INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3640

NORTHERN PACIFIC RAILWAY COMPANY

IN RE ACCIDENT

AT RENTON, WASH., ON

JULY 4, 1955

SUMMARY

Date:	July 4, 1955	
Railroad:	Northern Pacific	
Location:	Renton, Wash.	
Kind of accident:	Head-end collision	
Equipment involved:	Locomotive with cars	: Freight train
Train number		: Extra 218 East
Engine numbers:	1373	Diesel-electric units 218 and 219
Consists.	11 cars, caboose	: 15 cars, caboose
Estimated speeds:	5-10 m. p. h.	: 15 m. p. h.
Operation:	Timetable and train orders, yard limits	
Track	Single, 4°01' curve; 0.42 percent ascending grade westward	
Weather:	Clear	
Time:	11:40 a. m.	
Casualties:	2 killed; 4 injured	
Cause:	Failure properly to control the speed of both movements while moving within yard limits	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3640

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

NORTHERN PACIFIC RAILWAY COMPANY

August 23, 1944

Accident at Benton, Wash., on July 4, 1944, caused by failure properly to control the speed of both movements while moving within yard limits.

REPORT OF THE COMMISSION[1]

CLARKE, Commissioner:

On July 4, 1944, there was a head-end collision between a locomotive with tank and a freight train on the Northern Pacific Railway at Benton, Wash., which resulted in the death of two train-service employees, and the injury of four train-service employees. This accident was investigated in conjunction with representatives of the Washington Public Service Commission.

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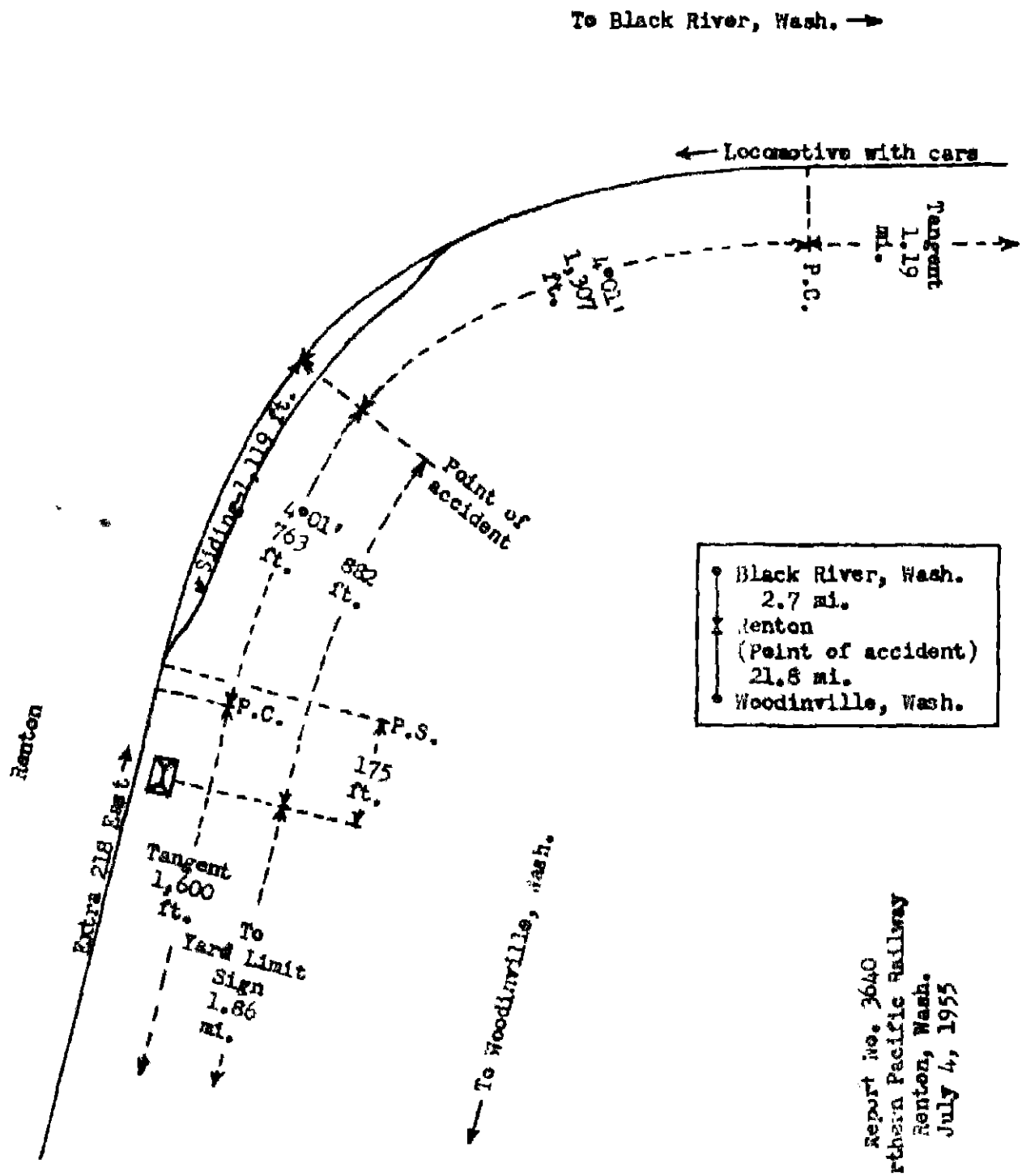
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



