

MONTHLY MONITORING REPORT

World Trade Center Port Authority Trans-Hudson Terminal
PORT AUTHORITY OF NEW YORK AND NEW JERSEY
New York, New York

April 2016



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Cover: The upper landing of the Transit Hall east grand stairs, with a view of the soon-to-be-opened access into the Dey Street Underpass and adjacent Dey Street Concourse.

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 the FTA or the project sponsor, in accordance with the purposes as described below.

For projects funded through FTA's Lower Manhattan Recovery program, the 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 may change from month to month, based on relevant factors for the month and/or previous months.

REPORT FORMAT AND FOCUS

This monthly report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT60-14-D-00010, Task Order No. 006. Its purpose is to provide information and data to assist the FTA in continually monitoring the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether or not the grantee continues to receive federal funds for project development.

This report covers the project management activities on the Permanent World Trade Center (WTC) Port Authority Trans-Hudson (PATH) Terminal (Hub) project, conducted by the Port Authority of New York and New Jersey (PANYNJ) as grantee and funded by the FTA's Lower Manhattan Recovery Office (LMRO).

EXECUTIVE SUMMARY

During April, World Trade Center Construction (WTCC) achieved independence from use of the temporary emergency diesel generators located at the street level above the North Temporary Access (NTA) when it transferred the balance of the total of 208 automatic transfer switches (ATSs) to the new permanent diesel generator plant located in the Tower 3 podium. At month's end the only ATSs dependent upon the temporary emergency generators at the NTA were those that directly support the NTA facility, and those ATSs will no longer be needed when the NTA is closed to public use.

Also during April, WTCC reforecast its planned date for the opening of Phase II of the pedestrian route through the east bathtub from mid-April to May 26, 2016. A formal opening ceremony is reportedly being planned that will likely include PANYNJ as well as Metropolitan Transportation Authority (MTA) and New York City Transit (NYCT), since Phase II will link the WTC PATH Station to the recently opened Fulton Center, thus providing direct underground access between the two transit hubs for thousands of commuters.

Project Description

The WTC PATH Hub serves the PATH electrified rail transit system in Lower Manhattan. The PATH Hub is an extensive underground complex of pedestrian corridors and train station facilities that will replace the original WTC PATH Terminal destroyed by terrorist attack on September 11, 2001.

Construction Agreement (CA)

The CA was signed on April 25, 2006. A Revised and Restated Construction Agreement (RRCA) was executed on September 18, 2012. (b) (4)

(b) (4)

Quarterly Progress Review Meeting (QPRM)

The QPRM for the first quarter of 2016 has been scheduled for June 7, 2016.

Design Activity

The designer continues to provide construction support services, including the review of contractor shop drawings and other submittals.

Procurement Activity

WTCC has completed all of the planned procurements for the PATH Hub project. However, change orders continue to be issued as necessary under the active construction contracts.

Construction Activity

During *April*, WTCC deployed a large contingent of available project resources to making ready the next phase of the pedestrian route through the east bathtub. This next phase, Phase II, will link the main floor of the Transit Hall to the Dey Street Underpass and its connection to MTA's Fulton Center and multiple NYCT subway lines. *Although the connection had not yet opened at the end of the month, it appears likely that the opening will occur during May. The current target date for this event is May 26, 2016.*

Also during *April*, WTCC continued its two-shift construction effort for the new Platforms C and D and the mezzanine above those platforms. At the end of month, installation of the stone floor on the mezzanine level *was nearing 75 percent completion. Other primary activities during the month were the continuing installation of vertical circulation elements for both platforms, and the completion of the concrete placement for the smoke purge collector duct over the northern end of both platforms and Tracks 4 and 5.*

Schedule

On *May 3, 2016*, WTCC released Integrated Master Schedule (IMS) 85 (with a data date of *April 1, 2016*), (b) (4)

Cost Data

WTCC submitted its monthly cost model revision for *March 2016 on April 30, 2016*. The cost model (b) (4)

Risk Management

As of *April* 2016, the PMOC considers the following issues to be among the top risks to the PATH Hub project construction:

- Site-wide systems integration, testing, and commissioning.
- Completion of PATH Hub support rooms/facilities/elements.
- Remaining work to be performed by the low-voltage contractors.
- Performance of PATH Hub project work by other WTC stakeholders.

