5.1 above and further discussed in Section 5.3.

Concerns and Recommendations:

The PMOC is waiting for the issuance of the updated SCC values based on the revised project budget. At that point it will allow tracking and analysis of budget movements. The PMOC is concerned that MTACC failed to meet its commitments to deliver the revised cost and schedule re-baseline on time, thus causing delays. Furthermore, without detailed information related to the revised re-baseline for cost figures, the PMOC is concerned that it does not have the full impact for the revised project cost. [Ref: ESA-87-June 12]

5.1.1 Project Cost Management and Control

Status:

MTACC reported in its May 2012 Monthly Progress Report that the actual project construction progress increased by 1.6% since April 2012, and reached 48.4% completion, which falls short of the planned 70.7% construction progress planned for this period based on the 2009 MTA-approved project cost and schedule (note: progress vs. new baseline data was not provided).

Observations:

Based on the current rate of progress as measured by expenditures, the PMOC believes that it will be difficult to maintain the new baseline schedule.

Concerns and Recommendations:

MTACC needs to develop and submit to the FTA/PMOC a cash flow plan based on the revised project re-baseline budget. [Ref: ESA-88-June 2012].

5.1.2 Project Expenditures and Commitments

Status:

Table 5.2 below shows the ESA current (as of May 31, 2012) project budget, the awarded value and the expended amounts for Construction and Soft Costs, exclusive of financing costs:

Table 5.2: Project Budget and Expenditures

Elements	Current Total Budget (\$M)	Awarded Value (\$M)	Expended (\$M) (as of May 31, 2012)	% of Line Item Budget Expended
Construction	6,118.9	3,450.5	2,502.8	40.9
Soft Costs				
Engineering	671.0	585.7	565.4	87.3
OCIP	173.9	112.9	103.5	59.5
Project Mgmt.	762.8	459.4	423.9	55.6
Real Estate	166.3	101.9	100.2	61.2
Rolling Stock*	665.0	0.0	0.0	60.3
Management Reserve	150.0			
Soft Costs Subtotal				
	2,589.0	1,259.9	1,193.0	
Project Subtotal	8,707.9	4,710.4	3,695.8	42.4
Financing Cost (FFGA estimate)	1,036.1			
Total	9,744.0	4,710.4	3,695.8	37.9

*\$463 million for ESA rolling stock reserve (above the \$202 million included in the project budget) is now included in this amount, although a review of a simulation of opening day service and fleet needed is pending.

The value of \$1,036.1 million for the Financing Cost, shown Table 5.2 has not been updated since the FFGA amount in 2006.

Observation:

Table 5.2 represents the revised project re-baseline elements of the budget included with MTACC's May 2012 Monthly Progress Report.

It should be noted that MTACC's May 2012 Progress Report contains project progress values that were not updated with respect to the revised project baseline budget. (Item 2c in the Executive Summary).

Concerns and Recommendations:

Cost issues are usually discussed with the grantee at the Monthly Cost Review meetings, however these meetings have been temporarily suspended (for several months) due to the project re-baselining efforts. *The PMOC will resume these meetings now that the cost baseline has been finalized.*

5.1.3 Change Orders

Status:

In May 2012, MTACC reported that there were 12 additional executed change orders for a total of 703 executed change orders for a total of \$327.9 million, representing 7.5% of the total awarded contracts (\$4,363.3 million). The 12 additional change orders are in the amount of \$2.1 million.

Table 5.3 below lists the change orders by contract as of May 31, 2012:

