

MONTHLY MONITORING REPORT

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

May 2014



PMOC Contract Number: DTFT60-09-D-00008

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Cover: *North projection fan plant in progress.*

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. DTFT60-09-D-00008, Task Order No. 002. 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

Although not part of the WTC PATH Hub project, the opening to the public of the adjacent National September 11 Memorial Museum occurred on May 21, 2014. A formal museum dedication ceremony, led by the President of the United States, was held on May 15, 2014.

Progress on the PATH Hub project this month included the installation of the two keystone elements at the north and south arches of the oculus structure, followed by the de-stressing and removal of the temporary struts and other temporary supports that had held the structure in place while the arches were being assembled. Rafter setting also began in earnest during late May.

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. The RRCA establishes a Required Completion Date (RCD) of December 17, 2015, and commits \$2.872 billion in federal funding to the PATH Hub project. The RRCA establishes a not-to-exceed amount of \$3.995 billion for the project.

Quarterly Progress Review Meeting (QPRM)

The QPRM for the first quarter of 2014 is scheduled for June 2, 2014, at 1:30 p.m.

Design Activity

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

Procurement Activity

World Trade Center Construction (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

Oculus steel erection achieved a significant milestone during May with the fastening of the two keystone elements at the north and south arches of the oculus structure, thereby allowing the destressing and removal of the temporary struts and other temporary supports that had served to hold the arch elements in place during erection. Rafter erection also commenced in earnest during May. Work also advanced on the lower level of the north-south concourse, which is currently forecast to allow pedestrian traffic through the east bathtub during the fourth quarter of 2014.

In the west bathtub, construction activities progressed at Platform B. New platform construction advanced along with the installation of the overhead precast concrete duct system. At the Platform D work area, excavation for the section of the utility tunnel that will pass under that platform and future Track 5 continued.

Schedule

In May 2014, WTCC released Integrated Master Schedule (IMS) 73, (b) (4)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Cost Data

WTCC submitted its monthly cost model revision on May 30, 2014. It shows that, based on the contract awards and estimates through April 30, 2014, 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, 2014, to be more than \$2.84 billion, or 76.3 percent of the EAC. That total of PATH Hub expenditures includes an additional amount of \$29.2 million in PATH Hub expenditures over the total contained in the April 30, 2014 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. As information on the impacts of Hurricane Sandy became available, the PMOC conducted PEP workshops in June 2013 to

discuss and quantify the impacts to cost and schedule from the storm. The PMOC then reconciled the results of the workshops with WTCC, and the outcome of this effort was used to update the PEP. The PEP was finalized in February 2014 and recognized WTCC's eligibility for receiving partial release of risk retainage by achieving beneficial use of Platform A on February 25, 2014.

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 is updating its PMP and expects to submit the updated plan *during* June 2014. WTCC furnished a draft of updated Chapter 4–Program Organization and WTCC Project Staffing on April 28, 2014; it is currently under review.

Project Quality Assurance (QA)

During May 2014, WTCC QA completed two QA oversight audits covering the Construction Manager (CM) QA field observations and WTCC activities. For the QA audits completed in May 2014, no corrective actions were identified. The May 2014 audit total reflects the two audit reports that were issued and received at the time this report was drafted.

Site Safety

The WTC PATH Hub project has established safety performance goals for its Total Case Incident Rate (TCIR) and Lost-Time Incident Rate (LTIR) of less than 5.0 and 2.0, respectively. In April 2014, WTC Safety met its goals with four recordable incidents and one lost-time incident that resulted in a TCIR of 4.16 and an LTIR of 1.04, based on 192,144 hours worked. In comparison, its March 2014 incident totals were one recordable incident, no lost-time incidents, resulting in a TCIR of 1.23 and an LTIR of 0, based on 162,076 hours worked. The increase in incidents during April was attributed to material handling issues, slip and fall, and use of tools. In reviewing the April safety performance, WTCC Safety continued its active role in managing worker safety and evaluating the causes of each of the incidents that occurred in 2014. The project's May 2014 safety data was not fully available at the time this report was being drafted.

