

DCA15FR004
Accident
Washington Metropolitan Area Transit Authority
January 12, 2015
Washington, DC

National Transportation Safety Board

Operations Group Chairman Factual Report

September 21, 2015

David Bucher – Group Chairman
NTSB

Hercules Ballard
WMATA
Managing Director – Office of Rail Transportation

Dorsey M. Adams
WMATA
Manager, Rail & Facilities Safety

Sharmila M. Samarasinghe
Tri-State Oversight Committee
Manager of Rail State Safety Oversight

Thomas Littleton
Federal Transit Administration
Associate Administrator for Transit Safety and Oversight

Marlene Flemmings-McCann
Amalgamated Transit Union – Local 689

Synopsis

On January 12, 2015, about 3:15 p.m., Eastern Standard Time, Washington Metropolitan Area Transit Authority (WMATA) Metrorail train 302¹ stopped after encountering an accumulation of heavy smoke while traveling southbound in a tunnel between the L’Enfant Plaza Station and the Potomac River Bridge. After stopping, the rear car of the train was about 386 feet from the south end of the L’Enfant Plaza Station platform. The train operator contacted the Operation Control Center (OCC) and announced that the train was stopped due to heavy smoke.

A following train (train 510), stopped at the L’Enfant Plaza Station at about 3:25 p.m., and was also affected by the heavy smoke. This train stopped about 100 feet short of the south end of the platform. Passengers of both trains, as well as passengers on the station platforms, were exposed to the heavy smoke. Some passengers aboard Train 302 began to self-evacuate. Emergency responders were dispatched to the scene and an evacuation of the train and station area ensued.

Both Metrorail trains involved in this incident consisted of six car trains, each about 450 feet in length. As a result of the smoke, 86 passengers were transported to local medical facilities for treatment. There was one passenger fatality. Initial damages were estimated by WMATA at \$120,000.00.

Atmospheric Conditions at the time of the incident were reported as rain/mist, calm winds and 37 degree ambient temperature. (Weather reported from Reagan National Airport, about 2 miles south of tunnel portal)

The parties to the investigation include the Washington Metropolitan Transit Authority, the Federal Transit Administration, the Tri-State Oversight Committee, the Amalgamated Transit Union 689 and the District of Columbia Fire Department.

¹ WMATA refers to its trains as “Train ID Number ____”

Accident Narrative

Preceding Train – Train Number 301

WMATA Train No. 301 on the afternoon of January 12, 2015, consisted of 6 cars and originated in the Greenbelt yard, located in Greenbelt, MD, earlier on the day of the accident. WMATA trains normally keep the same train designation numbers throughout the day and transit various lines from one end of the system to the other, switching train operators several times a day. In the minutes prior to the accident, train number 301 was traveling southbound on the yellow line from the Greenbelt Station to a trip destination of Huntington Station. The train operator consisted of single operator located in the control cab in the lead car (south end). The train operator boarded the train approximately 40 minutes before the incident, at the West Hyattsville Station for the run south to Huntington Station. The train operator had originally gone on-duty at 6:00 am, and had previously made 5 or 6 trips across the system prior to assuming the control duties on the 301 train. He had previously not encountered any problems. There were no reported problems with the operation of the 301 train, and the braking system of the train was reported to be fully functional. The 301 train made an uneventful trip leaving West Hyattsville Station. The train made the required station stops in a timely manner as it approached the accident area. At Gallery Place Station the 301 train made a normal stop and departed on a Lunar² signal indication. The 301 train received a lunar signal indication as it arrived at the L'Enfant station. The 301 made a normal station stop at the L'Enfant Plaza station. The 301 train then departed the L'Enfant Plaza Station on a Lunar signal indication and proceeded at normal track speed to the next station, which was the Pentagon Station. It continued to its final destination, Huntington Station without incident.

Incident Train – Train Number 302

WMATA Train No. 302 on the morning of January 12, 2015, consisted of 6 cars and originated in the Greenbelt yard, located in Greenbelt, MD. The 302 train had made several trips across the WMATA system prior to the accident. In the minutes prior to the accident, train number 302 was traveling southbound on the yellow line from the Greenbelt Station to a trip destination of Huntington Station. The train operator consisted of single operator located in the control cab in the lead car (south end). The train operator boarded the train approximately 30 minutes before the incident, at the Fort Totten Station for the run south to Huntington Station. The train operator had originally gone on-duty at 6:00 am, and had previously made 5 or 6 trips across the system prior to assuming the control duties on the 302 train. He had previously encountered no problems traveling across the system. There were no reported problems with the operation of the 302 train,

² Lunar – refers to a “Green” clear signal indication on WMATA

and the braking system of the train was reported to be fully functional. The 302 train made an uneventful trip south leaving Fort Totten Station. The train made the required station stops in a timely manner as it approached the accident area. As the 302 train departed the Mt. Vernon Station south, the train operator noted a small trash fire on the track. The train operator immediately reported the small trash fire to the OCC. The 302 train continued to the Gallery Place Station without incident. At the Gallery Place Station, the 302 train made a normal stop and departed on a lunar signal indication. En route to the L'Enfant Station, the train operator of train 302 reported that he overheard a radio transmission that said that smoke was coming out of the south tunnel portal at L'Enfant Plaza Station. The 302 train received a Lunar signal indication as it arrived at the L'Enfant station.

The 302 made a normal station stop at the L'Enfant Plaza station. The train operator of train 302 did not see any smoke coming out of the tunnel portal at the south end of the platform. The 302 train then departed the L'Enfant Plaza Station on a Lunar signal indication and proceeded at normal track speed.

