

MONTHLY MONITORING REPORT

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

May 2015



PMOC Contract Number: DTFT60-14-D-00010

Task Order Number: 006

O.P.s Reference: 01, 02, 25, 40

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Cover: A view of new Platform B, looking north from the southern end. This platform opened to revenue service on May 7, 2015.

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 May, World Trade Center Construction (WTCC) opened new Platform B to revenue service, along with the mezzanine above the new platform. The achievement of this milestone event triggered the release of a portion of the retained risk contingency funds and also allowed for the removal from service and start of demolition of temporary Platform C, including Tracks 4 and 5.

Project Description

The WTC PATH Hub Terminal 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 by the LMRO on April 25, 2006. A Revised and Restated Construction Agreement (RRCA) was executed on September 18, 2012. (b) (4)

[REDACTED]

Quarterly Progress Review Meeting (QPRM)

A QPRM for the first quarter of 2015 was held on May 27, 2015.

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

Construction Activity

During May, Platform B and the mezzanine above the platform were opened to revenue service. The opening of Platform B allowed for the removal of the adjacent temporary Platform C from revenue service, and its demolition could then begin. The opening of Platform B included two Americans with Disabilities Act (ADA) elevators and three escalators connecting the platform and mezzanine levels. All of the required life safety systems were also placed into service at the time of the opening of the new platform.

At the Transit Hall, progress during May 2015 included the setting of an additional 169 curtain wall glass panels, bringing the total number of glass panels set to 530. The curtain wall contractor still must install 242 glass panels and 112 metal panels. At the oculus roof level, 55 of the 60 required smoke purge fans were also hoisted into position during May.

Schedule

In May 2015, WTCC released Integrated Master Schedule (IMS) 79 (with a data date of April 1, 2015), (b) (4)

[REDACTED]. In April 2015, WTCC submitted Recovery Plan 03, which addresses project impacts and mitigation actions related to the delay in completion of the RRCA milestones of “Transit Hall Superstructure Complete (Glazing)” by January 13, 2015, and “Mezzanine Structural Steel at Platform C Substantially Complete” by June 30, 2015. WTCC is now targeting completion of the oculus glazing by August 31, 2015, and mezzanine structural steel at Platform C by October 31, 2015.

Cost Data

WTCC submitted its monthly cost model revision on May 31, 2015. It shows that, based on the contract awards and estimates through April 30, 2015, WTCC’s Estimate at Completion (EAC) for the federally funded PATH Hub project is just over \$3.7 billion, which is unchanged from the cost model revision submitted at the end of the prior month. WTCC reported total PATH Hub expenditures through April 30, 2015, to be over \$3.11 billion, or approximately 83.6 percent of the EAC. That total of PATH Hub expenditures includes an additional \$14.8 million in PATH Hub expenditures over the total contained in the March 31, 2015 report.

Risk Management

To provide an improved project risk tool, the FTA, the Project Management Oversight Contractor (PMOC), and WTCC completed the Project Execution Plan (PEP) in conjunction with the execution of the RRCA on September 18, 2012. That document sets forth a series of project review points with specific project milestones that must be met in order to trigger the release of defined amounts of risk contingency funds to the grantee. As each PEP milestone event is achieved, the PMOC updates the contingency drawdown curves to reflect the evaluation of the project's residual risks and the potential risk retainage release amounts associated with each of the remaining PEP milestones. During *May 2015*, the PEP milestone defined as "*Platform B Operational*" was achieved, triggering the initiation of another partial release of risk retainage. *Also during May, the FTA, the PMOC, and WTCC met in a workshop session to collaborate on identifying and assigning risk retainage release values to the remaining PEP milestones as well as identifying potential additional PEP milestones.* Top risk drivers are mentioned within the body of the monitoring report, below.

Technical Capacity and Capability Review (TCCR)

The TCCR will be updated as necessary in conjunction with the update of the PEP.

