

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3683
THE BALTIMORE AND OHIO RAILROAD COMPANY
IN RE ACCIDENT
NEAR RINARD, W. VA., ON
APRIL 8, 1956

- 2 -

SUMMARY

Date: April 8, 1956

Railroad: Baltimore and Ohio

Location: Rinard, W. Va.

Kind of accident: Rear-end collision

Trains involved: Freight : Freight

Train numbers: Extra 182 East : Extra 933 East

Locomotive numbers: Diesel-electric units 182A, 182AX, and 182X : Diesel-electric units 933, 265X, and 971A

Consists: 60 cars, caboose : 60 cars, caboose

Speeds: Standing : 32 m. p. h.

Operation: Signal indications

Tracks: Three; tangent; 0.46 percent descending grade eastward

Weather: Snowing

Time: 5:23 a. m.

Casualties: 1 killed; 3 injured

Cause: Failure to operate the following train in accordance with signal indication

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3683

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE BALTIMORE AND OHIO RAILROAD COMPANY

June 14, 1956

Accident near Rinard, W. Va., on April 8, 1956, caused by
failure to operate the following train in accordance
with a signal indication.

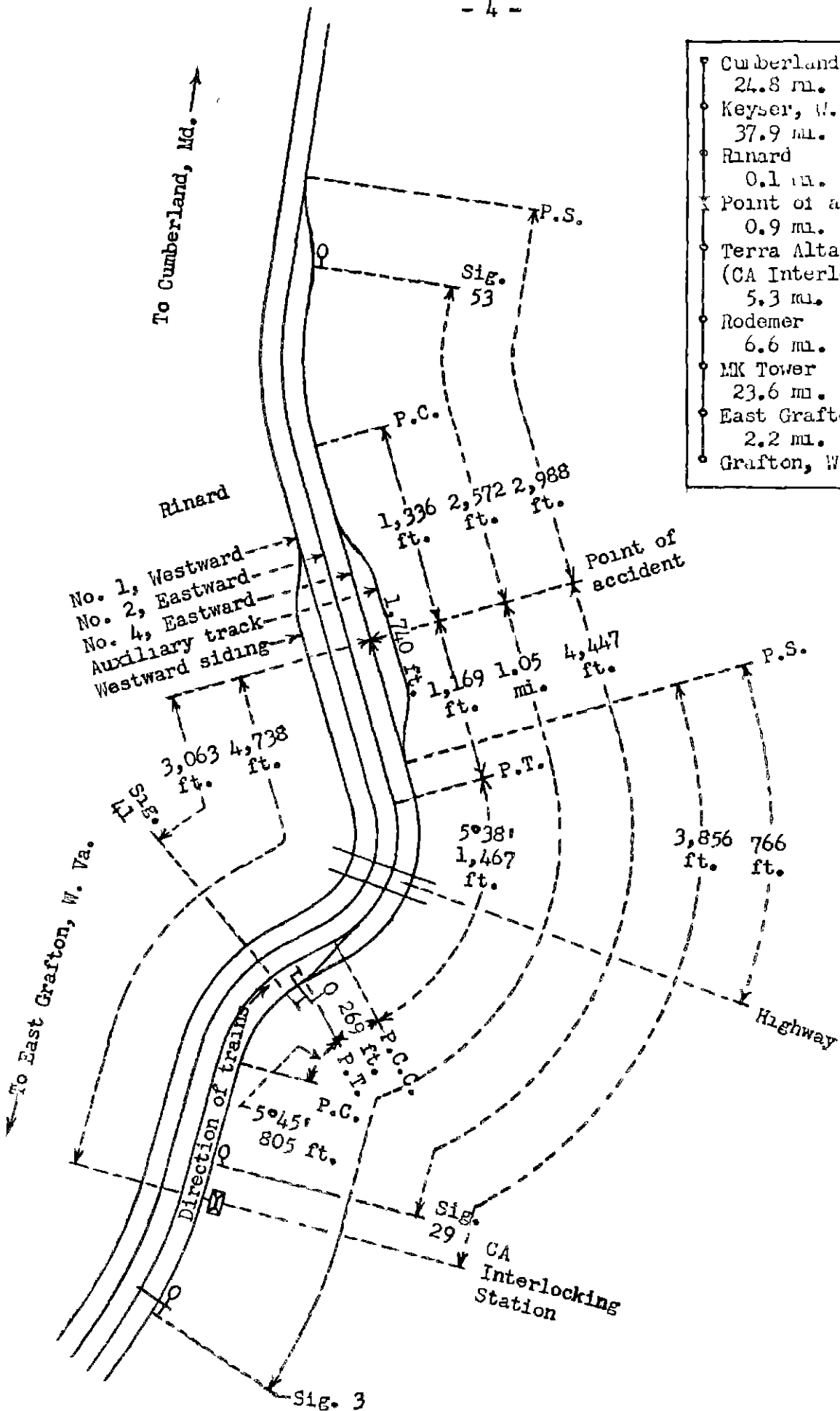
REPORT OF THE COMMISSION¹

CLARKE, Commissioner:

On April 8, 1956, there was a rear-end collision between
two freight trains on the Baltimore and Ohio Railroad near
Rinard, W. Va., which resulted in the death of one employee,
and the injury of three employees.

¹
Under authority of section 17 (2) of the Interstate Commerce
Act the above-entitled proceeding was referred by the Commis-
sion to Commissioner Clarke for consideration and disposition.

○	Cumberland, Md.	24.8 mi.
○	Keyser, W. Va.	37.9 mi.
○	Rinard	0.1 mi.
△	Point of accident	0.9 mi.
○	Terra Alta (CA Interlocking)	5.3 mi.
○	Rodemer	6.6 mi.
○	MK Tower	23.6 mi.
○	East Grafton	2.2 mi.
○	Grafton, W. Va.	



Report No. 3683
 Baltimore and Ohio Railroad
 Near Rinard, W. Va.
 April 8, 1956

Location of Accident and Method of Operation

This accident occurred on that part of the Cumberland Division extending between East Grafton, W. Va., and Cumberland, Md., 99.2 miles. In the vicinity of the point of accident this is a three-track line, over which trains moving with the current of traffic are operated by signal indications. The main tracks from south to north are designated as No. 4, eastward; No. 2, eastward; and No. 1, westward. In this vicinity an auxiliary track 1,740 