Issues/Problems/Suggestions

The widespread regional damage caused by Hurricane Sandy in late October of 2012 caused a delay to the forecast completion of the PATH Hub project. (b) (4)

[REDACTED]

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 Oculus, or Transit Hall, 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 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. The RRCA established an RCD of December 17, 2015, and commits \$2.872 billion in federal funding to the PATH Hub project. It also includes an FTA-allowable not-to-exceed amount of \$3.995 billion. FTA approved WTCC's February 18, 2014 Recovery Plan, thereby establishing a revised RCD of December 31, 2016. Also included in the Recovery Plan was a change in WTCC's forecasted substantial completion date to December 31, 2015.

Quarterly Progress Review Meeting

The QPRM for the first quarter of 2014 is scheduled for June 2, 2014, at 1:30 p.m.

WTC Site Master Plan

WTCC's current site master plan is Master Plan Version 10, released October 1, 2010.

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 *and that* bring those documents into conformance with the RFI responses.

Construction Status

Oculus Steel: *During May*, the north and south arches *were completed, with the setting and bolting* of the two steel keystone elements at the center bay of each arch. Each of those elements

required a dry fit-up, followed by fit adjustments, shim fabrication, bolt hole drilling, and then final setting and fastening. *Welding of cover plates at the connection joints between upper and lower portals and also at the connection points between upper portals and arch-transitions continued to be one of the contractor's primary activities during the month. Rafter setting and temporary connection to the arch-transitions began in earnest during the later portion of the month and are expected to continue through the next several weeks. The rafter setting and temporary connection work will be followed by an extended period of welding to make the permanent rafter connections. The contractor also intends to mobilize a crawler crane to assist with erection during June 2014.* The following table quantifies the field progress during May:

Summary of Oculus Steel Erection Progress (May 2014)

	Upper Portals	Arch-Transitions	Rafters
Total Quantity	110	110	146
Set Last Month	14	11	1
Set This Month	8	12	8
Total Set to Date	110	110	11
Number Remaining	0	0	135

Oculus Glass: Although previously forecast to begin in the third quarter of 2013, commencement of oculus glass installation continues to await the turnover of the oculus steel structure. As currently planned, oculus glass panel installation will proceed *after* all of the steel rafters have been set by the oculus steel contractor, thereby ensuring that the steel structure is in its final position when glass panel installation begins. *During May, the glass contractor mobilized three construction trailers to the site and installed a prototype glass panel mounting bracket in one of the oculus steel bays. Some interference with welds placed by the oculus steel contractor was noted, and bracket adjustments to remedy the weld interference are being considered. Also during May, open designer comments on the glass and metal panel field mock-ups continued to be addressed, and various solutions remain under consideration. The oculus glass contractor intends to mobilize a crawler crane for erection of the glass panels shortly after the oculus steel contractor removes its two tower cranes, which is currently forecast for the end of August 2014.*

Oculus Skylight: During May, the oculus skylight mock-up was *transported from the testing facility in eastern Pennsylvania to a location in Minnesota, where it will be subjected to repeated cycles of opening and closing to check performance over the design life of the skylight and the skylight motors.* The contractor submitted skylight shop drawings on April 1, 2014, and they remain under review by the designer *as of the end of May. The oculus skylight contractor is projecting a multi-month fabrication period for the skylight panels following completion of the testing and approval of the submitted shop drawings.*

Transit Hall Interior Stone: Under this contract, stone floor and wall finishes are to be furnished and installed throughout the Transit Hall side of the project, including at both of the grand staircases; the oculus floors at elevations 274 and 296; both levels of the north-south concourse; and various other associated stairs, passageways, and entryways. Phase 1 installation, consisting of the stone flooring at the southern end of the lower level of the north-south concourse, was

essentially completed during April. *Stone floor installation continued during May* at elevation 296 of the north-south concourse, south of the oculus. Stone fabrication is following the same phasing sequence: Some pieces of stone for the grand staircase *treads and risers* at the western end of elevation 274 of the oculus are currently on-site, and the balance is scheduled for delivery in June. *Stone for the wall at the north and south limits of the grand staircase has not yet been received.*