Table 5.3: Approved Project Change Orders Status

Contract Number	Description	Original Award Value (\$M)	Engineer's Estimate (\$M)	Approved Change Order (\$M)	Total # of Change Orders	% of Award Value
25 completed contracts						
Subtotal of Completed Construction Contracts		474.4		(13.3)	262	(2.8)
One terminated contract						
CQ028	Queens Open-Cut Excavation	121.5	154.0	(52.9)	19	(45.7)
21 Open contracts						
CM002	GCT Expansion Joint Replacement	4.5	7.0	0	2	0
CM004	44 th St. Vent Plant and 245 Park Ave Entrance	40.8	42.9	1.4	45	3.4
CM009	Manhattan Tunnel Excavation	427.9	482.5	(16.1)	37	(3.8)
CM013	50th St Vent Facility	94.4	112.1	0.7	22	0
CM014A	GCT Concourse/Facilities – PH I	43.5	45.3	0	0	0
CM019	Manhattan Structures 1	734.0	562.6	38.0	51	5.2
FMM19	MH Force Account Support - MNR	31.8	31.8	0	0	0
CQ031***	Queens Bored Tunnels and Structures	648.9	475.6	106.5	57	16.4
CQ032	Plaza Substation and Queens Structures	147.4	237.2	1.2	11	0
CQ039	Northern Blvd. Crossing	85.0	57.4	11.9	15	13.2
FHA01	Harold Stage 1 – Amtrak FA	9.5	16.0	7.3	1	76.8
FHL01	Harold Stage 1 – LIRR FA	28.8	19.1	(8.0)	1	(27.4)
FHA02	Harold Stage 2 – Amtrak FA*	9.7	26.0	0	0	0
FHL02	Harold Stage 2 – LIRR FA*	7.4	54.3	0	0	0
CH053	Harold Structures Part I	137.3	148.4	41.3	77	30.1
CH054A	Harold Structures – Part 2A	21.8	37.1	3.9	25	17.9
VHA02	Procure Harold Materials Stage 2 - Amtrak	11.2**	N/A	0	0	0

Contract Number	Description	Original Award Value (\$M)	Engineer's Estimate (\$M)	Approved Change Order (\$M)	Total # of Change Orders	% of Award Value
25 completed contracts						
VHL02	Procure Harold Materials Stage 2 - LIRR	16.3**	N/A	0	0	0
VH051-1	Harold and Point CILs	25.8	36.4	0.2	2	0.1
VM014	Vertical Circulation	24.1	103.2****	0	3	0
VH051-2	Harold Tower Supervisory Control	5.4	7.2	1.8	4	33.3
Various ^	Other Open Contracts	337.0	337.0	0	0	0
Subtotal		2,892.5		190.1	353	6.6
Professional service contracts						
Completed Engineering (SEC, TEC)		232.0		8.5	31	3.7
General Engineering Consultant (Open)		140.0		176.3	34	125.9
PMC		219.8		19.2	4	8.7
CCM		74.6		0	0	0
Subtotal – Professional Services		666.4		204.0	69	30.6
Other Soft Costs						
OCIP ^		112.9		0	0	0
Real Estate ^		98.6		0	0	0
Subtotal – Other Soft Costs		211.5		0	0	0
Grand Total		4,366.3		327.9	703	7.5

* Partial Award (to be in stages)

**Early work procurement only

***Contract mods include option for \$58.4 million and work funded with Regional Investment funds.

****Engineers Estimate includes all options and services not yet awarded.

^ These values reflect the current award value and not the original award value.

During May 2012 MTACC reported the following contract modifications:

- *For Contract CH053, two modifications were executed to address additional foundation work LIRR Signal Tower and signal bridge E35 work, totaling \$0.64 million;*
- *For Contract CH054A, two modifications were executed for constructing Crib wall modification and LIRR signal bridge #11 totaling \$0.48 million;*
- *For Contract CQ031 one modification executed for additional work on the GM Access bridge in the amount of \$0.32 million;*
- *For Contract CQ032, one modification was executed for the 23rd Street catch basins totaling \$0.25 million; and*
- *Two modifications were executed for the GEC contract to develop System Package CS081 and revisions to section X of the contract amounting to \$0.47 million.*

Observation:

The average post bid contingency in July 2009 re-baseline was 4.5% of construction cost (\$115,111,159/ \$ 2,556,733,983 =4.5%), however the actual project experience to date has been 7.5% and this was one of the major factors driving the need for a new ESA baseline. In the June 2012 budget, however, the PMT has increased the amount of post bid contingency for future packages to only 7.09% (\$2,281,125,202/2,130,060,231=7.09%). It should be noted that the majority of this post bid contingency increase is for Manhattan packages that have an average of 10.66% contingency, and the rest of packages still have 5% contingency.

The PMT also increase its construction contingency amount to \$53,841,351 from \$0 in 2009.

