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August 3, 2010

## **BY HAND**

Mr. Matthew T. Wallen  
Director – Office of Public Assistance,  
Governmental Affairs & Compliance  
Surface Transportation Board  
395 E Street, S.W.  
Washington, D.C. 20423-0012

**Re: *Canadian National Railway Company and Grand Trunk Corporation – Control – EJ&E West Company (STB Finance Docket No. 35087)***

Dear Director Wallen:

Canadian National Railway Company and Grand Trunk Corporation (collectively, “CN”) are hereby re-filing various prior reports and information concerning notifications of automated crossing warning device (“ACWD”) activations of 10 minutes or more on the lines of the Elgin, Joliet and Eastern Railway (“EJ&E”), based largely on information derived from cellular remote terminal units (“RTUs”), in order to correct various errors in, and otherwise improve the accuracy and consistency, of that information. Enclosed with this letter is a disc containing the re-filed data along with copies of the two tables that are attached to this letter and discussed in Part D., below.

### **A. Background**

On April 26, 2010, pursuant to Decision No. 23 (served April 21, 2010), CN submitted (1) files containing summary sheets and raw data extracted from RTUs by Progress Rail, the RTU system vendor, relating to notifications of ACWD activations of 10 or more minutes for the entire EJ&E line for the period from July 20, 2007 to April 9, 2010, and (2) a file containing all prior blocked crossing reports (February 2009 to March 2010) restated to include additional ACWD activations drawn from the raw data. As discussed in the cover letter to that submission, CN was aware at that time of some minor errors or inconsistencies in the data, and CN committed to further analyze those data and to re-file corrected data as necessary. CN also explained that, given time constraints, Progress Rail had been unable to generate durations for

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the blocked crossing reports, but that CN would resubmit those reports with duration information added once Progress Rail completed that task.

Since those initial filings, CN has filed as part of its monthly operating oversight reports blocked crossing reports that cover the months of April, May, and June, 2010 that are similarly based largely on notifications of ACWD activations. In producing these reports and continuing to work with the RTU system and information, CN and Progress Rail have discovered and worked to address various additional accuracy and consistency issues. Many of these issues have already been discussed by CN, either in cover letters to its monthly reports or in its Response to TRAC's Comments Pursuant To Board Decision No. 23 (CN-63, filed June 25, 2010) ("June 25 Response"), including issues relating to (1) ACWD activations that are not caused by activity on EJ&E's lines, but by trains on crossing or proximate lines, (2) overstated or inaccurate durations of ACWD activations of 10 minutes or more, and (3) inaccuracies and inconsistencies in some of the reported times of day when activations occurred.

## **B. File Contents and Format**

As detailed below, the data enclosed with this letter have been updated and corrected as necessary to address the issues noted above as well as other issues related to or highlighted by those new data. Although most of the changes and corrections relate to the data filed on April 26, 2010, CN is also refileing its crossing blockage data for April and May 2010 to deal with minor consistency issues relating to activations caused by traffic off the EJ&E line, and for June 2010 to deal with three ACWD activations, each of which was overstated by 10 minutes.

The enclosed data are presented as separate Excel files for each month from July 2007 through June 2010, with each file containing the following four tabs:

(1) Data Tab - The Data tab contains raw RTU data related to ACWD activations of 10 minutes or more on EJ&E taken from Progress Rail's home office server in Cincinnati.

(2) Summary Tab - Based on the Data tab, the Summary tab lists the number of activations of 10 minutes or more for each RTU-equipped crossing on EJ&E for the month.

(3) CN Report Tab - The CN Report tab is based on an extraction from the RTU information in the Data tab that is broader than the extraction for the Summary tab, and is in the format of a monthly blocked crossing report. For the months prior to January 2009, the CN Report is based exclusively on the RTU information from the Data tab. This is a new supplement to the information filed on April 26, 2010 that has been created

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to provide durations and a time of day for these activations, using an algorithm that was developed after the time of the initial filing. The CN Report tabs for February 2009 through March 2010 also add duration information, but, following the format of the data filed on April 26, 2010, those data are integrated with the RTU information from CN's reports to the Board on crossing blockages caused by stopped trains. The CN Report for April 2010 through June 2010 is an updated version of CN's monthly report of all crossing blockages of 10 minutes or more. For all of the CN Report tabs, CN has identified the community in which the crossing is located. Train ID and comments are not available for individual activations in these reports that are based solely on raw RTU data, as the RTUs do not provide that information.

(4) Criteria Tab - The Criteria tab contains the macro that was applied to the information in the Data tab to produce the Summary tab and the CN Report tab (or in some cases an initial version of the CN Report that was subsequently combined with additional information as described above).

