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EXHIBIT	
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Agency / Organization

Paulsboro

Title

Paulsboro Proposed Findings Submission 49CFR 845.27

ANGELINI, VINIAR & FREEDMAN, LLP
By: Jeffrey A. Daniels, Esquire
413 Route 70 East
Cherry Hill, New Jersey 08034
(856) 429-0020
Attorneys for the Borough of Paulsboro

In the matter of the investigation of the Conrail freight train FC4230 derailment and release of vinyl chloride into Mantua Creek occurring in Paulsboro, NJ on November 30, 2012	UNITED STATES OF AMERICA NATIONAL TRANSPORTATION SAFETY BOARD DOCKET NO.: DCA-13-MR002 BOROUGH OF PAULSBORO REPORT OF PROPOSED FINDINGS PURSUANT TO 49 C.F.R. § 845.27

INTRODUCTION

This Report is being submitted pursuant to 49 C.F.R. § 845.27 and contains the proposed findings of the Borough of Paulsboro ("Paulsboro") regarding the above captioned matter. Specifically, this Report sets forth proposed findings of fact drawn from the testimony and exhibits from the National Transportation Safety Board (NTSB) hearing in the above captioned matter conducted on July 9-10, 2013, proposed findings of probable cause of the accident, and proposed safety recommendations designed to prevent future, similar accidents. Copies of this Report shall be served on all other parties to the aforementioned NTSB hearing as required.

This submission is focused on the cause of the accident, consistent with the NTSB's statutory mandate to "investigate or have investigated (in detail the Board prescribes) and establish *the facts, circumstances, and cause or probable cause of*" railroad and other

catastrophic transportation accidents, 49 U.S.C. § 1131(a)(1)(emphasis supplied), and "to report on the facts and circumstances of each accident investigated by it." 49 U.S.C. § 1132(e). This is further codified in the Board's regulations, which state that the Board's duties are "to determine the cause or probable cause or causes of transportation accidents and to report the facts, conditions and circumstances relating to such accidents." 49 C.F.R. § 800.3(c); *see also* 49 C.F.R. § 800.2(f)(Duty of NTSB's Office of Railroad Safety is to determine probable cause and to make "recommendations to prevent" future accidents). Substantial testimony at the hearing related to the response to the accident, rather than to the cause the accident or future prevention of such accidents, but such testimony, while useful appears peripheral to, or beyond the scope of, the Board's statutory mandate.

PROPOSED FINDINGS OF FACT

On the morning of November 30, 2012, Consolidated Rail Corporation ("Conrail") freight train FC 4230 ("Train"), consisting of two (2) locomotives and eighty-two (82) freight cars, departed the Pavonia Yard from Camden, New Jersey and traveled south on the Penns Grove Secondary track. The Engineer and Conductor of the Train were Mark Mather and Wilbert den Ouden, respectively. The Engineer had fourteen (14) months of experience operating on the Penns Grove Secondary track. The Conductor was promoted to conductor in August 2009 and had previously operated on the Penns Grove Secondary track. Since July 8, 2009, the Conductor had been suspended (3) times and reprimanded once for a violation of operating rules and in connection with operating through a switch in the wrong direction.

While traveling south on the Penns Grove Secondary track near MP 13.7, the Train was to cross over Mantua Creek via the 160 foot long Paulsboro Moveable Bridge ("Bridge"), which

is a swing bridge controlled by Conrail and located at Paulsboro, New Jersey. When the Train arrived at the Bridge, the Bridge control signal was red; however, the Bridge was in the closed position allowing train traffic to cross over Mantua Creek. The Bridge should have been in the open position for river traffic. The Engineer stopped at the control signal and entered a code to clear the signal and ensure that the Bridge was in the closed and locked position. The Bridge signal remained red at which point the Conductor departed the train to inspect the Bridge.

