July 8, 1913.

In Re Investigation of Accident on the Detroit United Railways, near Waterville, Mich., on June 6, 1913.

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On June 6, 1913, there was a head-end collision between a work train and a freight train near Waterville, Mich., on the Detroit United Hailways, resulting in the death of 2 employees and the injury of 3 employees.

After investigation the Chief Inspector of Safety Appliances reports as follows:

At the place where the accident occurred there is a short, sharp curve, with an ascending grade toward the north, and on the inside of the curve there is a high embankment which obstructs the view from both directions. The track is straight for about half a mile south and about 500 feet north of this curve. At this point the Detoit United Railways is a single-track, electric line, operated under the train order system.

The trains involved in this collision were a northbound work extra, consisting of line repair car No. 1894, with Conductor Tolfree and Motorman Benson in charge, and a south-bound extra freight train, consisting of car No. 7255, with Conductor Rater and Motorman Swartz in charge.

Car 1894 was working under order No. 66, which was received at Junction at 1:08 p.m., reading as follows:

"Fork extra between Junction and Taldo. Look out for work extra car No. 1883."

Junction is two miles from the point where the collision occurred, and the work extra consumed 22 minutes in traveling that distance.

The freight train was doing local work between Romeo and Detroit; it had left Romeo at 12:48 p.m., and at the time of the accident was running under order No. 68 which had been received at Waldo at 1:09 p.m., this order reading as follows:

"Run extra Waldo to Junction. Look out for work extra car No. 1894 and 1863 between Waldo and Junction."

After receiving this order this train ran from Waldo to the point where the accident occurred, a distance of 3-1/3 miles, in 21 minutes, and collided with line repair car No. 1894 at 1:30 p.m.

Rule No. 382 of the Detroit United Railways reads as follows:

"When the movement of an extra train over the working limits cannot be anticipated, an order must be given to such extra to protect itself against the work train, giving explicit information as to the limits in which such train is working.

A train receiving this order must run very carefully within the limits named, under protection of flags, around all curves and at all points where the view is obstructed."

Train order No. 68 instructed oer No. 7255 to run extra, Waldo to Junction, a distance of 5.39 miles, and to look out for two work trains between Waldo and Junction. Under rule 382 this order required extra 7255 to run very exceptly between those limits and to be protected by flag around all curves and other points where the view was obstructed.

Under the rules a work extra was required to keep clear of regular trains only, unless otherwise directed by train order; the only order of this character which was held by work extra 1894 was the one directing it to look out for work extra car No. 1863, which was hauling gravel. At the time of the accident work extra car No. 1894 was running at a speed of from 15 to 20 miles per hour, and the speed of extra 7256 was 6 or 7 miles per hour.

## Rule 393 reads as follows:

"Flagging' means to run with extreme caution, approaching all switches at reduced speed and stopping a reasonable distance from all curves where the view is obstructed; the conductor running shead far enough to obtain a clear view of the track shead and signaling when he has ascertained that no cars are obstructing the track. A train will not be started until such a signal is received from the conductor."

This accident was caused primarily by failure of the crew of extra 7255 to protect their train with flag when rounding a curve, as required by the rules.

Had rules 382 and 393 been obeyed by the crew of the extra freight train, the accident would no doubt have been averted. But these rules which permit two trains to occupy the same section of track, one holding an order to look out for the other, and the second train having no information concerning the presence of the first, are not in accord with the best practices of the present day and are not considered adequate to provide for the safe operation of trains. As

long as these rules are permitted to remain in force and the practices disclosed by this investigation continue to exist, accidents of this character may be expected to occur.

All of the employees involved in this addident were men of good character and had good records. Conductor Mister had been in the employef the company as conductor for about a year, and Motorman Swarts had been in the employ of the company for about 24 years.