

## BEFORE THE OFFICE OF THE COMMISSIONER OF RAILROADS

## STATE OF WISCONSIN

Petition of the Wisconsin & Southern Railroad, LLC for a Determination of the Adequacy of Warning Devices at the Public Crossings of Its Tracks with W. Washington Avenue and N. Whitney Way in the City of Madison, Dane County, CTH M in the Town of Westport, Dane County and STH 69 in the City of Monroe, Green County

9170-RX-303

## FINDINGS OF FACT AND ORDER

By letter dated January 24, 2014 the Wisconsin & Southern Railroad (WSOR) filed a petition with the Office of the Commissioner of Railroads (OCR) for a determination pursuant to Wis. Stat. § 195.28 of the adequacy of warning devices at the grade crossings of its tracks with W. Washington Avenue and N. Whitney Way in the City of Madison, Dane County, CTH M in the Town of Westport, Dane County and STH 69 in the City of Monroe, Green County (Crossing Nos. 391 720V / MP 138.88, 391 741N / MP 142.77, 178 062S / MP 144.74, 392 496R / MP 43.68).

An OCR investigator inspected the crossings in April 2014. No hearing was held.

The OCR now publishes all notices, orders, proposed decisions and final decisions on the Internet. These documents may be accessed at either <http://ocr.wi.gov/apps40/dockets/default.aspx> or on the Public Service Commission's website at <http://psc.wi.gov/>

## Findings of Fact

## THE COMMISSIONER FINDS:

“Barrier gates” are installed at each of the four crossings involved in this matter. The WSOR has petitioned the OCR requesting that the barrier gates be removed and replaced with conventional gates. For the reasons set forth below, the Commissioner has determined that public safety requires the removal of the barrier gates from each crossing.

Barrier gates are not commonly used in the railroad signal industry. In fact the use of this type equipment on freight railroad applications is almost non-existent. The premise of barrier gates is to prevent an impact of motor vehicles and trains whereas conventional signals are meant to act as a warning. Barrier gates are mounted on a large pedestal with a receiver on the opposite side of the road that allows the barrier arm to “lock” in place when in the full down position. This feature allows the gate to become a barrier capable of stopping a motor vehicle from breaking through the arm and impacting the train passing through the grade crossing. A system of cables is incorporated into the gate arm that will help “catch” a motor vehicle. While there may be some applications for this type of system, such as grade crossings where high-speed passenger operate or non-railroad security locations such as a military base, the negatives far outweigh any positives for typical railroad/highway grade crossing signal applications.

The negatives of using barrier gates at the typical rail-highway crossing include factors that result in diminished public safety, significant disruption of roadway traffic and higher maintenance costs. More specifically, these factors include:

- Barrier gates consist of very large cumbersome equipment requiring additional labor and equipment to service.
- There is limited availability of replacement parts for barrier gates.
- The railroad incurs higher maintenance costs due to the additional time and equipment required to service barrier gates.
- Neither railroads nor railroad signal contractors have trucks large enough to carry replacement barrier gates. As a result, an additional gate arm is stored at each of the four crossings with barrier gates.
- Barrier gates can only be installed at locations with raised medians. When barrier gates fail in the down position, the roadway is completely closed to traffic until a signal maintainer arrives and fixes the problem. Unlike conventional gates, even if law enforcement personnel arrive at the crossing before the signal maintainer, they are unable to manually raise the barrier gates
- Likewise, when a motor vehicle strikes the barrier gate, the roadway is also completely closed to traffic until the debris is cleared and a new barrier gate is installed.
- Barrier gates are not compliant with the fail-safe concept found in conventional gates. Conventional gates fail in the down position, but barrier gates sometimes fail in the upright position.
- The Federal Railroad Administration (FRA) does not recognize barrier gates as “gates”.
- The FRA requires regular inspections of crossing signal equipment. Unlike conventional gates, there is no recognized testing for barrier gate equipment to meet FRA regulations.
- It is difficult to adjust and maintain settings for the barrier gate to properly lock into receiver.
- Conventional gates do not begin to descend until three to five seconds after the signals begin to flash. There is no delay between flashing lights starting to flash and barrier gates beginning to descend.
- The circuitry and components for barrier gate control are not common to railroad signal industry.
- There is no permanent method for a gate heater, which keeps frost off contacts. Frost on the contacts can cause the barrier gates to malfunction.
- The door to the locked box at the base of the barrier gates can be easily compromised. The barrier gate arm will not descend if the door is open.
- For the barrier gates to function properly, snow must be kept away from counterweight, which are large and low to the ground. The counterweight is located a few feet behind the curb, well within range of snow thrown by snow plows during normal snow-plowing operations.
- The receiver is located very close to the back of curb and is constructed of heavy steel mounted on a low concrete foundation. The receivers pose a significant threat when struck by a motorist, which recently occurred at the W. Washington Avenue crossing.
- The barrier gates components do not meet breakaway standards.