Technical Capacity and Capability Review

The FTA uses the PEP to measure WTCC's technical capacity and capability. *In March 2016, WTCC opened a portion of the Transit Hall and North-South Concourse to public use, thereby achieving a portion of the PEP milestone, "Oculus/Transit Hall TPTO." By its letter of April 18, 2016, WTCC requested a release of \$10 million from the project Risk Retainage reserve balance as a result of the reduction in project risk associated with this event. On April 25, 2016, the FTA concurred with WTCC, based on the evaluation of residual risk performed by the Project Management Oversight Contractor (PMOC) and summarized in Spot Report 2172, and therefore authorized a release of \$10 million from the remaining Risk Retainage reserve of \$129 million, leaving a balance of \$119 million.*

Project Management Plan (PMP)

During April, WTCC provided another updated version of its Construction Phase Force Account Plan and Justification that extended the covered period through the end of September 2016. In mid-April, following its review, the PMOC furnished additional comments to WTCC on the updated version of the plan. The PMOC and WTCC were engaged in continuing dialogue on the outstanding comments, including two suggestions and one recommendation, at the end of the month. Disposition of the remaining issues is expected to occur in early May 2016.

Project Quality Assurance

During *April* 2016, WTCC Quality Assurance (QA) completed six oversight audits that included reviewing the Construction Manager (CM) QA's field audits and performing its own field construction audits of oculus glazing activities. The *April* 2016 audit total reflects the six WTCC QA audit reports that were issued and received at the time this monthly report was drafted. *During its April audits, WTCC QA did not identify any quality issues for corrective action.*

Site Safety

The WTC PATH Hub project has established its own project safety performance goals for Total Case Incident Rate (TCIR) and Lost-Time Incident Rate (LTIR) of less than 5.0 and less than 2.0, respectively. In *March* 2016, the project had *two* recordable incidents and one lost-time incident, resulting in a monthly TCIR of 3.44 and an LTIR of 1.72, based on 116,340 hours worked. Safety initiatives that took place in *March* are discussed in the project monitoring

section of this report. The April 2016 safety data for the project was not fully available when this report was drafted but is expected to be available after mid-May 2016.

Issues/Problems/Suggestions

During April, WTCC revised its target date for opening the next phase (Phase II) of the east bathtub pedestrian route from April 15 to the end of May 2016. Deferring this opening introduces corresponding delays in the subsequent phases of the Transit Hall opening, thereby introducing a potential delay to the securing of the overall Transit Hall TPTO by the Recovery Plan 05 forecast date of July 30, 2016. This trend, in accordance with the requirement of the RRCA, could trigger the preparation of Recovery Plan 06 in the upcoming period.

WTCC also continues to concentrate its construction resources on the public areas of the project with the intent of opening those areas for public use at the earliest achievable date. This focus is currently evidenced by the work being done at the east end of the oculus in the east bathtub and at Platforms C and D in the west bathtub. However, other areas of the project that are included within the scope of the FTA grant are advancing at a slower pace, and their completions continue to be reforecast to future dates, thus increasing the likelihood that they will not be completed in parallel with the public spaces. For example, the most recent IMS, IMS 85, forecasts a date of August 26, 2016, for the commissioning of the North and South Projection Fan Plants.

A more balanced approach by WTCC to the performance of the work in both the public and support spaces of the project would likely yield an earlier overall completion date.

MONITORING REPORT

A. Project Description

The PATH Hub facility is an intermodal terminal serving the PATH electrified heavy rail transit system, which has a total of 13 stations in New York and New Jersey. When completed, the WTC PATH Hub will connect to 11 NYCT subway lines in Lower Manhattan. The PATH Hub will include a platform level, associated mezzanine and concourse levels called the PATH Hall, and a terminal building called the Transit Hall, or oculus, with north-south and east-west pedestrian connections to the NYCT subways, the World Financial Center, and WTC above-grade site development. It will be a permanent replacement of the original WTC PATH Terminal complex destroyed by the terrorist attack on September 11, 2001.