PATH Hall Construction (PHC): During May, *platform construction* activities continued at Platform B; *concrete support walls and platform sections were constructed at the north end of the station.* The contractor has installed new steel truss and some additional sections of precast smoke purge ducts, *working from north to south.* At the Platform D work area, excavation for the section of the utility tunnel that will pass under that platform and adjacent future track 5 *continued.*

Structural Steel to Grade (SSTG): During May, *WTCC reported that it had successfully forced the release of several structural elements from the SSTG contractor's subcontractors, including multiple sections of pre-cast concrete smoke purge ducts and steel truss girders. The subcontractors were withholding these elements due to a claimed lack of payment, but WTCC was able to obtain favorable court rulings directing their release. As a result, negative impacts to Platform B structural work were curtailed. The most critical of those items are now under WTCC's control and have been moved to off-site staging locations in preparation for their delivery to the site. However, there are other structural elements that will be needed for new Platforms C and D, that were not fully fabricated and that may require additional fabrication work by others before they will be ready for installation. WTCC is currently assessing the options with regard to those elements.*

East Bathtub Mechanical, Electrical, Plumbing, and Fire Protection Work: During May, work on spot networks SN-PN and SN-NW continued, along with work at the Central Fan Plant and in the PATH Hub project back-of-house equipment spaces located in Tower 2 and Tower 4. Emphasis is being placed on contract work and related temporary workarounds needed to support the achievement of *upcoming* schedule milestone events. *Also during May, WTCC rescheduled some of those milestones from the second quarter to the fourth quarter of 2014, including the start of pedestrian traffic through the east bathtub, the securing of Temporary Permits to Occupy (TPTOs) for PATH Hub equipment spaces located in the podium of Towers 2 and 4, and the removal from service of the North Temporary Access (NTA). The work of these four contractors (mechanical, electrical, plumbing, and fire protection) also includes work within the oculus structure. To date, only limited access has been provided for installation of necessary components within the oculus space, especially for those components that require installation at the roof level, such as exhaust fans, electrical power supply, and drainage leaders. WTCC is forecasting that the energization of spot network SN-PN will occur at the end of June 2014, with energization of spot network SN-NW expected by mid-July 2014.*

Emergency Generator Plant and Emergency Chiller Plant: All eight of the emergency generators have undergone startup, *but load-bank testing, previously forecast to occur during May, was delayed and has been rescheduled to start by mid-June.* Each unit will be subjected to a two-hour test under load. Fuel line installation in the emergency generator *plant* has been completed, but piping from the fuel tanks *located at level B-4* remains to be completed. During May, WTCC *re-forecast* the placement into service of the emergency generator plant, *and is projecting that it*

will occur in the fourth quarter of 2014. Among the activities that must be completed to accomplish that objective are the delivery and installation of the fuel oil pump sets and associated control panels at the tank room, which is located at elevation 240 of Tower 3. Also required at the tank room are the addition of electrical power and lighting, the installation of a foam fire suppression system, and the installation of access control devices. Fill lines to the tanks and the associated overfill alarms are also yet to be installed, along with a fill box at street level. One of the open issues delaying the completion of these systems is the coordination of the work with other fuel system work being provided by the Tower 3 developer's mechanical contractor. Also, the foam fire suppression system submittal was recently returned to the fire protection contractor by the designer with disapproved status. The fire protection contractor is preparing a resubmittal for the designer.