The Conductor believed, based upon his inspection, that the Bridge was closed and locked and relayed this information to the Engineer. Moveable bridges are to be inspected by qualified employees pursuant to NORAC Rule 241(d). The Conductor's inspection of the Bridge immediately prior to its collapse was the first time that the Conductor had inspected the Bridge and the Conductor's training with regard to inspection of the Bridge was limited to a one-time on the job training with another conductor which occurred over four (4) years prior to the Bridge collapse. There are no Conrail operational testing records that the Conductor had been observed properly inspecting a moveable bridge. Also, Conrail training lesson plans for operating crews did not contain specific instructions related to inspecting moveable bridges when stopped at a red control signal. Operating crews at the Pavonia Yard had not received formal training as to how to inspect the Bridge.

After the Conductor inspected the Bridge, the Engineer then moved the Train forward in an effort to clear the control signal and reentered the code several times, but the control signal did not respond. As required by the NORAC rule book, the Engineer then contacted South Jersey Dispatch and advised Dispatch that the Bridge control signal was red but the Bridge was closed and locked based upon the Conductor's inspection of the Bridge. Dispatch responded by giving the Engineer permission to pass by the red signal and over the Bridge.

Normally, control signals are connected to a dispatcher's work station and a dispatcher can control the signals from the work station; however, the Bridge control signals were not connected to the South Jersey Dispatch work station. Further, South Jersey Dispatch did not have an indication of the Bridge position on its work station display, had no video monitor of the bridge or locking mechanism, and did not have the ability to block the Bridge or affect any other Bridge signals.

After receiving permission from Dispatch to proceed by the red signal, the Engineer moved the Train forward to cross the Bridge. After the Train engines and first six (6) freight cars cleared the Bridge, the Bridge collapsed at approximately 6:59 a.m. causing three (3) freight cars containing vinyl chloride and one (1) freight car containing ethanol to derail into Mantua Creek, one of which sustained a hull breach releasing at least 20,000 gallons of vinyl chloride into the environment. In addition to the freight cars that derailed into Mantua Creek, three (3) additional freight cars derailed adjacent to the Bridge, two (2) of which derailed to the south of the Bridge and the third derailing to the north. As a result of the release of vinyl chloride caused by the Bridge collapse, twenty-three (23) area residents, the Conductor, and numerous emergency responders were treated at nearby hospitals for possible vinyl chloride exposure on November 30, 2012.

During the year immediately preceding the Bridge collapse, there were twenty-three (23) reported Bridge malfunctions, with eleven (11) of the reported malfunctions being reported within thirty-four (34) days of the collapse between October 25, 2012, the date of Hurricane Sandy, and November 30, 2012, the date of the Bridge collapse, and one (1) unreported malfunction that occurred the evening of November 29, 2012 at approximately 11:00 p.m. Crew member recordings with regard to the reported Bridge malfunctions during the month of

November 2012 document repeated references to the north side Bridge rails failing to properly lock. The unreported malfunction occurred during the last train movement across the Bridge prior to the Bridge collapse and the crew of that train failed to report the malfunction in accordance with Conrail Timetable No. 9. After the previous train crossed the Bridge, eight (8) hours before the Bridge collapse and resultant derailment, the Bridge failed to reopen.

On November 29, 2012 at approximately 3:00 a.m., a different train engineer and conductor encountered a similar red Bridge control signal, but the Bridge was in its normal open position. After stopping at the Bridge control signal and entering the code, the Bridge closed but the control signal did not respond requiring the conductor to inspect the Bridge. Upon inspection of the Bridge, the conductor found a four inch gap in the Bridge locking mechanism. Dispatch was notified and a maintenance employee was sent to the Bridge. Upon arrival of the maintenance employee at the Bridge, there were no gaps between the rails as described above most likely due to the engineer's repeated attempts to reenter the code.