Project Management Plan (PMP)

The grantee updated its PMP and submitted version 6.0 of the plan in early August 2014. The PMOC transmitted its formal spot report on the PMP update, recommending its approval, conditional upon modification of the sections that describe the reporting relationships of WTCC's Quality Assurance (QA) Unit, to the FTA on April 27, 2015. The FTA transmitted that spot report to the grantee on April 28, 2015. *On May 14, 2015, WTCC provided an updated version of PMP 6.0 which it identified as addressing the clarification that was sought by the FTA's conditional approval of the earlier version.*

Project Quality Assurance

During *May 2015*, WTCC QA completed *five* oversight audits that included reviewing the Construction Manager (CM) QA's field audits and performing its own field construction audits. The *May 2015* audit total reflects the *five* WTCC QA audit reports that were issued and received at the time this monthly report was drafted. No quality issues were identified 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 *April 2015*, the project had *two* recordable incidents and *zero* lost-time incidents, resulting in a TCIR of *3.43* and an LTIR of *0.0*, based on *116,786.0* hours worked. Ongoing *May* safety initiatives are discussed in the project monitoring section of this report. The *May 2015* safety data for the project was not fully available at the time this report was drafted but is expected to be available after mid-*June 2015*.

Issues/Problems/Suggestions

During May, multiple issues continued to prevent the placement into service of the new Emergency Generator Plant, which is located in the podium of Tower 3. Among the issues were fuel delivery system deficiencies that continued to be identified and addressed during the month, leaving the two temporary emergency diesel generators at the North Temporary Access (NTA) as the PATH Hub project's only source of emergency power. Additionally, the delivery of chilled water to the project from either the Central Chiller Plant or the Emergency Chiller Plant was not achieved during May, and therefore the use of temporary spot coolers had to be reintroduced at a number of locations on an interim basis in order to alleviate heat buildup that occurred with the onset of warmer weather. The delivery of fresh air to the Central Fan Plant via the air intake shaft and supply fans at the Tower 3 podium is another priority for the project. The continued inability to deliver fresh air is preventing the distribution of tempered air to various areas in the PATH Hub, and is requiring the deployment of temporary workarounds.

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 PATH stations in New York and New Jersey. When completed, the PATH Hub will connect to 11 New York City Transit (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]. WTCC

submitted Recovery Plan 03 on April 15, 2015. In late April, the PMOC recommended acceptance of Recovery Plan 03, which maintains the PATH Hub project's substantial completion date and RCD from Recovery Plan 02.

Quarterly Progress Review Meeting

A QPRM for the first quarter of 2015 was held on May 27, 2015.

WTC Site Master Plan

WTCC's current 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, including responding to contractor Requests for Information (RFIs) and providing design certifications for completed elements of construction. The designer also continues to prepare and issue addenda that incorporate multiple, issued RFI responses in which the designer authorized changes to the base design documents that bring those documents into conformance with the RFI responses. The CM tracks contractor RFIs for each of the prime contractors working on the project. The CM, in concert with WTCC, then prioritizes the order in which

those RFIs are answered by the designer based on their relative importance in advancing project work.

Construction Status

Oculus Steel: The oculus steel contractor continued to focus on surface restoration and painting of the erected oculus steel during May. As in April, the coordination of this work with the work of the various other contractors that require access to the oculus structure was challenging, although successfully accomplished. During May, the contractor initiated a recoating program to address the widespread development of discoloration of rafter elements. The recoating program consists of surface preparation in those areas that are discolored, and then applying the required three-coat system of primer, undercoat, and finish coat. The contractor treated six rafters on the south side of the oculus, working eastward from the westernmost rafter, during the month. Other work by the oculus steel contractor during the month included rat hole repair and recoating, and coating of light fixture shrouds at affected purlin locations. At month's end, the contractor's was still developing plans to restore and paint the surface at arch lip plate attachment points, as well as plans for addressing "creases" that have been observed in the abutment shell plates at both the east and west abutments.

Oculus Curtain Wall: During May, WTCC made progress toward achieving the objective of enclosing the oculus. Once the oculus is enclosed, interior work, such as stone floor and lighting installation, can proceed. By the end of the month, 530 glass panels of the total of 772 had been set in position—348 on the north side and 182 on the south side. Boomlift activity continued to be a concern for the curtain wall contractor, with painters, mechanical contractor personnel, and the curtain wall contractor positioned around the oculus perimeter, and the curtain wall contractor using 21 boomlifts. During May, use of the hammerhead crane also presented a coordination concern. The glass panels, smoke purge fans, skylight rails and panels, and roofing materials were all hoisted with this crane. During May, the contractor also installed a mock-up of a sill trim support, which is the bottom exterior sill at each glazing bay. Installation of the metal panel portion (WT-3) of the curtain wall system will begin after the skylight guide rails and smoke purge fan dampers have been fully installed. Both of these elements are protected by the curtain wall metal panels in the final arrangement. To date, the required commissioning tests for the building envelope has not started, and the exact scope of this testing continues to be developed. Fifteen percent of the envelope system must be subjected to air and water intrusion testing.

