

# **NATIONAL TRANSPORTATION SAFETY BOARD**

**Office of Railroad, Pipeline and Hazardous Materials Investigations  
Washington, DC**

## **OPERATIONS GROUP CHAIRMAN FACTUAL REPORT**

**DCA-16-MR-011**

**New Jersey Transit**

**NJT Train No. 1614**

**Hoboken, New Jersey**

**September 29, 2016**

### **Accident**

NTSB Accident Number:	DCA16MR011
Date of Accident:	September 29, 2016
Time of Accident:	8:41 a.m. (EST)
Type of Train and No:	Passenger Train No. 1614
Railroad Owner:	New Jersey Transit (NJT)
Train Operator:	New Jersey Transit

Crew Members: 1 Engineer, 1 Conductor, 1 Brakeman  
Location of Accident: Hoboken, NJ

### **Operations Group**

David Bucher – OPS Group Chairman  
NTSB

Fred Mattison  
System Train and Engine Compliance Officer  
NJT

Bruce Parkin  
Operating Practices Inspector  
FRA

Pat Vedder  
Operating Practices Inspector  
FRA

Randy Fannon  
BLET

Stephen Hamer  
SMART

Willie Bates  
SMART

### **Synopsis:**

For a summary of this accident, refer to the *Accident Summary* within this docket.

### **Circumstances Prior to the Accident:**

#### **Train 1614:**

On Thursday September 29, 2016, a New Jersey Transit (NJT) train crew,

consisting of an engineer on duty at Woodbine Yard, Spring Valley, NY at 6:46 a.m. (EDT), and a conductor and brakeman on-duty Woodbine Yard, Spring Valley, NY at 6:31 am (EST) to operate NJT passenger train No. 1614 from Spring Valley, NY, to Hoboken, NJ.

The train's assigned locomotive engineer and brakemen boarded the 1614's equipment in the yard at Spring Valley and the conductor lined 2 switches for the train to follow the preceding NJT passenger train No. 1612, which departed ahead of train No. 1614.

The No. 1614's equipment consisted of a cab control car, in the lead, three coaches and a diesel locomotive on the rear of the train shoving the consist.

The 1614 departed Spring Valley Station on time at 7:23 a.m... The 1614 train is a local train. It stops at all passenger stations enroute to Hoboken. There are 15 open passenger stations between Spring Valley and Secaucus, NJ. Secaucus, was the last station before Hoboken.

Departing Secaucus the 1614 had a full loading of passengers. There were an estimated 175 people in both of the first cars (control car and first coach). There were an additional 75 passengers in both of the last two cars.

Based on interviews, the 1614 train passed the "Brick Tower", located approximately 100 yards west of the Hoboken Station platform, at a speed of approximately 15 miles per hour. Interviews and event recorder data show that the 1614 reduced speed to 8 miles per hour, 2 miles per hour under the maximum required 10 mile per hour speed limit for No. 5 station track, to which the train had been lined into for arrival at Hoboken Station.

However, based on videos and interviews with employees and witnesses, the 1614 train did not further reduce speed, in order to make a safe stop short of the end-of-track bumping block, but entered the station at approximately 8 miles per hour, and proceeded to increase speed to 21 miles per hour as it approached the end of track and bumping block. The 1614 train struck the bumping block and continued across the end platform, stopping after it struck the station waiting room wall, derailed the lead cab control car. Portions of the roof over the end station platform consequently collapsed on and into the lead derailed car.

#### **Last Signals received by Train 1614**

Train 1614 received a "Slow Approach" (the visible trackside signal outside the

cab) approximately 350 feet in advance of the end of the station platform. The cab signal indication was a “Restricting” indication in the control compartment at the time of the crash, allowing the engineer to operate at 20 Miles Per Hour<sup>1</sup>. The last signal indication received was a “Stop” signal located at the bumping block (end of the station track) on No. 5 station track.

