

# Compliance Support Verification Final Report

STB Finance Docket No. 35087

## CANADIAN NATIONAL RAILWAY COMPANY ACQUISITION OF EJ&E WEST COMPANY

April 2010



Prepared by:

HDR Engineering, Inc.

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### Compliance Report Verification

#### Final Report

##### **Summary of Findings and Recommendations**

On December 24, 2008 the Surface Transportation Board (the Board) approved Canadian National Railway's (CN's) application to acquire control of the Elgin, Joliet and Eastern Railway (EJ&E). The Board's approval was subject to quarterly reporting on compliance with extensive environmental mitigation conditions and monthly reporting on CN's operation of the EJ&E and CN's other rail lines through Chicago. After CN started filing its reports, the Board received complaints asserting that CN was underreporting instances where highway/rail at grade crossings were blocked by trains for 10 minutes or more on the EJ&E, that CN was not reporting all of the accidents and injuries that occurred on the EJ&E and on its lines through Chicago, and that other significant incidents were not being reported. In order to verify the information in CN's reports, the Board retained an independent third party contractor, HDR Engineering, to conduct an audit.

The Board directed HDR to complete a Scope of Services that included six tasks. The findings and recommendations from each task are as follows:

**Task 1**      **Community and Agency Outreach:** Questionnaires were sent to each community along the mainline of the EJ&E between Leithton near Mundelein, Illinois and Kirk Yard in Gary, Indiana. The questionnaires were intended to determine whether CN had complied with conditions related to emergency response, hazardous material training, notice that a train was blocking a highway/rail at grade crossing for more than 10 minutes, installation of dispatching monitors so that local emergency service providers could monitor real time train locations, establishment of quiet zones where train horns are not sounded at crossings, and compliance with negotiated mitigation agreements in those communities that had such an agreement. In most instances, CN had complied with the conditions and agreements with a few noted exceptions related to emergency response plans, the creation of quiet zones and notice of trains blocking crossings. HDR recommends that CN provide additional detail on compliance with these conditions in future quarterly environmental reports.

**Task 2**      **Noise and Vibration:** Many of the public complaints that were received concerning noise and vibration were somewhat subjective and anecdotal and therefore difficult to assess. In some instances, such as the complaints that asserted loud noise from squealing railroad wheels on curves, specific remedies could be recommended. HDR recommends improved dialog between CN and the communities so that complaints related to use of

train horns in quiet zones and other complaints could be addressed and future progress reported to the Board.

- Task 3**      **Train Volumes and Street Blockages:** HDR reviewed and audited the data and methods CN had used to complete the monthly operating reports. With respect to CN reported train volumes, some minor inconsistencies were noted on the reported train volumes for November and December, 2009. With respect to the blocked crossing reports, HDR concluded that CN had reported the instances when trains were stopped in crossings on the EJ&E mainline for 10 minutes or more during November and December, 2009 but had not reported the number of times trains blocked crossings for 10 minutes or more for other reasons. HDR's review showed that there had been 1457 such instances during November and December, 2009. In many instances, the noted blockages were caused by slow moving trains moving on to and from sidings, movements through low speed connections with other railroads and other CN lines, trains that were stopped for less than ten minutes, and trains slowing down to wait for crossing Metra trains. HDR recommends that CN improve the accuracy of the methods it uses to count trains in each rail segment with more explicit rules. HDR also recommends that CN improve its methods to record and retain all records of blockages in excess of 10 minutes and that the Board consider clarifying its reporting requirements. To provide a historical context, HDR reviewed records from November and December 2008, and determined that prior to the time that CN assumed control of the EJ&E there were approximately 1,658 instances where crossings on the EJ&E were blocked for 10 minutes or more.
- Task 4**      **Vehicle Delay and Traffic Congestion:** The data that was collected in Task 3 was reported to show which crossings had the most instances of blockages in excess of 10 minutes and which had the least. The report also showed the average daily traffic (ADT) at each crossing. Many of the crossings that were described in the public complaint letters were the same ones with frequent blockages of 10 minutes or more. Site visits to two crossings confirmed the data on slow moving trains that was reported in Task 3. HDR recommends that the Board clarify its monthly reporting requirements so that the information CN is required to report on crossing blockages is clear.
- Task 5**      **Review of Operational Accidents:** HDR reviewed the information that CN had reported to the Board, the requirements for reporting accidents and injuries to the Federal Railroad Administration (FRA), the procedures CN has in place to record all incidents and determine whether they are required to be reported to FRA, and all of the internal CN incident reports for November and December, 2009. HDR concluded that CN was consistently reporting to the Board the incidents that meet two of the three thresholds for reporting to the FRA, but CN was not reporting all of the grade crossing incidents to the Board that are reported to the FRA. HDR recommends that the Board consider clarifying if all grade crossing accidents regardless of the damage cost on the EJ&E rail lines or on the CN lines through Chicago need to be included in the monthly operating reports.