Report No. 3640
Northern Pacific Railway
Renton, Wash.
July 4, 1955

Location of Accident and Method of Operation

This accident occurred on that part of the Tacoma Division designated as the Eleventh Subdivision and extending between Black River and Woodinville, Wash., 24.5 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Renton, 2.7 miles west of Black River, a siding 1,119 feet in length parallels the main track on the south. The west siding-switch is 176 feet east of the station. Yard limits extend between Black River and a point 1.66 miles west of the station at Renton. The accident occurred on the main track within yard limits at a point 862 feet east of the station at Renton. From the east there is a tangent 1.19 miles in length and a 4°01' curve to the left 1,307 feet to the point of accident and 785 feet westward. From the west there is a tangent 1,600 feet in length and the curve on which the accident occurred. The grade is 0.4% percent ascending westward at the point of accident.

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

DEFINITIONS.

Restricted Speed.--Proceed prepared to stop short of train, obstruction or anything that may require the speed of a train to be reduced.

93. * * *

Within yard limits the main track may be used without protecting against second and inferior class, extra trains and engines.

Within yard limits second and inferior class, extra trains and engines must move at restricted speed.

* * *

Timetable special instructions read in part as follows.

> 9. Yard limits--Tracks between yard limit sign west of Renton and the connections with double track at Black River operated as one yard.

The maximum authorized speed for freight trains is 40 miles per hour.

Description of Accident

Steam locomotive 1373, pulling 11 cars and a caboose, departed west-bound from Black River at 11 30 a. m., according to the conductor's delay report. The locomotive, a 4-6-0 type, was headed eastward and moving in backward motion. While it was moving at an estimated speed of 5 to 10 miles per hour it collided with Extra 218 East at a point 662 feet east of the station at Renton.

Extra 218 East, an east-bound freight train, consisted of Diesel-electric units 210 and 219, coupled in a triple-unit control, 15 cars, and a caboose. This train departed from Woodinville at 9:50 a. m., and while moving at a speed of 15 miles per hour, as indicated on the tape of the speed-recording device, it collided with locomotive 1373.

The tender and the driving wheels of locomotive 1373 and the first car east of the locomotive were derailed. The cistern of the tender was separated from the underframe and forced against the boiler head of the locomotive. The cab and cab fittings were demolished. The first car was considerably damaged. The rear truck of the first Diesel-electric unit, the front truck of the second unit, the first two cars, and the front truck of the third car of Extra 218 East were derailed. The first Diesel-electric unit was somewhat damaged, the second car was destroyed, and the second Diesel-electric unit and the third car were slightly damaged.

The engineer and the fireman of locomotive 1373 were killed. The conductor and the front brakeman of this crew and the engineer and the front brakeman of Extra 218 East were injured.

The weather was clear at the time of the accident, which occurred at 11:40 a. m.

Diesel-electric units 218 and 219 are of the road-switcher type.

