PMOC MONTHLY REPORT

East Side Access (MTACC-ESA) Project

Metropolitan Transportation Authority

New York, New York

Report Period August 1- August 31, 2015

PMOC Contract No. DTFT6014D00017

Task Order No. 2, Project No. DC-27-5287, Work Order No.1

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

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THIRD PARTY DISCLAIMER

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REPORT FORMAT AND FOCUS

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

This report covers the project 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

1.0 PROJECT STATUS

a. Design

As of the end of July 2015, the MTACC reported that the overall engineering effort was 99.0% complete, based on Earned Value for Design Deliverables, compared with a planned status of 100.0%. The MTACC's Cost Report shows that 90.3% of the overall "EIS and Engineering" category has been invoiced and 90.4% of the "Design" category (including Design Settlement) has been invoiced, each approximately 0.1% less than the previous month and 0.03 less than May 2015.

Design work on the new, stand-alone package CH061A (completion of Queens Tunnels "A" and "D") continued. The 100% review submission was scheduled for completion on August 6, 2015, but the submission was not made until August 21, 2015.

For the 48th St. Entrance, the MTA Board had previously approved the design agreement with the building owner. The building owner agreed to provide the designs for the relocation of the existing interior utilities and to complete some limited structural design. The Proposed Change Order to repackage CM015 and CM015A will be revised and finalized based on the agreements reached during negotiations between the building owners and the MTACC.

Contract CH058 has been repackaged and the bid advertisement date has not been determined. The East Bound Re-route tunnel construction method has been revised from a top down to a traditional cut and cover method and ESA has split the scope of work into two separate Contracts: CH058A will contain Tunnel B/C Approach Structure; CH058B will contain the East Bound Re-route. The design work for this package is currently on hold and a Proposed Change Order is being developed by the GEC.

On the Mid-Day Storage Yard Contract, CQ033, final resolution has been reached on the west end of the mid-day storage yard (CQ033) regarding what work is to be performed by Amtrak (track and signals) to tie into the ERT (East River Tunnels) and what work will be performed by the CQ033 contractor. The Proposed Change Order was negotiated and the final proposal was submitted to the PMT. Regarding the Arch Street Yard tie-in, resolution is still required between the MTACC and LIRR for final determination on the scope of LIRR Force Account work. The 100% design submittal for CQ033 was forecast for delivery in mid-June 2015. The GEC was not able to make this submittal, however, due to a large number of ESA comments that it was not able to properly address. Additionally, ESA continues to await 90% design comments from the LIRR. The advertise date for CQ033 is currently forecast for 1Q2016.

A separate procurement package, Contract VQ033, will provide the eight Central Instrument Locations (CILs) for Contract CQ033, and is presently scheduled for award in late 3Q/early 4Q2015. The GEC made final submission of the signed and sealed plans and specifications on August 14, 2015. The contract was advertised on August 17, 2015.

b. Procurement

As of the end of July 2015, the ESA Cost Report showed that total procurement activity for the project was 69.8% complete, with $7.102 billion awarded out of the $10.178 billion current projected budget.

The CM007 package was advertised on December 23, 2014, and contract documents were made available for proposers on January 15, 2015. The pre-proposal conference and site tour were held in early March 2015. The proposal due date has been extended a fourth time from August 4, 2015, to September 15, 2015, and the cost proposals are due on October 6, 2015.

Contract CH057, Harold Structures Part 3, bids were opened on July 9, 2015. Nine bids were submitted ranging from $79,882,585 to $158,493,205. The MTACC reported budget was $107,715,084 and the Engineer's Estimate was $118,051,307. The MTACC had planned to award the CH057 Contract and issue a Notice to Proceed (NTP) on August 13, 2015, but those events were delayed while contract legal issues were resolved. A tentative new award date and NTP is presently scheduled for the week of September 7, 2015.

Contract VQ033, Mid-Day Storage Yard CILs, was advertised on August 17, 2015.

For Contract VS086, Systems Package 3- Signal Equipment Procurement, the GEC design has been completed but now needs to be revised to incorporate the requirements of Positive Train Control (PTC). The GEC continues to prepare the Proposed Change Order.

c. Construction

The PMT reported in its July 2015 Monthly Progress Report that total construction progress reached 57.7% complete versus 58.5% planned. The PMOC's calculations, based on data included in the ESA Cost Report (57.7%), agree with the ESA complete percentage.

CM005 - Manhattan South Structures: The Estimate at Completion for CM005 increased slightly in July 2015 to $241,781,447 due to inclusion of pending and potential contract modifications. The MTACC forecast for Substantial Completion remained at February 6, 2016. Actual construction progress for July 2015 was 2.4% versus 1.9% planned. Cumulative progress through July 31, 2015, was 86.3% actual versus 85.6% planned.

Construction Progress: In August 2015, the CM005 contractor continued waterproofing installation, placement of invert slab concrete, and archway overbreak repairs in Tunnel Nos. 301 and 303. The contractor also continued to install waterproofing and pneumatically applied concrete (PAC) in the archways of GCT 1 & 2 East and West Wye Caverns. Waterproofing installation and archway overbreak repairs continued at the 38th St. Ventilation Facility (TT1). The contractor completed the installation and grouting of precast rings at the center and south raised bores at 38th St. Work is complete in the Eastbound Cavern, except for the south end walls. The contractor expects to complete rebar and concrete placement for the lower exterior walls in the Westbound Cavern by the end of September 2015.

CM006 – Manhattan North Structures: The Estimate at Completion for CM006 increased to $319,160,543 in July 2015 due to inclusion of pending and potential contract modifications. The MTACC forecast for Substantial Completion changed slightly to December 27, 2016. Actual construction progress for July 2015 was 3.5% versus 8.3% planned. Cumulative progress through July 31, 2015, was 33.5% actual versus 53.6% planned.

Construction Progress: In August 2015, the CM006 contractor continued concrete repairs and drainage work at the 63rd St. structures. As part of its Back of House (BOH) contract amendment, the contractor continued to pour mezzanine to upper level concrete walls in the Eastbound Cavern and lower to mezzanine level concrete walls in Westbound Cavern. The contractor also continued to place archway shotcrete (PAC) in the GCT 4 East Wye Cavern and completed archway PAC placement in Tunnel 402. The contractor continued to place Archway PAC in the Tunnel EB2 (the lower level eastbound tunnel). The contractor also placed the upper level concrete slab on the east side of the 50th St. Vent Facility and continued to place concrete in the interior walls and slabs of the 55th St. Vent Facility. The contractor also continued rebar and concrete placement on the invert of the WB3 Tunnel (the lower level westbound tunnel) and continued to construct bench walls in the GCT 4 West Wye Cavern and Tunnels 403 and 404.

CM013A – 55th Street Vent Facility: The MTACC reports that through July 31, 2015, the Estimate at Completion (EAC) for CM013A remains $57,174,087. The current MTACC forecast for Substantial Completion has been extended to December 7, 2015 from the previous October 2015. This added extension is due to the time it has taken to redesign, approve and give directions to proceed for the new hoisting system between Upper and Lower Fan Rooms. Actual construction progress for July 2015 was 3.5% versus 1.6% planned. Through July 31, 2015, cumulative progress was 92.4% actual versus 100% planned.

Construction Progress: During August 2015, in the Plenum, the contractor applied acoustical insulation on the walls and floor. The contractor also installed handrails and ladders and continued to construct the walls, stairways and roof of Stair 10. Removal of the South side Street Deck Beams and Plates is complete. At street level, the Bilco access hatch was installed. Construction of the North Street Ventilators neared completion. Construction of Electric Manhole 10737 is complete. Installation of sidewalk granite paver tiles began. Punchlist work

in the Cavern continues, including repainting, application of floor sealer, installation of door frames, doors and grout. Application of acoustical insulation to walls and floors continues in the Shaft.

CM014A – Concourse and Facilities Fit-Out Early Work: The MTACC reports that through July 31, 2015, the Estimate at Completion for CM014A remained at $58,933,974. The MTACC forecast for Substantial Completion remained at September 7, 2015. As previously reported, however, the construction schedule continues to be impacted by the contractor's slow rate of progress and approval of all submittals by ConEd and resultant energization of the system. Actual construction progress for July 2015 was 3.5% versus 1.6% planned. Cumulative progress through July 31, 2015, was 94.4% actual versus 93.9% planned.

Construction Progress: The Sprinkler/standpipe installation was complete in Zone Nos. 4 and 5. Installation and testing of the FM200 fire suppression system and testing continued. Branch feeder and conduit installation is ongoing throughout. SCADA installation continues in Zone Nos. 1, 2, and 3. The Contractor continued with the installation of roof in the Transit Management Center (TMC), installation of the fire alarm, and installation of Medium Voltage (MV) Switchgear. The contractor continued demobilization.