Immediately after entering the south tunnel portal at L'Enfant Plaza Station, the 302 train encountered very heavy smoke. Having no visibility, the train operator immediately stopped the train. He immediately radioed the WMATA Operations Control Center ³(OCC) that he had encountered very heavy smoke in the tunnel immediately after departing L'Enfant Plaza Station and that he had stopped his train. With smoke completely obscuring visibility, the 302 train operator requested permission from the OCC to change end and return to the L'Enfant Plaza Station. Instructions were received to prepare to reverse movement, but to stand by for further instructions. In order for the 302 train to reverse movement, the train operator needed to walk through all 6 cars to reach the control cab (which became the lead end of the train) on the north end of the train (closest end to the L'Enfant Plaza platform). Heavy smoke was entering the passenger compartments due to the car ventilation system ingesting smoke from the outside. Throughout this time the train operator of 302 repeatedly made announcements to the passengers on board his train instructing them to stay calm and assuring that ROCC was trying to get the train back to the platform. However passengers started to panic and started banging on the control cab doors asking the train operators why he was not moving away from the smoke. Upon arriving at the north end of the train, this was the control cab closest to the L'Enfant Plaza Station, the train operator was able to shut down the train ventilation system. He arranged the controls in preparation to proceed back to the L'Enfant Plaza Station. He made several control manipulations in anticipation of the move.

The 302 train operator continued to request permission to reverse movement back to the L'Enfant Plaza Station. He was then told that another southbound train, train No. 510 had since arrived at L'Enfant Plaza Station on the same track and arrangements were being made to clear this train, so the 302 train operator could move the train back to the station. Throughout this period, the train operator of 302 communicated, occasionally, with the MTPD police officers on board train 302 via the passenger intercom located on each end of each car.

Several minutes after the train operator of train 302 reached the north end of his train, the air brakes on the 302 train went into an emergency air brake application (BIE)⁴. The train operator of train 302 was instructed by the OCC to inspect his train and make any fixes necessary to regain air, so the train could reverse direction back to the L'Enfant Station. The train operator then went back through his train checking for trouble between cars for a possible brake failure. During this time, the track third rail power was lost which rendered train 302 without a power supply. This completely stranded the 302 train where it had stopped.

After an undetermined amount of time, passengers on train 302 began to self-evacuate through the use of emergency door releases. The train operator redirected evacuating passengers toward the L'Enfant Station. After a further amount of time, firefighters from the D.C. Fire Department arrived at the stranded train and continued evacuation. All passengers and the train operator on train 302 were evacuated to the L'Enfant Plaza Station.

Following Train – Train Number 510

WMATA Train No. 510 on the afternoon of January 12, 2015, consisted of 6 cars and originated in the Greenbelt yard, located in Greenbelt, MD. The train crew consisted of single operator located in the control cab in the lead car (south end). The train and train operator both originated in Greenbelt Yard at approximately 2:50 p.m.. The 510 train was making its first trip from Greenbelt Station to Branch Avenue Station, just prior to the accident. There were no reported problems with the operation of the 510 train, and the braking system of the train was reported to be fully functional.

The 510 train proceeded south from Greenbelt Station, making regular station stops with no problems encountered. As the 510 train was stopped at Mt. Vernon Station the OCC instructed the 510 train operator to look out for a trash fire in the tunnel between Mt. Vernon Station and Gallery Place Station. The operator of train 510 inspected the track en route to Gallery Place Station, but saw no trash fire.

Train 510 departed Mt. Vernon Station on a Lunar signal. It encountered no problems until it arrived at the L'Enfant Plaza platform. As train 510 pulled into the platform at L'Enfant Plaza Station the train operator immediately noticed heavy smoke in the station. She saw a MTPD police officer on the platform near her control cab. The train operator then open her window and asked the MTPD Police Officer on the platform if he could guide her train to the 8 car marker on the platform with his flashlight. The MTPD officer tried to do so. The train did not make it all the way to the 8 car marker due to the thickness of the smoke.

Another MTPD Police officer came and instructed the MTPD Officer with the flashlight and the train operator of 510 that they along with the passengers on train 510

⁴ BIE is a WMATA air brake term – Brakes-in-emergency

had to evacuate immediately. The train operator was then instructed to evacuate the station along with all passengers on the 510 train. During this time the train operator continuously attempted to call the OCC by radio but her assessment was that ROCC could not hear her transmission. After the train operator and passengers evacuated the 510 train, the 510 train equipment remained at the same location where it had stopped.

The train operator of train 510 was escorted out of the station as part of the station evacuation. The train operator of train 510 also tried to call ROCC from using the phone at the station managers kiosk as she was being escorted out of the station, but was unsuccessful. An undetermined time later the train operator of train 510 was escorted back down to the station, in an attempt to reverse the direction of the 510 train equipment. The train operator boarded the standing equipment and commenced closing doors (that had been used for emergency exit) to set up the train for a reverse movement. During the process of setting up the 510 train for the reverse move, the L'Enfant Station emergency third rail power cut-off switch was activated. Following the activation of the emergency power cut-off switch, no further actions could be taken to reverse the movement of the 510 train. Shortly after the failed attempt to move the 510 train, the train operator was again escorted out of the station.

Method of Operation and Location

WMATA trains were governed and authorized by signals controlled from a centralized dispatching center located in New Carrollton, MD (OCC). The accident occurred south of the L'Enfant Plaza Station. The railroad at this location is controlled by Centralized Traffic Control with track side signal indications. Trains can be operated in both directions. The authorized speed for WMATA trains is 59 mph at the accident location.

Operating Rules and Special Instructions

Operating rules governing employees were the Metrorail Safety Rules and Procedure Handbook (MSRPH), effective July 17, 2012. Department of Rail Transportation, Rail Operations Plan Book for Major Incidents (used by Supervisors and Controllers in OCC)(No effective date).