The PMOC noted that as of May 31, 2012 there were 77 approved change orders for Contract CH053, amounting to \$41.3 million that represent more than 30% of original contract value compared with 7.5% as the average of change orders representing all of the other awarded contracts .

Concerns and Recommendations:

The PMOC is concerned that Contract CH053 continues to generate a large number of change orders (77) with values exceeding the project average and industry practice and, looking at past experience in approved change orders, the remaining contingency may not be sufficient to complete this contract work. The PMOC will review the revised contingency amount for this contract when it becomes available.

5.2 Project FundingStatus:

The FTA executed an FFGA with the MTA on December 18, 2006 for \$2.683 billion in federal participation and \$3.667 billion in local share (financing not included). [REDACTED]

The ESA PMT has completed the revised project re-baseline budget and presented the results to the MTA CPOC in May 2012. MTACC in its May 2012 Monthly Progress Report stated that the Current Working Budget (CWB) (including Rolling Stock reserves) is \$8.708 billion, which is an increase of \$2.358 billion over the FFGA BCE. [Note: Figures do not include financing costs.]

Observation:

The PMOC noted that FTA obligated the remaining grant (NY-03-0344-12) in the amount of \$246.9 million available in September 2011 to be used for the ESA portion of shared facilities. This grant fully covers the funding for 2011 and 2012. As of May 31, 2012 \$132.4 million (53.6%) was disbursed.

Concerns and Recommendations:

There is no change in the status of project obligated funding from the previous report.

5.2.1 Federal Funding

There is no change in project obligated funding from the previous report.

5.2.2 Local Funding

Status:

In October 2009, the total ESA project cost approved by the MTA Board was \$7.328 billion, \$978 million higher than FFGA Baseline Cost Estimate (BCE) of \$6.350 billion.

The NYS CPRB approved MTA's Capital Program Amendment request in May 2010. Funding for ESA was increased by \$915 million to a total of \$5.56 billion. An additional \$770 million was appropriated in the New York State Budget in March 2012 to fund the MTA Capital Program consequently this item will be closed [Ref: ESA-68-Oct10]

Observation:

MTACC is assuming that efficiencies in MTACC projects and the inter-agency Program will fund an additional \$200 M commitment needed in the current 2011-2014 Capital Program Plan.

Concerns and Recommendations:

The PMOC is concerned that MTACC stated at the May 2012 CPOC meeting that it is assuming that efficiencies in MTACC projects and the inter-agency Program will fund an additional \$200 M commitment needed in the current 2011-2014 Capital Program Plan. The PMOC believes that there is a reasonable possibility that this level of forecast efficiency savings will not be realized, resulting in a budget shortfall.

5.3 Cost Variance Analysis

Status:

In its May 2012 Budget Adjustment Memo, the ESA-PMT reported that there were seven executed Budget Adjustments (BAs). There was a \$15M budget transfer from CQ031 to construction contingency reflecting a portion of a negotiated credit, and there was a \$2.1 contingency decrease due to an approved Contract modification.

Observations:

Seven (7) BAs were executed as a result of approved contract modifications. This resulted in fund movement of \$2.1 million (discussed in Section 5.1.3 above).

Concerns and Recommendations:

The PMOC regards the BA process to be adequate for tracking changes, which is a noticeable improvement from previous cost reporting by MTACC; however the PMOC continues to recommend that the relationship between the PWE and BA process be documented. [Ref: ESA-A40-Jan11]

Table 5.4: Federal Grant Status

Grant Number	To be Used For	Obligated Grant Amount (\$M)	Disbursement (\$M) thru May 31, 2012
NY-03-0344-01-02-03-04	ESA	81.5	81.5
NY-03-0344-05	ESA	73.8	73.8
NY-03-0344-06-07	ESA	99.2	99.2
NY-03-0344-08	ESA	333.2	333.2
NY-03-0344-09	ESA	300.0	300.0
NY-03-0344-10	ESA	210.7	210.7
NY-03-0344-11	ESA	207.5	207.5
NY-03-0344-12	ESA	246.9	132.4
Subtotal		1,552.8	1,438.4
NY-90-X467	Highbridge	7.6	7.6
NY-03-0406	Highbridge	5.0	5.0
NY-03-X489	Highbridge	1.1	1.1
NY-90-X467	Arch Street	7.6	7.6
NY-03-0395	Arch Street	7.5	7.5
NY-03-0427	Switch Exchange System (SES) Machine	2.0	2.0
NY-05-0108	SES Machine	2.7	2.7
NY-05-0109	SES Machine	5.8	5.8
NY-95-X002	CMAQ	6.6	6.6
NY-95-X009	CMAQ	2.3	2.3
NY-95-X015	CMAQ	2.3	2.3
NY-95-X025	CMAQ	11.6	0.0
Subtotal		62.1	50.4
NY-36-X0002	ARRA	195.4	195.4
FFGA Total		1,810.3	1,684.3