CM014B – Concourse and Facilities Fit-Out: The MTACC reports that through July 31, 2015, the Estimate at Completion for CM014B increased slightly to $434,511,091 from the previous $433,866,135. The Substantial Completion date remained August 18, 2018. The MTACC reports that the contractor's Schedule Update #4 continues to show a delay of 15 days versus the previous 28 days for the work in East 48th St., which impacts Milestone #5A (Complete all work at the East 48th St. Entrance). Further, the PMOC previously reported that the MTACC executed an acceleration contract modification for the CM014A contract to complete all work by July 2, 2015. This date coincided with the Access Restriction date to that area in the CM014B contract. The CM014A contractor failed to meet that acceleration change order date. Accordingly, the CM014B contractor has since filed a Notice of Delay Claim for MTACC not being able to turn over full access to the CM014A work area. Actual construction progress for July 2015, was 2.1% versus 0.6% planned. The MTACC reports that through July 31, 2015, cumulative progress was 3.8% actual versus 1.9% planned.

Construction Progress: Surveying in the Concourse is continuous and will be on-going throughout this contract.

Madison Yard/Concourse: Work continues to install underslab piping in Zone Nos. 1 through 4. Excavation for ejector pits and manholes in Zones Nos. 1 through 14 continues. The contractor began making connections for the Cooling Tower on the 300 Park Ave. roof, a private building adjacent to the 50th St. Vent Plant (formerly CM013). The electrical survey at the 50th St. Vent Plant was completed.

Wellways: The contractor continued installing safety walkways in the Wellways.

Dining Concourse Connection: The focus of the work is the demolition of Platform J, columns, rock, as well as removing and re-routing existing utilities.

East 48th St. Entrance: The contractor began the installation of mini-piles under E. 48th St.

Biltmore Connection: Continued removing concrete at the face of existing column 207 foundation. The contractor began excavation at "Burma Road" for new columns to support new access foundations.

Systems Contracts:

CS179 – Systems Package 1: Due to the inclusion of pending and potential contract modifications, the Estimate at Completion for CS179 increased again during July 2015 to $556,860,267 [redacted]. The MTACC forecast for Substantial Completion (SC) remained at November 25, 2019. As the MTACC has yet to approve a baseline schedule for this contract, despite giving Notice to Proceed (NTP) over 17 months ago, no progress curve for CS179 has been generated. Therefore, Actual vs. Planned construction data is not available. A review of the contractor's monthly schedule update (data date of June 1, 2015) indicated that 10 out of 15 established contract milestones were delayed anywhere from 1 to 7 months. When the PMOC inquired as to the impact these delayed milestones would have, especially the 7-month delay in Milestone #1, the contractor stated that it is holding the SC date while it reviewed all other work activities. MTACC contends that Milestone #1, the completion of work in the Traction Power Room at Vernon Boulevard, is the only milestone behind schedule. However, it is unclear to the PMOC how MTACC can reach this conclusion without an approved baseline schedule or a later monthly update schedule being available for review.

Design Progress: A Preliminary Design Review (PDR) of the Voice Communications System (VCS) was held in early August and PDRs for the Building Management System (BMS) and the Data Capture and Reporting System (DCRS) are planned for September 2015. Preliminary design documentation for the Fire Life Safety System (FLSS) and the System Monitoring and Maintenance System (SMMS) will be submitted in September 2015, with the scheduling of PDRs to follow. The ESA PMT acknowledged at the August 2015 Progress Meeting that the backlog in ESA's review and approval of contractor design submittals remains an issue and advised that the GEC, once again, added staff to focus on reducing the backlog.

Construction Progress: During August 2015, the CS179 contractor continued to install conduit and utility duct in the Roosevelt Boulevard and Vernon Avenue Vent Structures and the B-10 Substation. Conduit installation began in Tunnels B/C and the installation of racks and supports for the blue lights in Tunnel D commenced. Concrete work at the 2nd Ave. Vent Structure and the temporary power installation in Madison Yard continued.

CS084 – Traction Power Substations: As of the end of July 2015, the Estimate at Completion and the contract budget for CS084 remained at previously reported levels of $71,248,884, and $78,373,772, respectively. The MTACC's and the contractor's forecasts for Substantial Completion are both December 2019. As the MTACC has yet to approve a baseline schedule for this contract, despite giving Notice to Proceed (NTP) over ten months ago, no progress curve for CS084 has been generated. Therefore, Actual vs. Planned construction data is not available.

Design Progress: The contractor continued with the transmission of contractual submittals. The ESA CM noted that this contract uses the same MTA and GEC resources as those used on the CS179 contract to review documents and indicated that a backlog in the review and approval cycle of submittals is beginning to develop. The GEC added more staff in an effort to reduce the backlog and ensure the timely review of submitted documentation. ESA continues to work on the re-scoping of the CS179 Backbone Communications System (BCS). Once the revised scope

is finalized, ESA needs to negotiate CS179 and CS084 contractor proposals to implement the required work.

Construction Progress: As of August 31, 2015, the CS084 contractor had not started any significant construction. As previously reported, a $250,000 contract modification was issued to procure some long lead-time equipment and an electrical line box for electrical power work needed for other ESA contracts. However, no funding was included in this original modification for the contractor to perform the installation work. Consequently, another contract modification, or an increase in value of this $250,000 modification, is required to authorize the CS084 contractor to install the equipment and electrical line box to meet the August 2015 start and October 2015 completion dates necessary to preclude delays to other contracts. As of the end of July 2015, this additional contract modification had not been authorized, jeopardizing the August 2015 start date.

Queens Contracts:

CQ032 – Plaza Substation and Queens Structures: The Estimate at Completion for CQ032 increased slightly in July 2015 to $248,118,526 due to inclusion of pending and potential contract modifications. The MTACC forecast for Substantial Completion was shortened to March 1, 2016. Actual construction progress for July 2015 was 2.8% versus 1.9% planned. Cumulative progress through July 31, 2015, was 85.9% actual versus 90.0% planned.

Construction Progress: In August 2015, the CQ032 contractor prepared for the installation of Support of Excavation (SOE) at the 23rd St. Facility. The contractor continued concrete placement on all floor levels of the Yard Services Building (YSB) and continued Concrete Masonry Unit (CMU) wall construction in the Plaza Vent Facility. The contractor completed erection of structural steel beams and columns for the C07 level of the Early Access Chamber and began steel pile and lagging construction on both sides of the Bellmouth.

Harold Interlocking:

CH053 Contract – Harold Structures Part 1 and G.0.2 Substation: The Estimate at Completion for CH053 increased slightly to $295,833,968 during July 2015. The MTACC forecast for Substantial Completion was extended by three weeks to October 30, 2015, largely due to a delay in receipt of the correct splice jackets needed to remediate the defective jackets the contractor had previously installed in the 12kV circuits. Actual construction progress for July 2015 was 0.4% versus 0% planned (the project was supposed to be complete by now). Cumulative progress through July 31, 2015, was 96.1% actual versus 100% planned.

Construction Progress: During August 2015, the CH053 contractor received the proper splice jackets and replaced the defective jackets it had originally installed in the 12kV traction power circuits between Sub 44 and the Sunnyside Yard Frequency Converter. Repairs are now complete and high-potential testing and system commissioning of all three circuits are scheduled to occur in September 2015. The contractor also continued to install high voltage connection meters for the ConEd service into the new G02 Substation and make miscellaneous catenary and other punchlist repairs throughout its jobsites in Harold Interlocking.

CH054A – Harold Structures Part 2A: The Estimate at Completion for CH054A remained at $56,680,016 during July 2015. The MTACC forecast for Substantial Completion remained at September 14, 2015, although the contractor is not scheduled to receive track usage time to

install the last snow melter unit (SMU) in "F" Interlocking until after that date. This issue is discussed in more detail in the Construction Progress section below. Actual construction progress for July 2015 was 0.5% versus 0.0% planned (the project was supposed to be complete by now). Cumulative progress was 98.2% actual versus 100% planned.

Construction Progress: The contractor continued to make limited punchlist repairs during August 2015. As noted above, the contractor was not able to schedule track usage time to install the last of three SMUs in "F" Interlocking during August 2015, but is presently scheduled to install it during the weekend of September 18-20, 2015. If the contractor is unable to do so at that time, the ESA PMT intends to delete this work from the project and add the work to a follow-on contract. This will allow the PMT to declare Substantial Completion for CH054A.

