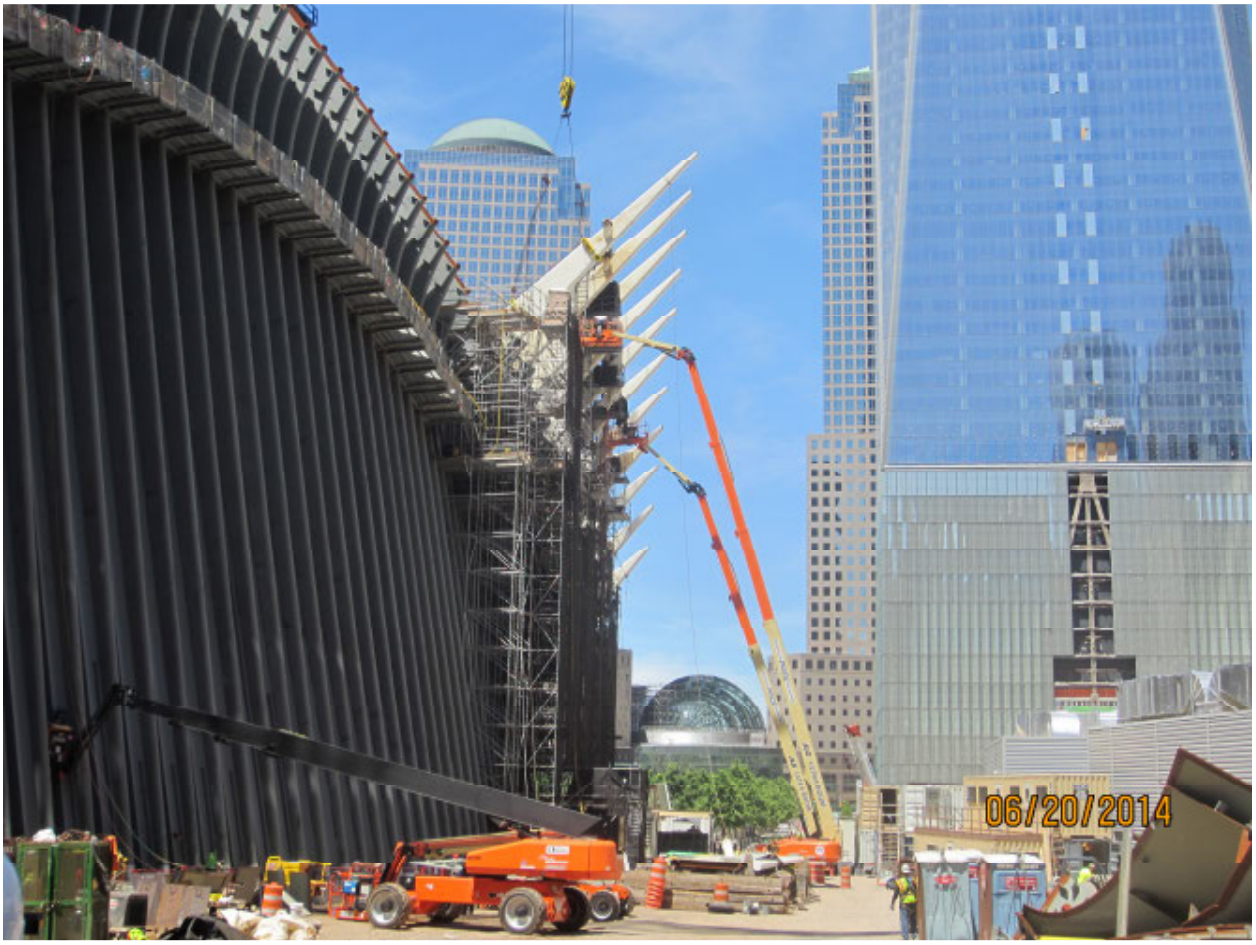
MONTHLY MONITORING REPORT

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

June 2014



PMOC Contract Number: DTFT60-09-D-00008
Task Order Number: T09002, Project Number: RV-43-0001, Work Order No. 005
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TABLE OF CONTENTS

Cover: *Rafter erection is proceeding on the north side of the oculus structure.*

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

Construction of the oculus steel structure in the east bathtub advanced in June transitioning from the completion of the north and south arches in May to the erection of the rafter elements during June. Not unexpectedly, geometry control issues and welding issues impacted progress, which fell short of plan for the month.