Operating Crews

WMATA Train 301

Train Operator

Age: 62

Years of Service: 25

Last Rail Re-Certification: 1/20/2013

WMATA Train 302

Train Operator

Age: 41

Years of Service: 15

Last Rail Re-Certification 1/10/2012

WMATA Train 510

Train Operator

Age: 60

Years of Service: 10

Last Rail Re-Certification: 2/1/2013

Train Consists

WMATA Train No. 301 consisted of 6 multiple unit passenger cars. On the head of the train the lead car number was 6007. The train was lined up as follows:

6007

6006

3155

3154

6182

6183

WMATA Train No. 302 consisted of 6 multiple unit passenger cars. On the head of the train the lead car number was 6054. The train was lined up as follows:

6134

6135

1285
1284
3030
3031

WMATA Train No. 510 consisted of 6 multiple unit passenger cars. On the head of the train the lead car number was 6161. The train was lined up as follows:

6161
6160
6144
6145
6011
6010

Oversight – Federal Transit Administration

The Federal Transit Administration (FTA) regulates the rail transit industry and provides grants for those operations. FTA also oversees regulatory compliance of the transit industry; however, effective October 1, 2012, FTA is implementing a new authorizing legislation entitled MAP 21. Investigators accessed the Federal Transit Administration's website and found the information that updates FTA's safety authority under MAP 21 statutory language. In part, the information included the following:

Purpose

MAP-21 grants FTA the authority to establish and enforce a new comprehensive framework to oversee the safety of public transportation throughout the United States as it pertains to heavy rail, light rail, buses, ferries, and streetcars. The law requires, among other things, that FTA strengthen the State Safety Oversight (SSO) program to ensure that rail transit systems are meeting basic, common-sense safety requirements. The law also includes important new safety provisions for bus-only operators. FTA will implement the new law in consultation with the transit community and the U.S. Department of Transportation's (DOT) Transit Rail Advisory Committee for Safety (TRACS), which has been working since September of 2010 to help guide this effort. (TRACS – published in Federal Register # 2930 Vol. 79, No.11, dated January 16, 2014)

Background

Since 1964, FTA, which finances nearly half of the capital expenditures for transit systems nationwide, has been prohibited by law from issuing basic safety standards to protect rail transit passengers and rail workers. The result was a patchwork of state laws that do not provide seamless or consistent safety coverage. The transit safety provisions in MAP-21 will help to remedy these long-standing shortcomings. In December 2009, DOT formally transmitted to Congress a legislative proposal to establish and enforce minimum federal safety standards for rail transit systems. Many of the safety provisions included in MAP-21 are reflected in the Administration's original proposal.

Statutory References

49 U.S.C. Section 5329 & 5330 / MAP-21
Section 20021

Safety Performance Criteria

FTA must develop safety performance criteria for all modes of transportation.

Vehicle Safety Performance Standards

FTA must develop minimum safety performance standards for transit vehicles in revenue operation not regulated by other modes in DOT or any other federal agency.

State Safety Oversight Program (for States with Rail Systems not Regulated by FRA) Requirement

- Each state with rail transit systems not regulated by the Federal Railroad Administration (FRA) will meet requirements for an SSO program. At a minimum, this must include: assuming responsibility for oversight of rail fixed-guideway public transportation safety; enforcing federal law for rail fixed-guideway public transportation safety; and establishing a State Safety Oversight agency.
- SSO programs must encompass an SSO agency's capacity, organizational structure, financing, and activities.
- FTA must approve SSO programs.

Additional Authorites

FTA has the authority to inspect and audit all public transportation systems; to make reports and issue directives with respect to the safety of public transportation systems; to issue subpoenas and take depositions; to require the production of documents; to prescribe recordkeeping and reporting requirements; to investigate public transportation accidents and incidents; to enter and inspect equipment, rolling stock, operations and relevant records; and to issue regulations to carry out section 5329.

FTA has enforcement authority, and is permitted to issue directives, require more frequent oversight, impose more frequent reporting requirements, and require that formula grant funds be spent to correct safety deficiencies before funds are spent on other projects.

Oversight – Tri – State Oversight Committee

The Tri-State Oversight Committee (TOC) is the designated State Safety Oversight (SSO) entity for the Washington Metropolitan Area Transit Authority (WMATA) Metrorail system. (www.tristateoversight.org)

TOC was created to meet the requirements of 49 CFR, Part 659. This regulation mandates states with rail fixed guideway systems, such a metrorail, not under the regulatory authority of the Federal Railroad Administration (FRA), to establish a program to independently oversee the system safety and security of those rail fixed guideway systems.

Since the Washington metrorail system traverses Maryland, the District of Columbia and Virginia, these three jurisdictions collaboratively oversee WMATA's metrorail safety and security, utilizing one program standard. This collaboration is the Tri State Oversight Committee (TOC). The TOC comprises of technical, policy level and executive representatives from all three jurisdictions – District of Columbia, Maryland and Virginia. The TOC's day to day activities are performed by three dedicated full time staff, each of whom represents each of the three TOC jurisdictions. These dedicated full time staff comprise of individuals who have experience both in rail state safety oversight as well as in rail/commuter rail operations. There are three additional technical staffs who work on the TOC on a part-time basis. Furthermore, there are three policy level TOC members who provide policy guidance and act as conduits between the technical level staff and the executive level members of the TOC. The executive members of the TOC are represented by the two secretaries of transportation for Virginia and Maryland and the

Director of DC DOT. To amplify the TOC's technical knowledge base as well as for staffing support TOC contracts with a consultant.

TOC utilizes the TOC Program Standard and Procedures as the guiding document for all of its activities as it pertains to WMATA metrorail safety and security. TOC requires WMATA to develop and implement a System Safety Program Plan (SSPP) and a Security and Emergency Preparedness Plan (SEPP), to notify TOC of accidents, incidents and hazards, to conduct investigations, and implement an internal audit program. TOC performs ongoing audits to evaluate the implementation of the safety and security program across all aspects of the metrorail system. Any corrective actions that are formulated by WMATA to mitigate identified deficiencies in various aspects of its operation are closely scrutinized by the TOC for adequacy and then monitored by TOC until fully implemented.

With the passage of Moving Ahead for Progress in the 21st Century Act (MAP-21), all State Safety Oversight entities have been mandated to transform their respective programs into legally independent and financially self sufficient entities with enforcement authority. TOC is currently implementing a FTA certified work plan in order to transform into a fully MAP-21 compliant entity.