Observation: The PMT has increased escalated cost of most packages since March 2012 and table below shows the cost difference of some of the third party construction packages.

As of May 31, 2012 53.6% has been disbursed out of the total above grant of \$246.9 million.

Concerns and Recommendations:

None at this time.

5.4 Project Contingency

Status:

The FFGA established an unallocated budget contingency of \$168.5 million. In the Project Execution Plan, an attachment to the FFGA, the MTA identified a total contingency of \$855.0 million with an allocated contingency of \$686.471 million.

In September of 2009, MTACC revised the project cost estimate as part of the Enterprise Level Project Execution Plan (ELPEP). The revised project cost estimate had \$424.4 million of allocated contingency, and zero unallocated contingency.

Since September 2009, MTACC has been adjusting the project contingency on a monthly basis, to reflect usage, and reporting it on a quarterly basis.

In the June 2012 proposed budget, the PMT has developed a management reserve amount of \$150,000,000 in its new budget. The ESA did not have any management reserve in 2009.

Observation:

MTACC has changed its pre-bid contingency to \$184,199,644 (\$15,345,925 is soft cost contingency) and post bid contingency to \$312,024,613. The PMOC has considered these two types of contingency as “allocated contingency.” The PMT has a total unallocated contingency of \$203,841,351 in which \$53,841,351 is called “construction contingency” and \$150,000,000 is called “management reserve.”

Concerns and Recommendations:

The ESA has increased its post bid contingency for future packages, construction contingency in comparison to its July 2009 baseline. Additionally, the ESA has developed management reserve of \$150,000,000. The PMOC acknowledge that this management reserve is accordance to ELPEP section IV. MTA'S Roles and Responsibilities Cost Contingency Management which states that “Reserved Contingency then are those funds that cannot be used or distributed to the project budget until approved by FTA,” however ELPEP furthermore states that “As part of that process, the MTA Chairman /CEO, or his designee, will seek concurrence from FTA for the release of any increment of reserved contingency identified for either project prior to the established FTA Hold Point.”

ESA Reserved Contingency Minimums based on Cost Estimate Rev Feb. 2009:

- *\$260 million through 90% Bid and 60% Constructed. Currently, this is forecasted to occur during Q4 2011.*
- *Thereafter from \$260 million in Q4 2011 to \$140 million at 100% bid and 95% constructed, currently forecasted at Q1 2015, in a straight line slope between the two points.*
- *Thereafter \$70 million through 100% complete on Start Up and ready for Pre-Revenue Operations, This is currently forecasted to occur at Q3 2016.”*

The PMOC recommends that the ESA updates the ELPEP contingency hold points, and create a contingency drawdown curve and report on it quarterly. ESA is currently at 60% bid and 48% constructed and it does not have the \$260,000,000 management reserve, as required in the 2010 ELPEP, in its new budget. All updates to the ELPEP will need to be approved by the FTA.

5.5 Estimate at Completion

MTACC has developed a new EAC for their current contract packages from \$3,195,616,820 to \$3,340,095,897, an increase of \$144,479,077. In addition, budget of future packages have increased from \$1,899,751,704 to \$2,281,125,202, an increase of \$381,373,498.

