

BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

STATE OF WISCONSIN

Petition of Dunn County for a Determination of the Adequacy of Warning Devices at the Grade Crossing of the Union Pacific Railroad Co. Tracks with CTH 'E' in the Town of Red Cedar, Dunn County

9040-RX-1181

FINDINGS OF FACT AND ORDER

The Dunn County Highway Department petitioned the Office of the Commissioner of Railroads (OCR) for a determination under §195.28, Stats., of the adequacy of warning devices at the grade crossing of the Union Pacific Railroad Co. (UP) tracks with CTH 'E' in the Town of Red Cedar, Dunn County (Crossing No. 183 914D / MP 68.63).

An OCR investigator inspected the crossings in April 2008. No hearing was held.

Findings of Fact

THE COMMISSIONER FINDS:

The Union Pacific Railroad Co. operates 4 through train movements per day over the crossing at a timetable speed of 40 mph. The crossing consists of one mainline track.

CTH 'E' is 24' wide in the vicinity of the crossing and intersects the railroad tracks at an angle of 90°. CTH 'E' carried an average daily traffic (ADT) of 490 according to 2002 DOT records at a legal speed limit of 55 mph. The speed limit is 30 mph a short distance south of the crossing. This roadway was formerly Sherburne Road. The county transferred CTH 'E' to this route in 2004.

A motorist traveling at 55 mph requires a safe stopping distance of 527' and a motorist traveling at 30 mph requires 231' to stop safely. The crossing is visible from more than 527' in each direction.

Assuming a train speed of 40 mph, a motorist traveling at 55 mph needs to see a train when it is 420' from the crossing from a point 527' down the highway. A motorist traveling at 30 mph needs to see the train when it is 405' from the crossing from a point 231' down the highway. Corner sight distance is adequate.

At all crossings, except those with gates, a driver stopped 15' short of the near rail must be able to see far enough down the track, in both directions, to determine if sufficient time exists for moving their vehicle safely across the tracks to a point 15' past the far rail, prior to the arrival of a train. Required clearing sight distance along both directions of the track, from the stopped position of the vehicle, is dependent upon the maximum train speed and the acceleration characteristics of the "design" vehicle. The necessary clearing sight distance at the CTH 'E' crossing is 895'. The available clearing sight distance is more than 895'.

The exposure factor at this crossing is about 2000. The exposure factor equals the product of the number of trains per day and the number of highway vehicles per day, which yields a numerical

value for the potential conflicts each day at the crossing. The Department of Transportation's Facilities Development Manual (FDM) recommends consideration of automatic flashing lights when the exposure factor at a crossing exceeds 5,000-7,000 in an urban area and 3,000-5,000 in a rural area. The FDM also recommends the consideration of gates when the exposure factor exceeds 20,000.

One train-vehicle accident has occurred at this crossing since 1973. The crash included a fatality.

Accidents that do occur here will likely be quite serious if a through train is involved due to their 40 mph speed. Train speed is strongly correlated with fatalities in train/vehicle accidents. More specifically, crossings with train speeds of 40 mph and over have a disproportionate number of fatalities.

The Wisconsin Department of Transportation has produced a benefit-cost analysis for all at-grade crossings in the state. Installing new automatic flashing lights with gates and constant warning time circuitry at the CTH 'E' crossing has a net benefit of about \$221,000. The benefit-cost ratio is about 1.95 meaning that the public will receive \$1.95 in safety benefits for each dollar expended.

The crossing is presently protected with reflective crossbucks and yield signs. Conditions warrant upgrading the warning devices. The existing warning devices will be adequate until such time as the new warning devices are installed. In order to adequately protect public safety 12" LED automatic flashing lights with gates and constant warning time circuitry are needed.

Constant warning time circuitry adjusts for train speed and causes the crossing signals to always operate for the same amount of time before the train reaches the crossing, regardless of train speed. A motion detector simply detects the train operation, but does not adjust for train speed so that the amount of warning time varies based on train speed.

Light emitting diodes (LED) are a relatively new application for crossing signals. The LED lamps replace the incandescent bulbs. LEDs have higher conspicuity, a wider cone of vision, and longer life than incandescent lights. LEDs are especially useful on east-west roadways where the rising and setting sun may make the signals difficult to see.

Source of funding: The signal materials and installation shall be paid from 2009 OCR safety funds.

Conclusion on the Issue

THE COMMISSIONER CONCLUDES:

That in order to adequately protect and promote public safety, it is necessary to install and maintain 12" LED automatic flashing lights with gates and constant warning time circuitry at the crossing of the tracks of the Union Pacific Railroad Co. with CTH 'E' in the Town of Red Cedar, Dunn County.

Conclusion of Law

THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under §195.28 , Stats., extends to this matter. Accordingly, the Office enters an order consistent with the findings of fact.

Order

THE COMMISSIONER ORDERS:

1 That the **Union Pacific Railroad Co.** shall install and maintain 12" LED automatic flashing lights with gates, constant warning time circuitry and other appropriate appurtenances in accordance with such plans as are filed with and approved by the Office of the Commissioner of Railroads at the crossing of its tracks with **CTH 'E'** at-grade in the Town of Red Cedar, Dunn County by **December 31, 2009** (Crossing No. 183 914D / MP 68.63).

2. That the **Union Pacific Railroad Co.** shall submit to the Office of the Commissioner of Railroads signal and circuit plans with the cost estimate of its proposed installation and upon completion of the signal project, a detailed statement of the actual cost to the Office and to the Wisconsin Department of Transportation.

3. That the signal installation work herein ordered shall not begin until the district office of the Wisconsin Department of Transportation informs the railroad that they may start such work and such start notice will not be issued until appropriate federal aid or other funding arrangements have been assured. The cost of the new project initiated before the start notice will not be reimbursed with public funds and shall be the responsibility of the railroad.

4. That the **Union Pacific Railroad Co.** shall bear the cost assessed to the railroad pursuant to §195.60, Stats., for the investigation of this matter by the Office. The railroad shall not pass on those assessment costs either directly or indirectly.

5. That if the petitioner, railroad or any interested party objects to this order and requests a hearing within 20 days of the date of this order in writing, the Office will hold a public hearing.

6. That jurisdiction is retained.

Dated at Madison, Wisconsin, (June 19, 2008).

By the Office of the Commissioner of Railroads.

Roger Breske
Commissioner of Railroads