CH057A – Part 3 Westbound Bypass: The Estimate at Completion for CH057A decreased slightly during July 2015 to $121,405,643. The MTACC extended its forecast for Substantial Completion by one week to December 19, 2016. Actual construction progress for July 2015 was 1.8% versus 6.1% planned. Cumulative progress through July 31, 2015, was 26.0% actual versus 72.4% planned.

Construction Progress: During August 2015, the CH057A contractor installed nine secant piles in the East Approach launch (reaction) block of the Westbound Bypass (WBBY) Tunnel and installed six steel communications poles west of Woodside Interlocking. The contractor also continued to install de-watering wells and permeation grout throughout the work site.

CH057C – 48th St. Bridge and Retaining Wall: The ESA PMT re-activated its on-call CH057C contract in July 2015 to demolish the LIRR Freight Track and construct the RPR Track as an alternative bypass route for future construction. The Estimate at Completion for CH057C is $2,083,634. Current cumulative construction progress through August 31, 2015, is 48.8% actual versus 100% planned (progress prior to initial contract deactivation in 2014).

Construction Progress: The contractor did not perform any significant construction work in August 2015, although it began to mobilize and made submittals.

Railroad Force Account:

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

FHA01 – Harold Stage 1 Amtrak: The Estimate at Completion for FHA01 remained at $18,824,861 during July 2015. The MTACC extended its forecast for Substantial Completion by 5 weeks to March 11, 2018. Actual construction progress for July 2015 was 0.0% versus 0.0% planned. Cumulative progress through July 31, 2015, was 97.8% actual versus 99.2% planned.

Construction Progress: Amtrak did not perform any significant Stage 1 construction during August 2015.

FHA02 – Harold Stage 2 Amtrak: The Estimate at Completion for FHA02 remained at $45,369,618 during July 2015. The MTACC forecast for Substantial Completion remained at March 8, 2020. Actual construction progress for July 2015 was 1.0% versus 0.0% planned. Cumulative progress through July 31, 2015, was 97.5% actual versus 97.1% planned.

Construction Progress: During August 2015, Amtrak Electric Traction personnel installed a construction break and relocated catenary wires at the B923 series catenary poles, installed cross-track feeders at the B930 catenary pole, re-profiled and re-located catenary wires at the B915-2/3 catenary pole, and installed a new ground wire between the B915 and B916 catenary poles. Track personnel installed the #749 turnout in Line 1 at "F" Interlocking and resumed construction of the Loop 1A Track between Queens Boulevard and Thomson Avenue. Amtrak C&S personnel supported the LIRR signal pre-test of the "H3" CIL.

FQA65 – Loop Interlocking Amtrak: The Estimate at Completion for FQA65 remained at $29,663,652 during July 2015. The MTACC forecast for Substantial Completion remained at December 4, 2022. Actual construction progress for July 2015 was 0.7% versus 1.4% planned. Cumulative progress through July 31, 2015, was 11.1% actual versus 44.4% planned.

Construction Progress: During August 2015, Amtrak C&S personnel continued to install a retaining wall on the north side of Loop 2 Track between "T" and Loop Interlockings, and Communications personnel began to install signal trough and pull fiber cables in "T" Interlocking.

FHL01 – Harold Stage 1 LIRR: The Estimate at Completion (EAC) for FHL01 remained at $20,804,621 during July 2015. The MTACC extended its forecast for Substantial Completion by one month to July 19, 2016. Actual construction progress for July 2015 was 0.0% versus 0.0% planned. Cumulative progress through July 31, 2015, was 100% actual versus 100% planned. New construction activities will be added to work package and the EAC will be increased when the CH053 contractor turns the new G02 Substation over to the LIRR for final terminations and cutover; an activity that is scheduled for 2016.

Construction Progress: The LIRR did not perform any significant Stage 1 construction during July 2015.

FHL02 – Harold Stage 2 LIRR: The Estimate at Completion for FHL02 remained at $78,464,345 during July 2015. The MTACC extended its forecast for Substantial Completion six weeks to May 25, 2018. Actual construction progress for July 2015 was 1.2% versus 1.5% planned. Cumulative progress through July 31, 2015, was 74.2% actual versus 85.7% planned.

Construction Progress: During August 2015, LIRR Signal personnel continued to construct and pre-test signal circuits for the "H3" CIL cutover (on schedule for November 2015); completed ESA404 signal circuit revisions and continued to make ESA31 revisions; and continued to install signal cables for turnouts installed in Harold Interlocking during 2014. Communications personnel installed trough and conduit between the "H1" and "H6" CILs. Track personnel "straight-railed" (effective removal) the #813E turnout in Harold.

d. Quality Assurance and Quality Control (QA/QC)

GEC Quality: The GEC Quality Manager announced that his last day on the job will be September 4, 2015, and indicated that no replacement for him has been named. The ESA Quality Manager met with the GEC Program Manager who indicated that various individuals will be performing the duties of the GEC Quality Manager. Presently, there are three other individuals who support the GEC Quality Manager with about 5% of each one's time. The ESA Quality Manager has spoken with the GEC Program Manager and they agreed that these three individuals, and others as necessary, will provide the necessary Quality coverage. The PMOC is

concerned that there will not be one focal point for the GEC Quality function. The PMOC recommends that the GEC immediately designate one individual who will be the lead quality person responsible to coordinate assignments; attend the monthly GEC Quality Meeting and present the monthly quality statistics; schedule and perform audits; and receive internal audits by the GEC JV and external audits by the ESA Quality Manager.

The ESA Quality Manager performed an audit of the GEC Quality Team on June 24, 2015. He has not issued his audit report despite several reminders from the PMOC. The PMOC recommends that the ESA Quality Manager issue the audit report.

CS179 (Systems Package 1 – Base Contract): This contract was awarded seventeen months ago and there is still not an approved baseline schedule. The contractor's ESA Quality Manager has been conditionally approved as the Quality Manager for this contract for a period of 90 days, ending in September 2015. The ESA Quality Manager intends to conditionally approve, for 90 days, another individual who has been performing most of the quality functions.

CM014B GCT Concourse and Facilities Fit-Out: The contractor is behind schedule with its submittals. Quality Work Plans (QWPs) needed several revisions before they could be accepted. The contractor is now submitting acceptable QWPs. The contractor's Quality Manager did not have enough staff and the contractor has stated that they will provide additional quality support. The PMOC will continue to assess the current staffing.

Asset Management Audits: ESA Quality initiated Asset Management audits in June 2015. These audits are bi-annual walkthroughs to perform a visual site inspection of finished contracts wherein there are structures or appurtenances that have been completed but have not yet been turned over to the end user (LIRR). An audit of the CM004 contract was conducted in mid-August 2015 with only minor anomalies noted.

CH053 Harold Structures –Part 1 & G.O 2 Substation: The contractor determined that it had installed the wrong splice jackets on all 72 of the splices that it made in the new circuits and that they would all have to be replaced. The contractor ordered the proper splice jackets, which arrived in mid-August 2015. The contractor immediately began to replace the defective jackets with the new ones and completed all replacements on August 31, 2015.

2.0 SCHEDULE DATA

ESA submitted its IPS #72, data date August 1, 2015, and its variance report to the PMOC on September 10, 2015. The variance report, however, did not provide sufficient information for the PMOC to make an informed analysis of the changes from IPS #71. As a result, the PMOC's analysis below is largely repetitive.

Although ESA's IPS #72, still show that the Critical Path goes through the procurement of Contract CM007 and then to construction of the structure within GCT, the PMOC maintains its opinion that ESA's Manhattan Critical Path has 2 concurrent paths because of the delay in Contracts CM006 and its logic tie with Contract CM007. ESA's IPS does not show the logic tie between completion of Milestone #2 in Contracts CM006 (completion of all work in lower level of Westbound Cavern) and CM007 Access to the lower level caverns. Contract CM006 is scheduled to complete work in lower level tunnels by April 28th, 2016, 87 days later than originally scheduled. Additionally, it should be noted that there is another hand-off to Contract CS179 scheduled for May 25th, 2016, which only leaves ESA a one month contingency for CS179 Access Restraint #12. This portion of Contract CS179 scope of work is not authorized as part of the base contract but rather in Option #2 (exercise date – November 6, 2015).