6.0 PROJECT RISK

6.1 Previous Risk Assessments

An initial Risk Assessment was performed on the ESA project in 2004 in accordance with PG22. Prior to the signing of the FFGA in 2006, a more comprehensive Risk Assessment was performed in accordance with PG40, followed by a re-look in 2007/2008. In October 2008, the PMOC issued to the FTA the Technical Capacity and Capability analysis in accordance with PG31C. In early 2009, the ESA project team provided an updated project budget and schedule. The PMOC subsequently provided modified PG33 and PG34 reports with a focus on changes from FFGA to 2009 Budget and Schedule reports as well as assisting in the development of Cost Risk Summary and “PG47” support documents. From late 2009 through to the current period, MTACC and ESA-PMT, working with the FTA and PMOC, have concurrently progressed both the development and then the implementation of the ELPEP. MTACC-ESA has also revised or written new, most of the PMP sections/subplans/procedures that are associated with meeting the risk management requirements of the ELPEP.

The PMOC has documented the ESA Risk Assessment effort in various draft Spot Reports. The MTACC and FTA have identified and documented the risk mitigation initiatives in a scoping document for incorporation into the PMP. During January 2010, the PMOC and the FTA worked with MTACC and ESA staff to finalize the Enterprise Level Project Execution Plan (ELPEP). Cost contingency and secondary schedule mitigations were adjusted based on discussions between the FTA and the MTA. The agreement was to use a Medium Level Risk Mitigation for cost and schedule to allow MTACC to manage the project to its current working budget and Revenue Service Date. The FTA schedule contingency float was set to be the difference between the Revenue Service Date forecasts in FTA and MTACC schedules.

6.2 Current Risk Update

Status:

[REDACTED]

[REDACTED] on May 21, 2012 MTACC presented the new budget and RSD to the MTA Capital Program Oversight Committee: \$8.24 billion (w/o vehicles and financing); August 2019.

[REDACTED]

[REDACTED]

[REDACTED]

6.3 Risk Management Status

In response to implementation of the ELPEP requirements regarding risk management, MTACC has developed two new PMP sub-plans, the Cost Management Plan and the Schedule Management Plan. Combined with corresponding updates to the PMP and the associated project procedures, MTACC has incorporated the risk review and risk management process into its review and approval process for all construction contract changes orders including scope shifts among the contracts. This approach is also used on all remaining design work as well as planning for integrated systems testing, start-up, commissioning and pre-revenue operations.

6.4 Risk Mitigation Actions

6.4.1 2006 Risk Mitigation Commitments at FFGA

Status:

A detailed risk mitigation plan was developed in May 2008 based on the MTACC risk mitigation commitments made in 2006 and as described in the PMOC Spot Report 10, Rev. R0, dated July 31, 2007. MTACC has generally not been successful mitigating most of the specific risks identified in the following categories: requirements risk; design risk; market/bid risk; geotechnical risk; utility construction risk; and mid-range construction coordination risk. In addition, significant new risks materialized during this period that include contractor termination for cause (CQ028) and multiple issues concerning railroad force account construction and force account support to third-party contractors involving two essential project stakeholders, Amtrak and LIRR.

Observation:

MTACC has missed all but one of the basic annual mitigation milestones as shown below:

Mitigation Targets

<u>Basic Milestones</u>	<u>Design Complete</u>		<u>Contracts Awarded*</u>		<u>Construction Completed**</u>	
	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>
Q4-2006	70%	72%	25%	10%	8%	7%
Q4-2007	82%	78%	55%	12%	21%	9%
Q4-2008	93%	80%	58%	19%	38%	13%
Q4-2009	96%	88%	70%	43%	55%	19%
Q4-2010	98%	93%	92%	52%	69%	32%
Q4-2011	100%	96%	97%	66%	80%	41%

* Based on current contract/package values.

**Cost expenditure basis.

Concerns and Recommendations:

The PMOC has had continuing concerns that ESA has not met FFGA cost and schedule commitments and, with one exception, has been unable to meet any of the basic annual mitigation milestone goals for design, contract award and construction progress. The PMOC recommends that MTACC continue to completion, its current comprehensive project re-baselining and work closely with the FTA to revise the ELPEP and to finalize an FFGA Amendment. Following this agreement, as part of the monitoring plan associated with the ELPEP, the PMOC will rework the Mitigation Monitoring Plan.

