National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation Log R-88-54

Date: August 11, 1988

In reply refer to: R-88-53 and -54

Honorable John C. Riley
Administrator
Federal Railroad Administration
Washington, D.C. 20590

At 8:47 a.m., on February 6, 1987, two CSX Transportation freight trains collided head-on at East Concord, New York. Both trains were operating on dispatcher-issued train orders in nonsignaled territory. Two crewmembers were killed, one crewmember was injured seriously, and six crewmembers received minor injuries. Damage was estimated at $2,009,950. 1/

About 4:16 a.m., the dispatcher had consecutively issued train orders 1 and 2 to the operator/clerk (hereafter called operator). The dispatcher and operator were located in Punxsutawney, Pennsylvania. The train orders were addressed to Extra 4443 North at East Salamanca, New York, and authorized Extra 4443 North to move from Ashford, New York, to Buffalo Creek, New York, on the main line track of the Third Subdivision. The operator transcribed the train orders, which the dispatcher had dictated, and filled out a Clearance Form A. The operator then repeated all the information back to the dispatcher, who responded by saying "OK." The dispatcher recorded the information in the Daily Train Order Book (DTOB). The operator completed the entry by recording the time of completion and his initials on the Clearance Form A.

The operator transmitted train orders 1 and 2 and the Clearance Form A to a telecopier unit at the unstaffed and unsupervised train order office at East Salamanca where the crew of Extra 4443 North would stop to receive the documents. The telecopier log at East Salamanca indicated that documents were received from the telecopier in Punxsutawney between 4:18 a.m. and 4:20 a.m.

At 5:06 a.m., the dispatcher issued train order 4 to the operator. Train order 4 was addressed to Extra 4443 North at East Salamanca and to Extra 4309 South at Buffalo Creek. Train order 4 instructed Extra 4443 North to take a siding and meet Extra 4309 South at East Concord, New York. The dispatcher also issued a second Clearance Form A, which listed train order 4 and train orders 1 and 2 issued earlier to Extra 4443 North. The operator repeated the information back to the dispatcher,

1/ For more detailed information, read Railroad Accident Report--*Head-on Collision of CSX Transportation Freight Trains Extra 4443 North and Extra 4309 South, East Concord, New York, February 6, 1987* (NTSB/RAR-88/03)

who voided the copy of the first Clearance Form A in the DTOB. The dispatcher and the operator did not discuss destruction of the first Clearance Form A at the East Salamanca train order office. The operator said that he then transmitted train order 4 and the second Clearance Form A to Extra 4443 North at the train order office at East Salamanca via telecopier about 5:12 a.m. The telecopier log at East Salamanca did not indicate that this transmission was received there. However, the telecopier log at the Du Bois Yard, Pennsylvania, indicated that documents were received from the telecopier in Punxsutawney at 5:12 a.m.

At 6:25 a.m., Extra 4443 North arrived at East Salamanca, after stopping at Bradford, Pennsylvania, to set off 13 cars. The engineer, front brakeman, conductor, and fireman went into the train order office, and the rear brakeman remained on the caboose. An agent/operator, who was scheduled to go on duty at East Salamanca at 7 a.m., was in the building, but he had not noted or handled any documents from the telecopier. According to the conductor and fireman, the conductor removed from the telecopier two copies of train orders 1 and 2 and the Clearance Form A, which authorized Extra 4443 North to occupy the track between Ashford and Buffalo Creek northbound. The four crewmembers discussed the train orders and left the office together. According to the conductor and fireman, neither train order 4, instructing Extra 4443 North to take the siding at East Concord, nor the Clearance Form A listing train orders 1, 2, and 4 were among the documents received or discussed. The fireman stated that it was neither a practice nor a requirement for a crew to contact the operator or the dispatcher at Punxsutawney about the contents of clearance forms received at East Salamanca.

The dispatcher stated that the dispatcher-controlled signal at Ashford governing entrance to the single main line track was displaying a clear signal, which was favorable for the northbound movement of Extra 4443 North. The train continued past the siding in East Concord and, about 2 1/2 miles north of East Concord, Extra 4443 North, while traveling at 32 mph, collided head-on with Extra 4309 South.

The dispatcher and operator at Punxsutawney were required by the Chessie System Operating Rules to ensure the destruction of the first Clearance Form A sent by telecopier to East Salamanca at 4:18 a.m. before they issued and transmitted the second Clearance Form A at 5:06 a.m. Their failure to do so set the stage for a conflict between the two trains. However, the CSX did not have procedures by which the dispatcher and operator could ensure the destruction of documents sent by telecopier to unstaffed train order offices. The CSX also did not require traincrews who received train orders and Clearance Form As at all unstaffed train order offices to verify their accuracy with the dispatcher. Compounding the problem was the practice, which CSX management did not prohibit, of sending Clearance Form As at the same time as the train orders.