After finishing Contract CM007, the ESA Critical Path then shifts to CS179 work within the Train Operation Center (TOC) and finally through Integrated Systems Testing (IST), Starting, Commissioning and RSD. ESA has a significant number of contracts that are "near critical", which by definition are within 45 days of the Critical Path. These contracts are:

- CM014B: GCT Concourse & Facilities Fit Out (hand off to CS179 IST)
- CM007: GCT Caverns (hand off to CM006 access via critical path above)
- CQ032: Plaza Substation and Queens Structures (Early Access Chamber)
- CH053: Harold Structures Part 1 & G02 Substation (hand off to CH057A)
- CH057D: Harold Track Work: Cutover 3B (Track A) – Future Contract
- CS179: System Facilities – Package 1 (IST) – Future Contract
- FHA01/02/03: Harold Amtrak Force Account Work (integral with the CH contracts)
- FHL02: Harold LIRR Force Account Work (integral with the CH contracts)
- FQA65: Loop Interlocking – Amtrak Force Account Work (CIH and Switch work)

Contract CS179, Systems Package 1 – Facilities Systems, also shows significant delays in 10 milestones so far. Additionally, the contractor has not submitted an acceptable resource loaded baseline schedule that includes an IST schedule. The PMOC believes that the PMT will need to manage the CS179 contract in a manner consistent with the outcome of the Contract CM007 negotiations and based on a full understanding of the complex coordination between the two contracts.

Table 2-1, below shows ESA's upcoming contract procurement schedule:

Table 2-1: Future Procurement Schedule

Contract Description	Advertise Date	Bid Date	NTP	Project Contract Period	Substantial Completion
CM007 GCT Caverns[1]	12/22/2014	Technical Bid: 9/15/2015 Cost Bid: 10/6/2015	1/4/2016	43 Months	7/24/2019
CM015 48th Street Entrance, Rev. #3	12/28/2015	3/3/2016	5/2/2016	36 Months	5/1/2019
CQ033 Mid-Day Storage Yard[2]	12/28/2015	3/3/2016	5/2/2016	36 Months	5/1/2019
VQ033 Mid-Day Storage Yard CIL Procurement	8/10/2015	9/1/2015	9/29/2015	44 Months	5/1/2019
CH057 48th Street Bridge / D Pit and Approach Structure	4/07/2015A	7/9/2015	8/14/2015	30 Months	1/30/2018
CH061A	10/19/2015	11/9/2015	1/4/2016	18 Months	7/7/2017
VHA04 Procure Materials for Harold Stage 4- Amtrak F/A	N/A	N/A	11/16/2015	72 Months	11/2/2021

[1] CM007's technical bid review date has slipped by 2 months to date, although ESA has held the NTP date for January 1, 2016. Any additional complications in the procurement cycle could potentially cause further time loss and a delay to the NTP date.

[2] CQ033 was planned to be awarded by the end of 4Q2015, but is now projected to have a 3 month delay. This will cause a corresponding delay in achieving ESA's first hold point that has been projected for 4Q2015 [redacted]

Table 2-2 below, shows important 90 day look-ahead milestone schedules:

Table 2-2: Critical Milestones 90 Day Look Ahead (from ESA IPS #72)

Contract#-Activity ID	Activity Name	Start	Finish
MANHATTAN CONTRACTS			
CM007-0150	CM007 Bid Proposals Due		6-Oct-15
CM013A-060	CM013A- MS #2 Substantial Completion		8-Dec-15
CM004-C0940	CM004 Contractual Final Completion (MS #2 Date - 820 CDs from NTP)		1-Oct-15
CM014A-1100	CM014A Substantial Completion		31-Oct-15
CM014A-1090	Perm. Power available at B30 Substation		6-Dec-15
CM006-MS #5[1]	CM006 MS #5 (GCT 4 Facility Room)		3-Dec-15
QUEENS CONTRACTS			
VQ033-1050	VQ033 Bid Due Date		1-Sep-15
VQ033-1090	VQ033 Notice To Proceed (NTP)	29-Sep-15	
CQ033-P1310	GEC 100% Design Resubmission		1-Oct-15
CQ033-1050	CQ033 Begin Preparation for Advertisement		28-Oct-15
HAROLD INTERLOCKING CONTRACTS			
CH057D-0010	Issue directive GEC	2-Sep-15	
CH053 SC	Milestone #9- Substantial Completion		30-Oct-15
CH054A-890	Milestone #3 – Substantial Completion		14-Sep-15
FHL02-3190	Ready to Demo Rack at Woodside		22-Sep-15
CH057A-5580	CH057A Milestone #2 – Sig. Bridge 16		25-Oct-15
CH057-Option	Execute Option work	3-Nov-15	
FHL02-3290	Ready to Install Loc 30 CIL		6-Oct-15
FHL02.MS.00035	MS-Cutover H3 CIL		15-Nov-15
FHL02-CSR160	H3 Cutover w/Civil Speed Enforcement		15-Nov-15
SYSTEMS CONTRACTS			
CS179-OPT.2	Option #2 – Manhattan North		6-Nov-15
CS179-OPT.6	Option #6 – Obsolescence Management		6-Nov-15
CS179-OPT.7	Option #7 – Specialist Equip. for Options		6-Nov-15

[1] Contractor's baseline schedule date for this milestone was July 4, 2015, but as of its July 31, 2015 update, the projected date is December 3, 2015 which results in 152 Calendar days of delay.

Project Critical Path:

Table 2-3, below shows ESA critical path and its contingencies for three different RSDs.

Table 2-3: ESA Critical path and its contingencies for 3 RSDs

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

For the immediate future, the Harold program work schedule remains independent from the Manhattan ESA work schedule and will remain so until the Tunnel B/C cutover, which is presently scheduled for May 2019. The ESA critical path for Harold work includes 55 separate activities that lead to the completion of Harold, and include several intermediate activities which are predecessors to the Tunnel B/C cutover.

Schedule Contingency: IPS #72 is based on an RSD of December 2022 and has multiple levels of contingency. The PMOC's schedule shows that ESA has 365 days of contingency for a December 2023 RSD. The PMOC had projected a three-month contingency (from 2Q2016 to 3Q2016) that would be used for any of the following conditions:

1. Delay in Final Completion of Contract CM005. This contract is on schedule for a Final Completion in 1Q2016.
2. Delay in Contract CM006, for which its MS #2 completion has been projected for 1Q2016. The PMOC estimates a three-month delay in this contract that would move completion of MS #2 into 2Q2016.
3. Lack of funding availability for Contract CM007. To date, ESA does not have approved funding available from the MTACC's next capital program. Additionally, depending upon the number of bids and the low bid received for CM007, the MTACC may not be able to fully fund the base CM007 contract. The PMOC's analysis of CM007 issues has

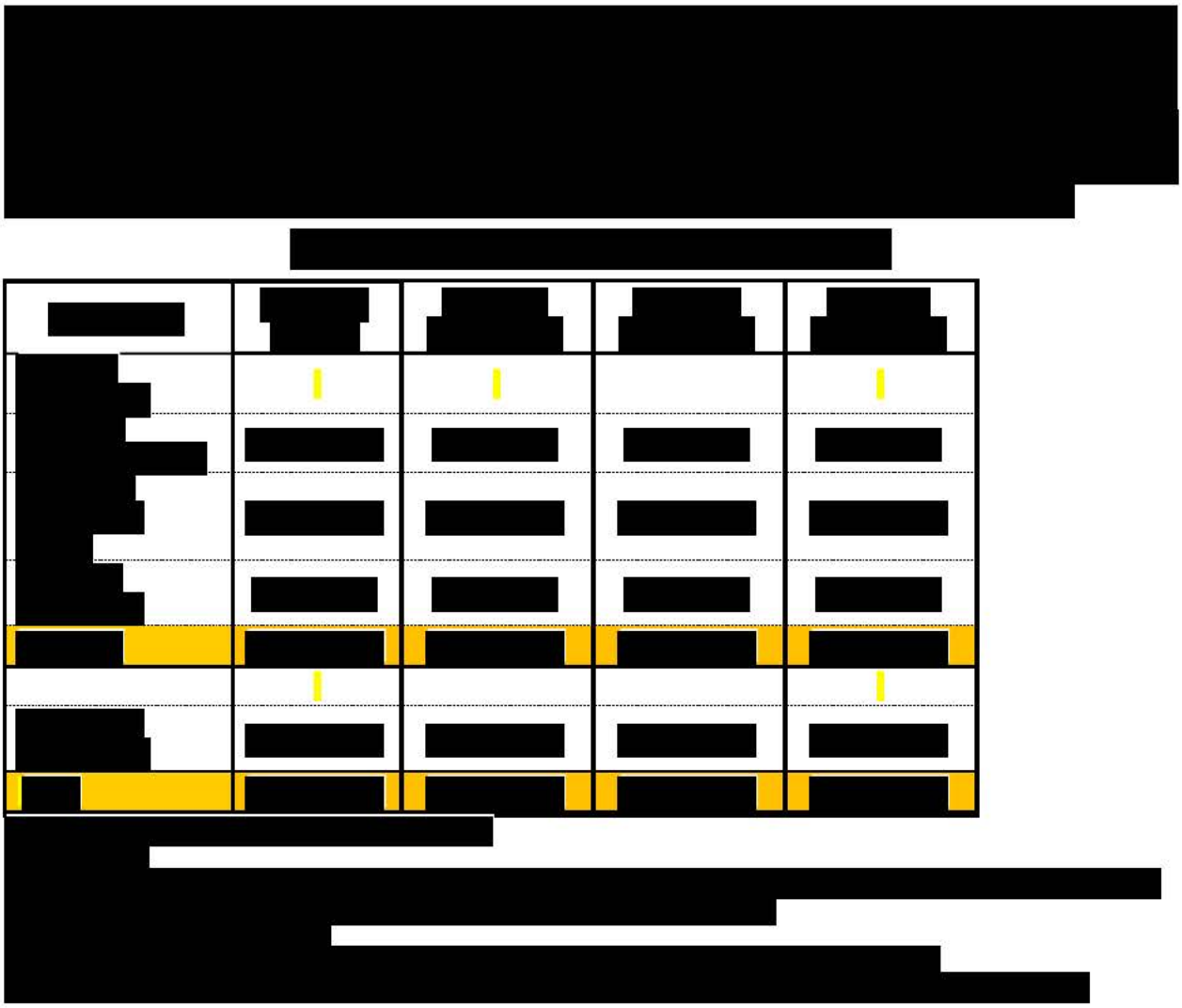
indicated that ESA will not meet its projected NTP date of 1Q2016, but rather the PMOC's forecast date of 3Q2016 (which includes 3 months of contingency).