6.4.2 Current Risk Mitigation Commitments

Status:

The management baselines included in the ELPEP derive from the modified PG33 and PG34 reports, PG47 analysis and the Cost Risk Summary completed in 2009. Based on the ELPEP, MTACC-ESA has committed to the following: managing the project to the revised ESA cost and schedule baselines approved by the MTA Board in September 2009; establishment of risk baselines and a risk mitigation framework with milestones; adherence to minimum cost and schedule contingency requirements; development of cost and schedule risk mitigation capacity including secondary mitigation strategies required to offset reserved contingency drawdowns; and implementation of specific design development, geotechnical, real estate and utility risk mitigation strategies.

Observation:

The PMOC notes that a number of the risks identified in the 2009 PG47 analysis have been realized and include: Stakeholder Risk (Amtrak on CH053 and CH054A); Construction Management Risk (CM019); Geotechnical Risk (potential - CQ039); Design and Pre-Construction Planning Risk (CH053 and CH054A); Schedule Delays (CM019, CH053, CH054A, CQ039); Differing Site Conditions (CH053, CH054A).

The PMOC also notes that the ELPEP will need to be revised based on the final approved re-baselined Integrated Project Schedule and Cost Estimate. This revision will require updates regarding details of specific cost and schedule risk mitigation strategies.

Concerns and Recommendations:

The PMOC believes that MTACC's failure to effectively manage stakeholder, construction management and design/pre-construction planning risks has resulted in substantial schedule delays in both Manhattan and Queens. *MTACC has, however, managed the potential schedule delay risks reasonably well on the CQ031 contract, but at a high cost.*

6.4.3 Current Risk Mitigation Actions

Status:

The ESA-PMT has continued its efforts to identify and mitigate risks that may adversely affect the program's future cost and schedule performance. Ongoing and recent significant risk mitigation initiatives include the following:

- In response to delays experienced on the Queens contracts to date, the ESA-PMT and the associated ESA construction managers have managed, and continue to manage, all Queens area work to the critical CQ031 milestones related to TBM mining since the start

of the CQ031 contract. It is the PMOC's opinion that this approach has been generally effective in minimizing delays to the start and continuance of CQ031 TBM mining due to three critical issues: termination of the CQ028 contract for default in May 2008; significant repairs to the slurry walls constructed by the CQ028 contractor; and significant delays to completion of the CH053 contract.

- Through early 2012, the ESA-PMT continued to work very closely with Amtrak and LIRR to evaluate impacts to the ESA project created by Amtrak's planned East River Tunnel (ERT) capital improvements program. Amtrak's program requires a large number of track outages and is likely to require four years to complete. The ESA-PMT worked with the construction managers on the active Queens/Harold work to coordinate reviews with the contractors. ESA-PMT has also engaged a senior level team to complete an Independent Study of Harold Progress that includes review of the ESA Harold construction schedule and development of independent schedule recommendations for completion of the Harold work. Amtrak, however, had earlier experienced delays in their ERT Program due to a broken rail situation and has decided to delay use of the planned two-tunnel weekend outages until later in 2012 or early 2013. This situation also complicates the ESA planning process for the Harold Interlocking work and introduces additional schedule risk. The PMOC recommends the ESA-PMT ensure that all affected stakeholders are fully involved in the review and decision-making process.
- *ESA-PMT is studying the construction of the Manhattan tunnels bench walks to optimize access to the contractors involved in construction of the bench walks. The PMOC believes that this effort will assist in better contractor coordination within the tunnels.*

Observation:

In addition to the risk mitigation actions discussed above, the PMOC notes that ESA-PMT continued, through June 2012, to coordinate contractor activities in shared works area: between CM009/019 (conveyor), CQ039 and CQ032 (Plaza Substation B10) at the location of the Early Access Chamber; and between CH053 and CQ031 regarding new work area and access conflicts at various locations along the Queens tunnel's alignment and Harold Interlocking.

Concerns and Recommendations:

The PMOC believes that to validate that these risk mitigation actions will generally reduce the potential for future schedule delays and will thus minimize cost overruns, ESA-PMT must thoroughly evaluate all possible new risks associated with these changes. The PMOC recommends that the PMT continue to perform a cost-benefit analysis, complete with schedule review, within the framework of the ESA Risk Management Plan, and in accordance with current project configuration change control, to confirm the effectiveness of these mitigation actions.