**Operating Crew:**

**NJT Train No. 1614**

Engineer: 48 years of age

Hire: 05/29/87

Current Engineer certification date: 10/16/2014

Conductor: 56 years of age

Hire: 07/09/2003

Current Conductor Certification: 11/20/2015

Brakeman 62 years of age

Hire: 03/26/1997

Current Conductor Certification: 11/06/2014

**Train Consist:**

NJT Train No. 1614 consisted of 1 cab control car, 3 coaches and 1 locomotive. On the head end of the train (South end) was cab control car No. 6036. The train lined-up, as follows:

NJT 6036 (cab control car)(East End)(Head End)

NJT 6577

NJT 6575

NJT 6521

NJT 4214 (locomotive)(West End)(Rear)

**Crew On-Duty Times:**

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<sup>1</sup> NJT Special Instructions allow a maximum of 10 Miles Per Hour on Hoboken station tracks

## **1614 Train Crews – Previous trip**

Engineer - on train No. 1614 last worked on 9/26/2016, on duty 7:36 am, Woodbine Yard, Spring Valley, NY. Made two round trips between Woodbine Yard and Hoboken, NJ, as well as several yard moves. He marked off duty at Woodbine Yard 7:20 pm.

Conductor - on train No. 1614 last worked on 9/28/2016, on duty 12:43 pm, Dover, NY, to New York City, NY. Made two round trips, marking off at Dover at 7:11 pm.












Brakeman – on train 1614 last worked 9/27/2016, on duty 4:14 pm, Montclair, NJ. Made two round trips between Montclair and New York City, NY. He marked off at Montclair at 11:35 pm.

## **Method of Operation and Location**

The NJT train involved in the accident was governed and authorized by wayside and interlocking signals, as well as cab signals. Some of these signals are controlled from the Rail Operations Center located in South Kearny, NJ. Others are automatic signals that display indications depending on the track condition ahead. The derailment occurred at Milepost 0.0 in the Hoboken Station of New Jersey Transit. The station tracks at this location are all Centralized Traffic Control with interlocking track side signal indications and cab signals. Trains operating at the accident location, No. 5 Depot track, are capable of operating in both directions. There are a total of 17 station tracks for loading and unloading passengers. The authorized timetable speed for passenger trains on No. 5 station track is 10 MPH.

### **Operating Rules:**

Operating Rules governing employees were the NORAC Operating Rules, 10<sup>th</sup> Edition, effective 11/6/2011. Also governing train movements was NJT System Timetable No.8 effective 7/6/2016. Bulletin Orders in effect were 8-S924 & 8-928. Also, Speed Restriction Bulletin effective 9/28/2016 (4:00 pm).

Fixed Signal Name	Conforming Cab Signal Aspect	Cab Signal Name
Clear	 	CLEAR
Approach Limited Limited Clear Approach Medium Advance Approach Medium Clear	   	APPROACH MEDIUM
Approach Slow Approach Medium Approach	 	APPROACH
Slow Clear Slow Approach Restricting Stop and Proceed Stop Signal	  	RESTRICTING

### Federal Oversight

Federal oversight of NJT is provided by the Federal Railroad Administration (FRA), which is part of the US Department of Transportation (DOT). The FRA employs multiple field inspectors which conduct field inspections on NJT on a scheduled as well as random basis. FRA operational field inspectors monitor the railroad's compliance with DOT regulations per 49 CFR Parts 200 through 299. FRA also conducts periodic records reviews on NJT for various federal record keeping requirements.

### Employee Training and Qualifications

Federal regulations 49 CFR Part 240 and 242 require that both locomotive engineers and conductors be trained and certified under a federally approved program. For both of these training programs, employees must pass required testing to confirm that they are qualified to perform their assigned duties. Records provided to NTSB, as part of the

crash investigation, indicate that NJT had approved training plans in place and that the train crews involved in this crash had received the required training by the railroad. All train crew members involved in the crash held current certifications for their assigned positions.