B. Project Status

Construction Agreement

The CA was signed on April 25, 2006. An RRCA was executed on September 18, 2012. (b)

(4)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Quarterly Progress Review Meeting

The QPRM for the first quarter of 2016 has been scheduled for June 7, 2016.

WTC Site Master Plan

WTCC's latest site master plan is Master Plan Version 11, dated October 10, 2013.

Environmental Compliance

(Reported on separately by FTA's LMRO.)

Design Support During Construction

The designer continued providing post-award design support services for the PATH Hub construction during *April*, including responding to contractor Requests for Information (RFIs), reviewing contractor submittals, and providing design certifications for completed elements of construction. Through the end of *March* 2016, WTCC reports that the designer has issued a total of 52 design certification letters for the PATH Hub project. The designer's RFI log for the *first*

quarter of 2016 through April 13, 2016, indicates that a total of 195 RFIs were submitted during the quarter, with 76 of them remaining open as of the log issuance date.

Construction Status

Phased Opening of Pedestrian Route Through the East Bathtub: WTCC successfully opened Phase I of the pedestrian route through the east bathtub on March 3, 2016. For riders exiting the PATH system, this route allows below-grade pedestrian egress from the PATH Hall mezzanine level, going east through the fare-control line and up to the main floor of the oculus, south into the southern leg of the North-South Concourse, then continuing south on either level of that concourse, and ultimately exiting the complex via the transportation lobby located at grade level within the Tower 4 podium. Commuters can then proceed onto Liberty Street at Church Street. Phase I did not include provisions for Americans with Disabilities Act (ADA) access, *and therefore the NTA remained the only option for ADA access to the WTC PATH Station.* Phase II of the pedestrian route through the east bathtub will add egress paths from the oculus main floor up and into the Dey Street Underpass, which is located at elevation 284 on the eastern end of the oculus. WTCC currently forecasts that Phase II of the pedestrian route will open in *late May 2016. Phase II also will not contain an ADA access route. However, Phase III, which is currently forecast to open in late June and which will add yet another egress path through the east bathtub via the Tower 2 transportation lobby, will add an ADA elevator up to the street level and will thereby allow the NTA egress path to be removed from service.*

Oculus Painting: *Limited exterior painting work resumed during April, although cold temperatures and precipitation slowed productivity.* In addition to weather-related constraints, this exterior painting work *also requires* close coordination with the work of the other contractors that *are* working either at or from the oculus plaza level, including the oculus skylight contractor and the oculus plaza contractor.

Oculus Curtain Wall: Field Water Spray Testing (Hose-testing), in accordance with American Architectural Manufacturers Association (AAMA) Standard 501.2, of the finished curtain wall system still needs to be performed on some portions of the curtain wall system and is expected to resume *during May 2016.*

Oculus Skylight: During April, the contractor installed the fall-protection system at the catwalk portion of the WT-3 metal panels that surround the exterior of the oculus skylight. Work on the laser-based skylight sensor system, which will automatically trigger minor positioning changes in the skylight panels as the oculus structure moves under varying environmental conditions, was completed during the month. Also during April, WTCC QA submitted its initial report on its findings with regard to the failure of the skylight ridge gasket material. The PMOC reviewed that report and suggested additional content in a memorandum issued on April 29, 2016. The caulking and sealing of the catwalk panel joints was continuing at the end of April, and is forecast to be completed by the end of May. The same prime contractor holds both the curtain wall and the skylight contracts.