Employee Interviews

The OPS Group conducted 16 employee interviews related to the accident. Below are bullets from these interviews:

Title : Train Operator – Train 301

Date / Time of Interview : 1/15/2015 8:30 a.m.

- Took Train 301 from West Hyattsville to Huntington
- Said he goes through L'Enfant approximately 5 or 6 times a day
- Said he has emergency training, but could not remember exactly when, possibly 3 years ago.
- Remembers a little water in tunnel south of E'Enfant, near pumping unit
- Said train operators get re-certified every two years
- Said he had a normal run leaving L'Enfant plaza and going south to Huntington
- Said he heard lots of radio communications between the OCC and trains around L'Enfant after he arrived at Huntington

Title : Train Operator – Train 302

Date / Time of Interview : 1/15/2015 8:55 a.m.

- Worked Rush Plus trains, Greenbelt to Springfield earlier in shift
- Boarded train as operator at Fort Totten, to take train to Huntington
- Said there were no problems with the operation of the train
- Heard earlier report of smoke coming out of south tunnel at L’Enfant, but saw no smoke upon arrival at the station.
- Said he stopped train as soon as he saw the thick smoke
- Said he did not know his exact location in the tunnel
- Said he requested immediately to reverse direction, was told by OCC to “stand by”
- Said there was an enormous amount of radio traffic on the radio channel he was using
- Said he was instructed to change ends of train, which required him to walk through all 6 cars to get to the north of the train
- Said he was instructed to shut off the Evac system on the train
- Said that when he again requested permission to go back to L’Enfant, was told another train had arrived
- Said train brakes went into emergency while waiting to go back to L’Enfant
- Said he walked back through part of the train checking cars
- Said he noticed some passengers had self evacuated train, and directed them towards L’Enfant
- Said he stayed with train until fire department arrived
- Said he assisted with evacuation of several passengers that could not walk, carried one passenger on his back

Title : Operations Control Center – Button Controller

Date / Time of Interview : 1/15/2015 10:40 a.m.

- Has been with WMATA for six years and was hired directly into her position
- On the phone dealing with AC track circuit outage at Anacotia and Mt. Vernon when she heard a radio call about smoke between the Mt. Vernon and L’Enfant stops
- Another train passed though Mt Vernon and reported no smoke
- Another train passed through L’Enfant Plaza reported “good track inspection”
- She noted that her partner at the Ops Three desk (██████████) was gathering details

- Another train passed through Mt. Vernon and reported no smoke
- Another train passing through L'Enfant Plaza reported "good track inspection"
- She noted that she was having a hard time hearing because of the number of people in the ROCC and the ambient noise level they generated
- The next event she recalls is Train 302 reporting heavy smoke, and her partner began calling Train 510 to move from the L'Enfant platform to make way for Train 302
- There was no contact with 510 for a long time
- Later heard that Transit Police had pulled the 510 operator and the station supervisor away and evacuated them
- Heard a report of sick passengers on Train 302
- She asked for medical assistance for sick passengers at Pentagon station...she did not realize Train 302 was stopped, and expected it was continuing south on the Yellow Line.
- From her description it seems the prevailing perception was that the fire was in L'Enfant Plaza, with no information at this time to indicate that the fire was elsewhere
- She then saw that power was taken down in the L'Enfant station
- She commented that in the ROCC, it was "chaos" and that she didn't know who was doing what
- Noted that control of the situation in the ROCC had been lost
- 510 operator then called on a landline from the station manager's booth that the Transit Police had pulled her from the train to evacuate
- Follow-on questions revealed...
 - She did not have any periodic training in emergencies due to manpower limitations
 - She had a printed copy of the Emergency Operations Manual, tried to follow its guidance, but was overwhelmed by events
 - Lack of communications with Train 510 caused confusion in the ROCC
 - ROCC does not have detailed information on exact location of trains inside of the stations...the system displays them as either in the station or not
 - Not authorized to unilaterally move Train 302 opposite direction/head-to-head with Train 502; requires her supervisor to approve that kind of movement
 - Felt like inside the ROCC, "the left hand didn't know what the right hand was doing"
 - She was focused on Train 510 and unaware of any event details concerning Train 302

- She controls the exhaust fans manually, tried unsuccessfully to determine the exact location of the fire, and then turned all fans in L'Enfant Plaza to "Emergency Exhaust"
- Couldn't even see her partner due to the number of folks in the ROCC...described it as too much chaos...crisis drew a crowd that wanted to help but only got in the way
- Transit Police didn't share what they were doing...no awareness that they had ordered the evacuation of Train 510
- New digital radios a problem...nobody comfortable using them, and wasn't sure if communication problems were due to radio issues or nobody using them
- Doesn't know who took power down in L'Enfant station
- Transit Police, in the past, have dropped power as well as proceeded onto the right of way without notifying the ROCC
- At one point asked her supervisor if the Transit Police were in charge, and was told yes
- There are no smoke detector indications at her control panel
- She wanted to move Train 302 to Pentagon station, but there was so much chaos she couldn't try and coordinate it
- She felt unsure whether the smoke was coming from inside L'Enfant Plaza
- Did not have awareness of anyone from Transit Police in the ROCC to ask for clarification...again, so much chaos caused by the crowd who gathered there to help

Title : Rail Operation Control Center – Radio Controller

Date / Time of Interview : 1/15/2015 12:45 p.m.

- Received a report from northbound 508 train of smoke in the L'Enfant Plaza tunnel
- Said that at about the same time as the initial smoke report, also received an out-of-correspondence light at Anacostia and Mt. Vernon
- Reported that controllers regularly receive reports of smoke in tunnels, they usually instruct following trains to inspect these locations
- Noticed train 510 stop short of the normal car spot at L'Enfant Plaza Station
- Called 510 train and got message that the train was stopped
- Reported excessive amount of radio traffic during incident
- Reported that lack of communication took control away from control operators
- Reported that the senior control operator came over to the OPS-3 desk and assisted with radio communications
- Said there was a disconnect between the controller and the police department

- Noted that blanket emergency radio announcement was made
- Reported no station cameras were easily accessible to the controllers
- Stated that the controllers had just switched over to a new digital radio system
- Reported that 510 train operator left cab without notifying the OCC
- Said that they knew from the control operator's board that power had been taken down at the station
- Said that once the power was taken down at the station, there was little they could do to move either the 510 train or the 302 train.