### **C. Data Addition, Modifications, and Corrections**

We summarize below various additions, modifications, and corrections made to the data filed on April 26, 2010, and to CN's crossing blockage reports for the months of April, May, and June, 2010:

- Corrections have been made to the original extraction algorithms to eliminate overstated ACWD activations.
  - As noted in the cover letter to the April 26 filing, CN and Progress Rail believed at that time that there was a small general overstatement in the number of activations due to the specific algorithm that was used to extract the raw RTU data from its home servers. That overstatement was subsequently confirmed and has been corrected in the enclosed data. The correction resulted in a small reduction in the number of ACWD activations for each month included with the April 26 filing (on average, approximately 2%).
  - CN asked Progress Rail to investigate why the number of activations it reported for the months of July 2007 through January 2008 was so much greater than for subsequent months. As a result of its further investigation, as CN explained in its June 25 Response, Progress Rail discovered that the algorithm it had used to extract the raw RTU data for the earlier months (as well as for March 2008) had double-counted all ACWD activations of 10 minutes or more. Progress Rail has now corrected that error.

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- CN discovered over time that ACWD activations of 10 minutes or more at crossings over the EJ&E line are sometimes caused by operations on other lines that cross or are parallel to EJ&E's line and share interlocked gates, rather than by operations on the EJ&E line. In order for CN to be conservative in its reporting of activations at EJ&E grade crossings, CN and Progress Rail have modified the crossing blockage data as necessary to include all such activations, even though they are not caused by operations on the EJ&E. CN will include such blockages in future reports (as it did in its June, 2010 report).
  - One example of this is at Broad Street in Griffith, where activations may be caused by train traffic on Grand Trunk Western's ("GTW") Elsdon Subdivision, rather than train traffic on EJ&E. Such activations can be readily identified in the RTU data because there is a separate channel on the Broad Street RTU that identifies activations by trains on the GTW line. While such blockages were included in the "raw data" filed on April 26, they were not included in the extracted summaries or reports filed at that time, or in any later monthly reports other than June 2010. CN has added these ACWD activations for all reporting periods; they account for an average of 4.9 activations per month.
  - There are numerous other examples of blockages to EJ&E crossings caused by the operations/activities on nearby lines of foreign carriers, rather than operations on EJ&E, including activations at: (i) Taylor Forge Road and Virginia Street in Gary, Indiana, caused by Chicago South Shore & South Bend Railroad; (ii) Hawthorne Lane, West Chicago, and State Street, Chicago Heights, caused by Union Pacific Railroad Company, and (iii) Clark Road, Gary, Indiana, caused by CSX Transportation. As there is no separate RTU reporting channel at these locations, the cause of these activations is not as easily determined and they were included in all previously filed data, with the sole exception of the blocked crossing report for May 2010 (for which they were identified and removed based on specific crew and dispatcher information). CN has added these ACWD activations (29 in total) to the revised May 2010 report.
- Information concerning the duration of ACWD activations has been added, and in some cases durations have been corrected.
  - As noted above, in the brief period between the Board's Decision No. 23, which was served on April 21, 2010, and the April 26 deadline for filing RTU information, Progress Rail had been unable to develop an algorithm to calculate the duration of activations. It was subsequently able to create that algorithm in

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time for the deadline to file CN's April operating reports (May 10), and all subsequent monthly reports have included this information. This filing provides all previously missing duration information for the earlier-filed activation data.

- As CN has discussed previously (and experienced in producing its monthly blocked crossing reports since April, 2010), for a variety of reasons application of the Progress Rail algorithm for producing durations of ACWD activations produces, in some instances, extremely long durations that are incorrect. Not surprisingly, therefore, in adding the large number of new durations noted above, some extremely long erroneous durations were created. Even with a labor-intensive effort, only some overstatements can be corrected, while others either cannot be identified definitively as overstatements or can only be identified as overstatements but cannot be corrected. (See, for example, the discussion of two different causes of overstated durations at page 10 of CN's June 25 Response.) Progress Rail investigated and corrected, where possible and appropriate, many of the most extreme examples of apparently overstated durations in the enclosed data, but in the interest of completing this refiling within a reasonable period of time, that effort had to be limited. Progress Rail is exploring ways to improve its methodology for generating durations in order to reduce the number of erroneous overstatements produced for future reports.
- Comparison of the new duration information with durations in several of CN's monthly reports of blocked crossings caused by stopped trains revealed that some of the durations originally reported had been erroneously based on the duration of the train stoppage, rather than the duration of the blockage. These durations have been corrected.
- As part of CN's effort to develop a new Active Crossing System ("ACS") with Progress Rail, a number of RTUs were reconfigured for a period of time after the April 26 filing to send notification when the gate first dropped rather than after 10 minutes. However, until recently, the algorithm developed by Progress Rail to calculate duration and approximate time of day was not modified for those locations to take that change into account (*i.e.*, it assumed that 10 minutes had to be added to the time of notification to generate the duration and time of day of the activation), leading to a 10 minute overstatement of the reported duration and 10 minute discrepancy in the time of day of the reported activations. CN believes that most of these errors were caught and corrected prior to filing its monthly reports since April 26, but three additional errors have been identified in the recently filed June 2010 blocked crossing report and are corrected in the enclosed filing.