Primary Distribution Center (PDC) at Tower 1: Four of the eight line-ups at the Tower 1 PDC were energized at the end of October 2013. Energization of the next set of line-ups, line-ups E and F, *was again deferred during May as elements of the testing were redone. Additionally, the Con Edison requirements have not yet been fully satisfied; open Con Edison punch list items are being addressed as they are received.* Although line-ups A, B, C, and D are live, they are not yet feeding the PATH Hub project elements that they will serve in the future. Instead, the Temporary Primary Distribution Center (TPDC) at the NTA continues to supply the PATH Hub project's electrical requirements. *The start of migration from the TPDC source to the PDC source had been projected to begin by the end of the first quarter of 2014 but was not accomplished in that time frame. May also ended with no load migration from the TPDC to the PDC having been accomplished, and WTCC has re-forecast that activity, which is expected to span a period of several weeks, to begin during the second half of June 2014. The full transfer of TPDC loads is necessary in order to allow the NTA to be removed from service and demolished, as planned. WTCC has now re-forecast that removal from service and demolition of the NTA to occur in the fourth quarter of 2014.*

Vertical Circulation: During May, the contractor continued to install the escalator and elevator components located in the Transit Hall at elevations 274, 296, and 306. The contractor also continued to work on the PATH Hub project escalators located in the lower levels of Towers 2, 3, and 4. *Work on all ancillary fire alarms and sprinklers is ongoing.*

Architectural Trades: The east basement stone installation contractor completed the floor installation at elevation 274 in the area south of the oculus toward the Tower 4 leg. Stone floor installation in the same area of elevation 296 *was ongoing during May.* Ornamental metal, glass storefronts, and steel wall panels in the north-south concourse at elevation 274 are mostly completed, except for areas of curved glass that are being shipped to the site. The CM continues coordinating the work of the various crafts in the concourse areas under construction. At column lines D1 to D13, under the 1 Line box, the contractor *continues* installing sprinklers and conduits for lighting and fire alarm components along the ceiling. Work on the fare collection system *in that area progressed during May.*

North-South Concourse: At elevation 274 of the north-south concourse, the storefront contractor has completed most of the storefront installations. At elevation 296 of the north-south concourse, much of the steel framing has been installed, and glass installations are following behind the steel framing work. At elevation 274 of the north-south concourse, the ceiling work is

almost completed. All associated lighting, sprinklers, smoke detectors, and Heating, Ventilation, and Air Conditioning (HVAC) ducts have been installed. Also at elevation 296, the contractor is installing rough-in for electrical, plumbing, and mechanical items along with some of the ceiling support system. At the area over the Transit Hall (elevation 266), rough-in for sprinklers, fire detection, and electric is being installed in preparation for ceiling installation.

North and South Projection Fan Plants: During May, limited progress was made on these facilities. At the north projection, fans and some associated equipment have been delivered to the site. At the south projection, fans and equipment are installed, but PATH has not provided power. The south projection fan plant is currently forecast to go into service by the end of the second quarter of 2014.

Commissioning: A number of key milestone events for the PATH Hub project that were projected to occur during the second quarter of 2014 have now been re-forecast by WTCC. These key milestones are currently projected to occur in the fourth quarter of 2014. Among the project elements re-forecast are the Emergency Diesel Generator Plant, the lower level of the north-south concourse, the south projection fan plant, the Emergency Chiller Plant, and the below-grade corridors and staircases serving PATH Hub equipment spaces within the podiums of Tower 2 and Tower 4. In most cases, the event being worked toward is the placement into service of a portion of the project element and not the full project element. Punch list work for the South Mezzanine, East-West Connector, and Platform A are all ongoing at present.