### **Employee Interviews:**

The Operations and Human Performance Groups conducted multiple interviews during the on-scene phase of the investigation. A summary (bullets) of these interviews are below, transcripts of the entire interviews are located in the NTSB docket for this accident:

#### **Thomas Gallagher, Locomotive Engineer of NJT Train No. 1614.**

(Interview conducted at Chatham, NY on Saturday October 1, 2016, from 10:00 a.m.– 12:30 p.m.)

- Signed up with conductor and brakeman at Spring Valley for train 1614.
- Stated he felt fully rested upon arrival at work.
- Stated that he conducted a successful air brake test with the brakeman assisting.
- Stated that the train had 4 cars instead of the normal 5 on the day of the accident.
- Stated he performed a running brake test as required.
- Stated that the train operated normally throughout the trip approaching the accident site.
- Stated that approaching the end of the station platform, he checked his watch, blew the horn, checked his speedometer, and starting ringing the bell.
- He stated he could not remember anything concerning the accident. He first remembers waking up in the cab laying on the floor.
- He stated that when he woke up he could not move and he was taken out of the train by EMT's.
- Stated he felt sure he was doing 10 MPH entering the station track.

- Stated that he was sure the train was operating 6 minutes late as it arrived at Hoboken.
- Stated he was originally hired by NJT as a part time ticket agent in 1987.
- Hired full time in 1991.
- Went into engineer training in 1998.
- Became qualified engineer in 2000.

Stated that conductor never came up the operating cab during the trip.

- Stated that the door to the operating cab was closed except for when the train departed Spring Valley. The door closed automatically upon departure.
- Stated that No. 5 track was the normal arrival track for the 1614 train at Hoboken.
- Stated that the cab control car was a Comet V type car and that he was very familiar with the operation of this car.
- Stated that the cab alerter was operating properly.
- Stated that there was clear visibility approaching the station.
- Stated that his cell phone is stored (turned off) in his personal back pack which is still located in the cab of the control car.
- Stated that the number of cars did not affect the operation of the brakes of the train.

**Mark Mari Conductor of NJT Train No. 1614.**

(Interview conducted at Newark, NJ on Friday September 30, 2016, from 2:00 p.m.– 4:30 p.m.)

- Signed up for duty at 6:31 am at Spring Valley.
- Had job briefing with crew.
- Talked to engineer, noticed nothing unusual with engineer.



- Train had 4 cars when it normally has 5.
- Train became very crowded as it stopped at approximately 15 stations en route to Hoboken.
- People were even standing in vestibules.
- Got so crowded could not collect fares approaching Hoboken.
- Estimated train had 600 people at Secaucus.
- Train seemed to handle normally throughout trip.
- Could not see the engineer due to number of people standing.
- Radios were tested and working fine.
- Estimated approximately 400 people at the time of the accident at Hoboken.

**Thomas Dougan Brakeman of NJT Train No. 11614.**

(Interview conducted at Weehawkin, NJ on Sunday October 2, 2016, from 2:30 p.m.– 3:30 p.m.)

- Stated he arrived at Spring Valley about 3 minutes before call time for train
- Stated he talked to engineer walking to train equipment to perform air brake tests
- Stated the train left on time
- Remembers that the train made all stops
- Stated that upon arrival at Hoboken he felt train may have been going too fast
- Stated he was in the fourth car at the time of the accident
- Stated he got off train after accident and went to first car to assist
- Stated upon entering the 1<sup>st</sup> car saw ceiling down to seat top.

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- Stated he helped engineer in control cab.
- Stated that wood had come through the control cab window.
- Stated that initially thought that engineer had a heart attack.
- Stated that the train had operated normally throughout its run
- Stated that everything seemed totally normal until accident
- Stated that as the train went through the terminal switches, the train seemed to slow. Then when the train got into the straight away track of the station, felt the train was going too fast.
- Stated that he went to pull the Emergency Brake Lever, but the train initially went into an Emergency Air Brake application. Then the accident occurred.