The job performance of both the operator and dispatcher was influenced by the absence of management-imposed safety-critical redundancies in train order operations. Before the CSX closed the train order offices at East Salamanca, Riker, and Du Bois, managers should have thoroughly reviewed and discussed the effect the closings would have on train operations. In the absence of official instructions, the traincrews, dispatchers, and operators were left to use their own judgment in train operations. The employees apparently did not realize the risks involved in operating in this manner. CSX management was responsible for creating a safe operating environment for its employees. The accident resulted from a failure of management to issue and enforce procedures for traincrews to verify the accuracy of train orders before departing East Salamanca. The CSX should evaluate its procedures for the use of train orders being transmitted by telecopier in nonsignaled territory to determine that safe operating practices are not being compromised. The Safety

Board is also concerned that other railroads may not have considered all the consequences of traincrews using train orders that are transmitted by telecopier in nonsignaled territories and concludes that the Federal Railroad Administration (FRA) should evaluate such use to determine that safe operating practices are not being compromised.

Although the CSX has acted since this accident to change its method of operation in the accident area, the factors that led to this accident existed for 9 months without being detected by CSX management. Title 49 CFR 217.9 requires railroads to perform efficiency checks of its method of operations. If the CSX had performed efficiency tests regarding the receipt of train orders by telecopier, the tests likely would have revealed (1) the lack of procedures for verifying train orders, (2) the practice of transmitting Clearance Form As at the same time as the train orders, and (3) the absence of specific procedures for the destruction, when necessary and required by the operating rules, of Clearance Form As at unstaffed train order offices.

A review of efficiency tests made on the Second and Third Subdivisions revealed that train order operation was not examined. It is also apparent that the rules that were tested had little to do with the over-the-road operations of freight trains. Only nine fixed signals were examined and no speed rule checks were recorded. Of the 2,865 tests performed, only 367 were conducted on the third shift. None of the 218 tests conducted at East Salamanca were on the proper receipt of train orders. The CSX should revise its methods for conducting efficiency checks to place appropriate emphasis on critical safety activities.

CSX management's lack of oversight in train operations was also apparent in two other instances related to this accident. When the fireman left Extra 4443 North in East Salamanca, he violated Rule P. The fireman and the conductor of Extra 4443 North both stated that they believed that a member of the crew leaving the train at East Salamanca for the purpose of providing transportation for crewmembers was tacitly approved and that it was a common practice. CSX management should have been aware of this practice. Also, when the brakeman in Du Bois did not report the "unusual conditions" of finding a train order addressed to the wrong location, he violated Rule F(3). CSX management should review its methods for strictly enforcing full and uniform compliance with all company operating rules and for discovering violations of its rules by employees. Oversight by a system or division rules examiner would have identified the absence of safety redundancies.

Since the dispatcher was aware that verification of the receipt of train orders had been abandoned and that there was no procedure in place for destroying a Clearance Form A that had already been transmitted, as an added precaution he could have radioed the crew to determine that they had received the proper train orders.

The National Transportation Safety Board has long been interested in the application of radio use to railroad operations. Safety Recommendations have been issued to the FRA addressing the need for radios to be required equipment on trains, the need for compatibility of radios between railroad properties, and the need for standards governing the use of radios in the railroad industry. Recommendations also have been issued to the individual railroad companies on the same issues. As a result of its investigation of a passenger train accident near Essex Junction, Vermont, on July 7, 1984, 2/ the Safety Board issued a recommendation to the FRA on January 15, 1986:

2/ Railroad Accident Report--*Derailment of Amtrak Passenger Train No. 60, The Montrealer, on the Central Vermont Railroad, Essex Junction, Vermont, July 7, 1984* (NTSB/RAR-85/14).

R-85-129

Establish regulations that address the issues surrounding the use of radios for operational purposes on trains to include, but not be limited, to requirements for inter- and intra-train communications; usage requirements for dispatching and control operations; frequency compatibility requirements; and maintenance, inspection, and testing requirements.

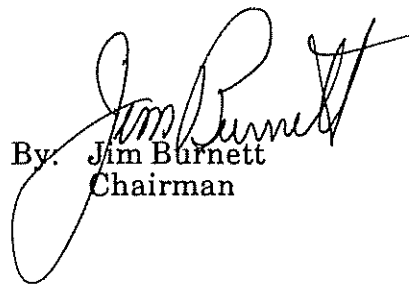
The FRA initiated a special safety inquiry on radio communications in 1987, and the Safety Board provided testimony. The Safety Board is unaware of any further regulatory action by the FRA since this inquiry. This accident again illustrates the need for the FRA to move swiftly in its efforts to address the use of radios and radio communication standards to improve operational safety in the railroad industry. The Safety Board reiterates Safety Recommendation R-85-129, which is currently in an "Open--Unacceptable Action" status.

As a result of its investigation of this accident, the National Transportation Safety Board reiterates Safety Recommendation R-85-129 and recommends that the Federal Railroad Administration:

Evaluate use of train orders being transmitted by telecopier in nonsignaled territory to determine that safe operating practices are not being compromised. (Class II, Priority Action) (R-88-53)

Review the monitoring system for rule compliance on CSX Transportation to ensure that there is enforcement of the rules that provide for a safe and efficient operation. (Class II, Priority Action) (R-88-54)

BURNETT, Chairman, KOLSTAD, Vice Chairman, and LAUBER and DICKINSON, Members, concurred in these recommendations. NALL, Member, did not participate.



By: Jim Burnett
Chairman