Central Fan Plant

Air Handling Unit (AHU)-6 and AHU-7: Both units appear to have their piping, valving, and insulation completed, as well as the partial insulation of the duct system. Both units have their Variable Frequency Drives (VFDs) installed but not fully wired. According to the Building Automatic Temperature Control (BATC) contractor, the VFDs do not have power, and therefore installation of the control work cannot commence. The control work is scheduled to be installed soon; however, it will not be activated until power to the units is completed. Fire alarm wiring, termination, and interfacing at the VFD appears to be completed for AHU-6; AHU-7 fire alarm work is ongoing. These two AHUs are projected to be the first to come online and are intended to serve the Hub project back-of-house equipment rooms and associated access corridors that are located within the podiums of Tower 2 and Tower 4. However, a workaround has been initiated whereby the ventilation requirements for those Hub project spaces will be initially provided by other local air-handling units in the immediate vicinity of the back-of-house spaces. The units being deployed in this fashion are AHU-19 and RF-19 at Tower 4 and EF-7 at Tower 2. AHU-19 has been installed, and the control work is almost completed and power available at the AHU panel.

Construction Logistics

The WTCC Office of Program Logistics (OPL) continued biweekly logistics and coordination meetings to facilitate construction progress and the sharing of access, egress, and work zones among all contractors on-site. The oculus steel contractor is exploring options for alternative routes for delivery of oculus steel to the site, since the New York City Department of Design and Construction project on Broadway is expected to breach the intersection at Fulton Street later in 2014. The Memorial Museum opened to the public May 21, 2014. The Memorial Plaza no

longer has restricted access. All of the perimeter fencing has been removed, and unimpeded access to the plaza is now available to all visitors.

Interagency Coordination

OPL continued its coordination of site construction and logistics among the many project stakeholders, including contractors, construction managers, tenants, insurance firms, PATH operations, and the Port Authority Police Department.

Community Relations

OPL continued to distribute construction alerts, updates, and monthly construction progress newsletters to the community and stakeholders.

C. Schedule

WTCC released IMS 73 in May 2014, with a data date of April 1, 2014. (b) (4)

The delay is primarily attributed to the effects of Hurricane Sandy. However, resequencing of platform construction in support of the early demolition of the NTA may further delay the project's substantial completion date. WTCC continues to assess opportunities for workarounds, in particular for platform construction. WTCC achieved Platform A beneficial use on February 25, 2014, which is approximately two months later than the IMS 70 projected date of December 31, 2013. Although the construction of the west bathtub platform remains critical for substantial completion, the five-month delay for the oculus steel erection *and the two-month delay for the oculus glazing and skylight* shown in the current IMS indicate the increasing criticality of the east bathtub work. (b) (4)

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

Significant Activity	Action by
Central Fan Plant On-line	WTCC
Migrate PATH Hub Electrical Loads from the TPDC at the NTA to the PDC at Tower 1	WTCC
<i>Start of Oculus Glazing Panel Installation</i>	WTCC
Erect/Bolt/Weld Oculus Steel Rafters and Purlins	WTCC

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 re-authorized the WTC PATH Hub project, at an estimated total project cost range of \$3.74 billion to \$3.995 billion. This re-authorization

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.

Although it was the opinion of the PMOC that the budget established after the October 18, 2012 project re-authorization by the Port Authority Board would not provide WTCC with adequate funding to complete the project given the impacts of Hurricane Sandy, WTCC has advised that the costs related to Hurricane Sandy are being funded from a separate operating account set up by PANYNJ for Hurricane Sandy and will not impact WTCC's current EAC of \$3.7 billion.

The following table summarizes the latest available EAC (WTCC's forecast) and expenditures as of *April 30, 2014*:

Description	EAC (WTCC's Forecast) (in millions)	Expenditures (in millions)
Construction	\$2,823	\$2,209
Program Management and Design	682	634
Contingency	(b)	(b)
Total	(b) (4)	(b) (4)

WTCC submitted its monthly cost model revision on *May 30, 2014*. It shows that, based on the contract awards and estimates through *April 30, 2014*, WTCC's 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, 2014*, at more than \$2.83 billion, or 76.3 percent of the EAC. That total includes an additional amount of \$29.2 million in PATH Hub expenditures over the total contained in the *April 30, 2014* report. Over the last 12 months, the average project expenditure per month has been \$25.5 million. That monthly expenditure is below the monthly burn rate of \$44 million that would be necessary to support the Substantial Completion Date of December 2015.