**Task 6**

**Public Grade Crossing Signs:** HDR reviewed the requirements in the Board's conditions and in the Manual on Uniform Traffic Control Devices (MUTCD) for installation of temporary signs warning of an increase in railroad traffic and permanent signs providing motorists with the necessary information to report emergencies or dangerous conditions. By the time the audit was conducted, the temporary signs had already been removed. Although CN had not installed the permanent signs, CN's decision to wait until the December, 2009 edition of the MUTCD was published and the two states had decided whether to adopt the standards in the MUTCD was a reasonable approach. The permanent signs will be installed by June 30, 2010. HDR recommends that if problems with visibility of the permanent signs are observed in the future, these problems can be addressed on a case by case basis.

# Canadian National Railway Acquisition of Elgin, Joliet & Eastern Railway

## STB Finance Docket 35087

### Compliance Report Verification

#### Final Report

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# **Canadian National Railway Acquisition of Elgin, Joliet & Eastern Railway**

## **STB Finance Docket 35087**

### **Compliance Report Verification**

#### **Final Report**

#### **1.0 Background**

The following sections provide a brief history of how the Board adopted environmental mitigation conditions as part of the Board's approval of the application by Canadian National Railway and Grand Trunk Corporation (CN) to acquire control of the Elgin, Joliet and Eastern Railway (EJ&E) and reporting requirements to monitor compliance with those conditions. These sections also describe the chain of events that led to the Board deciding to require that CN's reports on compliance with the conditions be audited.

#### **1.1 Surface Transportation Board Decision 16**

On December 24, 2008 the Surface Transportation Board (the Board) granted, subject to numerous environmental mitigation and other conditions, the application of CN to acquire control of the EJ&E. The Board's Decision to grant approval subject to conditions was contained in Decision 16 in the Board's Finance Docket 35087. The Board's approval took effect on January 23, 2009. In reaching its decision the Board balanced both the transportation-related aspects of the transaction and the potential environmental impacts.

The potential environmental impacts were analyzed in a Draft Environmental Impact Statement (Draft EIS) and Final Environmental Impact Statement (Final EIS). After carefully considering the results of the environmental analysis in the Draft EIS and Final EIS, the Board imposed environmental mitigation conditions and a five year oversight period. During the five year oversight period, CN was required to file quarterly reports showing progress toward compliance with the environmental mitigation conditions and monthly reports to allow the Board to closely monitor CN's operations. The environmental mitigation conditions include compliance with CN's voluntary mitigation measures (VM's) and with the negotiated agreements CN has entered into with the National Railroad Passenger Corporation (Amtrak) and individual communities in Illinois and Indiana.

#### **1.2 CN's Quarterly and Monthly Reports**

CN took control of the EJ&E on approximately February 1, 2009 and filed its first quarterly environmental report and its first monthly operating report in April, 2009. CN has filed monthly and quarterly reports since then. The quarterly environmental reports review each of the 108 VM's and the 74 Final Board Conditions and describe CN's efforts toward compliance. The monthly operating reports list the following five items:

1. The number of rail cars interchanged with other railroads at each interchange location along the EJ&E

2. Delays at railroad interlockings along the EJ&E
3. The dates and descriptions of accidents and injuries along the EJ&E or on CN lines within the EJ&E arc
4. Data concerning each instance where a highway/rail at grade crossing was blocked by a stopped train for 10 minutes or more
5. Train counts for freight operations over segments of the EJ&E and on CN lines through Chicago.