3.0 COST DATA

Funding: The MTA funding request for the 2015-2019 Capital Program was submitted to the NYS Capital Program Review Board (CPRB) in September 2014. ESA will need to obtain funding from this program to award all the options in the CS179 contract and to award the CM007, CQ033, and CH058 Contracts. The $10.178 billion (not including the $463 million Rolling Stock Reserve) budget presented to the Capital Program Oversight Committee (CPOC) in June 2014 will make the need for additional funding even greater. Until new funding is provided, the project has a funding shortfall of approximately $2.6 billion, and is part of the un-funded MTA Budget.

Budget/Cost: The ESA July 2015 Progress Report shows that the total project progress was 58.1% versus 58.5% planned against the Current Baseline Budget (CBB) of $10.178 billion. Total construction progress was 57.7% versus 58.5% planned based on the total invoiced amount of construction (details of project budget and expenditures are shown in Appendix B, Tables 2 and 3). The PMOC's review of the Cost Report agrees with the ESA percentage complete. A PMOC review of the ESA Planned Cash Flow Chart shows that it is based on a 2022 completion date rather than ESA's announced target of 2020. As a result, the "Planned Value" of construction will be lower than that required to sustain the current ESA Target completion date at any particular time. After discussion at several Monthly Cost Review meetings, the PMOC and ESA established that the ESA Planned Cash Flow Chart is based on expenditure of the full budget, which is not what ESA plans to do. Consequently "pay outs" will continue until all contingencies are spent and therefore will not be related to the Plan or Schedule. The PMOC does not regard that as a proper Cash Flow chart because it shows Planned Progress as lower than it is scheduled to be. The PMOC has suggested that ESA update its Cash Flow chart to align it with planned construction progress and completion dates.

The current $10.178 billion budget follows the procedure of assigning a series of separate small contingencies which are not easily distinguishable. This already entails multiple budget adjustments to date and in the future. This appears to be operationally complex and often makes it difficult for the PMOC to determine the expected and current status of the project and its packages. The PMOC believes that, prior to receipt of the CM007 cost proposals, ESA should determine how it would adjust budgets, should the price come in higher than the ESA's budget for CM007. [redacted]



Change Orders/Budget Adjustments: The PMT reported that, during July 2015, two (2) construction change orders over $100,000 were executed for a total of $951,378. Additional funding for the PMC in the amount of $27 million and the CCM for just over $9 million was approved.

4.0 RISK MANAGEMENT

The last monthly risk meeting held by ESA was in January 2015. Since that time, ESA has not succeeded in addressing the risk topics as they had planned during the subsequent monthly cost and schedule review meetings. In response to the PMOC's request, ESA will resume the dedicated monthly risk meetings in September 2015.

The Contract CM007 risk workshop was conducted over a two-day period on April 8 & 9, 2015. The preliminary risk report was forecast to be issued by April 28, 2015, but this did not occur. At the FTA/MTACC Executive Meeting on May 21, 2015, the FTA and the PMOC were advised that the distribution of the draft risk report was discussed by upper management at ESA-PMT, the MTACC, the MTA, and the MTA President. Because of the very high level of concern about the confidentiality of the risk results, MTA decided to proceed with a very limited internal

distribution of the draft risk report and a very small group participated in the May 1, 2015, internal briefing. The FTA noted that they and the PMOC had participated in the workshops and requested the opportunity to review the report written by the MTACC's risk facilitator. The MTACC responded that they would discuss FTA's request with MTA upper management and provide an answer to the FTA. As of August 31, 2015, however, the MTACC has not provided the draft risk report.

Based on long standing issues and concerns regarding Amtrak's ability to provide sufficient force account support to the ESA project, especially Electric Traction (ET) resources, ESA completed a Harold schedule re-sequencing in December 2014, also known as "ESA First," that advances work elements required for the new LIRR service to GCT and delays the FRA funded High Speed Rail (HSR) work beyond 2017. This work was also falling behind schedule due to the overall delays to much of the Harold work. The MTACC will require FRA approval for a time extension for the HSR funding, but formal approval will only occur after FRA approves the MTA generated grant amendment. The MTACC has already presented the Harold Re-Sequencing Plan to the Amtrak Engineering Department and to the LIRR Transportation Department. The MTACC is currently reporting that Amtrak and the LIRR have approved the "ESA First" concept and this will allow implementation of the Harold Interlocking Re-Sequencing Schedule.

5.0 ELPEP COMPLIANCE SUMMARY

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

- **Technical Capacity and Capability (TCC):** The FTA requested the MTACC to update its TCC Plan in response to the FTA/PMOC comments that were generated in November 2013 as a result of significant changes in key ESA upper management level positions. The MTACC submitted its revised Technical Capacity and Capability Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 7, 2015. The MTACC submitted a revised TCC Plan in response to FTA/PMOC comments on June 12, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and recommended a meeting with MTACC to resolve remaining issues.
- **Continuing ELPEP Compliance:** The following ELPEP components continue to need improvement or are deficient: Management Decision; Design Development; Change Control Committee (CCC) Process and Results; Stakeholder Management; Issues Management; Procurement; Timely Decision Making; and Risk-Informed Decision Making.
- **Project Management Plan:** The PMOC completed its review and evaluation of the MTACC's revisions and responses and submitted its findings to FTA-RII in 4Q2014. The MTACC subsequently submitted a revised Rev. 10 on March 13, 2015, that included updated information on the Change Control Committee. The revised Rev. 10 of the PMP was reviewed by the PMOC against the PMOC's evaluation in 4Q2014. The PMOC is currently coordinating with the MTACC to arrange a series of working meetings with ESA chapter authors and the corresponding PMOC reviewers to resolve the outstanding FTA/PMOC evaluation comments. During August 2015, a meeting was held to resolve comments on the PMP chapter covering Risk Management.

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

- **Cost/Schedule Contingency**: In November 2014, ESA submitted its initial cost and schedule contingency utilization curves for the new baseline budget and schedule presented to CPOC in June 2014 in order to comply with ELPEP; however, they then stated they would correct them to make the curves usable by ESA Project Controls staff and acceptable to the FTA/PMOC. The PMOC notes that draft proposed cost and schedule contingency drawdown curves were presented by the MTACC at the December 11, 2014, ELPEP Quarterly Review Meeting. A series of meetings was held to discuss the MTACC drawdown curves and the FTA/PMOC proposed cost and schedule contingency minimums, the latest occurring on May 21, 2015. There are currently no issues with the FTA schedule contingency minimums but more discussion is required to reach agreement on the cost contingency minimums.
- **Schedule Management Plan (SMP)**: The ESA project remains non-compliant with requirements for Integrated Project Schedule (IPS) Updating, Forecasting, and Schedule Contingency Management against a current baseline schedule. Given that the new budget and schedule have been put in place, the PMOC expected that the MTACC would start to meet the requirements set forth in its SMP in the above-referenced areas. The MTACC plans to review and update the SMP after the TCC and CMP updates have been completed.
- **Cost Management Plan (CMP)**: The ESA project remains non-compliant with requirements for Project Level EAC Forecasting, Project Level EAC Forecast Validation, and the MTACC Cost Contingency Management and Secondary Mitigation. Given that the new budget and schedule were presented to the MTA CPOC in June 2014, these requirements should have been met by now, but the MTACC has not made significant progress in this area. The MTACC submitted its revised Cost Management Plan (ESA and SAS) on April 13, 2015. The PMOC returned comments to the FTA on May 8, 2015. The MTACC submitted a revised CMP in response to FTA/PMOC comments on June 30, 2015. In August 2015, the PMOC provided the FTA with its evaluation of the MTACC responses to the PMOC review comments and recommended a meeting with MTACC to resolve remaining issues.

