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AMTRAK INVOICE REVIEW:

Internal Control Weaknesses Lead to Overpayments (Metro North)

Report No. OIG-A-2013-010 | March 27, 2013





Office of Inspector General

Memorandum

То:	Gordon Hutchinson, Acting Chief Financial Officer
From:	David R. Warren Wand R. Warren Assistant Inspector General, Audits
Date:	March 27, 2013
Subject:	<i>Amtrak Invoice Review: Internal Control Weaknesses Lead to Overpayments (Metro North)</i> (Report No. OIG-A-2013-010)

The Amtrak Office of Inspector General (OIG) conducted this audit because of previously identified control weaknesses and the significant amount of money associated with Amtrak's service costs and on-time performance (OTP) incentive payments to host railroads. Over time, our office has identified more than \$87 million in overpayments and potential recoveries since 1995, not including the over-\$1 million identified in this report. The more than \$87 million includes over \$19 million in overpayments that have already been collected. This report is part of a series of OIG audits of Amtrak's payments to host railroads. (See Appendix I for a list of prior reports).

The objective of this audit was to determine whether Metro North Commuter Railroad (Metro North) invoices to Amtrak for OTP incentives from January 2005 through December 2010 were accurate. For a detailed discussion of our audit scope and methodology, see Appendix I.

SUMMARY OF RESULTS

Metro North invoice amounts were not consistently accurate. The inaccuracies were found in invoices that were not calculated in accordance with the operating agreements between Amtrak and Metro North. The operating agreements serve as the basis for determining incentive payments to host railroads. Our review of 6 Metro North invoices from the 72-month period (January 2005 through December 2010) disclosed invoice inaccuracies of almost 19 percent or more than \$150,900 of the more than

\$804,000 of invoices reviewed. Metro North agreed with the methodology of applying the 19 percent error rate to all invoices for the audit period, because the types of errors found were consistent over the selected months reviewed. Doing so resulted in estimated invoice inaccuracies totaling about \$1,223,000 for the period. Amtrak's invoice-review process did not detect any errors prior to making the OTP payments for this period.

The billing errors went undetected because, as previously reported,¹ Amtrak did not have in place an adequate review process during this period. We recommended improvements to that process, including new invoice review policies and procedures. Amtrak in the last 6 months has completed implementing those recommendations. (See Appendix II for details). We believe that the actions Amtrak has taken, if sustained, should improve the review process and help ensure that invoice errors are detected before payments are made. We are recommending that Amtrak's Acting Chief Financial Officer take action to recover the \$1,223,028 that we estimate Amtrak overpaid Metro North. The Acting Chief Financial Officer agreed with the recommendation.

OPERATING AGREEMENTS

Effective January 1, 1990, Amtrak entered into an operating agreement with Metro North. Under the agreement, Amtrak trains are permitted to use Metro North's railroad tracks between Spuyten Duyvil and Poughkeepsie, New York (the Hudson Line). Under a November 1, 1991 agreement with Metro North, Amtrak trains are allowed to operate between New Rochelle, New York, and New Haven, Connecticut (the New Haven Line). Appendix V of the operating agreements sets forth the specific criteria to be used to determine the OTP incentives due Metro North. The appendix also states how the provisions should be applied and how the OTP incentives should be calculated. The agreement provisions were further amended by subsequent amendment agreement changes. The agreements authorize Metro North to present monthly invoices to Amtrak for the use of those tracks and services.

Metro North prepares and provides Amtrak with summary reports showing its calculations for each Amtrak train's monthly operating performance. These summary reports show the total number of trains operated, total on time, and on-time percentage. The monthly on-time percentage is determined by

¹ On-Time-Performance Incentives: Inaccurate Invoices Were Paid Due to Long-standing Weaknesses in Amtrak's Invoice-Review Process (Audit Report 403-2010, April 21, 2011).

Certain information in this report has been redacted due to its sensitive nature.

Metro North has agreed to provide, when requested, detailed data supporting the summary reports.

ERRORS WERE FOUND IN ALL MONTHS REVIEWED

Metro North's invoice amounts were not consistently calculated in accordance with the operating agreements. We selected 6 months of invoices from the 72-month period for a detailed review; the review disclosed invoice inaccuracies of almost 19 percent or more than \$150,900 of the more than \$804,000 paid by Amtrak for OTP incentives during the 6 months of invoices reviewed (see Table 1).