The Board has posted the quarterly reports and a redacted version of the monthly operating reports containing the third, fourth, and fifth items at a website entitled “Surface Transportation Board’s Oversight and Monitoring of the Canadian National Railway Company Acquisition of the Elgin, Joliet and Eastern Railway” which can be viewed at <http://www.stbfinancedocket35087.com>.

### **1.3 Complaints and Responses**

After CN filed its first monthly operating report on April 13, 2009, a group of communities known as The Regional Answer to Canadian National (TRAC) wrote a letter to the Board. TRAC complained that CN’s report was incomplete, that accidents and injuries and crossing blockages were being underreported, and that CN was failing to report significant incidents. CN provided a written response to TRAC’s letter. TRAC wrote another letter on June 26, 2009 raising similar concerns about CN’s monthly reports that were submitted in May and June, 2009. Once again, CN responded in writing to the Board. Additional correspondence from both sides continued until the Chairman and selected staff members from the Board met with CN on November 3, 2009 and with TRAC on November 4, 2009. As a result of these meetings, the Board sent a letter to TRAC on November 17, 2009 announcing that the Board had decided to retain an independent third party contractor, HDR Engineering, to verify the information in CN’s latest quarterly environmental report and in its most recent monthly operating reports. The correspondence is available at <http://www.stbfinancedocket35087.com> under “Comments Received.”

## **2.0 Compliance Report Verification**

The following sections describe the process the Board followed to define six tasks to carry out the verification announced in the November 17, 2009 letter, the results of those tasks, and the conclusions and recommendations from each task.

### **2.1 Scope of Services**

In order to carry out the audit called for in the Board’s November 17, 2009 letter, the Board prepared a scope of services which described six tasks. Each task addressed areas of concern that had arisen in the correspondence from TRAC and CN and in CN’s reports. Each task was intended to result in a technical memo with the results of the analysis and recommendations on actions the Board may take. The six tasks were as follows:

- Task 1**     **Community and Agency Outreach.** The Board would send out one questionnaire to communities that had not negotiated an agreement with CN and another questionnaire to the communities that had negotiated an agreement. The questionnaires and their results would show whether CN was carrying out its negotiated agreements and was complying with the Board’s conditions on emergency protocols, emergency communications, fire

prevention, hazardous material training, grade crossing improvements, and quiet zone implementation.

- Task 2**     **Train Noise and Vibration.** HDR would review the public complaints and the responses from CN and the results of the questionnaires from the communities to determine what issues related to noise and vibration were being raised and to recommend any approaches the Board may take to address these issues.
- Task 3**     **Train Volumes and Street Blockages.** HDR would meet with CN to review and validate the methods CN uses to collect the data that is provided in the monthly operating reports and then verify the information in the November and December, 2009 reports.
- Task 4**     **Vehicle Delays and Traffic Congestion.** HDR would review the information collected in Task 3 and the public complaints concerning vehicle delay at highway/rail at grade crossings and then follow up with site visits to selected crossings to verify the information concerning vehicle delay.
- Task 5**     **Review of Operational Accidents.** HDR would verify that the information provided to the Board concerning train operation accidents and injuries in the monthly reports for November and December, 2009 is consistent with the information CN provided to the Federal Railroad Administration (FRA).
- Task 6**     **Public Grade Crossing Signs.** HDR would review CN's explanation concerning installation of warning signs at highway/rail at grade crossings and determine whether CN's explanation is consistent with applicable regulations. The warning signs give notice that increased train traffic should be expected and provide information for motorists to report emergencies.

## **2.2 Methods and Results for Each Task**

The following sections summarize the findings that resulted from each task in the scope of services. The complete text of each technical memorandum for each task is contained in Appendices 1-6.

### ***2.2.1 Community and Agency Outreach (Task 1)***

A questionnaire was sent to 13 communities which had not negotiated a mitigation agreement with CN. Seven of these communities responded. All of the communities that responded said CN had provided them with the name and contact information for CN's community liaison. After some follow up conversations, it became apparent that CN had contacted each community concerning emergency response plans, but not all were satisfied with CN's approach to emergency response. All of the communities that responded said they had been provided a toll free number to report train accidents and hazardous material releases. All of the communities had either sent at least one representative to CN sponsored hazardous material training or were represented by a neighboring community. Only one community indicated it had been contacted by CN when a highway/rail at grade crossing was blocked for 10 minutes or more. Six of the communities indicated that CN had offered to install a dispatching monitor to emergency service personnel so that real time locations of trains could be observed. Five

communities indicated that they had requested assistance from CN on establishment of a quiet zone, and two indicated they were not satisfied with CN's response.