**Stephen Hamer Locomotive Engineer NJT.**

(Interview conducted at Hoboken, NJ on Sunday October 2, 2016, from 12:30 p.m.– 1:30 p.m.)

- Stated that Woodbine Yard is where equipment for Spring Valley trains is stored
- Stated that the equipment is Class II brake tested by the engineer and brakeman.
- Stated that number of cars in a train does not affect how he operates the train.
- Stated that arriving Hoboken, at certain times of year, the sun is in the face of the locomotive engineer.
- Stated that occasionally there is some issue with the anti-lock sensor on the cab control cars.

**Nicholas Artunian NJT Conductor, witness to accident.**

(Interview conducted at Weehawkin, NJ on Sunday October 2, 2016, from 4:00 p.m.– 5:00 p.m.)

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- Stated that he was in the food court at time of the accident.
- Stated that he saw train go up over the bumping block
- Stated that he saw the catenary come down.
- Stated that he went outside to help people.
- Stated that he was the conductor on train 1612.
- Stated that he did not watch train 1614 arrive
- Stated that when train 1614 came to a stop the lights on the train were out.
- Stated that first responders arrived about 4 or 5 minutes after the accident.
- Stated he saw and heard collision, but nothing before.

**Marianna Tropeano NJT Police Officer.**

(Interview conducted at South Kearney, NJ on Monday October 3, 2016, from 2:00 p.m.– 3:00 p.m.)

- Stated she was in triage area after the accident.
- Stated she accompanied engineer to hospital.
- Stated she talked to engineer in ambulance
- Stated that engineer asked about his glasses
- Stated that the engineer said he started ringing the bell.
- She said that the engineer remembered going by the brick tower at 10 MPH.
- Stated the engineer said he was fully rested when he came to work.
- Stated that the engineer said he was not taking any medication
- Stated that the engineer was on a back board when she first saw him.

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- Stated this the engineer was visibly upset, but controlled.
- Stated that the engineer swore that he was going by the terminal tower at 10 MPH.
- Stated that by her observation the engineer had a red forehead and minor swelling on his cheek.

**Ryan Holmgren & Micheal Wilson, NJT Main Line Train Dispatchers**

(Interview conducted at South Kearney, NJ on Tuesday October 4, 2016 from 2:00 p.m. – 2:25 p.m.):

The NJT Main Line dispatchers control the line from Woodbine Yard, Spring Valley, NJ to Secaucus, NJ.

- Stated that the only time they would have communicated directly with any of the 1614 train crew was when the conductor called for any bulletins. Neither could remember anything about a conversation with the conductor of the 1614 crew.
- Stated that they handled the 1614 from Spring Valley to Secaucus, then the train was handed off to the Terminal Dispatchers.
- Stated that September 29, was a normal day, normal operations
- Stated that the train had to be more than 6 minutes, 59 seconds late for it to show late on the dispatcher board.
- Stated that the signals on line were pretty reliable.

**Jared Eagle, Joe Steidle, Joe Arguelles, NJT Terminal Train Dispatchers**

(Interview conducted at South Kearney, NJ on Tuesday October 4, 2016 from 2:30 p.m. – 2:55 p.m.):

- Stated that they controlled trains from east of Secaucus, NJ, into Hoboken Terminal.

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- Stated that signals were in Fleet mode from Secaucus at the time of train 1614's arrival.
- Stated that No. 5 track was the normal arrival track for the 1614 train.
- Stated that Thursday the 29<sup>th</sup> was a totally normal day until the accident.
- Stated that the STO was the first to hear of the accident, and he told the terminal dispatchers.
- Stated that they stopped all traffic at Secaucus after the accident occurred.