Oculus Skylight: During May, the oculus skylight contractor, which is the same contractor as the oculus curtain wall contractor, continued to install guide rails at the oculus roof level. At month's end, 71 of the 112 rails had been installed. These rails contain the drive motors and belts that will uniformly open and close the skylight sections. During May, the first 2 of 40 skylight sections were set in position and initially tested using temporary power. Once set, the panels will require further adjustment.

Platform B: On May 7, 2015, Platform B opened for public use. During the first week of May, the contractor worked extra shifts to prepare for the opening of Platform B. The testing of fire alarms and other systems continued right up to the opening date. The opening of Platform B occurred, after the required life safety systems were accepted by PANYNJ's Quality Assurance Division (QAD). Portions of the finish work, such as some walls, floors, and ceilings, are

temporary, and these elements will be completed at a later date as per contract requirements. Many of the support systems, such as smoke purge fans, emergency power, fire alarms, and HVAC, have yet to be placed in final configuration as required by the contract. At the north end of the platform about 100 feet of platform has been closed off from the public and is not completed including the new dispatcher's office and the emergency egress stairs. This area will have to be completed for WTCC to fulfill the project's objective of handling 10-car consists at each of the new platforms.

Platforms C and D: Following the May 7 opening of Platform B, the contractor took control of temporary Platform C and tracks 4 and 5. The construction zone demarcation wall is now between tracks 3 and 4, and the zone continues west through Platform D, ending at the north-south shear wall. The contractor commenced demolition with the creation of an access hole from track level through the roof area at the north end of track 5. This allows removal of large amounts of debris as well as delivery of construction materials. Also during May, the contractor began removing partition walls, mechanical equipment and ductwork, and several staircases, along with some sections of tracks 4 and 5. Platform C demolition at the area above the utility tunnel also started during May. At Platform D, the mechanical contractor continued to install pipe and ductwork in the area under the new platform. At the north end of Platform D, the contractor continued installing rebar and formwork for walls at the back-of-house rooms. At the south end of Platform D, the contractor continued constructing concrete masonry unit (CMU) walls for multiple back-of-house rooms.

East Bathtub Mechanical, Electrical, Plumbing (MEP), and Fire Protection Work: During May, WTCC continued to focus on the work needed to bring the new Emergency Generator Plant on-line. While progress was made on this priority effort, new deficiencies in the fuel delivery system piping were also identified when other portions of the piping that was installed by the Tower 3 developer's mechanical contractor were examined and found to require rework. By the end of the month, five additional deficiencies had been identified in the north riser portion of the piping. WTCC decided that those repairs would be made by its east bathtub mechanical contractor rather than continuing to seek that work from the developer's mechanical contractor. The southern fuel delivery system riser, which had not yet been fully installed, was also re-assigned to the Hub project's mechanical contractor. At the Transit Hall, the MEP work advanced during the month. During May, 55 of the 60 required smoke purge fans at the oculus roof were hoisted into position. Power and control wiring installation to the roof level also continued during the month. The plumbing contractor continued to install gutter troughs and drain lines from the roof to the base of the oculus. Delivery of chilled water to the east bathtub from the Central Chiller Plant via the two temporary 20-inch bypass lines had been planned during May but was not completed and was reforecast to June. Hydro-testing of the two temporary lines identified leaks that require repair before the lines will be eligible to transport chilled water to the east bathtub for further use and distribution.

East Bathtub Finish Work: During May, at elevation 296 along the east and north sides of the oculus walkway, the stone contractor continued to install floors. Painting of the inside surfaces of the oculus steel elements also continued in May. At the underside of the 296 elevation walkway, installation of the ceiling framing grid system started during the month.