Another questionnaire was sent to 21 communities which had negotiated a mitigation agreement with CN. Fourteen of these communities responded. All of the communities thought they were making progress with CN toward implementing the terms of their negotiated agreements and that CN had responded to their concerns. Thirteen communities indicated they had been provided with the name and contact information for CN's community liaison. After follow up conversations, it became apparent that 12 communities had sent at least one representative to CN sponsored hazardous material training. Two out of the five communities that responded to the question indicated that CN had notified them every time a crossing was blocked for 10 minutes or more.

The complete text of the technical memorandum for Task 1 is in Appendix 1.

### ***2.2.2 Noise and Vibration (Task 2)***

A review of the first two letters submitted by TRAC showed that the public complaints referred to "excessive noise" and were somewhat subjective and anecdotal. As a result, it was difficult to assess the complaints in any objective manner. A later letter from TRAC provided more detail on noise complaints. Some of these complaints referred to the squealing noise that emanates from train wheels going through a curve. This is the type of noise related issue that can be addressed with specific action. Many complaints referred to train noise during nighttime hours, but there was no evidence that CN had increased operations during the nighttime over the level that had been presented before the acquisition. Many of the complaints concerning use of train horns in quiet zones could be explained by the possible but undocumented increases in nighttime train activity, the required use of train horns in quiet zones when workers, pedestrians, animals, or equipment are present in the right of way or the break between two quiet zones at the Hough Street (Route 59) crossing in Barrington where horn use is required. While there were complaints concerning train induced noise and vibration, there was no evidence that current levels of noise and vibration are substantially different than what was shown in the Final EIS.

The complete text of the technical memorandum for Task 2 is in Appendix 2.

### ***2.2.3 Train Volumes and Street Blockages (Task 3)***

After reviewing the conditions imposed by the Board on reporting train volumes and crossing blockages and the public complaints that had been received, HDR met with CN and visited CN's North American headquarters in Homewood, IL to determine how the information in the reports had been generated. In addition, HDR observed the train dispatcher responsible for the EJ&E and made numerous follow up visits to review data. HDR concluded that the train volume information reported for November and December, 2009 (trains/day by rail segment) appeared accurate except for the omission of two return trip trains during both months and a miscalculation on the number of days in November. CN has indicated that it will restate prior reports to adjust for these factors. In regards to highway/rail at grade crossing blockages, the review discovered that CN had accurately reported 12 instances on the EJ&E mainline between Leithton and Kirk Yard and two instances on branch lines during November and December, 2009 where trains were stopped for 10 minutes or more, but there had been a total of 1457 instances during November and December, 2009 on the EJ&E mainline when the crossing had been blocked for a

total of 10 minutes or more even though the train may not have been stopped for the entire 10 minutes, such as a slow moving train or a train that was stopped for less than 10 minutes. The slow moving trains in many instances are caused by movements on to and from sidings, movements through low speed connections with other CN lines and other railroads, and trains slowing down to wait for crossing Metra trains.

In order to put the data on blocked crossings into a historical context, HDR reviewed the data from November and December, 2008. This period predated CN's operation of the EJ&E. A review of the data showed that there were 1658 instances where highway/rail at grade crossings on the EJ&E mainline between Leithton and Kirk Yard were blocked for 10 minutes or more during November and December, 2008.

The complete text of the technical memorandum for Task 3 is in Appendix 3.

#### ***2.2.4 Vehicle Delay and Traffic Congestion (Task 4)***

After reviewing the public complaint letters and the data collected in Task 3, Train Volumes and Street Blockages, HDR listed the highway/rail at grade crossings on the EJ&E mainline between Leithton and Kirk Yard that had been blocked for 10 minutes or more during November and December, 2009 in descending order from the most to the least and compared this data to the average daily traffic (ADT) at each crossing. HDR then visited two of the crossings with high ADT and a high number of blockages to confirm the data that had been collected in Task 3. The data showed that many of the crossings described in the complaint letters were the same ones with frequent blockages of 10 minutes or more. In addition, the instances where CN reported trains stopped for 10 minutes or more generally occurred at crossings with low ADT. The site visits confirmed the presence of slow moving trains that had been recorded in the data collected in Task 3. The historical data from November and December, 2008 that was collected in Task 3 shows that there were 1658 instances where highway/rail at grade crossings on the EJ&E mainline between Leithton and Kirk Yard were blocked for 10 minutes or more.