Construction of new Platform B in the west bathtub advanced during the month with additional sections of the platform concrete structure placed, rock removal for the portion of the utility tunnel under the platform completed, and the start of work on the track slab for Track 2, among the more notable June events.

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 *was held on* June 2, 2014.

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

Construction of new Platform B advanced during the month and included completion of the rock excavation at the section of the utility tunnel passing under the platform. Multiple sections of the platform's concrete structure were also placed during the month and work on the adjacent track 2 slab commenced.

At the Transit Hall, oculus steel erection transitioned to rafter erection which is the last of the five major groups of steel elements comprising the oculus structure. In this initial period of rafter erection, progress has been hampered by geometry control and welding issues, similar to those encountered during erection of previous oculus steel element groups.

Also during June, progress on the Emergency Generator Plant located in the podium of Tower 3 was noted with the completion of load-bank testing of the eight generator units, and progress on the fuel storage and delivery systems that will support those generators.

Schedule

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

Cost Data

WTCC submitted its monthly cost model revision on *June 30, 2014*. It shows that, based on the contract awards and estimates through *May 31, 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 *May 31, 2014*, to be more than *$2.86 billion, or 77.0 percent* of the EAC.

That total of PATH Hub expenditures includes an additional amount of *$24.4 million* in PATH Hub expenditures over the total contained in the *May 31, 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 *now* expects to submit the updated plan during *July* 2014.

Project Quality Assurance (QA)

During *June* 2014, WTCC QA completed *three WTCC* QA oversight audits covering the Construction Manager (CM) QA field observations and WTCC activities. For the *WTCC* QA audits completed in *June* 2014, no corrective actions were identified *by WTCC QA*. The *June* 2014 audit total reflects the *three WTCC QA* 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 *May* 2014, WTC Safety *did not meet* its goals *as there were* four recordable incidents and *three* lost-time incident that resulted in a TCIR of *5.28* and an LTIR of *3.96*, based on *151,476* hours worked. In comparison, its *April* 2014 incident totals were *four* recordable incidents, *and one* lost-time incident, resulting in a TCIR of *4.16* and an LTIR of *1.04*, based on *192,144* hours worked. The increase in incidents during *May* was attributed to material handling issues, slip*s* and falls, and use of tools. In reviewing the *May* safety performance, WTCC Safety continued its active role in managing worker safety and evaluating the causes of each of the incidents that *have* occurred in 2014. The project's *June* 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 *was held on* June 2, 2014.

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: *Erection of oculus steel continued during June with limited progress. Geometry control, rafter base weld root gaps, and alignment of the purlin-to-purlin weld joints, consumed*

more erection time than originally expected, thus preventing the planned erection rates. May's completion of the north and south arches had been expected to produce June rafter setting quantities on the order of two rafters per workday. However, end of June total summed to eight rafters. Other oculus steel erection activities during June included welding of cover plates at *various steel connections along with the installation of filler plates between upper portals at the street level of the oculus. Rafter erection is one of the principle activities remaining for the oculus steel contractor, and includes both setting the rafters in position, as well as welding the rafter bases and the attached purlins. In some cases, rafter components will also be spliced in the field to assemble some of the longer rafter elements.* The following table *summarizes* the *rafter erection progress during June*:

Summary of *Rafter* Erection Progress (*June* 2014)

	Rafters Set	***Purlin-to-Purlin Welds Completed***	***Rafter Base Welds Completed***	***Rafter Splice Welds Completed***
Total Qty. Req'd	*114*	*110*	*114*	*32*
Last Month	*8*	*0*	*2*	*0*
This Month	8	*4*	*5*	*0*
Total to Date	*19*	*4*	*8*	*0*
Number Remaining	*95*	*106*	*106*	*32*