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- A number of changes have been made to the reported approximate time of day a blockage began (*i.e.* for gated crossings, the approximate time the gates first dropped), which is reported in the “Approx Time” column of the monthly crossing blockage reports, in order to state those times on a consistent Central Standard (or Daylight) Time (CST or CDT) basis and correct errors.
  - As discussed by CN in its May 10, 2010 cover letter to its April 2010 operating reports, in producing the blocked crossing report for that month, CN discovered that the time of day reported in the blocked crossing reports submitted on April 26 was based on Greenwich Mean Time and not CST (or CDT). This affected the time reported in the “Approx Time” column of the original blocked crossing reports, and resulted in some blockages that occurred at the very beginning or very end of the month being reported in the wrong month. The revised data CN is submitting today are consistently reported in either CST or CDT (as appropriate).
  - In the reports submitted on April 26, the “Approx. Time” column indicated the time when a notification was sent by the RTU that an ACWD had been activated for 10 minutes, which would be 10 minutes after the ACWD activation had begun. Since “Approx. Time” is intended to report the approximate time activations themselves begin, the “Approx. Time” in this filing subtracts 10 minutes from these notification times. This conforms these times to those used in CN’s blocked crossing reports filed after April 26. As a result of this correction, a small number of activations originally reported as occurring within the first ten minutes after midnight on the first day of a month have shifted to the preceding month.
  - In preparing this refiling, CN discovered that the approximate times of day reported for the 10 blockages caused by stopped trains in June 2009 were based on the times of receipt of a notice that the ACWD activation had ended, rather than the times they had begun. This error has been corrected in the enclosed data.

#### **D. Conclusions**

CN and Progress Rail have worked together to identify and resolve, insofar as practicable, the issues relating to the accuracy and consistency of CN’s reporting of ACWD activations of 10 minutes or more for crossings on the EJ&E using pre-existing and new RTU data. As CN has previously discussed, the RTUs were not designed to measure the frequency and duration of ACWD activations, efforts to use the RTUs to develop that information are new to both CN and Progress Rail and have been and remain extraordinarily challenging, the RTUs cannot provide certain of the blocked crossing information reported by CN, and due to inherent

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limitations of the RTU system, they cannot be relied upon to identify accurately each and every ACWD activation, its time of occurrence, and especially its duration. Aside from these qualifications and known limitations, however, CN is unaware of any issues or errors that remain to be addressed in these reports, and it believes that there are none that would significantly change the number of ACWD notifications of 10 minutes or more reported in the enclosed information.

The net result of all of the changes made to the previously filed data may be seen graphically from the attached Tables 1 and 2.<sup>1</sup> Table 1 shows the adjusted monthly number of ACWD activations of 10 or more minutes, while Table 2 shows those numbers compared to the initial data filed on April 26, 2010 (which was included as an exhibit to the testimony of Gordon T. Trafton at the Board's hearing on April 28, 2010). These data illustrate two important points.

First, according to the data, the monthly average number of ACWD activations of 10 or more minutes on EJ&E crossings has declined since CN acquired control of EJ&E. The monthly average since CN's acquisition on February 2, 2009 is 1,081, whereas the monthly average prior to that date was 1,213 (not including March 2008, when many of the RTUs on EJ&E were not working because they were being converted from analog to digital cellular technology, but including February and April 2008, when some RTUs may not have been functioning for the same reason). Even if the partial count of activations for March 2008 were included in the average, the monthly EJ&E average prior to CN's acquisition would be 1,170, which still exceeds the monthly average since CN's acquisition.

Second, the revised data show that the number of activations has steadily declined over the most recent four months, from a high of 1,793 in March 2010, down to 1,176 in June 2010. Although some volatility should be expected in these numbers, and many crossing blockages are unavoidable or beyond CN's control, these numbers indicate that CN's sustained efforts to reduce and eliminate unnecessary crossing blockages are having a positive effect.