The complete text of the technical memorandum for Task 4 is in Appendix 4.

#### ***2.2.5 Review of Operational Accidents (Task 5)***

HDR reviewed the information that CN had provided in its monthly operations reports on accidents and injuries on the EJ&E and the CN lines through Chicago for November and December, 2009 and the reporting requirements of the Federal Railroad Administration (FRA). All railroads are required by law to report accidents and injuries to the FRA. HDR also reviewed the internal procedures CN has in place to record all incidents and then report the ones that meet the threshold for reporting to FRA. HDR then reviewed the CN records on the total number of incidents during November and December, 2009 and concluded that CN was consistently reporting to the Board the incidents that meet two of the three thresholds for reporting to the FRA. CN was not reporting all grade crossing incidents to the Board that it reports to FRA.

The complete text of the technical memorandum for Task 5 is in Appendix 5.

### **2.2.6 Public Grade Crossing Signs (Task 6)**

HDR reviewed the VM that required CN to install temporary signs at highway/rail at grade crossings warning of an increase in railroad traffic, the VM that required CN to install permanent signs with the necessary information so that motorists can report dangerous or emergency conditions at crossings and the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD is a Federal guide that prescribes the shape, content and color of all devices that regulate motor vehicle traffic. Individual States are allowed to adopt their own standards in place of the ones in the MUTCD. CN provided the procedures it has used to install and remove the temporary signs and to order new permanent emergency notification signs that follow the standards in the December, 2009 version of the MUTCD. CN expects to complete installation of the permanent emergency notification signs by June 30, 2010. Both States, Illinois and Indiana, have indicated they will not adopt their own standards for emergency notification signs at highway/rail at grade crossings in place of the standards in the MUTCD. CN's approach to compliance with these VM's appears reasonable.

The complete text of the technical memorandum for Task 6 is in Appendix 6.

## **3.0 Conclusions and Recommendations**

The following sections restate the conclusions and recommendations from each technical memorandum.

### **3.1 Community and Agency Outreach (Task 1)**

CN has initiated extensive communication with the affected communities. The surveyed responses indicate that in most instances, the communication has been consistent with the Board's Conditions. There are reported instances, however, where emergency response plans have been discussed with the communities but no copy of the plan has been provided. CN should provide documentation in future quarterly environmental reports filed pursuant to STB Condition 9 and VM 101 on how it has complied with the requirement to provide emergency response plans in VM 16 and VM 23. On compliance with VM 5 which requires cooperation in the creation of quiet zones, CN should provide more detail on a community by community basis on the status of compliance with this condition in future quarterly environmental reports. On compliance with VM 42 which requires CN to notify emergency service dispatchers when crossings will be blocked for substantial periods of time and install dispatching monitors when requested, CN should provide additional detailed information in future quarterly environmental reports on how this condition is being met.

### **3.2 Noise and Vibration (Task 2)**

CN's proposed changes to freight train activity on the EJ&E have resulted in complaints about train-related noise and vibration. The integration of CN and EJ&E is a process that continues to evolve. As this process evolves, the stakeholders, the Board, CN and EJ&E continue to learn more about the process and its noise and vibration effects. The Board's Conditions and CN's voluntary commitments are intended to minimize noise and vibration problems. However, it is not reasonable to assume that the Conditions and Voluntary Commitments would preclude complaints from stakeholders.

At this point in the integration process, the Board is aware of complaints about noise and vibration. Recommending specific actions to address these complaints requires a level of detail that is absent in the complaints. For example, detailed information (such as date, time, and location) about locomotive horn use in an existing quiet zone allows a factual discussion and evaluation. The lack of that level of detail precludes a detailed discussion and evaluation of this particular issue. HDR encourages municipalities and stakeholders to provide more detailed, factual information when reporting complaints. This will facilitate a factual assessment of the issues. In lieu of this level of detail, there is no basis to recommend noise monitoring activities in an attempt to measure locomotive horn use in quiet zones.