Platforms C and D: During April, WTCC continued to execute the work at Platforms C and D on a two-shift basis. Stone installation on the wall to the west of Platform D *stalled at* approximately 80 percent completion, however, pending receipt of additional stone materials from the fabricator in Italy. Installation of the stone floor continued at the mezzanine level above

Platforms C and D. An additional set of escalator trusses was delivered and set for the *fifth* of the seven escalators *that will serve these two platforms*, and the hydraulic lines and jacks for the four elevators were set into position. *However, there is currently no power to elevators #1 to #4 because of water damage to electrical panels in the EMR. In early April, the contractor placed the top slab for the north collector duct.*

East-West Connector: Above the north end of the mezzanine level of the PATH Hall, at elevation 284, there was limited progress *again during April* on the work on the previously omitted portion of the upper level of the East-West Connector. The work that was done primarily focused on welding the joints of the steel ribs that line this corridor. The length of the corridor that remains to be completed is approximately 200 feet. WTCC forecasts that work on this project element will continue into the third quarter of 2016, with completion intended to correspond with the completion of Platforms C and D.

East Bathtub Mechanical, Electrical, and Plumbing (MEP), and Fire Protection Work: During April, following the opening of Phase I of the pedestrian route through the east bathtub *in March*, the contractors focused on bringing the necessary public and support spaces to the level of operation needed to allow the opening of Phase II of the pedestrian route through the east bathtub, which is WTCC's next priority. Areas being addressed by these trades included work on ventilation, power supply including emergency backup power, and hot water and chilled water distribution, along with associated testing and commissioning of these elements. In addition to the pedestrian route activities, work at the fresh air supply fans and fresh air shaft in the Tower 3 podium *advanced during April*. At the top of the fresh air shaft, *installation of the boundary walls that will connect the vertical shaft horizontally to the outside air supply source on the north face of the Tower 3 podium continued, and most of the remaining scaffolding and work platform that had been in place above and within the fresh air shaft were removed. That removal, combined with the completion of the in-fill of the temporary access opening into the Tower 3 basement at the base of the shaft, allowed the Building Automation and Temperature Control (BATC) system contractor to start installing instrumentation on the shaft walls. At the Emergency Generator Plant, the remaining ATs were successfully migrated from the temporary emergency diesel generators located at the NTA and onto the permanent emergency diesel generators located in the Tower 3 podium. By the end of the month, the only emergency power demands that remained dependent upon the two temporary emergency diesel generators located at the NTA were those that are associated with the critical functions serving the NTA facility. WTCC continues to forecast that the activation of the fresh air shaft and supply fans will occur in the second quarter of 2016.*

East Bathtub Finish Work: *During April, finish work in the east bathtub continued to focus on the completion of the installation of the finishes that are necessary to support pedestrian access through the eastern portion of the main floor of the oculus and up into the Dey Street Underpass via the east grand stairs. Installation of ceiling panels, glass railings, wall treatments, light fixtures, and trim was ongoing during the month and was being undertaken on a priority basis. In addition, the levels above the upper landing of the east grand stairs were also receiving finishes in an effort to eliminate any hazard that might arise were work to continue overhead once Phase II goes into public use*

Vertical Circulation: During *April*, the vertical circulation contractor focused its resources on the elevator and escalator work at Platforms C and D, as well as the vertical circulation work along the Phase II portion of the east bathtub pedestrian route. The contractor *continued to make progress* on the scenic elevators (elevators 14 and 18) located at the western and eastern ends of the Transit Hall. At Platforms C and D, trusses for one additional escalator were set in place, bringing the total quantity of escalators set in place to five. Two other escalators remained off-site at the end of the month. The contractor set jacks in position and connected hydraulic lines from the mezzanine-level elevator machine room for elevators 1, 2, 3, and 4. In the east bathtub, the contractor was performing final cleaning and adjustments at escalators 25, 26, 27, and 28, which serve between the oculus main floor level and elevation 284, in preparation for their placement into service as part of the Phase II pedestrian route through the east bathtub. The status of elevators (and material lifts) and escalators through the end of April is summarized in the following table:

Item	In Service Last Month	In Service This Month	Onsite/Under Construction Last Month	Onsite/Under Construction This Month	Not Yet Onsite	Total
Escalators	20	20	24	25	2	47
Elevators	8	8	15	15	2	25