The PMOC had previously expressed concern about the "schedule compression" required to meet MTACC's then stated goal of an April 2018 RSD (now August 2018) that will force "contract stacking" in the many constricted work areas in Queens, Harold Interlocking and Manhattan, which will create new coordination risks for MTACC-ESA. These new risks may expose MTACC-ESA to adverse cost and schedule impacts. The PMOC recommends that the ESA-PMT continue to work with the CMs, GEC and Amtrak/LIRR, to fully evaluate current risks

as identified in the recent ESA Risk Assessment and develop mitigation strategies consequently this item will be closed. [Ref: ESA-80-Jun11]

The PMOC will continue to monitor impact of identified risks on the new project baseline and the effectiveness of ESA mitigation strategies.

6.5 Contingency

6.5.1 Cost Contingency Status

Status:

The Cost Contingency is discussed in Section 5.4 of this report.

Concerns and Recommendations:

MTACC needs to provide the contingency allocation for individual contract packages.

6.5.2 Schedule Contingency Status

The Schedule Contingency is discussed in Section 4.4 of this report.

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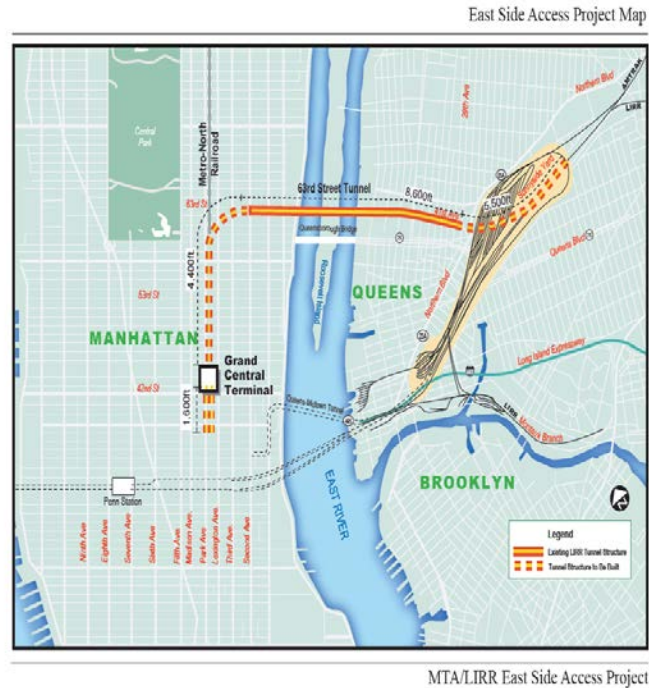
APPENDIX A -- LIST OF ACRONYMS

AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
BA	Budget Adjustment
CCC	Change Control Committee
CCM	Consultant Construction Manager
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CSSR	Contact Status Summary Report
CIL	Central Instrument Location
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
CWB	Current Working Budget
DCB	Detailed Cost Breakdown
ELPEP	Enterprise Level Project Execution Plan
EPC	Engineering-Procurement-Construction
ERT	East River Tunnel
ESA	East Side Access
FA	Force Account
FAMP	Force Account Management Plan
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
GCT	Grand Central Terminal
GEC	General Engineering Consultant
IEC	Independent Engineering Consultant (to MTA)
IPS	Integrated Project Schedule
LIRR	Long Island Rail Road
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
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
QA	Quality Assurance
RAMP	Real Estate Acquisition Management Plan
ROD	Revenue Operations Date
ROW	Right of Way
RSD	Revenue Service Date
SAS	Second Avenue Subway
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

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		Estimated Rev Ops at Entry to PE
02/02	Approval Entry to FD		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)		
46.8*	Percent Complete Construction as of <i>May 31, 2012</i>		
50.2	Over-all Project Percent Complete (based on RSD of September 2016) as of February 29, 2012		

*Number is not based on the updated baseline.

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
9,744.1 million	Total Project Cost (\$YOE) at date of this report including \$ 1,036.1 million in Finance Charges
3,695.9 million	<i>Amount of Expenditures as of May 31, 2012 from Total Project Budget of \$8,708 million</i>
53.4	<i>Percent Complete based on Expenditures as of May 31, 2012 report</i>
550.1 million	Total Project Contingency remaining (allocated and \$0 unallocated contingency)

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APPENDIX D – PMOC STATUS REPORT

(This is a separate attachment covering the East Side Access project)

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