Title : Asst. Superintendent - Operations Control Center

Date / Time of Interview : 1/15/2015 3:00 p.m.

- Asst Supr.of OCC since April 2014
- Incident took place quickly
- There were multiple incidents that were drawing his attention
- One controller said there was a fire at Gallery Place/Metro Center and at Mt. Vernon/Gallery Place
- There was a report of smoke in the interlocking at L'Enfant
- There was an AC Track Circuit down at Mt. Vernon Station
- Another AC Track Circuit down at Anacostia Station
- There was a rolling track inspection requested of a train around where the smoke/fire incidents were being reported.
- Maintenance Operations was alerted to help with these track conditions.
- Then the Train Operator of 302 radios in saying there is zero visibility in front of him and that he needs to reverse ends.
- There was a veteran controller on the "buttons" and a newer controller on the "radio"
- OCC tried to get the operator of 510 on the radio, and then OCC tried to get the Rail Transportation Supervisor on 510 on the radio. No luck
- This was to enable to reverse ends of 302 back to the L'Enfant
- The information that ROCC had was that the smoke event was only ahead of 302 and isolated and that nothing else was happening. But before too long it became apparent it was much more widespread
- Got a hold of the Rail Transportation Supervisor after a while but he had been evacuated topside by then and was not able to get back into 510 to reverse.
- Then heard that 302 has a BIE. Then the train operator started trouble shooting the BIE.
- Self evacuation of passengers and the de-energization of that section of roadway made it clear that ROCC had lost control of the railroad
- No communication between the Station Managers and ROCC

- Confused as to why there was no communication between ROCC and On Scene Commander
- Chaos in the ROCC
- No one from Fire Dept was at the OEM desk.

Title: Train Operator of train No. 510

Date / Time of Interview: 1/16/2015 8:30 a.m.

- Train Operator went on-duty at approximately 2:50 PM, picked up train equipment in Greenbelt Yard and departed the yard
- Reported no problems with the train equipment
- Upon arrival at Mt. Vernon Station, was instructed by the OCC to look out for smoke en route to Gallery Place Station
- Approaching L'Enfant Plaza station overheard radio communications between Train No. 302 and the OCC
- Reported able to see Lunar signal approaching L'Enfant Plaza station
- When first entered the L'Enfant station platform, the train was engulfed in smoke
- Called the OCC, but did not get a response
- Called out to a Transit police officer from the control compartment, made arrangements to walk the train further into the station
- After stopping at normal stopping point, was approached by 2nd Transit officer that gave instructions to evacuate the 510 train.
- Some passengers used Emergency Exit door release handles and opened emergency exit train car doors
- Attempted to contact OCC, getting no response
- Evacuated the train along with passengers, initially stopped at station manager's booth, attempting to call OCC, getting no response
- Was escorted back into station to move the 510 train
- Was ready to move the train, when power was shut down
- Smoke became lighter, but continued to remain with train at station

Title : Deputy Police Chief

Date / Time of Interview : 1/16/2015 10:10 a.m

- Said that the sargent of MTPD was initial on-scene commander, when he arrived on scene, he became the new on scene commander.
- Said that he arrived at L'Enfant at 3:28 p.m.. By that time the station had been cleared. All on scene staff knew that the 302 train was still in the tunnel. After

- assessing the situation, went upstairs to meet up with Fire Battalion Chief. Said that as he approached the Fire Chiefs vehicle, the Chief looked at him, and then drove off.
- Said he followed the vehicle and identified himself to the Fire Chief.
 - Said he again tried to explain the situation to the fire chief, but he rolled up his window
 - Stated to the fire chief that he had to evacuate the passenger on the 302 train in the tunnel
 - Stated that he notified his Metro officers that the fire chief was now the incident commander
 - Reported that between 3:40 and 3:51 a fire officer shut down power in the L'Enfant Station
 - Reported that at about 4:00 p.m. the DC Metropolitan Police Dept. arrived on scene
 - Reported that the fire department was having radio communication problems. Said that he offered Metro Transit Police radio assistance. This assistance was refused, and the fire chief again rolled up his vehicle window.
 - Reported that at approximately 4:06 p.m. MTPD officers on the station platform reported that self evacuation was taking place by passengers on the 302 train
 - Reported that at approx. 4:16 p.m. all walking passenger had gotten off of the 302 train
 - Reported that at approx. 4:25 p.m. a wheel chair bound person was found and transported
 - Reported that MTPD officers on the station platform reported a passenger fatality from the 302 train, DC Metropolitan Police took over command of scene
 - Advised that at approx. 6:50 p.m. fire department had discovered the source of the smoke approximately 800 feet ahead of the 302 train's equipment.
 - Said the last emergency training drill was 2 or 3 years ago at Arlington Bridge.
 - Reported that the relationship with the fire department has been hot and cold
 - Reported that sometimes MTPD radios do not work when it rains, but all MTPD radios were working the afternoon of the incident

Title: Police officer on 302 train

Date / Time of Interview: 1/16/2015 1:25 p.m.

- Was performing duty at L'Enfant Plaza Station
- Boarded the 302 train at L'Enfant Plaza Station
- Talked with the train operator departed the station
- Was talking with second officer onboard when car started to fill with smoke
- Saw orange smoke immediately in front of the train (302)
- Initial observation was that there a fire ahead of the train

- Smoke was heavy in cars, visibility of approximately 10 feet
- Tried to use radio, but could not get through
- Was able to overhear on radio that L'Enfant plaza was filled with smoke
- Had conversation with second officer, accompanied the train operator to the last car to assist with reverse move
- Had occasional verbal exchange with train operator of 302 via the passenger emergency intercom buttons on board 302, when she got separated from the train operator (302)
- While passing through train and in the last car continued to attempt to calm passengers
- Saw passengers that had self-evacuated, walking in tunnel towards the L'Enfant Plaza Station
- Saw firefighters arrive, and assisted with evacuation of passengers from train

Title: Police officer on 302 train

Date / Time of Interview: 1/16/2015 2:25 p.m.