Commissioning: During *April*, testing and commissioning activities focused on the vertical circulation elements associated with Phase II of the pedestrian route through the east bathtub, particularly escalators 31, 32, 33, and 34, and elevators 16 and 17. In addition, the biweekly commissioning meetings continued during the month. Generally, representatives from both the property management entity and the commissioning entity are among the attendees at these meetings. At the April 1, 2016 meeting, the turnover from WTCC to the property management entity was discussed in detail, and it was noted that areas of the project, including Phase I of the pedestrian route through the east bathtub, have had limited commissioning and testing completed, a situation that is considered a necessity in order to successfully open areas of the project for public use in piecemeal fashion. The commissioning entity is capturing the outstanding commissioning and testing activities that remain to be performed in the form of a specific Critical Issues Report (CIR) for each element that is turned over with incomplete testing and commissioning status.

Fire Alarm System: During *April*, the fire alarm contractor continued to work on installing fire alarm controls at various supply air dampers located within the fresh air plenum that connects to the Central Fan Plant. During a progress meeting held in April, the fire alarm contractor raised concerns about the interface of the fire alarm system with the radio system. WTCC intends to review the issues that were raised and provide guidance to the fire alarm contractor in early May 2016.

Radio System: During *April*, the radio system contractor continued to work on the installation of the head-end equipment at the first of the two permanent head-end locations, room TH-015. A lack of cooling to the room was encountered when portions of the equipment were energized and the room became abnormally hot, posing potential harm to the operating electronics installed within the room, but a solution was devised relatively quickly to allow work to proceed. Also

during April, the contractor submitted a written Method of Procedure for performing the migration of the radio system from the existing temporary status and support equipment to the new permanent status and support equipment. Initial comments on the document were unfavorable, and at the end of the month, the CM was compiling formal comments to transmit back to the contractor.

Telecommunications and Security Systems: During April, the contractor completed the Factory Acceptance Tests (FATs). Also during April, the contractor continued to install security cameras and perform testing of the access control devices in various locations. WTCC and the contractor also continue to perform the System Integration Tests (SITs) and Site Acceptance Tests (SATs).

Building Automation and Temperature Control (BATC) System: During April, the BATC system contractor completed the transition from its former electrical subcontractor to its replacement electrical subcontractor, and reportedly has seen improved progress in the BATC system installation as a result. As part of its priority efforts, the contractor addressed the following areas during the month: the tie-in of the leak-detection monitors at the emergency diesel fuel oil storage tank room to the Engineer's office located at the Central Chiller Plant; the start of installation of air flow monitors in the fresh air shaft located in the Tower 3 podium; and the advancement of work on the control wiring for fresh air supply fans SF-1, SF-2, and SF-3. In addition, the contractor was performing controls work in the access ports of the radiant floor heating system located in the eastern portion of the oculus main floor, and also working on detection devices in the escalator and elevator pits that are included within the Phase II pedestrian route through the east bathtub.

Central Fan Plant: During April, the BATC system contractor connected the server at the Engineer's office in the Central Fan Plant, reportedly enabling control and monitoring capability of the Central Fan Plant equipment from that position, although the Engineer's office will remain unoccupied until the Central Fan Plant is nearer completion. The air handlers that are currently being run in the Central Fan Plant will continue to depend on fresh air supply from the spill air shaft in the Tower 2 basement until the permanent fresh air shaft and supply fans in the Tower 3 podium are completed and placed in service.

Construction Logistics

The WTCC Office of Program Logistics (OPL) continues to facilitate construction progress and the sharing of access, egress, and work zones among all contractors onsite. During April, OPL tasked its traffic management subconsultant to conduct pedestrian counts along Vesey Street to determine the degree of reduction that can be attributed to the early march opening of the Phase I of the pedestrian route through the east bathtub. OPL also worked with NYC DOT with regard to the mobilization of the crane that will be used by WTC's NTA demolition contractor in the performance of that work. The crane is tentatively planned to be stationary along Vesey Street and to sit directly above the north wall of the west bathtub.

Interagency Coordination

During April, work commenced on the restoration of the pre-September 11 connection between the WTC PATH Station and the NYCT E Line Station at the northeast corner of the WTC site.