Oculus Glass: 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 *June*, the glass contractor *began to attach glass panel support clips to the oculus steel upper portals at the west side of the oculus. Designer comments on the glass panel and metal panel mock-ups that are displayed on site continue to be advanced toward resolution through a series of modifications to those mock-ups. Few designer comments remained open with regard to the mock-ups as of the end of the month.* The oculus glass contractor intends to mobilize a 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 *June*, *cycle testing of* the oculus skylight mock-up *was completed at a test facility in Minnesota and a formal test report is pending from the skylight contractor. Also during the month,* the contractor submitted *additional skylight component shop drawings, which are* under review by the designer *at present*. The oculus skylight contractor is projecting a multi-month period for *assembly of the skylight sections, which are comprised of multiple components sourced from various domestic and international entities. The proposed shop assembly time slot currently targets October 2014 for the start of the assembly of skylight sections at a facility located in Virginia.*

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 *May*. Stone floor installation continued during *June* at elevation 296 of the north-south concourse, south of the oculus. Stone fabrication is following the same phasing sequence. *A portion of the stone* for the grand staircase treads, risers *and PATH Hall mezzanine floor east of the fare control line is* currently on-site, and the balance is scheduled for delivery in *July*. *The stone contractor is also planning to start the stone installation for the grand staircase in July.* Stone for the wall at the north *end* of the grand staircase *was released for fabrication during June.*

PATH Hall Construction (PHC): During *June*, platform construction activities continued at Platform B *aided by the receipt of the remaining sections of steel truss girders and precast concrete smoke purge ducts. The elevator pit for the two elevators to be installed at the south end of the platform are underway, and most of the rock excavation needed to extent the utility tunnel under the new platform was completed. PATH Hall ceiling work continues including the installation of sprinklers, lighting and ceiling panels. Workers' ceiling access is provided via the construction shield at elevation 284.*

East Bathtub Mechanical, Electrical, Plumbing, and Fire Protection Work: During *June*, spot network SN-PN *was energized leaving only spot network* SN-NW *yet to be completed of the total of six spot networks. WTCC is currently forecasting the energization of spot network SN-NW to occur during July, 2014. Other critical work by these four contractors is at the Central Fan Plant, Emergency Generator Plant, and within the Transit Hall space. At the Transit Hall, only limited access has been provided for installation of necessary components within the oculus, especially for those components that require installation at the roof level, such as exhaust fans, electrical power supply, and drainage leaders.*

Emergency Generator Plant: *June activities at the emergency generator plant included the completion of two-hour load bank testing for each of the eight generator units. Paralleling testing is the next phase of the facility testing. Other progress included the delivery and setting of the three fuel oil pump units at the tank room, and the installation of fuel oil piping within the tank room. Installation of the tank fill and vent lines also advanced during the month with some sections of those lines subjected to pressure testing. Completion of these lines is critical to the scheduled completion and placement into service of the plant. Fuel pump control panels were also delivered during June and their installation commenced*. Also, the *necessary* foam fire suppression system submittal was recently *resubmitted and returned approved by the designer thereby releasing* the fire protection contractor *to procure the system components.*

Primary Distribution Center (PDC) at Tower 1: Four of the eight line-ups at the Tower 1 PDC were energized *by* the end of October 2013. Energization of the next set of line-ups, line-ups E and F, *had been expected to follow in sequence but was delayed due to retesting made necessary when the utility company deemed the relay settings used in the initial testing as insufficient. Re-testing of both line-ups was completed and new test reports generated with line-up E energized during June and line-up F expected to follow during July. WTCC is reporting that energization of both line-ups E and F, along with completion and energization of spot network SN-NW, are necessary predecessors to the start of Hub electrical load migration from the current supply at the TPDC in the NTA and over to the PDC at Tower 1.*

Vertical Circulation: During *June*, 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. *Priority is being giving to the elevators and escalators required for the opening of the lower level of the North South Concourse and PATH Platform "B". W*ork on all ancillary fire alarms and s*prinklers is* ongoing.