Primary Distribution Center (PDC) at Tower 1: The status of the migration of PATH Hub project electric loads from the Temporary Primary Distribution Center (TPDC) in the NTA to the PDC in Tower 1 remained unchanged during *May*. Two transfers have been completed to date, one in August of 2014 and the second in December 2014, with four transfers remaining to be accomplished. *WTCC again cited the existence of other priorities and the limited resources of its high tension unit as reasons for the deferral of the load transfer work.*

Vertical Circulation: During *May*, *three escalators and two elevators were placed into service at Platform B. Work also continued on the installation of escalators and elevators located in both the Transit Hall and the PATH Hall. Some of these escalator and elevator units are required to support WTCC's plan to route pedestrian traffic through the east bathtub and have been inspected, and have only minor punch list items remaining to be addressed. WTCC currently forecasts that this route will open to the public by the end of June. The final commissioning of these units will require that emergency power be available, and it remained unavailable at the end of the month. Elevator 23, which is located in Tower 2, is being managed by the PANYNJ Retail group and will also be required for the opening of the Early Access Pedestrian Corridor. The 24-hour run tests for these units are still pending and are expected to occur just before they are placed into service. Also during May, the elevator contractor continued to install Material Lift ML-2. The lift will be used to move materials between the Central Fan Plant and elevation 250.*

Item	In Service Last Month	In Service This Month	Onsite/Under Construction Last Month	Onsite/Under Construction This Month	Not Yet Onsite	Total
Escalators	8	11	34	31	5	47
Elevators	4	6	13	11	4	21

Fire Alarm System: *During May, the fire alarm work necessary for the relocation of the fire command station from the temporary location at the NTA to the new permanent location at elevation 306 of the Transit Hall continued. Throughout the PATH Hub area, fire alarm conduits continued to be installed, and cables were being pulled to this new fire command station. Priority has been assigned to the installation of fire alarm devices that serve the Early Access Pedestrian Corridor as well as to the infrastructure to support these devices. Testing of fire alarm devices along the corridor route continued during May. The equipment for the street-level fire alarm console at the east end of the oculus is forecast to be onsite in early June.*

Commissioning: *During May, following the opening of Platform B on May 7, 2015, the commissioning effort again focused on the testing and commissioning activities that will be required to place the new Emergency Generator Plant into service, and the testing and commissioning work planned for the oculus curtain wall system. In the case of the Emergency Generator Plant, this effort is expected to be a substantial undertaking that must be performed quickly, given the importance of the new Emergency Generator Plant to other elements of the project work. For the oculus curtain wall, the testing program presents logistical issues because of the configuration of the oculus structure. A walk-through and a dry run in preparation for the generator plant commissioning effort are being planned during June in order to minimize the chances of problems arising during the actual testing, which remained constrained throughout*

May while remedial work continued on the fuel delivery system. The curtain wall testing is also constrained by the incomplete state of the installed curtain wall elements, allowing more detailed testing plan development to be performed.

Communications Systems: *During May, the systems required for the partial opening of Platform B were placed into service without any operational difficulties. These systems included security cameras, access control devices, and telephone service. Also during May, work continued on the communications systems that will be necessary to support the opening of the Early Access Pedestrian Corridor in the east bathtub.*

Central Fan Plant: *During May, work at the fresh air intake shaft located in the Tower 3 podium advanced as the metal transitional sections over the three dampers at the top of the shaft were installed. The three large-capacity supply fans remain staged adjacent to the shaft and are not yet set in their final positions. Installation of the supply fans (SF-1, SF-2, and SF-3) remains critical to bringing the Central Fan Plant online. At the east side of the Central Fan Plant, steamfitters continued to relocate overhead chilled water lines that conflict with the installation of Material Lift-1.*

Construction Logistics

The WTC Office of Program Logistics (OPL) continued to facilitate construction progress and the sharing of access, egress, and work zones among all contractors onsite. *During May, Platform B opened to revenue service, and the Tower 1 Observatory opened for public visitation. The OPL coordinated these events with the other WTC site contractors and stakeholders. The OPL has also announced that, in June, more of Greenwich Street within the site boundary will be opened by relocating the southern security gate to north of the Memorial Museum entry pavilion. Also during June, OPL intends to rededicate areas directly to the south of the NTA for the exclusive use of the Metropolitan Transportation Authority #1 Line Cortlandt Street Station project.*