feet in length parallels track No. 4 on the south, and a siding for west-bound movements parallels track No. 1 on the north. The west switch of the auxiliary track is located in track No. 4 at a point 3,856 feet east of CA Interlocking Station at Terra Alta. Track No. 4 converges with track No. 2 at a power-operated switch located within interlocking limits at Rinard. Terra Alta and Rinard are located, respectively, 35.5 miles and 36.5 miles east of East Grafton. The interlocking at Rinard is controlled from CA Interlocking Station. The accident occurred on track No. 4 at a point 4,738 feet east of CA Interlocking Station and 2,988 feet west of the east end of track No. 4 at Rinard. From the west on track No. 4 there are, in succession, a $5^{\circ}45'$ curve to the right 805 feet in length, a tangent 269 feet, a compound curve to the left, having a maximum curvature of $5^{\circ}38'$, 1,467 feet, and a tangent 1,169 feet to the point of accident and 1,336 feet eastward. Throughout a distance of more than 1 mile immediately west of the point of accident the grade for east-bound trains varies between level and 0.81 percent descending, and it is 0.46 percent descending at that point.

Interlocking signals 3, 29, and 41, governing east-bound movements on track No. 4, are located, respectively, 1.05 miles, 4,447 feet, and 3,063 feet west of the point of accident. These signals are of the color-position-light type, and signal 29 is of the dwarf type. Signal 3 is approach lighted, and the other signals are continuously lighted. Interlocking signal 53, a continuously lighted dwarf signal of the color-position-light type governing east-bound movements from track No. 4 to track No. 2 at Rinard, is located 2,572 feet east of the point of accident. The aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
3) 29)	Two yellow lights in diagonal position to the right under one white light	Proceed, prepared to stop at next signal. Train exceeding medium speed when indication is seen must take action at once to reduce to medium speed, or slower if necessary.	Approach.
41	Two lunar white lights in diagonal position to the left under one white light	Block occupied. Proceed prepared to stop short of train ahead. In automatic block territory, proceed at restricted speed until entire train passes next signal.	Permissive.
53	Two red lights in horizontal position	Stop.	Stop.