**Joseph Sowinski, NJT Trainman**

(Interview conducted at Netcong, NJ on Tuesday January 24, 2017 from 2:00 p.m. – 3:15 p.m.):

- Stated that he was working in Hoboken Terminal Station the morning of the accident
- Stated that was standing between number 9 and number 10 tracks
- Stated that he first heard a train coming into the station, then looking and saw the accident train approaching the bumping block.
- Stated that he knew that the train was going too fast
- Stated that he saw the train hit the bumping block then hit the ceiling of the station
- Stated that he helped a gentleman that had a piece of concrete on him
- Stated that he tried to get passengers safely off of the train
- Stated that he assisted with the evacuation of the train
- Stated that he could not see the engineer in the cab after the accident
- Stated that he saw the rear brakemen get off of the train

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- In recounting the accident train arriving in the station, Mr. Sowinski stated that he was lower (that the height of the train) and that my angle was a bit. But, from what I could see inside (the control cab), I didn't have a perfect shot of where he (the engineer) might be sitting, but from what I could see, there was nothing there.
- Stated that this observation occurred within a couple of seconds, but determined that nobody was there (in the control cab).
- Stated that the emergency response was conducted in a professional manner
- Stated that most of the passengers were just scared.
- Stated that he saw the engineer removed from the control car on a stretcher
- Stated that it was normal for this train to come in on either 5 or 6 track.

**Thomas Gallagher, Locomotive Engineer of NJT Train No. 1614 (2<sup>nd</sup> Interview)**  
(Interview conducted at Chatham, NY on Wednesday January 25, 2017, from 10:15 a.m. – 12:30 p.m.)

- When asked if he could remember any additional information relating to the accident, Mr. Gallagher stated that he was not sure he could add much to what was previously stated (in his earlier interview)
- Mr. Gallagher was asked to describe the operations of the control car controls
- Stated that he did not recall placing the train into an emergency air brake application at the time of the accident
- Stated that the control car involved in the accident was equipped with EPIC brakes, he then described the operation of those controls
- Mr. Gallagher recounted his arrival on the no. 5 station track
- Stated that he blew the horn and rang the bell
- Stated that he knew the train was 6 minutes late

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- Stated that he operates with his paperwork for his run on the operating desk in front of him.
- Stated that his bag (backpack) was always to his left on the cab floor
- Stated that depending on the trains already in the station on the adjacent No. 6 track, he will sometime hide his bag between the two tracks, in order to not have to carry it along from the storage yard.
- Stated that the Pascack Valley Line has a lot of grade crossings
- Stated that the run was challenging with all of the crossing and having to blow the horn
- Stated that the crew had a job briefing before they departed the first station
- Stated that he had received the required annual physical required by NJT

**Radio Communications**

The lead control car of NJT Train 1614 was equipped with a permanent working railroad radio the day of the crash. Both the conductor and brakeman on-board the train also had hand held portable radios. All radios were tested by the train crew on the day of the crash prior to departing Spring Valley. No problems were noted.

**Locomotive Sight-Distance Observations**

On December 1, 2016, starting at approximately 6:30 a.m., the Operations and Human Performance Group members conducted sight-distance observations using exemplar equipment, including an identical control car, as involved in the accident. Investigators from the NTSB, FRA, NJT, BLET and SMART participated in the observation test. The purpose of the test was to determine the distances that a locomotive engineer, operating from the control compartment of a NJT control car could first visually detect necessary signal indications and switch positions approaching Hoboken Station in the identical tracks used by the accident train. An identical control car with an exemplar locomotive were used in the test. The exemplar train was operated by a qualified locomotive engineer supplied by NJT. On the exemplar sight distance train, both Operations and Human Performance Group members reported their observations from the

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engineer's seat. The environmental conditions (i.e., daylight, mostly sunny and clear) were similar to the day of the accident.

Based on observations made from the exemplar control car by the Operations and Human Performance Groups, the locomotive engineer had clear sight of all signal indications and switch positions approaching Hoboken station.

(Please refer to the NTSB Docket and Track Group Factual for exact measurements.)

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