Interagency Coordination

OPL continued to coordinate site construction and logistics among the many project stakeholders, including contractors, construction managers, tenants, insurance firms, PATH operations, and the Port Authority Police Department (PAPD). Monthly meetings continue to be held among the various entities. *The May opening of the Tower 1 Observatory gave rise to a PAPD issue when an estimated 14,000 visitors queued up on the opening day to buy tickets and visit the multi-story observatory, which is located at the highest floors of Tower 1. PAPD expressed concern about the large size of the crowd and is now seeking, in concert with OPL, changes in the marketing and ticket purchase procedures at the Tower 1 Observatory in order to eliminate overcrowding on the sidewalk outside the building.*

Community Relations

OPL continued to distribute construction alerts, updates, and monthly construction progress newsletters to the community and stakeholders. During February, OPL published a delivery requirements memorandum detailing the procedure for deliveries to the WTC, including security

requirements. Updates on the project are also listed at the website wtcprogress.com, and specific presentations are periodically made to Manhattan's Community Board #1.

C. Schedule

In May 2015, WTCC released IMS 79 (with a data date of April 1, 2015), (b) (4)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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

Significant Activity	Action by
Utility Tunnel Complete at Platform C	WTCC
Central Fan Plant Online	WTCC
Migrate PATH Hub Electrical Loads from the TPDC at the NTA to the PDC at Tower 1	WTCC
Demobilization of Oculus Steel Contractor	WTCC

The PMOC, independent of the grantee's schedule forecasts, has developed selected schedule tools to forecast upcoming critical schedule milestones. During May, the results of that effort were updated and identified the following forecast dates for *two* milestone events:

Schedule Tool Topic	PMOC Forecast
(b) (4)	[REDACTED]
[REDACTED]	[REDACTED]

D. Cost Data

The RRCA commits \$2.872 billion in federal funding to the PATH Hub project and includes an FTA-allowable not-to-exceed amount of \$3.995 billion.

On October 18, 2012, the Port Authority Board reauthorized the WTC PATH Hub project, at an estimated total project cost range of \$3.724 billion to \$3.995 billion. This reauthorization provided for an increase in the budget from approximately \$3.4 billion to slightly more than \$3.7 billion.

The \$3.7 billion budget 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 April 30, 2015:

Description	EAC (WTCC's Forecast) (in millions)	Expenditures (in millions)
Construction	\$2,807	\$2,438
Program Management and Design	709	676
Contingency	(b) (4)	(b) (4)
Total	(b) (4)	(b) (4)

WTCC submitted its monthly cost model revision on May 31, 2015. It shows that, based on the contract awards and estimates through April 30, 2015, (b) (4) which is unchanged from the cost model revision submitted at the end of the prior month. WTCC reported total PATH Hub expenditures through (b) (4). That total of PATH Hub expenditures includes an additional \$14.8 million in PATH Hub expenditures over the total contained in the March 31, 2015 report.

Over the last 12 months (June 2014 to May 2015), the average project expenditure per month has been approximately \$23 million. That monthly expenditure is below the monthly burn rate of \$76.2 million that would be necessary to support WTCC's substantial completion by the forecast date of December 2015.

E. Risk Management

To provide an improved project risk tool, the FTA, the PMOC, and WTCC completed the PEP in conjunction with the execution of the RRCA on September 18, 2012. That document sets forth a series of project review points with specific project milestones that must be met to trigger the release of defined amounts of risk contingency funds to the grantee. As each PEP milestone event is achieved, the PMOC updates the contingency drawdown curves to reflect the evaluation of the project's residual risks and the potential risk retainage release amounts associated with each of the remaining PEP milestones. During May 2015, the PEP milestone defined as "Platform B Operational" was achieved, triggering the initiation of another partial release of risk retainage. Also during May, the FTA, the PMOC, and WTCC met in a workshop session to collaborate on identifying and assigning risk retainage release values to the remaining PEP milestones as well as identifying potential additional PEP milestones.