Table 1. OIG Analysis of Selected Monthly Metro North Invoices, February 2006 – May 2010^a

Month	Line (Segment)	Metro North	Audited Amount	Error
		Invoiced Amount	An	
February 2006	Hudson	\$51,286	\$47,165	\$4,121
February 2006	New Haven	94,360	87,539	6,821
December 2006	Hudson	50,585	47,070	3,515
December 2006	New Haven	32,339	21,970	10,369
July 2008	Hudson	23,604	19,710	3,894
July 2008	New Haven	141,063	115,820	25,243
September 2008	Hudson	46,451	42,771	3,680
September 2008	New Haven	122,590	96,629	25,961

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Total b		\$804,142	\$653,148	\$150,994
May 2010	New Haven	98,722	71,210	27,512
May 2010	Hudson	11,514	1,212	10,302
April 2010	New Haven	102,070	84,319	17,751
April 2010	Hudson	29,555	17,733	11,822

^aNumbers in this table are rounded to the nearest whole dollars

^b Numbers may not add due to rounding

Source: OIG analysis of Metro North and Amtrak data

Metro North agreed with the methodology of applying the 19 percent error rate to all invoices for the audit period, because the types of errors found were consistent over the selected months reviewed. Doing so resulted in estimated invoice inaccuracies totaling \$1,233,028 for the audit period. Amtrak's invoice-review process did not detect any errors prior to making the OTP payments for this period. The billing errors went undetected because Amtrak did not have in place an adequate review process. We recommended improvements to that process, including new invoice review policies and procedures. Amtrak in the last 6 months has completed implementing the recommendations. (See Appendix II for details). We believe that the actions Amtrak has taken, if sustained, should improve the review process and help ensure that invoice errors are detected before payments are made.

The following sections discuss the four error categories found:

- Inappropriate tolerances (accounted for 44 percent of the errors)
- Incorrect run times (39 percent)
- Clerical errors (11 percent)
- Inaccurate scheduled run times (6 percent)

Invoices Contained Claims for Inappropriate Tolerances

In 44 percent of the errors, Metro North claimed tolerances² for delays that were not allowed by the operating agreements. For example, for a train in February 2006, Metro North's invoice showed a 17-minute tolerance for commuter train interference. Similarly, for a train in April 2010, Metro North's invoice showed a 13-minute tolerance for passenger train interference. However, the operating agreements do not list either commuter or passenger train interference as an allowable tolerance.

Invoice Calculations Contained Incorrect

² Tolerances are

of

Metro North's use of inaccurate **process** for Amtrak trains arriving early on Metro North's tracks caused nearly 39 percent of the errors. **The second second** is the amount of time required to go from one specified location to the next, and is based upon a predetermined power-to-weight ratio.

The OTP calculations should be based on the shown in the operating agreements. Specifically, the agreements stipulate

and list the the second second

The actual **begins** when an Amtrak train arrives on Metro North's tracks and ends when the train arrives at the endpoint. Metro North correctly calculated and used the actual **begins** consistently when an Amtrak train arrived on schedule or later than its scheduled time on Metro North's tracks; i.e., it correctly compared the minutes shown in the agreement with the actual **begins**. However, when an Amtrak train arrived early (ahead of schedule), it appeared from our calculations based on Metro North data that Metro North excluded early arrival time from the actual **begins**. This allowed Metro North to claim on-time for certain trains when those trains should have been late based on the actual **begins**. For example:

. The allowances are in the form

According to Metro North's train sheets,³ on July 7, 2008, Amtrak Train 2172 arrived on Metro North's tracks 4 minutes early. Metro North claimed that the train was on time. When we calculated the OTP incentives for this train, we compared the actual with the second allowed to determine whether the train was on time and eligible for OTP incentives. Based on our calculation, Train 2172 was not on time.

In essence, when calculating OTP incentives, Metro North excludes the early-arrival minutes from the actual **exclusion**. Yet the operating agreement does not allow Metro North to do this. In calculating OTP, actual **exclusion** is what is measured, whether or not the train arrives early on Metro North's tracks.