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<sup>1</sup> Tables 1 and 2 were compiled using the number of activations in the CN Reports. Those reports provide a more accurate count of activations than do the Summaries, because the Summaries are drawn exclusively from the raw RTU data and thus do not include corrections reflected in the CN Reports.

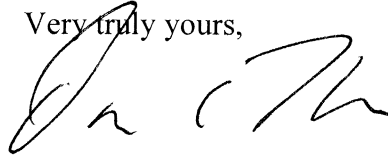
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If you have any questions about the enclosed data, please do not hesitate to contact us.

Very truly yours,

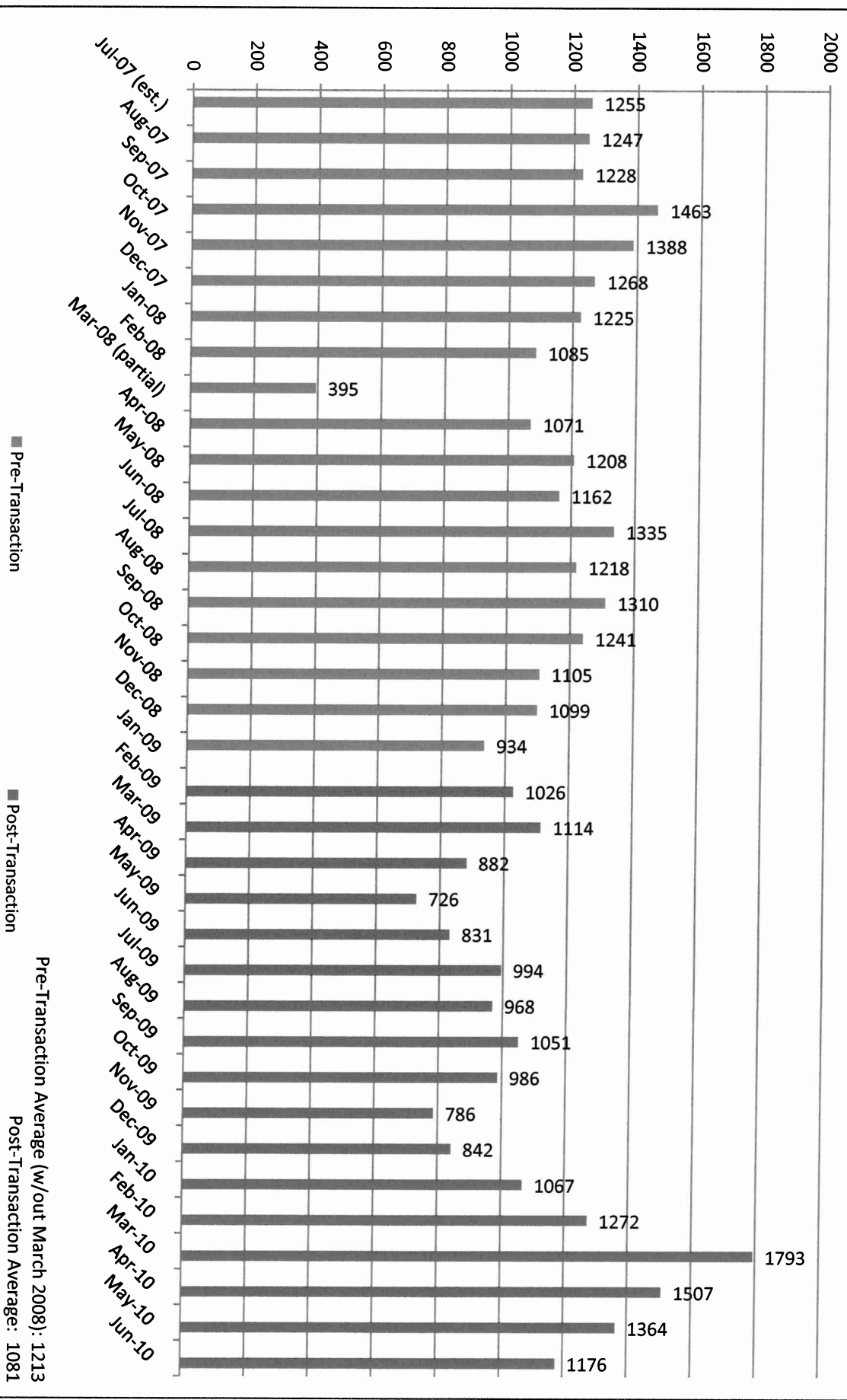
A handwritten signature in black ink, appearing to be "Paul A. Cunningham" and "David A. Hirsh" written together.

