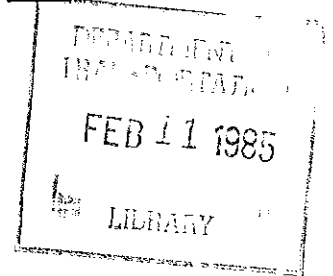


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railroad accident investigation reports



**REPORT NO. 80-5
CONSOLIDATED RAIL CORPORATION
LEETONIA, OHIO
NOVEMBER 1, 1978**



**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
Office of Safety**

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✓ RAILROAD ACCIDENT INVESTIGATION

~~ACCIDENT~~ REPORT NO. 80-5.

CONSOLIDATED RAIL CORPORATION

LEETONIA, OHIO

NOVEMBER 1, 1978

Synopsis

On November 1, 1978, at approximately 3:40 p.m. the locomotive units of a westbound Consolidated Rail Corporation (Conrail) freight train collided with a second westbound Conrail freight train at Leetonia, Ohio. The locomotive units of the first train had been uncoupled from the train, and were returning to it at the time of the accident. The collision occurred under clear weather conditions.

Casualties

The front brakeman of the locomotive consist and all five train crew members of the second westbound train sustained injuries as a result of the collision.

Cause

The cause of the accident was the failure of the first and second shift operators of the Leetonia station to properly transfer train movement information in accordance with carrier rules.

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Location and Method of Operation

The accident occurred on that part of the Youngstown Division of Conrail extending from Wood, Pennsylvania to Salem, Ohio, a distance of 34.8 miles. Leetonia, Ohio is located 6.4 miles east of Salem, Ohio.

In the accident area, this is a double track main line over which train movement with the current of traffic is governed by signal indications of an automatic block signal system. From the north, the main tracks are designated as No. 2 Westbound and No. 1 Eastbound.

The accident occurred on track No. 2, 0.7 of a mile east of Leetonia, Ohio.

Track

Approaching the point of accident from the east, there are, successively, a tangent 1,911 feet, and a 3° 15' curve to the right 937 feet to the accident point and for 421 feet beyond. The grade is 0.77% descending westward.

Applicable Rules

Rule 504 Unless so directed by the Superintendent, the operator must not give permission to a train or engine to enter a block at a hand-operated switch or crossover or foul the main track on which another train is moving or has been authorized to move, in the direction of such switch or crossover from the next block station or interlocking.

When permission has been given by the operator to a train or engine to enter a block at a hand-operated switch or crossover, the operators in charge of the block stations or interlockings between which the block is located must know that the movement has been made before permitting another train to move between such block stations or interlockings and the switch or crossover where such movement is being made.

NOTE - The movement has been made when the train or engine has moved so that any portion of it occupies the main track.

Rule 507 Operators must maintain a station record of all train movements. All crossover movements on the main track must be entered on the record. When a train enters a block, the operator must report the train, engine number and the time to the next block station or Train Dispatcher in advance. This information must be entered on the station record.

Movements confined between a block and interlocking station and an interlocking remote-controlled by that station, need not be reported to the station in advance, but must be entered on the station record of the station in control of the movement.

Operators

Rule 400N-11 ... They must maintain the prescribed station record of train and track car movements and make a written transfer thereon with all necessary information. The relieving operator must read this information aloud to operator being relieved to insure complete understanding and sign this record in his presence. ... (Conrail Rules for Conducting Transportation)

Circumstances Prior to the Accident

Extra 6370 West

Extra 6370 West consisted of two diesel-electric locomotive units, 92 cars and a caboose. The train passed Buckeye, Ohio, a temporary block station, 12.4 miles east of Leetonia, at 1:28 p.m. on the day of the accident. The train crew was instructed by the operator at Leetonia to stop east of Leetonia, since a preceding train was backing into the block to obtain water for a locomotive unit. The train stopped at Mile Post 59, 4.3 miles east of Leetonia at 1:41 p.m. The engineer inspected the locomotive units and noted that the trailing unit required water. He contacted the operator at Leetonia and received permission to uncouple the units from the train consist and to come to Leetonia for water after the preceding train had taken water. After the preceding train had taken water, the locomotive consist of Extra 6370 West arrived at Leetonia at 3:19 p.m. The engineer received permission from the operator to move into the interlocking plant and take water

on the trailing unit. After filling the unit with water, the engineer asked for and received permission to return to his train. The locomotive units proceeded eastbound on No. 2 track with the engineer in the cab of the west locomotive unit and the front brakeman on the east locomotive unit.

Extra 7742 West

Extra 7742 West consisted of one diesel-electric locomotive unit, one car and a caboose. The crew of this train had reported for duty at Salem, Ohio, and was taxied to Columbiana, 3.5 miles east of Leetonia, where they took charge of the train which was in the Kaiser plant. The conductor contacted the operator at Buckeye by telephone, and was given permission to occupy track No. 2 and proceed west toward Leetonia. At 3:35 p.m. the train occupied track No. 2 at Mile Post 61.3, located between the train consist of Extra 6370 West and the locomotive units of that train at Leetonia. The engineer and the fireman were in the control compartment of the locomotive. The fireman was operating the locomotive. The conductor, the flagman and the brakeman were in the caboose.

Block Station-Leetonia

Leetonia station is a three shift block station. The first shift is from 7 a.m. to 3 p.m., the second shift from 3 p.m. to 11 p.m., and the third shift begins at 11 p.m. and ends at 7 a.m. Extra 6370 West arrived at Mile Post 59 at 1:41 p.m. and was handled by the first shift operator at 2:45 p.m. The operator at this station controlled No. 2 track, westbound, for reverse movements from Leetonia to Buckeye.