Using the methodology discussed above for all trains in the 6 months reviewed , we identified a total of 55 occurrences in which trains were late based on the actual **form** (incorrect run times). But, because these trains arrived earlier than scheduled, Metro North failed to use the actual **form** to determine whether the trains were on time for purposes of calculating OTP incentives.

Invoices Contained Clerical Errors

Clerical errors accounted for more than 11 percent of the errors. Metro North uses train sheets as the primary source for calculating OTP incentives and prepares summary sheets from these to invoice Amtrak. We found discrepancies, however, between Metro North's train sheets and summary sheets. For example, in December 2006, Metro North's billing summary showed that Amtrak Train 167 was on time for 7 days, but the train sheets showed that this train was on time for only 6 days. This error increased the OTP percentage for the month and the resulting invoice amount.

³ A train sheet is a record completed by Metro North containing detailed operational and performance information on individual trains, such as departure and arrival times, delay minutes and delay reasons. A summary sheet contains OTP information for all trains during a month, such as the total number of trips, total number of on-time trains and the on-time percentage.

Invoice Calculations Contained Inaccurate Scheduled Run Times

Metro North's use of scheduled run times other than those permitted by signed agreements resulted in nearly 6 percent of the errors.

In reviewing OTP invoices, we found instances in which Metro North used scheduled run times other than those specified in the applicable agreements. For example, in July 2008, Metro North used a scheduled run time for Train 173 that was 7 minutes more than the run time allowed by the applicable agreement. After applying the agreement run time to the calculation, we determined that the on-time percentage for the month was almost 5 percent lower than that claimed by Metro North. In another example, in May 2010, Metro North used a scheduled run time for Train 140 that was 17 minutes more than the run time allowed by the applicable agreement. As a result, Metro North claimed almost 10 percent more for OTP incentive payments than it was entitled to.

RECOMMENDATION

We recommend that Amtrak's Acting Chief Financial Officer take action to recover the \$1,223,028 that we estimate Amtrak overpaid to Metro North.

MANAGEMENT COMMENTS AND OIG ANALYSIS

In commenting on a draft of this report, management stated that the report provides useful information on which Amtrak management can take action. Management also indicated its intent to enter into appropriate discussions with Metro North as soon as this report is issued. Specifically, management stated that the Managing Deputy General Counsel, on behalf of Amtrak's Transportation and Finance departments, will pursue any amounts that are recoverable under the law and within the terms of the applicable operating agreements between Amtrak and Metro North. Management's comments meet the intent of our recommendation.

Amtrak's memo commenting on the draft report is reprinted as Appendix III.

Appendix I

SCOPE AND METHODOLOGY

This report provides the results of an Amtrak OIG review to determine whether Metro North invoices to Amtrak for on-time-performance (OTP) incentives from January 2005 through December 2010 were accurate. We conducted this audit between December 2010 and January 2013 in Chicago. Certain information in this report has been redacted due to its sensitive nature.

For the 72-month period from January 2005 through December 2010, Metro North invoiced \$6,360,319 and Amtrak paid a net amount of \$6,513,440. The difference was due to \$153,121 in prior period adjustments billed to Amtrak.

To determine whether Metro North accurately invoiced Amtrak for OTP incentives, we took eight specific steps. (1) we reviewed the operating agreements and their amendments; (2) we reviewed our prior audit reports, which included analyses concerning weaknesses in Amtrak's invoice-review process; (3) we obtained Amtrak Train Operations Support System data to acquire trip data for our analysis of OTP incentives for which Metro North invoiced Amtrak; and (4) we selected six Metro North's monthly OTP incentive invoices for detailed review. (We selected two months each for 2006, 2008 and 2010, and considered different months throughout the year; in a meeting with Metro North officials on February 1, 2010, they agreed to our selection method.) (5) we reviewed the detailed support for the selected invoices and compared the data invoiced with relevant Amtrak documentation, such as scheduled **Second** and tolerances claimed; (6) we reviewed relevant invoice adjustments; (7) we calculated the overbilled and/or under-billed amounts resulting from inaccurate invoices; and (8) we calculated the invoice error rate for the months reviewed and applied this rate to the total OTP incentive amounts for the audit period.