This connection point between the two properties has been preserved as one of the historic elements at the site *and is identified in the Cumulative Effects Report*. The restoration work will enable the WTC side of the interface point to handle pedestrian traffic. The MTA side is currently in operation as part of the *NYCT E Line Station*.

Community Relations

OPL continued to distribute construction alerts, updates, and monthly construction progress newsletters to the community and stakeholders. Updates on the project are listed at the website wtccprogress.com and publicized on commonly used social media outlets, and specific presentations are periodically made to Manhattan's Community Board #1. In late April 2016, WTCC *announced the planned formal opening date for Phase II of the pedestrian route through the east bathtub of May 26, 2016*. The opening of Phase II will allow direct below-grade access between the WTC PATH Station and the Dey Street Underpass, and thus *enable* subterranean pedestrian travel between the PATH WTC Station and MTA's Fulton Center, *including direct access to nine NYCT subway lines*.

C. Schedule

On May 3, 2016, WTCC released IMS 85 (with a data date of April 1, 2016), (b) (4)

[REDACTED]

The following table summarizes the 90-day look-ahead for completion of significant *activities*:

Significant Activity	Action by
<i>Stone Installation at PATH Hall Mezzanine Level above Platforms C and D</i>	WTCC
<i>West Bathtub Vertical Circulation Equipment Installation (all escalators and elevators will be delivered and set in place)</i>	WTCC
<i>Tracks 4 and 5 Signalized and Traction Power Energized</i>	WTCC
<i>Partial Opening of Transit Hall to Pedestrian Traffic (Phases II and III)</i>	WTCC

The PMOC, independent of the grantee's schedule forecasts, has developed forecasts for various critical schedule milestones. The results of that effort identified the following forecast dates for the milestone events listed:

Schedule Tool Topic	PMOC Forecast
Platforms C and D Operational	9/3/2016

D. Cost Data

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4) reflects the updated engineer's estimates for all packages in the completed procurement plan and includes the PATH Hub project's share of the common infrastructure projects, such as Retail, the Central Chiller Plant, the Common Electrical System, and site-wide operational support elements. WTCC continues to update the cost allocations that are assigned to the PATH Hub project.

The following table summarizes the latest available EAC (WTCC's forecast) and expenditures as of *March 2016*:

Description	EAC (WTCC's Forecast) (in millions)	Expenditures (in millions)
Construction	\$2,811	\$2,573
Program Management and Design	725	715
(b) (4)	(b) (4)	(b) (4)
(b) (4)	(b) (4)	(b) (4)

WTCC submitted its monthly cost model revision for the *March 2016* data on *April 29, 2016*. The report shows that WTCC's EAC for the federally funded PATH Hub project (b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)



E. Risk Management

As of *April* 2016, the PMOC considers the following issues to be among the top risks to the PATH Hub project construction:

- Site-wide systems integration, testing, and commissioning.
- Completion of PATH Hub support rooms/facilities/elements.
- Remaining work to be performed by the low-voltage contractors.
- Performance of PATH Hub project work by other WTC stakeholders.

F. Technical Capacity and Capability Review

The FTA uses the PEP to measure WTCC's technical capacity and capability. *In March 2016, WTCC opened a portion of the Transit Hall and North-South Concourse to public use, thereby achieving a portion of the PEP milestone, "Oculus/Transit Hall TPTO." By its letter of April 18, 2016, WTCC requested a release of \$10 million from the project Risk Retainage reserve as a result of the reduction in project risk associated with this partial achievement of a milestone. On April 25, 2016, the FTA concurred with WTCC, based on the evaluation of residual risk performed by the PMOC and summarized in Spot Report 2172, and therefore authorized a release of \$10 million from the remaining Risk Retainage reserve of \$129 million, leaving a balance of \$119 million.*

Project Management Plan

During *April*, WTCC provided *another* updated version of its Construction Phase Force Account Plan and Justification that extended the covered period through the end of September 2016. *In mid-April*, following its review, the PMOC furnished *additional comments* to WTCC on the updated version of the plan. *The PMOC and WTCC were engaged in continuing dialogue on the outstanding comments, including two suggestions and one recommendation, at the end of the month. Disposition of the remaining issues is expected to occur in early May 2016.*