North-South Concourse: At elevation 274 of the north-south concourse *all the architectural work has been completed south of the oculus.* At elevation 296 of the north-south concourse, *most of the storefront* steel framing has been installed, and glass installations are following behind the steel framing work. *Also at* elevation 296, the contractor *has* installed rough-in for electrical, plumbing, and mechanical items along with some of the ceiling *grid* system. At the area over the *PATH* Hall (elevation 2*84*), rough-in for sprinklers, fire detection, and electric is *almost completed and some metal ceiling panel installations have commenced.*

Telecom: During the month of June, room TH-083 was built out. This is a vital room for the telecom system backbone. Also in June some of the telecom equipment was installed in room PL-077, which is also an important element for the telecom system.

North and South Projection Fan Plants: During *June*, 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. *Also, due to the absence of power, the BATC contractor cannot power the control panels required to start up the BATC system*. The south projection fan plant is currently forecast to go into service by the end of the second quarter of 2014.

Commissioning: *WTCC is forecasting a* number of key milestone *in-service* events for the PATH Hub project to occur in the fourth quarter of 2014. Among those project elements 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 *remains* ongoing at present.

Central Fan Plant

Air Handling Units (AHU)-6 and AHU-*7 were both powered-up in June but have not been commissioned yet*. Both units have their piping, valving, and insulation completed, as well as the insulation of the duct system. . 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. *Visitors to the recently-opened Memorial Museum are being temporarily routed to the museum entrance pavilion via the memorial plaza.*

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) [redacted] (b) (4) [redacted] 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 platforms remains critical for substantial completion, (b) (4) [redacted]

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
Start of Oculus Glazing Panel Installation	WTCC

Significant Activity	Action by
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 *May 31, 2014*:

Description	EAC (WTCC's Forecast) (in millions)	Expenditures (in millions)
Construction	$2,823	*$2,228*
Program Management and Design	682	*639*
Contingency	(b)	(
Total	(b) (4)	(b) (4)

WTCC submitted its monthly cost model revision on *June 30, 2014*. It shows that, based on the contract awards and estimates through *May 31, 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 *May 31, 2014*, at more than *$2.86 billion*, or *77.0 percent* of the EAC. That total includes an additional amount of *$24.4 million* in PATH Hub expenditures over the total contained in the *May 30, 2014 report*. Over the last 12 months,

the average project expenditure per month has been *slightly over $26.0 million*. That monthly expenditure is below the monthly burn rate of *$45 million* that would be necessary to support the Substantial Completion Date of December 2015.

For the first *five* months of 2014, project expenditures have been $28 million, $17 million, $28 million, $29 million, *and $24 million* respectively in January, February, March, April, *and May*.

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 *now* expects it to be completed by *July* 2014. On April 28, 2014,

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. *During June, the PMOC issued a spot report recommending the acceptance of the Construction Phase Force Account Plan and Justification.*

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 *June* 2014, WTCC QA completed *three WTCC* QA oversight audits covering CM QA field activities and WTCC activities. For the *WTCC* QA audits completed in *June* 2014, no corrective actions were identified *by WTCC QA*. The *June* 2014 audit totals reflect the *three WTCC QA* 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 *May* 2014, WTC Safety *did not meet* its goals *as there were* four recordable incidents and *three* lost-time incident that resulted in a TCIR of *5.28* and an LTIR of *3.96,* based on *151,476* hours worked. In comparison, its *April* 2014 incident totals were *four* recordable incident*s*, *and one* lost-time incident, resulting in a TCIR of *4.16* and an LTIR of *1.04*, based on *192,144* hours worked. The increase in incidents during *May* was attributed to material handling issues, slips and fall, and use of tools. In reviewing the *May* 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 *June* 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) [redacted]

Construction of the oculus steel structure in the east bathtub advanced in June transitioning from the completion of the north and south arches in May to the erection of the rafter elements during June. However, geometry control issues and welding issues impacted progress, which fell short of plan for the month, continuing a trend that has been ongoing for multiple months. Succeeding work by other contractors is consequently delayed and, it *now appears* 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