As of *May* 2015, the PMOC considers the following issues among the top risks to the PATH Hub project:

- Placement into service of the Emergency Generator Plant.
- Coordination among the oculus curtain wall and skylight contractor and the other contractors working in the Transit Hall space.
- Duration of the rock excavation for utility and ventilation tunnels under the new Platform C.

F. Technical Capacity and Capability Review

The FTA uses the PEP to measure WTCC's technical capability and capacity.

Project Management Plan

The grantee updated its PMP and submitted version 6.0 of the plan in early August 2014. The PMOC transmitted its formal spot report on the PMP update, recommending its approval, conditional upon the modification of the sections that describe the reporting relationships of WTCC's QA Unit, to the FTA on April 27, 2015. The FTA transmitted its conditional approval, including that spot report, on to the grantee on April 28, 2015. *On May 14, 2015, WTCC provided an updated version of PMP 6.0 which it identified as addressing the clarification that was sought by the FTA's conditional approval of the earlier version.* An updated draft of WTCC's Operations Management Plan, a PMP sub-plan, was submitted in August 2014, but it was found to lack essential elements. The grantee is preparing an updated version of the Operations Management Plan.

Project Organization

WTCC continues to update consultant and contractor staff assignments across project areas to address staffing needs as the project advances.

Project Quality Assurance

During *May* 2015, WTCC QA completed *five* oversight audits that included reviewing the CM QA's field audits and performing its own field construction audit. The *May* audit total reflects the *five* WTCC QA audit reports that were issued and received at the time this monthly report was drafted. No quality issues were identified for corrective action.

G. Site Safety

The WTC PATH Hub project has established its own safety performance goals for its TCIR and LTIR of less than 5.0 and less than 2.0, respectively. In *April* 2015, the project had *two* recordable incidents and *zero* lost-time incidents, resulting in a TCIR of 3.43 and an LTIR of 0.0, based on 116,786.0 hours worked. *As part of its ongoing safety initiatives, WTCC Safety issued Safety Bulletins and other safety information for use by its site safety managers that addressed HAZ COM training and the dangers of laser levels used in construction. Site safety managers are encouraged to use this material at toolbox talks and to make copies available in the work shanties.*

The *May* safety data for the project was not fully available at the time this report was drafted but is expected to be available after mid-*June* 2015.

H. Issues/Problems/Suggestion

During May, multiple issues continued to prevent the placement into service of the new Emergency Generator Plant, which is located in the podium of Tower 3. Among the issues were fuel delivery system deficiencies that continued to be identified and addressed during the month, leaving the two temporary emergency diesel generators at the NTA as the PATH Hub project's only source of emergency power. Additionally, the delivery of chilled water to the project from either the Central Chiller Plant or the Emergency Chiller Plant was not achieved during May, and therefore the use of temporary spot coolers had to be reintroduced at a number of locations on an interim basis in order to alleviate heat buildup that occurred with the onset of warmer weather. The delivery of fresh air to the Central Fan Plant via the air intake shaft and supply fans at the Tower 3 podium is another priority for the project. The continued inability to deliver fresh air is preventing the distribution of tempered air to various areas in the PATH Hub, and is requiring the deployment of temporary workarounds.

End of report. Appendix follows.

APPENDIX A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
CA	Construction Agreement
CM	Construction Manager
CMU	Concrete Masonry Unit
EAC	Estimate at Completion
FTA	Federal Transit Administration
IMS	Integrated Master Schedule
LMRO	Lower Manhattan Recovery Office
LTIR	Lost-Time Incident Rate
MEP	Mechanical, Electrical, and Plumbing
NTA	North Temporary Access
NYCT	New York City Transit
OPL	Office of Program Logistics
PANYNJ	Port Authority of New York and New Jersey
PAPD	Port Authority Police Department
PATH	Port Authority Trans-Hudson
PDC	Primary Distribution Center
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA	Quality Assurance
QAD	Quality Assurance Division
QPRM	Quarterly Progress Review Meeting
RCD	Required Completion Date
RFI	Request for Information
RRCA	Revised and Restated Construction Agreement
TCCR	Technical Capacity and Capability Review
TCIR	Total Case Incident Rate
TPDC	Temporary Primary Distribution Center
WTC	World Trade Center
WTCC	World Trade Center Construction