Discussion

The crew of locomotive 1373 was assigned to perform switching service on the Second Subdivision, which connects with the Eleventh Subdivision at Black River. As part of this assignment the crew also performed switching service within yard limits in the vicinity of Renton on the Eleventh Subdivision. At the time of the accident a movement was being made from Black River to the station at Renton. Approaching Renton the enginemen and the front brakeman were in their respective positions in the cab of the locomotive, and the conductor, the swing brakeman, and the flagman were in the caboose. The brakes had been tested and had functioned properly when used en route. On the curve on which the accident occurred the engineer's view of the track ahead was considerably restricted by vegetation south of the track and a shed adjacent to the east siding-switch. In the immediate vicinity of the point of accident his view of the track west of the point of accident was obstructed by eight outfit cars standing on the siding. The east end of the east car was 150 feet west of the point of accident. The view of the track ahead from the fireman's side of the cab was obstructed by the tender. The front brakeman said that as the locomotive was closely approaching the point where the accident occurred he heard the sound of the pneumatic horn of a Diesel-electric unit. He called a warning to the engineer, but the engineer did not respond. The front brakeman said that at this time the engineer appeared to have become ill.

He said that the engineer placed the independent brake valve in application position several times and appeared to be concerned because of the impending collision, but he made no effort to apply the automatic brakes or to leave the locomotive. The front brakeman thought that the speed was about 5 miles per hour at the time of the accident. He did not see Extra 218 East before the collision occurred. The conductor said that the speed was reduced from 20 or 25 miles per hour to about 5 miles per hour as the train approached Renton, and he estimated that the speed was 5 miles per hour at the time of the collision. The flagman and the swing brakeman estimated that the speed was about 10 miles per hour. The employees in the caboose said that in the immediate vicinity of the point of accident there was no application of the brakes. The surviving members of the crew said that durin, the trip they had noticed nothing unusual in the behavior of the engineer nor in his operation of the locomotive.

As Extra 218 East was approaching the point where the accident occurred the enginemen and the front brakeman were maintaining a lookout ahead from the control compartment of the first Diesel-electric unit. The conductor, the swing brakeman, and the flagman were in the caboose. The fireman, a qualified engineer, was operating the locomotive. The brakes of the train had been tested and had functioned properly when used en route. The fireman said that when the locomotive reached a point about 80 feet west of the east end of the outfit cars on the siding he saw smoke from locomotive 1373 over the tops of the cars. He immediately made an emergency application of the brakes and sounded a series of warning blasts on the pneumatic horn. After his locomotive passed the east end of the outfit cars and he could see locomotive 1373 it appeared to him that the engineer of that locomotive was looking toward the east. The employees on the locomotive and the flagman all said they thought their train had stopped before the collision occurred. The conductor and the swing brakeman said they thought the collision occurred either immediately before or immediately after their train stopped. According to the master mechanic's analysis of the tape of the speed-recording

device, Extra 218 East was moving at a speed of 15 miles per hour at the time of the collision. According to this analysis the speed was reduced from 24 miles per hour to 16 miles per hour within a distance of approximately 1/2 mile as the train approached Renton. The train then moved approximately 1/2 mile at a speed of from 16 to 18 miles per hour, and the speed was reduced from 18 to 15 miles per hour immediately before the impact occurred. The speed-recording device was calibrated after the accident occurred and was found to register accurately at 8 miles per hour and 32 miles per hour and to register slightly fast at 56 miles per hour.

After the accident occurred observations were made to determine the range of vision between opposing movements in the vicinity of the point of accident. Diesel-electric unit 219 and a steam locomotive of the same type as locomotive 1373 were used during these observations. The steam locomotive was headed eastward. The weather conditions were approximately the same as those which prevailed at the time of the accident. From the engineer's position in the cab of the steam locomotive, Diesel-electric unit 219 approaching the point of accident from the west did not become visible until it was approximately opposite the east end of the cars on the siding. From the fireman's position in the cab of the locomotive, the view of the track ahead was obstructed by the tender. The steam locomotive standing at a point 100 feet east of the point of accident first became visible from the fireman's position in the control compartment of Diesel-electric unit 219 at a distance of 300 feet, and from the engineer's position at a distance of 275 feet.

This accident occurred within yard limits. Under the rules of this carrier governing operation within yard limits, each movement was required to be operated in such manner that it could be stopped short of a train or an obstruction.

Cause

This accident was caused by failure properly to control the speed of both movements while moving within yard limits.

Dated at Washington, D. C., this twenty-ninth day of August, 1955.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,
Secretary