Project Quality Assurance

During *April* 2016, WTCC QA completed six oversight audits that included reviewing the CM QA's field audits and performing its own field construction audits of oculus glazing activities. The *April* audit total reflects the six WTCC QA audit reports that were issued and received at the time this monthly report was drafted. *During its April audits, WTCC QA did not identify any quality issues for corrective action.*

G. Site Safety

The WTC PATH Hub project has established safety performance goals for its TCIR and LTIR of less than 5.0 and less than 2.0, respectively. *In March 2016, the project had two recordable*

incidents and one lost-time incident, resulting in a TCIR of 3.44 and an LTIR of 1.72 for the month, based on 116,340 hours worked.

During April, WTCC Safety issued safety information for use by its site safety managers that included *three WTC inclement weather advisories due to high wind conditions at the WTC construction site. The advisories provided directions on the necessary precautions for protecting the work site and the area surrounding the WTC. The advisories also included a New York City Department of Buildings Advisory related to crane operators and contractors on precautionary measures for cranes, supported scaffolding, hoists, and other building appurtenances. In addition, WTCC Safety issued a WTCC Safety Bulletin identifying the new site medical facility and Emergency Medical Technician hours for site workers needing medical assistance. The new site medical office location is at the South Mezzanine Room MZ-182, elevation 266. The April safety data for the project was not fully available at the time this report was drafted but is expected to be available after mid-May 2016.*

H. Issues/Problems/Suggestions

During April, WTCC revised its target date for opening the next phase (Phase II) of the east bathtub pedestrian route from April 15 to the end of May 2016. Deferring this opening introduces corresponding delays in the subsequent phases of the Transit Hall opening, thereby introducing a potential delay to the securing of the overall Transit Hall TPTO by the Recovery Plan 05 forecast date of July 30, 2016. This trend, in accordance with the requirement of the RRCA, could trigger the preparation of Recovery Plan 06 in the upcoming period.

WTCC also continues to concentrate its construction resources on the public areas of the project with the intent of opening those areas for public use at the earliest achievable date. This focus is currently evidenced by the work being done at the east end of the oculus in the east bathtub and at Platforms C and D in the west bathtub. However, other areas of the project that are included within the scope of the FTA grant are advancing at a slower pace, and their completions continue to be reforecast to future dates, thus increasing the likelihood that they will not be completed in parallel with the public spaces. For example, the most recent IMS, IMS 85, forecasts a date of August 26, 2016, for the commissioning of the North and South Projection Fan Plants

A more balanced approach by WTCC to the performance of the work in both the public and support spaces of the project would likely yield an earlier overall completion date.

End of report. Appendices follow.

APPENDIX A – LIST OF ACRONYMS

AAMA	American Architectural Manufacturers Association
ADA	Americans with Disabilities Act
ATS	Automatic Transfer Switch
BATC	Building Automation and Temperature Control
CA	Construction Agreement
CIR	Critical Issues Report
CM	Construction Manager
EAC	Estimate at Completion
FAT	Factory Acceptance Testing
FTA	Federal Transit Administration
IMS	Integrated Master Schedule
LMRO	Lower Manhattan Recovery Office
LTIR	Lost-Time Incident Rate
MEP	Mechanical, Electrical, and Plumbing
MTA	Metropolitan Transportation Authority
NTA	North Temporary Access
NYCT	New York City Transit
OPL	Office of Program Logistics
PANYNJ	Port Authority of New York and New Jersey
PATH	Port Authority Trans-Hudson
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA	Quality Assurance
QPRM	Quarterly Progress Review Meeting
SAT	Site Acceptance Test
SIT	System Integration Test
RCD	Required Completion Date
RFI	Request for Information
RRCA	Revised and Restated Construction Agreement
TCIR	Total Case Incident Rate
TPTO	Temporary Permit to Occupy
WTC	World Trade Center
WTCC	World Trade Center Construction