Board Conditions require CN to work with affected communities; communities should contact CN to initiate the communication and work with CN to maintain it. In this manner, both CN and affected municipalities share the burden of communication. HDR recommends that the Board direct CN to contact Lynwood and Deer Park to initiate a dialog about their concerns. HDR also recommends that the Board direct CN to continue to discuss noise and vibration issues with Barrington, and report on the outcome of those discussions to the Board.

### **3.3 Train Volumes and Street Blockages (Task 3)**

*Train Volumes.* Train volumes reported by CN to the Board vary from actual train volumes in the sample segments selected by HDR by 10 to 20 percent. The variance appears to stem from methods by which CN transfers information from its automated data systems to the summaries used to prepare reports to the Board, and because many trains are not one-way, linear movements that enter and exit an EJ&E line segment in a single movement event. A more accurate train volume reporting system may require a new method to count train movements in each segment, with more explicit rules to determine how to count trains that (1) reverse direction, (2) enter or exit line segments multiple times, (3) only traverse a portion of a line segment, (4) and are of types other than the through-freight type. CN in its March 10, 2010 cover letter forwarding its February 2010 Monthly Report to the Board described its intention to restate the average daily train counts provided in monthly reports beginning with July 2009.

*Highway/Rail At-Grade Crossing Blockages.* The audit sought to verify if the reports submitted by CN to the Board were accurate and complete. HDR found that CN is reporting grade-crossing blockage events when a train is stopped either within the crossing, or adjacent to the crossing where the stopped train activates the grade-crossing signal system, for more than 10 minutes. CN is not reporting to the Board events where the train is not stopped for more than 10 continuous minutes, or events where the crossing signals have activated even though a train is not present. CN stated it did not consider such events to be reportable under the requirements of Decision 16.

There are several internal steps at CN that must occur in the process of collecting crossing blockage event records. These steps are as follows:

1. The RTU must be active, collect the event accurately, and report the event accurately to the train dispatcher's desk for the EJ&E rail line. Not all grade-crossing signal systems are equipped with RTUs. HDR did not verify if all RTU-equipped grade-crossing signal systems were active, functional, and reporting accurately during the reporting period. There is no reason to believe the RTUs are inoperable or under-report crossing occupancies of more than 10 minutes to any significant degree.

2. At grade-crossing systems not equipped with RTU's, which includes both grade-crossings that have active signal systems not equipped with an RTU and grade-crossings without an active signal system, a blockage event must be verbally reported to the train dispatcher by a train crew or maintenance-of-way crew, signal maintainer, track inspector or by a telephone call received by a motorist delayed at a crossing using the toll-free number displayed at each grade-crossing. There is no other method for the train dispatcher to be aware of a blockage event or signal-activation, no train present, event. There is no known record of these verbal reports maintained by CN other than the dispatcher's log.
3. The dispatcher must enter each RTU report or train report into the log, and must retain the RTU fax. In some cases RTU faxes were not entered into the dispatcher log. It is not known if there are additional RTU faxes that were not retained and not entered into the dispatcher log.
4. The log is compiled into a monthly report. At this stage, CN uses its criteria cited above to determine which blockages it deems to be reportable.

A more accurate crossing-blockage reporting system may require the following:

1. Verification of the functionality of the RTUs on each crossing, including a method to alert CN signal maintainers when RTUs cease to function, and a method to manually report and validate information about crossing blockages when RTUs are not functional or where RTU's are not installed.
2. An automated recording system for RTU information to eliminate any mistranscriptions or under-reporting at the step where RTU information is transcribed to the dispatcher's log. CN is at present creating such a system; however, it will not automate reports from crossings not equipped with RTUs or with non-functional RTUs.

The difference in number of crossing blockages of greater than 10 minutes reported by CN to the Board, and the number of crossing blockages of greater than 10 minutes identified in this audit, is almost entirely attributable to CN's reporting only crossing blockage events that were caused by a train that was stopped for more than 10 minutes.