- Said that originally was on the L'Enfant Station platform, and investigated a flash down in the south tunnel. Saw some smoke, but smoke dissipated
- Said that she boarded the 302 train and went to the 1st car
- Said that when the train stopped, she broadcast an emergency message over the radio
- Received order over the radio to stay in the cars
- Tried to maintain calm, was assisted by ex. Firefighter that was on-board
- Was advised by radio that help was on the way
- Said she heard the train operator over the intercom, asking that passenger keep the doors closed
- Said she heard on the radio that the 510 train operator was gone
- Reported that passengers were panicking
- Reported that as passenger were evacuated from the train, the smoke began to clear
- Reported that she was last person off of her car
- Reported that there have been many incidents where there has been a loss of radio communications
- Said that there were even radio dead spots in the 302 train

Title: Police Sargent – Emergency Management Liaison in OCC

Date / Time of Interview: 1/17/2015 10:45 a.m.

- Sgt [REDACTED] has had 17.5 years of service at WMATA MTPD.
- Sgt. [REDACTED] had left work previously at 1500 at the end of his shift, that day.
- He heard over the radio there was an incident taking form.
- Even though he had gone off duty he headed to Landover which is where the ROCC is located.
- Got to ROCC around 3:30 – 3:34PM.
- Sgt. [REDACTED] met [REDACTED] who was working with ROCC mgmt. as well as liaising with other controllers. [REDACTED] was the runner between OEM/MTPD desk and controllers at ROCC.
- Sgt [REDACTED] heard over the radio while at the OEM/MTOD Desk there was a question about whether the fans were on at the L'Enfant Plaza Metrorail Station. Sometime after 3:34PM it was confirmed that fans were on.
- At 3:44 PM DC Fire Dept were there at L'Enfant Plaza Metrorail Station and power had been taken down by Emergency Trip Station (ETS) at L'Enfant Plaza Metrorail Station.
- At 3:49 PM received radio communication that self evacuations were already observed inside the tunnel and the getting passengers out was a priority.
- OEM/MTPD desk is the conduit of information between MTPD Officers on scene via the On Scene Commander and the ROCC controller.
- Sgt [REDACTED] is RWP Level 4 certified so provides expertise on activities on the rail right of way and roadway worker protection to his counterparts if requested
- Sgt [REDACTED] made several broadcasts over the radio especially about power down. These are other topics of his radio broadcasts, not in any order (1) communicated with [REDACTED] as he was investigating the source of fire on the roadway... (but this was after the passengers from train ID 302 were all evacuated). (1) Suspicious package on Red Line. (1) Escort for PLNT to get to an Ancillary Room at L'Enfant Plaza Metrorail Station.
- Fire department representatives who arrived at the OEM/MTPD desk at the ROCC had radio problems. So Chief [REDACTED] went back to his "Buggy" and Sgt [REDACTED] communicated via cell phone with Chief [REDACTED].

Title: Metro Transit Police officer on L'Enfant Plaza platform

Date / Time of Interview: 1/17/2015 9:25 a.m.

- The Officer has 10 years of service WMATA Metropolitan Transit Police Dept. (MTPD).
- On the day of the accident, the officer was assigned to work the “Baker 26” area covering L'Enfant Metrorail Station to Navy Yard Metrorail Station.
- The officer cleared roll call between 3:00OM and 3:20PM at Navy Yard. He just got a radio call from an MTPD Officer who heard a large explosion at Anacostia Metrorail Station. The other officer said he will do a canvass of the Anacostia Metrorail Station. The officer on the radio says he believes that it was a collector shoe that had blown off at Anacostia Metrorail Station.
- The officer received a call from a female officer who says she is on a train with smoke. Location undefined.
- Another officer at Woodley Park Metrorail Station says on the radio that he hears a report of smoke.
- The officer started towards L'Enfant Metrorail Station.
- The officer arrived at the 7th Street/Maryland Ave side of station. The officer entered the L'Enfant Metrorail Station.
- The visibility from the kiosk towards the platform is reduced to about 2/3 the extent of platform length.
- The officer hears on the radio that there is a lot of smoke coming into the station.
- The officer cannot remember if he asked trains to stop.
- The officer could not estimate how far deep into the tunnel the train that was stopped in the tunnel was located (Train ID 302).
- The officer characterizes that there is extreme radio problems (general statement).

- About 5 minutes into this there are 3 more MTPD officers who arrive...not sure how or where they came from.
- The officer says that trains continue to arrive on the bottom level on the OR/SV/BL lines
- Another 5-6 minutes lapses the smoke covers about ½ length of station platform on green/yellow line platform area. About this time a train arrives at L'Enfant Metrorail station on the green/yellow platform. (Train ID 510)
- The officer and other officers start yelling passengers to leave the station. The train that arrives on the green/yellow line (train ID 510) sits at the platform without doors open. Patrons on the train (train ID 510) start panicking and start banging on the doors.
- During this time the officer makes multiple trips to the fare gates escorting passengers out of the station.
- Operator on Train ID 510 wanted to remain in the operating cab of the train. But the officer made the determination that the Train Operator of Train ID 510 would be evacuated along with others on the train.
- At this point the station is completely black because of the saturation of smoke inside the station.
- The officer continues to insist on all persons evacuating the station.
- The whole time the officer was there he did not visually make contact with any Fire Dept. personnel. Once everyone got upstairs announcement was made over the radio to switch channels on MTPD radios
- The officer tried to take a personnel accountability check.
- The officer receives a radio request received to bring the Train Operator to 7th Street/Maryland Avenue.
- The officer had left his flashlight in his police cruiser.
- He had a respirator mask but someone in authority in MTPD had informed him he does not need to wear it
- The officer notes that he has reported radio dead spots routinely to MTPD Radio Maintenance. It is verbally reported but there is a form/template that is used to report such radio problems more formally.