The railroad proposed the following scope of work estimated cost to remove and replace the barrier gates assemblies and replace them with conventional signal assemblies and gates.

1. Remove existing barrier gate units, receivers and flasher signals.
2. Remove all signal foundations for barrier gates units, receivers and flasher assemblies.
3. Remove auxiliary control shelter which houses control for barrier gates equipment, remove battery tub and storage container.
4. Rewire main control bungalow with new additional conventional signal control equipment, 40 amp charger for signal batteries, and circuit for gate heaters.

5. Install new conventional type gate and flasher foundations.
6. Install new conduits and signal control cables to signal assemblies.
7. Install new appropriate, conventional type, gate signal assemblies.
8. Re-install previously removed flasher only signals on new foundations.

Estimated Material Costs (including engineering services / plans)	\$ 58,300.00
Estimated Labor Costs (including labor additives / expenses)	\$ 34,485.00
Estimated Equipment / Outside Services Costs	<u>\$ 26,400.00</u>
Total Estimated Costs (Less applicable Taxes)	<u>\$119,185.00</u>

#### Estimated Material Requirements

2 Each - Gate Signal Assembly, Complete with 2-Way 12" LED Lights  
 4 Each – Signal Foundations, Galvanized Steel  
 4 Each – Charger, 40 Amp  
 1 Lot - Relays / Signal Control Equipment  
 1 Lot - Signal Cable & Conduits  
 1 Lot - Engineering Service / Circuit Plans

The costs for each crossing may vary somewhat from this general estimate depending in particular on the number of new signal foundations and gates required. Specific findings for each of the four crossings with barrier gates are set forth below. Each of the crossings have constant warning time circuitry.

#### **W. Washington Avenue – Crossing No. 391 720 V / MP 138.88**

At the crossing, W. Washington Avenue consists of two traffic lanes and a bicycle lane in each direction divided by a raised median.

The W. Washington Avenue crossing warning devices currently consist of 12" LED mast-mounted automatic flashing lights in the median and behind the outside curb and barrier gates behind the outside curb.

The order requires the railroad to remove the existing barrier gates and install conventional gates behind the outside curb on each approach to the W. Washington Avenue crossing.

#### **N. Whitney Way – Crossing No. 391 741 N / MP 142.77**

At the crossing, southbound N. Whitney Way consists of two through traffic lanes and one left-turn only traffic lane. Northbound N. Whitney Way consists of two through traffic lanes.

The N. Whitney Way crossing warning devices currently consist of 12" LED mast-mounted automatic flashing lights in the median and behind the outside curb and barrier gates in the median.

The order requires the railroad to remove the existing barrier gates and install conventional gates behind the outside curb on each approach to the N. Whitney Way crossing. In addition, a conventional gate shall be installed in the median for the southbound approach.

### **CTH M – Crossing No. 178 062 S / MP 144.74**

At the crossing, eastbound CTH M consists of two through traffic lanes and one right-turn only traffic lane. Westbound CTH M consists of two through traffic lanes and a bicycle lane. The eastbound and westbound roadways are divided by a raised median.

The CTH M crossing warning devices currently consist of cantilevered 12” LED mast-mounted automatic flashing lights behind the outside curb with barrier gates in the median for westbound traffic and cantilevered 12” LED mast-mounted automatic flashing lights behind the outside curb and mast-mounted 12” LED automatic flashing lights with barrier gates in the median for eastbound traffic.

The order requires the railroad to remove the existing barrier gates and install conventional gates behind the outside curb on each approach to the CTH M crossing. In addition, a conventional gate shall be installed in the median for the eastbound approach.

### **STH 69 – Crossing No. 392 496 R / MP 43.68**

At the crossing, STH 69 consists of two traffic lanes in each direction divided by a raised median.

The STH 69 crossing warning devices currently consist of cantilevered 12” LED mast-mounted automatic flashing lights behind the outside curb with barrier gates in the median for both the northbound and southbound approaches.

The order requires the railroad to remove the existing barrier gates and install conventional gates behind the outside curb on each approach to the STH 69 crossing.

### **Summary**

In order to adequately protect public safety, the barrier gates need to be removed and replaced with conventional gates. The other signal equipment at each of the crossings appear to be in good condition and can remain in use with the modifications outlined by the WSOR, e.g. reinstalling the flashers on new foundations. The existing warning devices will be adequate until such time as the new warning devices are installed.