*Recommendations:*

1. The Board should clarify what constitutes a "crossing blocking occurrence on the EJ&E rail line that exceeds 10 minutes in duration<sup>1</sup>". In order to provide the Board and public with a reasonable understanding of crossing delay on the EJ&E rail line, the Board should consider requiring CN to report all blockages of highway/rail at grade crossings that exceed 10 minutes for any cause and explain the reason(s) for each blockage.
2. If overall crossing blockages of greater than 10 minutes are to be reduced, solutions include changes in train operational practices or the construction of grade separations that eliminate crossings. Changes in operating practices that result in a reduction in the frequency of trains that occupy crossings for more than 10 minutes regardless of whether or not the train is continuously moving could include:
  - a. increases in average train speeds;
  - b. decreases in average train length;
  - c. construction of rail infrastructure along the EJ&E rail line that enables trains to conduct a more rapid movement through grade crossings without encountering rail traffic congestion on the downstream side of the crossing (such as additional second main track, siding extensions, power switches, or wayside signaling and train-control system improvements);

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<sup>1</sup> STB Decision Number 16, page 26.

- d. reduction in train frequency; or
  - e. changes in train operational patterns and/or construction of additional rail infrastructure on railroads adjacent to the EJ&E particularly for trains entering and exiting the EJ&E rail line or switching industrial customers along the EJ&E rail line.
3. Crossings not equipped with RTUs may benefit from installation of RTUs.

### **3.4 Vehicle Delay and Traffic Congestion (Task 4)**

The table in Attachment 1 and the schematic diagram in Attachment 2 show instances where vehicle delay is occurring at the highway/rail at grade crossings on the EJ&E where additional train traffic is expected as a result of CN's acquisition of the EJ&E.

It should be noted that the information in Attachment 1 and Attachment 2 cannot be used to calculate actual vehicle delay because the blockages occur at all hours of the day and night. The amount of vehicle traffic present at each blockage varies.

The Board should clarify CN's monthly reporting requirements and the meaning of VM 35, VM 36 and Board Condition 2 so that all parties are clear on the what the Board wants to have reported in CN's monthly summary of blockages of highway/rail at grade crossings that exceed 10 minutes. A more complete reporting on crossing blockages would allow the Board and the public to review CN's future reports and observe trends in vehicle delay from CN's operation of the EJ&E. The Board and the public could calculate the number of times each crossing is blocked from the monthly reports CN provides on train volumes on each segment of the EJ&E and then determine the percentage of blockages that exceed 10 minutes. Another calculation that could be done would be to calculate the average number of blockages per day that exceed 10 minutes at each crossing. When this data from future monthly operating reports is compared to the data collected in Task 3 and analyzed in Task 4, trends could be noted. If these trends show an increase in delay at crossings with a high ADT, there may be cause to reconsider CN's operations and implementation.

### **3.5 Review of Operational Accidents (Task 5)**

In its Supervisor's Guide to Handling Personal Injuries and Rail Equipment Accidents, CN provides clear guidance to its supervisors concerning the reporting of all incidents. The CN incident data base contains a wide range of incidents, most of which are well below the FRA reporting thresholds. CN's process for reporting accidents and incidents to the FRA is subject to FRA oversight and periodic FRA reviews. Except as noted above, the information report to the Board in CN's November and December monthly reports appears consistent with the information that CN reports to the FRA. In addition to the FRA reportable accidents and injuries, CN has indicated that it will report other noteworthy incidents to the Board in its monthly reports. Attachment 2 is a table comparing CN's monthly reports to the Board (from March 2009 to December 2009) versus the FRA data base. The Board may want to consider clarifying if all grade crossing accidents (regardless of the damage cost) on the EJ&E rail line or on CN rail lines inside the arc should be reported in CN's monthly report.

### **3.6 Public Grade Crossing Signs (Task 6)**

CN is complying with VM 9 and has already complied with VM 2. CN should report on the status of the new signs in its 2<sup>nd</sup> Quarter 2010 Status Report on Environmental and Safety Mitigation Measures. If problems with visibility of emergency notification signs are identified in the future, these can be addressed on a case by case basis.

**Task Summary Report Appendices can be  
viewed by going back to  
<http://www.stbfinancedocket35087.com/html/reviewandverification.html> and clicking on  
the individual task pdfs**