Revisions to the ELPEP Document: As part of the process of updating the ELPEP document, the PMOC has performed an independent evaluation of the minimum required cost and schedule contingencies going forward. The PMOC's recommendations were presented at several meetings with the MTACC, the last on May 21, 2015. Additional discussion is required to reach agreement on the cost contingency minimums.

The next ELPEP Quarterly Review Meeting with the MTACC, the FTA-RII, the SAS and ESA projects and the PMOC has been scheduled for September 17, 2015.

6.0 SAFETY AND SECURITY

In order to more accurately portray the effectiveness of ESA's current safety efforts, the PMOC will initiate use of Table 6-1, below, beginning with its August 2015 Monthly Report. Previously, the PMOC only reported the ESA Lost Time injury ratio as reported in ESA's Monthly Reports. As noted in the table, however, ESA's reported Lost Time injury ratio is cumulative since the beginning of the project. As such, the PMOC believes that there was such significant negative history with ESA's injury reporting that it does not accurately reflect upon its current safety efforts. Table 6-1 indicates that ESA's Safety program has shown consistently improving results during 2015 and the monthly ratios for both Lost Time and Recordable injuries have been lower (with an anomaly of a 4.29 Lost Time ratio in March 2015) than the BLS average injury ratios used for the year.

Table 6-1: ESA 2015 Lost Time and Recordable Injury Ratios

	Lost Time Ratio	Recordable Ratio
2015 BLS Ratio (used by OSHA)	1.80	3.20
ESA July 2015 Ratio	0.00	2.29
ESA CY2015 Ratio	0.95	1.42
ESA Reported Ratio (Cumulative since beginning of project)	2.10	4.50

Additionally, the ESA PMT did not report any significant security issues in its July 2015 Monthly Progress Report.

7.0 ISSUES AND RECOMMENDATIONS

Design: The PMT design management team needs to focus on achieving intermediate milestones in a timely fashion and working closely with the GEC to help make this happen. The continuing shifting of scope between packages and the creation of new packages has made finalizing design documents and drawings very challenging and time consuming. The PMOC recommends that the PMT develop a design milestone tracking sheet for the remaining design work on the project. The PMOC also recommends that the GEC designate a replacement for its Quality Manager who will be leaving the project on Sep 4, 2015.

Procurement: The lack of stability in the contracting strategy and Contract Packaging Plan remains a concern. The scope shifting among different packages makes it difficult to fully understand the impact of these changes to the overall ESA Project. An updated draft Contract Packaging Plan (revision 10.0) was submitted on March 28, 2014, and the next revision still has not been issued as of August 31, 2015. The PMOC does note that in May 2015, the PMT provided a summary of scope shifts and recommends that the CMP and SMP be updated accordingly and issued. ESA should make an effort to adhere to the current version of the CPP and minimize shifting scope for the remainder of the project.

Contract CS179: The PMOC continues to remain concerned that the backlog in overdue submittal reviews has not been significantly reduced and sustains its recommendations that ESA, the GEC, and the contractor work together to improve the review process. The PMOC is very concerned that the contractor does not yet have a formally approved resource loaded baseline

schedule with approximately 22% of the contract time expended. The PMOC, once again, recommends that the ESA CM convene another schedule workshop with all parties to resolve issues and reach agreement on an acceptable resource loaded baseline schedule that can be approved. Both ESA and the contractor acknowledge that contract performance is dependent on successful and timely interfaces with Contracts CM006, CM007, CM014B and CQ033. This dependency will require that the contractor closely coordinate its work efforts and schedules with all of the contractors. Achieving successful coordination across multiple contracts requires an accurate and well-integrated schedule showing all these interfaces.

Contract CS084: The PMOC is concerned that ten months of this contract are already expended and there is still no "approved" baseline schedule. The baseline schedule represents an overall contract work plan that all stakeholders must agree upon and use to effectively progress the work. The PMOC reiterates its recommendation that ESA prioritize the resolution of this issue with the contractor to complete development of an acceptable baseline schedule that can be approved.

Contracts CH053/54A: As noted in Section 1.0c, Construction, above, the CH053 contractor completed the required repairs to the new 12kV traction power circuits between Sub 44 and the Sunnyside Yard Frequency Converter during August 2015. The contractor has scheduled testing, commissioning, and start-up of all three circuits for September 2015. If this process is successful and no residual concerns arise, the PMOC intends to close this issue with its September 2015 Monthly Report.

Likewise, the CH054 contractor has scheduled installation of the last of three snow melter units (SMUs) in "F" Interlocking for September 2015. The ESA CM has informed the PMOC that this will be the contractor's final attempt to install the unit. If the contractor is successful, it will fulfill the final task in its contract. If the contractor is not successful, the ESA PMT will de-scope this element from the CH054A contract and have a follow-on contract install the SMU. In either event, the PMOC will report the outcome and also intends to close this issue with its September 2015 Monthly Report.

Contract CH057A: The PMOC is concerned that the CH057A contract has lost nine weeks from its construction schedule during the past four months largely because of lack of track outages required to install soldier and secant piles adjacent to Amtrak's Line 4 Track in Harold Interlocking. Although this activity has little impact on other Harold contracts, it is nonetheless a critical path item for the CH057A contractor to complete its work on schedule. The PMOC understands that the ESA PMT and the contractor have scheduled track usage to install the last two critical secant piles for the weekend of September 11-13, 2015. The PMOC recommends that ESA and the contractor properly prepare for and do everything possible to install these piles during the scheduled weekend track outage.

Contract CM006: The contractor continues to trend behind the approved recovery schedule. After some improvements during late March 2015 and into April 2015, additional schedule slippage occurred, starting in May 2015 and continuing through August 2015. Although the rate of accumulating delays is relatively small, the contractor has only recently been able to halt the trend.

Currently, the contractor is now 44 calendar days late for Milestone #2, which leads to a hand-off to the CM007 contractor. The MTACC has acknowledged that, despite mitigations that are in

progress, recovery is not certain. There is also concern because Substantial Completion of this contract is a key hand-off milestone for the CM007 contract. The inability to successfully execute the recovery schedule may impact the CM007 contract and cause a delay to the start of some of the CM007 work or create a change from full access to the caverns to incremental access over a period of time, with resulting cost and schedule consequences. The PMOC recommends that the ESA PMT and the contractor develop a realistic re-schedule that properly reflects the contractor's capability and capacity to perform its remaining work.

Contract CM007: The PMOC is concerned that the proposal due date has now been delayed over four months and this significantly reduces the time for negotiations on this very large contract that is currently on the program schedule critical path. The MTACC will be challenged to award this contract as planned before December 31, 2015. Based on the MTACC's past schedule performance for negotiated procurements, it is the PMOC's opinion that this contract will not be awarded until 1Q2016 at the earliest and the award date could stretch into 2Q2016. Because the project critical path includes a significant portion of the CM007 work, the PMOC is concerned about the schedule impacts of a delayed award and NTP.

Project Funding: As stated in the Risk Management issue below, the PMOC believes that the timing and availability of funding presents a significant schedule risk to the project. The timing of funding has already impacted the CS179 package (restructured with options due to funding availability) and the CM007 procurement (moved out to the 4th Quarter of 2015 for full Award). As of August 31, 2015, the MTACC has not received a commitment from the NYS Capital Program Review Board to provide the funding that will permit the MTACC to award the CM007 and CQ033 contracts in 2015. However the PMOC observes that the CQ033 procurement continues to slip and believes that the CM007 is unlikely to be awarded in 2015. The PMOC does note that the MTACC is fully aware of this situation and the critical role that funding serves in the successful completion of the project. The MTACC continues to work closely with the MTA finance group and keeps the FTA up-to-date on developments and issues. The PMOC has recommended to the ESA Project Controls Group that a funding needs projection be developed along with the cash flow projection to assess the risks to the project should funding not be available in the necessary time frame. ESA has the information to develop a basic funding needs projection and has been working with the PMOC to develop a forecast tool to assist in evaluating funding risk at a more detailed level.