When the route is lined for an east-bound movement on track No. 4 and the track is unoccupied within interlocking limits at CA, signal 3 indicates Approach, signal 29 indicates Approach, and signal 41 displays a permissive aspect. The same aspect is displayed by signal 41 whether the section of track between the eastward limits of CA interlocking and signal 53 is occupied or unoccupied.

This carrier's operating rules read in part as follows:

DEFINITIONS

Medium Speed--A speed not exceeding thirty (30) miles per hour.

Restricted Speed--Proceed prepared to stop short of: train, obstruction, improperly lined switch or broken rail.

11 (A)...The following signals must be used by flagmen:

* * *

Night Signals--
A red light,
A white light,
Torpedoes and fuseses.

* * *

12 (A). * * *

* * *

Train and engine crews on moving trains will watch for signals when passing * * * stations * * * and places where employes are stationed along the track.
* * *

* * *

The following code will be used by employes to signal train crews * * *

* * *

To indicate trains running too close together, raise both hands and hold them a short distance apart.

* * *

99. * * *

When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back with flagman's signals a sufficient distance to insure full protection, placing two torpedoes on the rail, and when necessary, displaying lighted fuseses in addition.

* * *

Engineers.

877. They must keep a vigilant lookout; observe all signals and position of switches; and watch for obstructions * * *

890. Firemen on Diesel road freight and passenger locomotives will remain in the cab of the locomotive with the engineer while the train is in motion except when necessary to enter the engine room to make certain equipment is performing normally. Only such time will be spent in the engine room as is required for this purpose after which he will immediately return to the cab. * * *

- 8 -

While in the engine room it is the duty of the fireman to observe signals at all train order and interlocking stations.

When a Diesel engine has a cut-out cock marked "Fireman's Emergency Brake Valve" on the fireman's side, the fireman must operate the valve when:

- (a) The engineer fails to comply with a restrictive signal indication; or
- (b) In an emergency where the engineer fails to properly control the speed of the train.

* * * Trainmen * * *

945. When riding on freight Diesels, they will ride in the front cab with the engineer and fireman.

So far as possible, they will keep a close lookout for signals affecting the movement of their train or engine * * *

Timetable special instructions provide that in this territory trains moving with the current of traffic are operated by signal indications, and that automatic block system rules are in effect.

The maximum authorized speed for trains moving on track No. 4 in the vicinity of the point of accident is 25 miles per hour.

Description of Accident

Extra 182 East, an east-bound freight train, consisted of Diesel-electric units 182A, 182AX, and 182X, coupled in multiple-unit control, 60 cars, and a caboose. This train departed on track No. 4 from MK Tower, 12.8 miles west of the point of accident, at 4:17 a. m. It was assisted by a four-unit Diesel-electric helper locomotive which was detached from the rear of the moving train at Terra Alta. It passed signals 3 and 29, each of which indicated Approach, passed CA Interlocking Station at 5:07 a. m., passed signal 41, which displayed a permissive aspect, and stopped on track No. 4 with the locomotive immediately west of signal 53, which indicated Stop, and the rear end 4,738 feet east of CA Interlocking Station. About 10 minutes later the rear end was struck by Extra 933 East.

Extra 933 East, an east-bound freight train, consisted of Diesel-electric units 933, 265X, and 971A, coupled in multiple-unit control, 60 cars, and a caboose. This train departed from MK Tower on track No. 4 at 4:29 a. m. It was assisted by a four-unit Diesel-electric helper locomotive which was detached from the rear of the moving train at Terra Alta. It passed signals 3 and 29, each of which indicated Approach, passed CA Interlocking Station at 5:20 a. m., passed signal 41, which displayed a permissive aspect, and while moving at a speed of approximately 32 miles per hour it struck the rear end of Extra 182 East.