- Lack of urgency of DCFD personnel during the incident is corroborated by The officer as stated by Dept. Chief ██████ in his testimony
- The officer says that people were “tying up the radio” instead of clearing the air waves so that the incident can be resolved.

Title: Station Manager L’Enfant Plaza Station (1)

Date / Time of Interview: 1/20/2015 8:40 a.m.

- Was a normal day, and had already worked a shift as the Branch avenue Station Manager from 8am – 1pm, and was scheduled to work at L’Enfant from 4pm to closing
- She arrived at L’Enfant early to take a break
- She was in an ancillary room (near the 7th and Maryland entrance, Mezzanine #82) when, at around 3:15 to 3:30pm someone came in and told her the station was on fire
- She left the ancillary room to provide assistance to the on-duty station manager
- As soon as she came out of the ancillary room she noticed that the smoke was very thick
- Almost immediately a transit police officer directed her to evacuate from the station
- She went topside and began helping direct customers to busses
- She did not go to the hospital
- She remembers seeing the passenger gates open to facilitate customer egress
- The elevators had been raised to street level
- She has personally never experienced any problems with the radios in the kiosk, but knows that there are dead-spots in the stations and tunnels that are hard to work around
- She has a B.S. in Business Administration
- She has worked at WMATA since 2006, originally as a bus operator for one year, then as a train operator from 2007 to 2014...in 2014 she became a station manager
- For the 9 year previous to working at WMATA she worked at the Dept. of Justice as an Economist and at the Dept. of Interior as an Administrative Assistant
- When asked if she, as a station manager, would move a train in an emergency she answered no...she said she is not qualified to move a train

Title: Station Manager L'Enfant Plaza Station (2)

Date / Time of Interview: 1/20/2015 9:05 a.m.

- She has been a station manager for 20 years
- That day she worked the Congress Heights station from 9:30am to 12:40, moved to L'Enfant and was scheduled to work until 4pm
- Her duty location inside of L'Enfant was the 9th and D street entrance
- She was in the restroom when she heard the custodian, calling to her frantically that the station was on fire
- She then called Central to report that she could see and smell smoke
- When queried, Central told the manager to not close the station
- Assessing the situation she chose to begin evacuating customers anyway
- She then heard trains arriving
- She proceeded to the upper platform
- She noted that people were standing around videotaping the event instead of evacuating
- Suddenly it went dark from the thickness of the smoke
- She proceeded back to the kiosk, and was instructed by transit police to leave the station
- She noted that the train operator (most likely from 510) was there too
- She checked the rooms in the station on the way out to make sure nobody was left behind...she found a guy in one room and told him to get out
- Topside she could see smoke coming out of the station
- No time noted, but it was around then that the Fire Department arrived
- She monitored the entrance to the station to keep customers from heading into the station
- She saw folks exiting the station with soot under their noses...this prompted the firemen to run into the station, and she went back in as well
- It was then that the passengers from Train 302 began exiting the station
- She went back topside, and shortly thereafter someone relieved her and she departed the scene
- She does not recall hearing or seeing any fire alarms

Title: Station Manager L'Enfant Plaza Station (3)

Date / Time of Interview: 1/20/2015 10:00 a.m.

- The station manager has been with WMATA for 17 years...2 as a bus operator, 2 as a train operator and 13 as a station manager
- At approximately 3:15-3:20pm he saw lots of smoke
- He made an evacuation announcement and opened the gates to facilitate customer egress
- He called Central, asked for the exhaust fans to be turned on, and was told that they were already on
- He checked that the down escalators had been stopped
- He stayed at his kiosk and continued making announcements for customers to evacuate
- He then closed the entrance gates to keep customers from entering the station, but left room for the first responders to get in
- It was around this time that a fireman told him to leave the station
- He contacted Central to let them know and then he proceeded topside to help manage customer flow away from the station
- He reports that he heard or saw no fire alarms

Title: Station Manager L'Enfant Plaza Station (4)

Date / Time of Interview: 1/20/2015 10:55 a.m.

- The station manager has been with WMATA for 16 years...2 as a bus operator and 14 as a station manager
- On this day he was working at the 7th Street and Maryland entrance to L'Enfant Plaza
- He was at the kiosk when a transit policeman showed up to investigate a report of smoke
- He called Central to report this
- Soon thereafter the transit policeman told him to evacuate the station
- He called Central to inform them, and then opened the gates to facilitate customer egress
- He then made evacuation announcements over the station PA system

- Once all passengers appeared to be out, he checked that the elevators were up at street level and the down escalators were stopped
- He didn't go down onto the platform
- He reports that he did see and hear the fire alarms
- When queried he didn't feel any radio problems contributed to the situation, but that there was a lack of communicated information that did add to the confusion

Title: WMATA Rail Supervisor

Date / Time of Interview: 1/20/2015 12:55 a.m.

- Was initially at the Federal Center station when called to go to L'Enfant Plaza
- When he arrived it was very chaotic
- Initially attempted to contact OPS-3 desk at OCC, but communication were very congested
- Went to top level and contacted station manager
- Said OCC asked him to attempt to get train 510 off of platform
- Initially attempted to restart 510 train, but was taken off of train by police
- Went out of station, where he was again instructed go back down and attempt to move the 510 train.
- Went down to the train with the 510 train operator
- Was getting train set up to move when power went down in the station
- Said he was not involved in the evacuation
- Said he never talk to the fire department
- Reported that L'Enfant has poor radio communications
- Feels that new digital radios do not work as well as old analog radios

Post Accident Actions Taken by WMATA

Following the L'Enfant Plaza accident, WMATA Operating Staff took the following actions too address possible operational issues disclosed as a result of the accident:

- Created Performance Standards for OCC Staff.
- Create a visible list of radio dead spots in ROCC (Large Screen Display)
- Researching industry to locate radio headsets for the controllers.
- Incident checklists are located on all consoles
- Ventilation retraining given to all controllers and OCC managers.
- New controllers are receiving level 4 RWP training with goal of delivering same level to all controllers.