Project Budget:

ESA did not adequately budget the CM014B package and has used significant cost contingency to cover the contract award amount. The PMOC remains concerned about the adequacy of remaining cost contingency to address major risks detailed in the Risk Management discussion below. The PMOC notes that the project's use of unallocated cost contingency continues to be significant.

Project Schedule: The PMOC is concerned about the overall state of the ESA schedule, specifically Manhattan and Systems contracts. ESA does not follow its Schedule Management Plan and is late in updating its Candidate Revisions for the SMP. ESA did not report in its most recent monthly IPS submissions (IPS #72 is the IPS #71) that because of significant delay in Contract CM006 (90 days until this month), both Contracts CM007 and CS179 will be adversely affected. Furthermore the PMT has not yet developed a plan to mitigate its problems with

CM007 schedule logic. Lastly, Contract CS179 has not yet provided an acceptable resource loaded baseline schedule despite the fact that it has been 17 months since its contract NTP.

Risk Management: In the PMOC's opinion, funding availability continues to be a significant risk on the ESA project. Funding uncertainty has already resulted in the PMT's delay of the CM007 contract award until 2016 due to budget constraints and the restructuring of the CS179 contract by splitting it into a base contract with seven options, based predominately on access restraints imposed by the CM006, CM007, and CM014B packages. This will significantly increase the construction contract interface risks. This segmentation of construction packages has created multiple inter-contract interfaces and milestones. In the PMOC's opinion, the probability of successfully achieving all of them is low, and leads to the possibility of a ripple effect of delays and coordination difficulties between contracts. There is very limited opportunity for the contractors to make up time lost to interface delays due to work site time and access constraints. Should delays start to accumulate, recovery will likely not be possible. Managing inter-contract handoffs and interfaces will be challenging and represents significant MTACC-retained risks. Schedule risks will be exacerbated if funding is not in place to award the options in the CS179 contract package as planned. Access Restraints in the CS179 contract are correlated to the options in the Contract and the CS179 contract will also have multiple interfaces with the future CM007 contract. Given that this work is on the project critical path, delays in awarding the options will result in the use of program schedule contingency.

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

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

- Program Funding;
- Successful execution of dozens of hand-off interfaces across multiple contracts;
- Contractor access and work area coordination in Manhattan;
- Lack of approved schedules on the CS179 and CS084 contracts;
- Duration of integrated systems testing;
- Continued availability of adequate Amtrak and LIRR force account resources; and
- Continued availability of required track outages in Harold Interlocking.

The PMOC notes that the MTACC has actively engaged Amtrak to develop some specific mitigations for the last two risks and continues to work on strategies for mitigating many of the other identified risks. Many external stakeholder issues with Amtrak and LIRR will remain beyond the MTACC's direct control, however, and this is likely to complicate problem resolution essential to completion of the project.

APPENDIX A - ACRONYMS

AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
BCS	Backbone Communication System
BLS	Bureau of Labor Statistics
BMS	Building Management System
BOH	Back of House
C&S	Communication and Signals
CCC	Change Control Committee
CCM	Consultant Construction Manager
CIL	Central Instrument Location
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CMU	Concrete Masonry Unit
CPOC	Capital Program Oversight Committee
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
CWP	Construction Work Plan
DCRS	Data Capture and Reporting System
EAC	Estimate at Completion
ELPEP	Enterprise Level Project Execution Plan
ERT	East River Tunnel
ESA	East Side Access
ET	Electric Traction
FA	Force Account
FAMP	Force Account Management Plan
FHACS	"F" Harold Alternate Control System
FFGA	Full Funding Grant Agreement
FLSS	Fire Life Safety System
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GCT	Grand Central Terminal

GEC	General Engineering Consultant
HTSCS	Harold Tower Supervisory Control System
HSR	High Speed Rail
IEC	Independent Engineering Consultant (to MTA)
IFB	Invitation for Bid
IPS	Integrated Project Schedule
IST	Integrated System Testing
LIRR	Long Island Rail Road
LTA	Lost Time Accidents
MOD	Contract Modification
MNR	Metro-North Railroad
MPT	Maintenance and Protection of Traffic
MSE	Mechanically Stabilized Earth
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority Capital Construction
MV	Medium Voltage
N/A	Not Applicable
NTP	Notice to Proceed
NYAR	New York and Atlantic Railroad
NYCDEP	New York City Department of Environmental Protection
NYCDOB	New York City Department of Buildings
NYCT	New York City Transit
NYSPTSB	New York State Public Transportation Safety Board
OCO	Office of Construction Oversight (MTA)
PAC	Pneumatically Applied Concrete
PCO	Preliminary Change Order
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PMT	ESA Project Management Team
PQM	Project Quality Manual
PWE	Project Working Estimate

QA	Quality Assurance
RAMP	Real Estate Acquisition Management Plan
RFP	Request for Proposal
RMCP	Risk Mitigation Capacity Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROW	Right of Way
RSD	Revenue Service Date
SC	Substantial Completion
SCADA	Supervisory Control and Data Acquisition
SCC	Standard Cost Category
SIR	Supplemental Independent Reviewer
SMMS	System Monitoring and Maintenance System
SMP	Schedule Management Plan
SMU	Snow Melter Unit
SOE	Support of Excavation
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
TMC	Transit Management Center
VCS	Voice Communications System
VE	Value Engineering
VoIP	Voice over Internet Protocol
WBS	Work Breakdown Structure
WBY	Westbound Bypass Tunnel
YSB	Yard Services Building

APPENDIX B – TABLES

Table 1: Summary of Critical Dates

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

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

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Table 2: Project Budget/Cost Table

	FFGA			MTA's Current Baseline Budget CBB		Expenditures	
	(Millions)	(% of Grand Total Cost)	Obligated	(Millions)	(% of Grand Total Cost)	(Millions)	(% of CBB)
Grand Total Cost	$7,386	100.00%	$4,724	$11,214.0	100.00%	**$6,372.4**	**56.8%**
Financing Cost	$1,036	14.00%	$617	$1,036.0	9.24%	**$617.6**	**59.6%**
Total Project Cost	$6,350	86.00%	$4,107	$10,178.0	90.76%	**$5,754.8**	**56.5%**
Federal Share	$2,683	36.30%	$1,148	$2,699.0	24.07%	**$2,003.5**	**74.2%**
5309 New Starts share	$2,632	35.60%	$1,098	$2,436.6	21.73%	**$1,741.4**	**71.5%**
Non New Starts grants	$51	0.70%	$50	$67.0	0.60%	**$66.7**	**99.6%**
ARRA	0	0.00%	0	$195.4	1.74%	**$195.4**	**100.0%**
Local Share	$3,667	49.60%	$2,959	$7,479.0	66.69%	**$3,751.3**	**50.2%**

Table 3: Project Budget and Invoices as of July 31, 2015

Elements	Baseline Total Budget (June 2014)	Current Baseline Budget (June 2015)	Actual Awards (June 2015)	Paid to Date (June 2015)	Actual % Budget Paid
Construction	$7,379,296,706	$7,452,057,092	$5,435,337,013	$4,149,018,970	55.68%
Soft Costs Subtotal	**$2,798,474,304**	**$2,728,730,635**	**$1,667,142,295**	**$1,605,809,766**	**58.85%**
Engineering	$720,615,810	$720,615,810	$657,041,551	$646,658,160	89.74%
OCIP	$282,613,620	$282,613,620	$206,370,653	$194,371,289	68.78%
Project Mgmt.	$972,168,644	$972,168,644	$687,840,132	$650,483,436	66.91%
Real Estate	$182,076,230	$182,076,230	$115,889,959	$114,296,881	62.77%
Rolling Stock	$202,000,000	$202,000,000	$0	$0	0.00%
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project subtotal w/o Financing & RI	**$10,177,771,010**	**$10,180,787,727**	**$7,102,479,308**	**$5,754,828,736**	**56.53%**

Note: ESA is currently carrying the Rolling Stock Reserve as an off-line cost, not in the Budget.