Block Station-Buckeye

A temporary block station was established at Buckeye to facilitate train movements while track work was being performed between the hours of 7 a.m. and 7 p.m. on the day of the accident. The operator at this station controlled No. 2 track, westbound, for westward movements from Buckeye to Leetonia.

The Accident

Extra 6370 West

The engineer of Extra 6370 West received permission from the operator at Leetonia to return to his train at 3:39 p.m. As the locomotive units proceeded eastward on track No. 2 at an estimated speed of 20 m.p.h., the crew saw Extra 7742 West approaching on the same track. The engineer initiated an emergency application of the air brakes, but was unable to stop and collided with Extra 7742 West at Mile Post 62.5.

Extra 7742 West

Extra 7742 West proceeded westward on track No. 2 and while moving at an estimated speed of 10 m.p.h. the fireman who was operating the locomotive, observed the locomotive consist of Extra 6370 West moving eastward on the same track. He immediately placed the train air brakes in emergency and blew the whistle. The engineer and the fireman jumped from the locomotive which had stopped just prior to the collision.

Damages

The rear locomotive unit of Extra 6370 West and the locomotive of Extra 7742 West were substantially damaged. The carrier's estimated cost of damages was \$180,000.

Post-Accident Examination

An examination of Conrail Form CT 355A, Station Record of Train Movement at Leetonia Block Station, revealed that the first shift operator had not signed the form and that the transfer of train information was not executed properly by the shift operators at the end of the first shift.

Analysis

At 1:41 p.m., November 1, 1978, Extra 6370 West, consisting of two diesel-electric units, 92 cars and a caboose was operating westward on No. 2 track. At this time the crew was instructed by the operator at Leetonia to stop at Mile Post 59 because the preceding train was experiencing engine failure. After stopping, the engineer of Extra 6370 West discovered that the trailing unit required water.

Due to the length of train Extra 6370 West the normal practice of leaving the cars standing clear of the road crossing at Township Road 970 would result in other road crossings being blocked while the locomotives moved forward to take on water. Therefore, it was decided by the engineer and the first shift operator at Leetonia to uncouple the locomotive consist at Mile Post 59 and leave the cars standing at that location. The locomotive consist of Extra 6370 West would then follow the preceding train to Leetonia to fill the rear unit with water. At 2:45 p.m. the first shift operator at Leetonia was relieved by the second shift operator. No mention was made as to where the crew of Extra 6370 West had left their train. At 3:19 p.m. the locomotive consist of Extra 6370 West arrived at Leetonia. The crew received permission to enter the interlocking plant and take water at the tower.

At 3:15 p.m. the conductor of Extra 7742 West reported for duty at the Kaiser plant after being taxied from Salem, Ohio. The Kaiser plant is located at Mile Post 61.3. The conductor called the operator at Buckeye and requested permission to enter track No. 2 and proceed westward toward Leetonia. The operator at Buckeye, the train dispatcher, and the operator at Leetonia conversed as to whether Extra 7742 West could be handled at Leetonia. The operator at Leetonia advised that Extra 6370 West was at Leetonia taking water and that he could handle Extra 7742 West after Extra 6370 West departed. With that information the train dispatcher authorized Extra 7742 West to enter track No. 2 and proceed toward Leetonia. Extra 7742 West entered track No. 2 at 3:35 p.m. and proceeded westward toward Leetonia.

At 3:39 p.m. the engineer on Extra 6370 West requested permission from the operator at Leetonia to return to his train. The Leetonia operator granted this permission believing it only involved the locomotive consist moving to Mile Post 62. When the engineer of Extra 6370 West was granted permission he moved eastward on Track No. 2 toward his train standing at Mile Post 59. Moving eastward at approximately 20 m.p.h., the locomotive units of Extra 6370 West collided with Extra 7742 West which had stopped after observing the approaching units of Extra 6370 West.

Prior to this accident, trains in similar situations would be stopped at Township Road 970, (commonly known as Old Maids Crossing) located at Mile Post 62. The cars would then be left clear of the crossing and the locomotives moved forward to take on water. In the absence of any information that the cars of train Extra 6370 West were standing at Mile Post 59, the second shift operator at Leetonia thought

that the cars were standing at Mile Post 62 and that the locomotive consist of Extra 6370 West would be coupled to the cars at that point. Consequently, the Leetonia operator advised the dispatcher that the entire consist of Extra 6370 West was located at Leetonia. The train dispatcher, having been advised that Extra 6370 West was at Leetonia, authorized Extra 7742 West to enter Track No. 2 at Mile Post 61.1 and to proceed toward Leetonia. Had a proper transfer of information between the first and second shift operators at Leetonia been made, the second shift operator and the train dispatcher would have had the necessary information available to realize that the locomotive consist of Extra 6370 West was moving eastbound toward Mile Post 59.

Findings

1. The second shift operator at Leetonia reported to the train dispatcher and recorded on his block record the arrival of train Extra 6370 West at Leetonia at 3:19 p.m. However, the train had not arrived.

2. The second shift operator subsequently authorized the crew of Extra 6370 West to return with the locomotive consist to their train while having no knowledge of the location of the train of Extra 6370 West and simultaneously permitted the westward movement of Extra 7742 West.

3. The first shift operator authorized the crew of Extra 6370 West to uncouple the locomotive consist from the train at Mile Post 59 and proceed to Leetonia, but failed to inform the train dispatcher and his relief of the location of the train of Extra 6370 West.

4. The first shift operator failed to make out a written transfer record in the space provided for the transfer on the block record. Therefore, an improper transfer existed between the two operators.

Dated at Washington, D. C., this
9th Day of June 1980
by the Federal Railroad Administration

J. W. Walsh
Chairman
Railroad Safety Board