- Reviewing/revising OCC training module to ensure that all of the critical areas are being adequately addressed.
- Preparing to identify and provide training for ROCC OJT instructors.
- Identifying OCC training space that is large enough to house a greater number of students.
- Developing schedule to provide more frequent and deliberate training to OCC staff.
- Improving training for new controllers. Two former controllers are being re-hired to provide strategic training to controllers. Scheduled to start on May 4th.
- Written report prepared by each shift to be used in shift turnover discussion.
- Staggering of controller and assistant superintendent shift. EX. There are two controllers per console. One of the two controllers will arrive and leave one-half hour earlier than the second controller. This allows for more opportunities for discussions(updates) between the arriving and previous shift controller.
- Developing plan to provide a more robust training program for MOC Power Supervisors.
- Developing Controller recertification program that will include a practical element.
- Transferring recertification requirement for OCC staff from the Training group to the QA group
- Purchased mobile headsets for the ROCC managers to wear during major incidents to allow them to remain in constant contact as they move around the control room floor.
- Developing plan to have all RTRA training instructors certified by outside agency.

Amendment

New Attachments:

Attachment No. 1 – WMATA Operations Control Center Overview

Attachment No. 2 – WMATA Train Operator Training and Qualifications Overview

Attachment No. 3 – WMATA Control Operator Training and Qualifications Overview

Attachment No. 4 – WMATA Rail Employee Efficiency Testing

Attachment No. 1 – WMATA Operations Control Center Overview (OCC)

WMATA controls its Washington METRO rail operations from a centralized location near New Carrollton, MD. The OCC operates 24 hours a day, 7 days a week, 365 days a year.



Overview photo showing a portion of the WMATA OCC

(NTSB Photo)

Each one of the various rail lines (color coded) is directly controlled by a pair of control operators. Each control operator pair consists of a Button Controller and a Radio Controller. The Button Controller operates the remotely controlled track switches and signals, controlling the movement of the trains across the assigned line, while the Radio Controller handles radio communications with train operators and other WMATA employees on the assigned line. Each pair of control operators sits in tandem, at a desk equipped with computer displays showing the location of all operating trains on their assigned line. Control operators also have access to a large wall display that shows the location of all operating trains on the WMATA system.

Also located at the OCC are the power controllers, which monitor the electrical power in the third rail, used to power the rail cars. In addition there are other OCC personnel who

monitor passenger loading and loading. These employees issue some of the audio announcements heard on the various station platforms.

WMATA oversight of the OCC it the responsibility of OCC Center Manager. An OCC Center Manager is on-duty at all times during rail operations.

#

Attachment No. 2 – WMATA Train Operator Training and Qualifications Overview

WMATA conducts its new employee training at an established training center near New Carrollton, MD. Prospective train operators must pass a pre-employment medical examination and drug test. Prospective train operators must qualify as a bus operator and operate a WMATA bus for one year, before being accepted into the train operator training program. Prospective train operators must also pass an agility test in being able to move around WMATA rail equipment.

Prospective train operators enter a 17 week long training class that includes both classroom and field training. Prospective train operators receive progress testing on materials covered in a class room setting, as well as WMATA rail system operating rules. They also tour in service rail equipment and the OCC in a familiarization class.

As training progresses prospective train operators make familiarization rides with in-service train runs across the WMATA rail system. Prospective train operators progress to on-the-job training, operating a train under the supervision of a WMATA train operator trainer. During the On-the-job training , they must train and pass various competency tests. On-the job training lasts approximately 5 weeks.

After completion of the 17 week train operator training course, the prospective train operators receive a “final” exam. Upon receiving a passing grade on the “final” exam the prospective train operators are then considered qualified to operate solo with revenue WMATA trains.

#

Attachment No. 3 – WMATA Control Operator Training and Qualifications Overview

WMATA conducts its new employee training at an established training center near New Carrollton, MD. Prospective control operators must pass a pre-employment medical examination and drug test, as well as must have some type of transportation career background. This can be either within WMATA or an outside service.

Prospective control operators enter a 26 week long training class that includes both classroom and on-the-job training. Prospective control operators receive weekly testing on materials covered in a class room setting, and WMATA rail system operating rules. They train on a simulator in the OCC as part of a familiarization class.

As training progresses within the 16 to 20 initial weeks prospective control operators, get a general overview of OCC operations, get basic rules compliance training, get training in proper communications, and training in safe rail operations. They also spend time observing control operators working in the OCC. They must train and pass a competency tests as various parts of their training is completed.

After completion of the 26 week control operator training course, the prospective control operators receive a “final” exam. Upon receiving a passing grade on the “final” exam the prospective train operators are then considered qualified to operate as a control operator trainee.

Control Operator trainees must spend time at each rail line desk and work under the supervision of a qualified control operator for at least 2 to 4 weeks on a particular line desk, before they are allowed to control train movements on their own. When then are considered qualified by OCC center managers they are assigned positions based on availability and job seniority.

#

Attachment No. 4 – WMATA Rail Employee Efficiency Testing

WMATA has a published program of rail employee efficiency testing that monitors rail Employee compliance with WMATA rail operating and safety rules.

The WMATA program has two parts. One part covers train service employees and one Part covers control operators

The train service portion of the program is conducted under the supervision of the superintendent of rail operation, the control operator portion of the program is under the direction of the OCC center manager.

The objective of the program is regularly assure that employees remain aware of applicable WMATA rules safety procedures. Efficiency testing records are maintained in a computer data base by the Superintendent of the OCC center manager. The results of testing, both previously announced and un-announced, are discussed with Employees after testing.

Employee testing can occur at any time during an employee's work period. Specifically, train operators are tested at any time during their regular duty period during train operations. Control operators are also tested at any time during their regular duty period when they are at the control desk.

#