**Notification of Completion:** The Wisconsin & Southern Railroad, LLC shall notify the Office of the Commissioner of Railroads upon completion of the signal project.

**Source of funding for warning devices:** The OCR will provide 100% of the funds for the labor and materials required to remove the barrier gates and install the required warning devices at W. Washington Avenue. For the other three crossings, the WSOR has agreed to fund 29% of the total cost and the OCR will provide funds for the remaining 71%. The railroad’s portion of the costs approximates its labor costs to complete the project. The OCR will use federal and state safety funds to pay its portion of the cost of the signal materials and labor.

### **Conclusion on the Issues**

#### **THE COMMISSIONER CONCLUDES:**

1. That in order to adequately protect and promote public safety, it is necessary to remove the barrier gates, to maintain the existing automatic flashing lights and to install and maintain conventional gates at the crossing of the tracks of the Wisconsin & Southern Railroad, LLC with W. Washington Avenue in the City of Madison, Dane County.

2. That in order to adequately protect and promote public safety, it is necessary to remove the barrier gates, to maintain the existing automatic flashing lights and to install and maintain conventional gates at the crossing of the tracks of the Wisconsin & Southern Railroad, LLC with N. Whitney Way in the City of Madison, Dane County.

3. That in order to adequately protect and promote public safety, it is necessary to remove the barrier gates, to maintain the existing automatic flashing lights and to install and maintain conventional gates at the crossing of the tracks of the Wisconsin & Southern Railroad, LLC with CTH M in the Town of Westport, Dane County.

4. That in order to adequately protect and promote public safety, it is necessary to remove the barrier gates, to maintain the existing automatic flashing lights and to install and maintain conventional gates at the crossing of the tracks of the Wisconsin & Southern Railroad, LLC with STH 69 in the City of Monroe, Green County.

#### Conclusion of Law

#### THE COMMISSIONER CONCLUDES:

That the jurisdiction of the Office of the Commissioner of Railroads under Wis. Stat. § 195.28 extends to this matter and the Office enters an order consistent with the findings of fact.

#### Order

#### THE COMMISSIONER ORDERS:

1. That the **Wisconsin & Southern Railroad, LLC** shall remove the barrier gates, maintain the existing automatic flashing lights and install and maintain conventional gates with 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 **W. Washington Avenue** at-grade in the City of Madison, Dane County by **December 31, 2015** (Crossing No. 391 720V / MP 138.88).

2. That the **Wisconsin & Southern Railroad, LLC** shall remove the barrier gates, maintain the existing automatic flashing lights and install and maintain conventional gates with 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 **N. Whitney Way** at-grade in the City of Madison, Dane County by **December 31, 2016** (Crossing No. 391 741N / MP 142.77). In addition, a conventional gate shall be installed in the median for the southbound approach.

3. That the **Wisconsin & Southern Railroad, LLC** shall remove the barrier gates, maintain the existing automatic flashing lights and install and maintain conventional gates with 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 M** at-grade in the Town of Westport, Dane County by **December 31, 2017** (Crossing No. 178 062S / MP 144.74). In addition, a conventional gate shall be installed in the median for the eastbound approach.

4. That the **Wisconsin & Southern Railroad, LLC** shall remove the barrier gates, maintain the existing automatic flashing lights and install and maintain conventional gates 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 **STH 69** at-grade in the City of Monroe, Green County by **December 31, 2017** (Crossing No. 392 496R / MP 43.68).

5. That the **Wisconsin & Southern Railroad, LLC** 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.

6. That the signal installation work herein ordered shall not begin until the regional 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.

7. That the **Wisconsin & Southern Railroad, LLC** shall notify the Office of the Commissioner of Railroads upon completion of the signal project.

8. That to the extent feasible the **Wisconsin & Southern Railroad, LLC** shall re-use the existing signal equipment.

9. That the **Wisconsin & Southern Railroad, LLC** shall bear no part of the cost of the crossing signal materials or installation at the **W. Washington Avenue** crossing, except for any 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.

10. That the **Wisconsin & Southern Railroad, LLC** shall bear 29% part of the cost of the crossing signal materials and installation at the crossings of **N. Whitney Way** in the City of Madison and **CTH M** in the Town of Westport, Dane County and **STH 69** in the City of Monroe, Green County, except for any 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.

11. 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.

12. That jurisdiction is retained.

Dated at Madison, Wisconsin, September 4, 2014.

By the Office of the Commissioner of Railroads.

/s/ Jeffrey T. Plale  
Jeffrey T. Plale  
Commissioner of Railroads