During an FRA interview in response to the accident, Hans J. Heidenreich, Conrail's contract engineer responsible for the development and integration of the programmable logic controller (PLC) based control system utilized for the automation of the Bridge, stated that it was his opinion that the slide locks were not driven at the time of the accident, based on the red signal indications, and without the slide rails engaged, the end of the bridge was able to slew sideways misaligning the running rails resulting in the derailment. Mr. Heidenreich inspected the Bridge on November 13 and 20, 2012 for the purpose of troubleshooting the increase in the number of malfunctions of the Bridge. On November 20, 2012, Mr. Heidenreich had advised Conrail's Supervisor of Structures, Ryan Hill, to contact the owner of the marina adjacent to the Bridge to obtain the owner's consent to stop operating the Bridge and to keep the Bridge in the closed and

locked position prior to the December 1, 2012 statutory seasonal closing. Mr. Hill did not act on Mr. Heidenreich's recommendation. Mr. Hill did not contact the marina, the U.S. Coast Guard, or otherwise attempt to implement the recommendation.

PROPOSED PROBABLE CAUSE

The probable cause of the November 30, 2012 Bridge collapse and Train derailment was that the Bridge's north side rails failed to lock causing the Bridge to sway under the weight of the Train and ultimately collapse into Mantua Creek resulting in the release of a hazardous material into the environment. The failure of the rails to lock had several underlying causes.

Although the Bridge was closed when the Train approached the red control signal, the Engineer stopped the Train in accordance with operating rules and entered the code to trigger a green signal ensuring that the bridge was properly closed and locked. The control signal did not respond at which point the Engineer moved the Train forward to reenter the code to again trigger a green signal. When the control signal failed, the Engineer contacted South Jersey Dispatch, as required, and advised Dispatch that the control signal was red, and that the Bridge was properly closed and locked based upon the inspection conducted by the Conductor. Based upon that information, Dispatch gave the Engineer permission to proceed by the red control signal and to cross the Bridge.

However, the Conductor's inspection of the Bridge failed to identify that the Bridge was not properly locked so that the Train could safely cross the Bridge. Had the Conductor identified a failure to the Bridge locking mechanism and notified South Jersey Dispatch of same, Dispatch could have sent a Bridge maintenance employee to the Bridge to repair the locking mechanism

so that the Train could safely cross the Bridge. This failure was due to a lack of experience and training.

Specifically, NORAC Rule 241(d) provides that moveable bridges are to be inspected by qualified employees. The Conductor was not qualified to conduct an inspection of the Bridge. The Conductor had never inspected a moveable bridge let alone the Bridge prior to the date of the Bridge collapse. The Conductor's only training regarding inspection of the Bridge was four (4) years prior to the Bridge collapse when he merely observed another conductor inspect the Bridge. At no time was the Conductor trained by qualified training personnel on moveable bridge inspections. This lack of training is not only evidenced by the Conductor's testimony, but also the lack of Conrail operational training records that the Conductor had been observed properly inspecting the Bridge, or any moveable bridge. Also, there were no Conrail training lesson plans containing specific instructions on how to inspect moveable bridges. Such instructions could have been utilized by the Conductor during the inspection on the date of the Bridge collapse. Not only had the Conductor not received proper training, but none of the operating crews out of the Pavonia Yard received any formal training whatsoever on how to inspect the Bridge. Not only was basic training in moveable bridge inspections warranted and not provided, but given the Conductor's disciplinary record, additional training should have been provided to the Conductor.

South Jersey Dispatch also had no sensing, video, or other monitoring of the switch or rail lock by which to confirm or evaluate the Conductor's judgment. The absence of such a safeguard exacerbated the failure properly to train the conductor.