Table 4: Comparison of Standard Cost Categories: FFGA vs. CBB

Standard Cost Category (SCC) No.	FFGA SCC baseline (YOE $) M	June 2014 Re-Plan (YOE $)M	June 2015 SSC (YOE $) M	July 2015 SSC (YOE $) M	July 2015 % of Re-Plan	June'15 to July '15 Change $M	CBB Variance from FFGA %
10	1,989	3,405	3,433	3,433	100.82%	0	**72.60%**
20	1,169	2,238	2,339	2,339	104.51%	0	**100.09%**
30	356	474	474	474	100.00%	0	**33.15%**
40	205	611	583	599	95.42%	16	**192.20%**
50	619	606	576	563	95.05%	-13	**-9.05%**
60	165	220	219	219	99.55%	0	**32.73%**
70	957	210	210	210	100.00%	0	**-78.06%**
80	1,184	1,975	1,975	1,975	100.00%	0	**66.81%**
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Subtotal	**6,813**	**10,178**	**10,178**	**10,178**	**100.00%**	0	**49.39%**
100	1,036	1,036	1,036	1,036	100.00%	0	**0.00%**
Total Project Cost (10 – 100)	**7,849**	**11,214***	**11,214***	**11,214***	**100.00%**	0	**42.87%**

*This total amount does not include Regional Investment amount of $758,260,953.
Note: Sum of rounded values for current month is less than actual summed value

Reasons for Changes to SCC Codes:

[redacted]

40: Last month, the CH057 re-estimate was included in the report. The SCC Coding for CH057, FHA57, and FHL57 was done incorrectly. This has been corrected by moving funds from Code 10 to Code 40.

- [redacted]

[redacted]

Table 5: Quarterly ESA Planned Cash Flow- Actuals to Date and Actuals Remaining (as of 2Q2015)

Quarter/year	Construction $(000)	Engineering $(000)	OCIP $(000)	Project Mgmt. $(000)	Real Estate $(000)	Rolling Stock $(000)
Paid To Date	**3,660,194,771**	**646,377,892**	**155,604,955**	**580,041,291**	**112,634,547**	**0**
Remaining	**3,719,144,273**	**74,237,918**	**127,008,665**	**392,127,353**	**69,441,683**	**202,000,000**
3Q2014	209,340,620	-3,311,163	4,774,951	16,667,454	0	0
4Q2014	168,280,817	-3,290,689	4,774,951	16,667,454	75,948	0
1Q2015	134,568,200	-3,183,384	4,619,246	16,123,950	4,506,241	0
2Q2015	147,357,357	-3,290,689	4,774,951	16,667,454	4,658,137	0
Remaining Planned	**3,059,597,279**	**87,313,843**	**108,064,567**	**326,001,040**	**60,201,357**	**202,000,000**
Remaining Actual	**3,278,134,300**	**76,350,378**	**88,235,152**	**328,586,312**	**67,779,349**	**202,000,000**
3Q2015	169,688,509	-3,290,689	4,774,951	16,667,454	4,658,137	0
4Q2015	201,239,698	-3,290,689	4,774,951	16,667,454	4,658,137	0
1Q2016	193,275,933	-3,219,153	4,671,147	16,305,118	4,556,873	0
2Q2016	180,854,738	-3,290,689	4,774,951	16,667,454	4,658,137	8,666,545
3Q2016	181,988,455	-1,983,850	4,774,951	16,652,320	4,658,137	13,070,855
4Q2016	214,173,807	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
1Q2017	210,556,624	6,509,009	4,619,246	15,450,479	4,506,241	12,644,631
2Q2017	199,737,103	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
3Q2017	189,382,506	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
4Q2017	182,084,699	#REF!	4,774,951	15,971,281	4,658,137	13,070,855
1Q2018	174,210,593	6,509,009	4,619,246	15,450,479	4,506,241	12,644,631
2Q2018	170,524,739	6,728,414	4,774,951	15,971,281	4,658,137	13,070,855
3Q2018	168,497,619	6,728,414	4,774,951	15,971,281	4,658,137	14,014,767
4Q2018	155,245,094	6,728,414	4,774,951	15,971,281	50,632	14,014,767
1Q2019	148,441,548	6,509,009	4,619,246	15,450,479	0	13,557,764
2Q2019	110,893,994	6,728,414	4,774,951	15,971,281	0	14,014,767
3Q2019	93,559,944	6,728,414	4,774,951	15,971,281	0	14,014,767
4Q2019	71,649,848	6,728,414	4,774,951	15,971,281	0	14,014,767
1Q2020	20,704,406	6,582,144	4,671,147	15,624,080	0	5,043,553
2Q2020	11,682,057	6,728,414	4,774,951	15,971,281	0	943,912
3Q2020	7,573,078	2,267,183	4,947,825	5,381,627	0	0
4Q2020	2,750,374	0	5,035,679	0	0	0
1Q2021	881,913	0	3,256,771	0	0	0
2Q2021	0	0	0	0	0	0
BL Subtotal	**3,719,144,273**	**74,237,918**	**127,008,665**	**392,127,353**	**69,441,683**	**202,000,000**

Table 6: MTA ESA Project Summary by FTA Standardized Cost Categories 2014 Re-plan ($ in Thousands)

Standardized Cost Category	FFGA	May 2012 Re-Baseline	June 2014 Re-Plan	Awarded Value (2Q2015)	Paid To Date (2Q2015)
10- Guideway & Track Elements	$1,513,998	$2,943,165	$3,405,463	$2,709,593	$2,009,894
20- Stations, Stops, Terminals, Intermodal	$1,168,655	$1,513,998	$2,238,235	$1,630,151	$1,141,477
30- Support Facilities, Yards, Shops, Admin Buildings	$356,264	$384,583	$474,177	$209,748	$203,274
40- Site Works and Special Conditions	$205,105	$491,341	$610,570	$427,207	$427,730
50- Systems	$619,343	$698,296	$605,592	$407,593	$275,959
60-ROW, Land, Existing Improvements	$165,280	$203,639	$219,397	$153,211	$151,618
70- Vehicles	$493,982	$674,372	$209,938	$7,838	$5,549
80- Professional Services	$1,184,000	$1,648,606	$1,975,398	$1,522,778	$1,482,226
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Sub-Total	**$6,349,900**	**$8,708,000**	**$10,177,771**	**$7,068,119**	**$5,697,727**
Estimated Financing Cost	$1,036,100	$1,116,000	$1,036,000	$617,607	$617,607
Total	**$7,386,000**	**$9,824,000**	**$11,213,771**	**$7,685,726**	**$6,315,334**

Table 7: ESA Core Accountability Items

Project Status:		Original at FFGA	Current*	ELPEP **
Cost	Cost Estimate	$7.368 billion	$10.178 billion	$8.119 billion
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]
Schedule	RSD	December 31, 2013	December 2022	April 30, 2018
Total Project Percent Complete	Based on Invoiced Amount	58.1 (ESA Figure)		
Project Performance Rate (Since 2014 ESA "Re-Plan")	Based on Earned Value ±	0.74 (PMOC Calculation)		

Major Issue	Status	Comments
Major Procurements Delays	CM014B was advertised in May 2014; ESA did not make its recommendation to award forecast date of November 2014, and did not make its last forecast date of November 2014 for advertising CM007. The proposal due date will be extended a fourth time from Aug 4, 2015, to "mid-September" 2015, and the cost proposals are due 3 weeks later during the first week of October 2015, and the CM014B Award and NTP were issued February 2, 2015. Award of CM007 is contingent upon funding availability.	PMOC remains concerned about the potential project schedule impacts of procurement delays on these two packages, CM014B and CM007, since they are on the critical and near critical paths for the project.
Project Schedule	The MTACC presented a new baseline schedule to the MTA CPOC in June 2014, with an RSD in December 2022. This schedule incorporates 22 months of Program level contingency. It should be noted that there have been significant changes in elements comprising the baseline schedule, including full re-sequencing of the Harold work and restructuring of the CM007 package.	CM006 has experienced significant delays and has yet to meet the approved recovery schedule production targets. The PMOC is also concerned about the ESA project's inability to develop approved baseline schedules for the CS179 and CS084 contracts, as they are critical to the timely completion of the project.
Harold Re-planning	The Harold baseline schedule that formed the basis of the Program schedule presented to the CPOC in June 2014 is no longer valid. Based on current issues with slow progress and inadequate force account support, ESA completed a Harold schedule re-sequencing in December 2014, also known as "ESA First," that advances work elements required for the new LIRR service to GCT and delays the FRA funded High Speed Rail Work beyond 2017.	Work on the Harold Interlocking is subject to influences outside of the control of ESA. The FRA and Amtrak need to accept the most recent Harold re-sequencing plan completed in December 2014. Should issues with the level of Amtrak force account support return, this could further delay the Harold Interlocking work.

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

** 2010 Enterprise Level Project Execution Plan (ELPEP) reflecting medium level of risk mitigation, excluding financing cost of $1,116 million. This is currently being re-evaluated.