Paul A. Cunningham  
David A. Hirsh

Counsel for Canadian National Railway Company  
and Grand Trunk Corporation

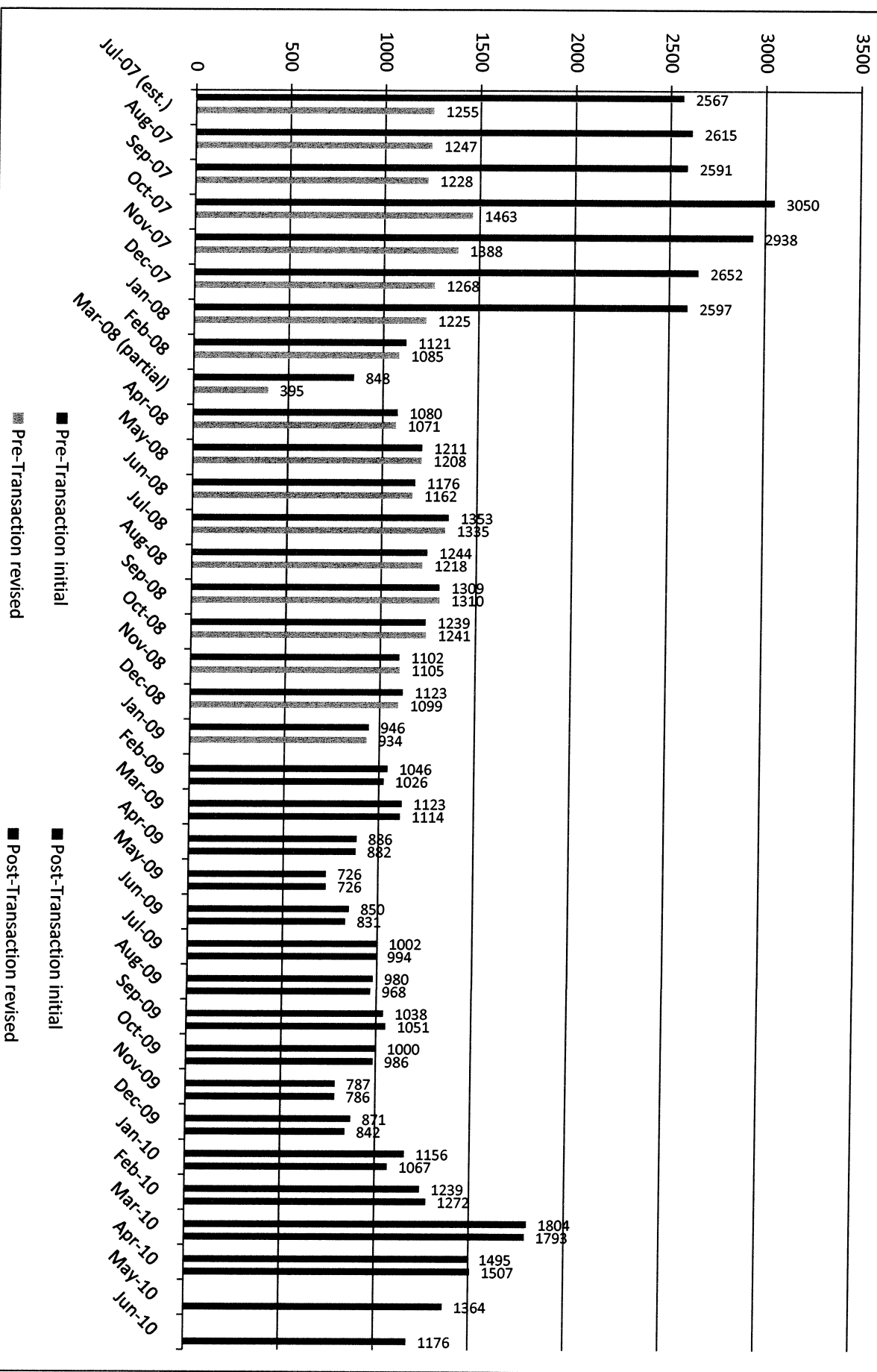
Attachments & Enclosure

**Table 1**  
**EJ&E Crossing Blockages of 10 Minutes or More (Revised)**



Notes: July 2007 estimated based on daily average of partial month data that was available. Only partial readings were taken in March 2008, and possibly February and April 2008, as RTUs were transitioned from analog to digital.

## Table 2 Comparison of Initial and Revised Crossing Blockage Data



Notes: July 2007 estimated based on daily average of partial month data that was available. Only partial readings were taken in March 2008, and possibly February and April 2008, as RTUs were transitioned from analog to digital.