The caboose and the rear three cars of Extra 182 East were derailed and stopped in various positions on or near the tracks. Inflammable material in the wreckage of the caboose became ignited. The caboose was destroyed as a result of the collision and fire. The other derailed cars were badly damaged. The locomotive, the first eight cars, and the eleventh and twelfth cars of Extra 933 East were derailed. A separation occurred between the first and second Diesel-electric units. The first unit stopped on its right side, approximately at right angles to the track, with the front end across the adjacent main tracks 153 feet east of the point of accident and 57 feet north of track No. 4. The second Diesel-electric unit stopped upright with the front end across the auxiliary track and 25 feet south of track No. 4. The rear end of this unit was immediately north of that track. The third Diesel electric unit stopped upright with the front end against the rear end of the second unit, and the rear end diagonally across the adjacent auxiliary track. The derailed cars of this train stopped in various positions on or near the tracks. The Diesel-electric units, the first five cars, and the eleventh and twelfth cars of this train were badly damaged. The sixth and seventh cars were somewhat damaged. At the time the accident occurred the auxiliary track adjacent to track No. 4 was occupied by 20 cars. Equipment which was derailed as a result of the collision struck and derailed eight of these cars, four of which were badly damaged.

The conductor of Extra 182 East was killed. The engineer, the fireman, and the front brakeman of Extra 933 East were injured.

It was snowing and day was breaking at the time of the accident, which occurred about 5:23 a. m.

- 10 -

The Diesel-electric units of the locomotive of Extra 933 East were equipped with 24-RL brake equipment. A safety-control feature actuated by a pedal was provided at the engineer's position in the front control compartment. An emergency brake valve was located adjacent to the fireman's seat.

Discussion

The operator at CA Interlocking Station said that in response to instructions of the train dispatcher Extra 182 East was routed through the interlocking on track No. 4. It was intended to hold this train at Rinard until a following first-class train passed. The operator said that when he reported the approach of Extra 933 East the dispatcher directed him to use the same route for that train and to indicate by a hand signal to members of the crew that their train was closely following a preceding train. He said that it was a regular practice to receive instructions from the dispatcher to give such hand signals for similar following movements on track No. 4. The route was lined, and the signals displayed the proper aspects for the movement. The operator said that when the locomotive of Extra 933 East passed he gave hand signals from a position near a window of the interlocking station to indicate that it was closely following a preceding train. He said that the control compartment was dark and he did not see any member of the crew on the locomotive. His signals were not acknowledged.

As Extra 182 East was approaching the point where the accident occurred the engineer and the front brakeman were in the control compartment at the front of the locomotive. The conductor and the flagman were in the caboose. Signals 3 and 29 each indicated Approach, signal 41 displayed a permissive aspect, and signal 53 indicated Stop. Snow was falling and the wind was blowing, but the engineer said that the snow did not materially restrict the visibility. The train was stopped by a service application of the brakes with the locomotive immediately west of signal 53. The flagman said he had thrown off a lighted fusee when the caboose passed signal 41 and that immediately after the train stopped he alighted with flagman's signals and proceeded westward to provide protection. He observed that the marker lights were lighted and displayed the proper aspects. He said that the conductor was seated on a locker at the time he left the caboose, and soon afterward he heard the conductor call to the conductor of a west-bound train when signals were exchanged as that train passed on track No. 1. The

- 11 -

flagman said that he proceeded to a point approximately 1,000 feet to the rear of his train and placed two torpedoes on the south rail. He had returned to a position in the vicinity of the west auxiliary-track switch, approximately 800 feet west of the caboose, when he saw Extra 933 East approaching. He gave stop signals with his red lantern. He estimated that the locomotive was 1,200 to 1,400 feet distant when it came into view, and he continued to give stop signals with his red light as it approached. He said that the sound of the exhaust indicated to him that power was applied. His stop signals were not acknowledged, and he did not hear the grade-crossing whistle signal sounded for a highway crossing located 766 feet west of the west auxiliary-track switch. The locomotive exploded the torpedoes and passed while he was attempting to light a fusee. He said that a whistle signal was sounded after the torpedoes exploded and that he saw fire flying from brake shoes of the fourth or fifth car, which indicated to him that the brakes were applied. He was unable to estimate the speed of Extra 933 East as the locomotive and forward portion of the train passed him.

As Extra 933 East was approaching the point where the accident occurred the engineer was alone in the control compartment at the front of the locomotive. The fireman was in the second Diesel-electric unit, and the front brakeman was in the rear unit. The conductor and the flagman were in the caboose. The headlight was lighted brightly. The brakes of this train had been tested and had functioned properly when used en route. The engineer said that signals 3 and 29 each indicated Approach and that he expected his train to be routed on track No. 4. He estimated that the speed was 15 or 16 miles per hour in the vicinity of signal 3. He said that the fireman had left the control compartment in response to his instructions in the vicinity of Rodemar, 5.3 miles west of Terra Alta, when a defective condition of a Diesel engine was indicated. The fireman had returned to the control compartment briefly and had then returned to the second unit. The engineer said that he closed the throttle and applied the dynamic brake as the locomotive was approaching CA Interlocking Station and that he remembered nothing more until members of the crew of the preceding train extricated him from the control compartment after the accident occurred. He said that he did not see signal 41. The fireman said that the engineer appeared to be in normal condition when he last conversed with him approximately 2 miles west of the point where the accident occurred.