For the first *four* months of 2014, project expenditures have been \$28 million, \$17 million, \$28 million, and 29 million respectively in January, February, March, and April.

E. Risk Management

The PMOC conducted a contingency assessment workshop in August 2011 to facilitate the completion of the PEP and the RRCA. WTCC and the PMOC reviewed the results of the cost and schedule risk models. Results from this workshop and subsequent analyses were used to develop the executed RRCA and PEP. 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.

As information on the impacts of Hurricane Sandy became available, the PMOC conducted PEP workshops in June 2013 to discuss and quantify the hurricane's impacts on cost and schedule. The PMOC then reconciled the workshop results with WTCC, and the outcome of this effort was used to update the PEP.

F. Technical Capacity and Capability Review

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

Project Management Plan (PMP)

WTCC is updating its PMP and expects it to be completed by June 2014. On April 28, 2014, WTCC furnished a draft of updated Chapter 4 – Program Organization and WTCC Project Staffing; it is currently under review.

An update to WTCC's Operations Management Plan, a PMP sub-plan, remains outstanding. WTCC previously provided a draft construction phase Force Account Plan and Justification, and the PMOC is currently reviewing it.

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 2014, WTCC QA completed two QA oversight audits covering CM QA field activities and WTCC activities. For the QA audits completed in May 2014, no corrective actions were identified. The May 2014 audit totals reflect the two audit reports that were issued and received at the time this report was drafted.

G. Site Safety and Security Review

The WTC PATH Hub project has established safety performance goals for its TCIR and LTIR of less than 5.0 and 2.0, respectively. In April 2014, WTC Safety met its goals with four recordable incidents and one lost-time incident that resulted in a TCIR of 4.16 and an LTIR of 1.04, based on 192,144 hours worked. In comparison, its March 2014 incident totals were one recordable incident, no lost-time incidents, resulting in a TCIR of 1.23 and an LTIR of 0, based on 162,076 hours worked. The increase in incidents during April was attributed to material handling issues, slip and fall, and use of tools. In reviewing the April safety performance, WTCC Safety

continued its active role in managing worker safety and evaluating the causes of each of the incidents that occurred in 2014. The project's May 2014 safety data was not fully available at the time this report was being drafted.

H. Issues/Problems/Suggestions

The widespread regional damage caused by Hurricane Sandy in late October 2012 caused a delay to the forecast completion of the PATH Hub project. WTCC submitted its formal Recovery Plan document to the FTA on February 18, 2014. (b) (4)

In the east bathtub, the oculus steel erection continued during *May*, and included the *installation and bolting of the two keystone elements in the north and south arches of the oculus structure*. However, recovery of the time lost in 2013 was not achieved, and the steel erection work remains behind schedule. At present, the oculus steel erection is projected to continue through the summer of 2014. If that occurs, it is likely that the east bathtub will overtake the west bathtub in schedule criticality, especially if the weekend service shutdowns allow improved schedule advancement in the west bathtub.

End of report. Appendix follows.

APPENDIX A – LIST OF ACRONYMS

AHU	Air Handling Unit
BATC	Building Automatic Temperature Control
CA	Construction Agreement
CM	Construction Manager
EAC	Estimate at Completion
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, and Air Conditioning
IMS	Integrated Master Schedule
LMRO	Lower Manhattan Recovery Office
LTIR	Lost-Time Incident Rate
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
PDC	Primary Distribution Center
PEP	Project Execution Plan
PHC	PATH Hall Construction
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA	Quality Assurance
QPRM	Quarterly Progress Review Meeting
RCD	Required Completion Date
RFI	Request for Information
RRCA	Revised and Restated Construction Agreement
SSTG	Structural Steel to Grade
TCCR	Technical Capacity and Capability Review
TCIR	Total Case Incident Rate
TPDC	Temporary Primary Distribution Center
TPTO	Temporary Permit to Occupy
VFD	Variable Frequency Drive
WTC	World Trade Center
WTCC	World Trade Center Construction