In addition to the Conductor's failure to properly inspect the Bridge and the absence of appropriate equipment monitoring capability at South Jersey Dispatch, Conrail failed to repair

the malfunctioning Bridge despite repeated and properly reported malfunctions, and a qualified engineer's recommendation that the Bridge be closed. In light of the numerous reported Bridge malfunctions, the November 2012 crew member recordings regarding malfunctions referencing the north side Bridge rails failing to properly lock, and the Bridge inspections conducted by Conrail's contract engineer, Mr. Heidenreich, the Bridge should have been repaired prior to Conrail's continued use so that the Bridge was working properly so as to avoid manual Bridge inspections by conductors, and in this matter by an inexperienced and untrained conductor. At a minimum, and based upon Mr. Heidenreich's recommendations after his Bridge inspections discussed herein, the Bridge should have been locked in the closed position, or an effort made to achieve same, until the malfunctioning Bridge could have been repaired.

PROPOSED SAFETY RECOMMENDATIONS

Based upon the above proposed findings of fact and probable cause, Paulsboro proposes the following safety recommendations in order to prevent future moveable bridge failures:

1. Promulgation of Federal laws and/or regulations that:

   a. Require the quarterly inspection by Federal approved inspectors of all existing moveable train bridges, including swing bridges (the type of bridge in the instant matter), lift bridges and bascule bridges, within the United States.

   b. Govern the design, construction and inspection of all future moveable train bridges within the United States.

   c. Establish minimum qualifications, training, and testing of railroad personnel as to moveable bridge operations and inspections thereof in the event of red control signals, including dispatchers, engineers, conductors and maintenance personnel.

d. Require video monitoring or remote sensing at bridge locking mechanisms in a manner that provides dispatchers access to the imaging or data at their work station when asked to authorize the bypass of control signals at moveable bridges.

e. Establish uniform procedures regarding the operation of trains at control signals for moveable bridges and the inspection by operating crews of moveable bridges in the event of a red control signal.

f. Require all bridge control signals be connected to a central dispatcher work station that permits the control by dispatchers of bridge control signals and moveable bridge crossings.

g. Require the notification by railroads and track owners to state, county and local agencies of any shipment by rail of hazardous materials by type and amount within such jurisdiction. Such notifications should include response and evacuation guidelines for use by state, county and local agencies in the event of a hazardous materials spill or release.

h Establish disciplinary requirements and penalties for rail operators and their managers where, as here, there is a disregard of chronic malfunction of equipment relevant to safety, or a recommendation by a qualified engineer to cease using a switch until it is confirmed to be safe.

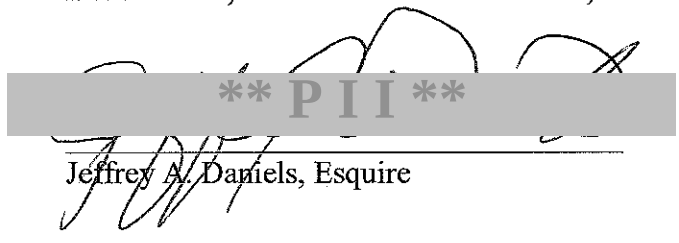
i. Require that both the engineer and conductor visually inspect locking mechanisms prior to any of the following: 1) bypass of a stop signal; 2) use of a moveable bridge within thirty (30) days of any reported malfunction; or 3) use of a moveable bridge in an improper position upon arrival (i.e., as here, closed when it should have been open).

j. Establish disciplinary proceedings and penalties in the event of noncompliance with any Federal law/regulation regarding moveable bridges.

CONCLUSION

In conclusion, Paulsboro has set forth herein its proposed findings of fact, probable cause and safety recommendations drawn from the exhibits and testimony of the July 9-10, 2013 NTSB hearing in the above captioned matter. Paulsboro would like to thank the Vice Chairman of the Board of Inquiry, the Members of the Board of Inquiry, the Hearing Officer, the staff and employees of the NTSB, and all Parties to the Hearing. Any questions regarding this Report of Proposed Findings should be directed to the undersigned.

ANGELINI, VINIAR & FREEDMAN, LLP



Jeffrey A. Daniels, Esquire

Of Counsel:

Bradley M. Campbell, Esquire
Bradley M. Campbell LLC
50 West State Street
Trenton, New Jersey 08530