- 12 -

Because of recurrent indications of loss of load on the Diesel engine of the second unit he returned to that unit several times. He said that from the side door of this unit he saw the approach aspect displayed by signal 3, but he then proceeded to the north side of the unit and did not see signals 29 and 41. He said that he re-entered the front control compartment as the locomotive was closely approaching a flagman, who was giving stop signals, and he simultaneously saw the rear end of the preceding train. He immediately opened his emergency valve and called to the engineer, who was sitting erect in his seat. He said that there was a forceful exhaust of air when he opened the valve, but the locomotive was then east of the highway crossing and he did not think there was any material reduction of speed before the collision occurred. The front brakeman said that he had proceeded to the rear unit to inspect the train on a curve approximately 2 miles west of Terra Alta and later observed the aspects displayed by signals 3, 29, and 41. Instead of returning to the front control compartment he remained in the rear unit and did not see the preceding train before the collision occurred. The conductor and the flagman said that they became concerned because of the speed when they saw their train was routed on track No. 4 instead of to track No. 2, but an emergency application of the brakes was made before they could take action. They estimated that the caboose of their train stopped approximately 900 feet east of the point at which the brakes became applied in emergency. The conductor estimated that the speed was reduced to about 25 miles per hour before the collision occurred.

Examination of the control compartment of the first Diesel-electric unit of the locomotive of Extra 933 East after the accident occurred disclosed that the brake valve was in emergency position. The reverser was in position for forward movement, the transition lever was in No. 1 position, and the throttle was open and latched in the fourth notch.

Examination of the tape of the speed-recording device of the rear unit of the locomotive of Extra 933 East indicated that after this train passed the summit of the grade at Terra Alta the speed increased from slightly less than 15 miles per hour to 36 or 37 miles per hour. The speed then decreased from a maximum of approximately 37 miles per hour to approximately 32 miles per hour at the point of impact.

- 13 -

The engineer of Extra 933 East went on duty on a westward trip at Keyser, W. Va., 78.1 miles east of Grafton, at 4:40 p. m., April 7, 1956, and went off duty at Grafton at 9:40 p. m. He said that he protested when notified that he would be required to double back in aggregate service. He remained in the vicinity of the caller's office until he went on duty for the return trip at 11:40 p. m. Extra 933 East departed from East Grafton at 2:34 a. m. The engineer said that en route he did not have any feeling of illness and that he opened the window in the control compartment only once after his train departed from MK Tower. Apparently the engineer was mistaken as to the action taken by him as the train approached CA Interlocking Station. The tape of the speed-recording device indicates that the speed of the train continued to increase east of the interlocking station. From the position in which the locomotive controls were found after the accident occurred, and the fact that a forceful exhaust was obtained when the fireman's emergency brake valve was opened, it is evident that no effective action was taken to control the speed of the train until the fireman initiated an emergency application of the brakes immediately before the accident occurred.

The engineer said that he thought he had become unconscious as a result of illness. He said that he had fainted while at home approximately 8 months before the accident occurred and subsequently had medical treatment before returning to work. He last received a general physical examination March 16, 1956, and the examining physician reported the findings were normal. He was hospitalized and received medical treatment for injuries sustained in the accident. He said that he did not inform the physicians who treated him in the hospital that he had fainted or become unconscious before the accident occurred. Members of the crew of the preceding train who removed him from the wreckage after the accident occurred said that he complained of a feeling of suffocation while they were breaking out the front window to extricate him from the control compartment. The engineer said that he had difficulty in getting his breath when first removed from the control compartment, but felt somewhat better after a short period in the cool air.

- 14 -

Cause

This accident was caused by failure to operate the following train in accordance with a signal indication.

Dated at Washington, D. C., this fourteenth day of June, 1956.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,
Secretary.