Our work was performed in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Internal Controls

We did not review Metro North's internal control structure from January 2005 through December 2010, the time period for which it submitted the invoices we reviewed. However, we performed and relied on substantive testing to determine the dollar amounts attributable to errors invoiced by Metro North. In addition, while we did not assess Amtrak's internal controls in its monthly invoice reviews, we did rely on our prior audit work, which had addressed the adequacy of those controls. We also verified that Amtrak paid the invoices for the 72-month period without challenging the accuracy of any of the invoice amounts.

Computer-Processed Data

To achieve the assignment's objective, we used computerized Amtrak Train Operations Support System data to verify the OTP data in Metro North's invoices. Although we did not verify the reliability of the support system data, Metro North has in the past accepted this information as an alternate form of support in the absence of Amtrak delay reports. Therefore, we considered the data sufficiently reliable for purposes of our audit objectives. Further, it was the host railroad's responsibility to provide adequate source documents to support its OTP calculations as shown in the invoices submitted.

In addition, we used computer-processed data reflected in the hard copies of Metro North's invoices. To test the validity of the data, we compared Metro North's electronic data to its hardcopy invoices during the course of the audit. We also compared the total amount billed on the electronic invoices against the total amount paid in Amtrak's eTrax system for all 72 months in the audit period. The data in eTrax were not verified, but we considered the data sufficiently reliable for purposes of our audit objective. Based on these tests, we concluded that the data overall were sufficiently reliable to be used in meeting the audit objective.

Prior Audit Reports

Our review of prior OIG reports found previously-identified control weaknesses and significant dollar amounts associated with Amtrak's payments to host railroads. This report is part of a series of OIG audits of Amtrak's host railroad payments. Since 2010, we have issued the following related audit reports:

Amtrak Invoice Review: Internal Control Weaknesses Lead to Overpayments (BNSF) (OIG-A-2013-008, March 26, 2013). Over \$1.4 million in overpayments found.

Amtrak Invoice Review: Internal Control Weaknesses Lead to Overpayments (Southern Pacific) (OIG-A-2013-007, March 13, 2013). Over \$1.2 million in overpayments found.

Amtrak Invoice Review: Undetected Inaccuracies Resulted in Overpayments (OIG-A-2013-006, February 15, 2013). Over \$2 million in overpayments found.

Amtrak Invoice Review: Undetected Errors Resulted in Overpayments (OIG-A-2012-019, September 5, 2012). *Over* \$3.4 *million in overpayments found.*

On-Time-Performance Incentives: Inaccurate Invoices were Paid (OIG-A-2012-013, June 29, 2012). *Over* \$1.4 *million in overpayments found.*

Amtrak Invoice Review: Inaccurate Invoices were Paid, But Progress is Being Made to Improve the Invoice-Review Process (OIG-A-2012-005, February 16, 2012). Over \$700,000 in overpayments found.

On-Time-Performance Incentives: Inaccurate Invoices were Paid Due to Weaknesses in Amtrak's Invoice-Review Process (OIG-A-2012-004, February 15, 2012). Over \$9 million in overpayments found.

On-Time-Performance Incentives: Inaccurate Invoices were Paid Due to Long-standing Weaknesses in Amtrak's Invoice-Review Process (Report No. 403-2010, April 21, 2011). Over \$500,000 in overpayments found.

BNSF On-Time-Performance Incentives: Inaccurate Invoices and Lack of Amtrak Management Review Lead to Overpayments (Report No. 407-2003, September 24, 2010). Over \$1 million in overpayments found.

CSX On-Time-Performance Incentives: Inaccurate Invoices and Lack of Amtrak Management Review Lead to Overpayments (Report No. 406-2005, March 30, 2010). Over \$20 million in overpayments found.

Appendix II

AMTRAK'S ACTIONS TO IMPROVE ITS INVOICE-REVIEW PROCESS

Since 2008, we have made recommendations aimed at helping Amtrak improve its invoice-review process. A summary of our recommendations and the company's responses are detailed below.

In August 2008, we reported⁴ that management controls over Amtrak's invoice review process were inadequate and ineffective. The host railroad invoices consistently had errors that went undetected but the invoices were paid. As a result, Amtrak in many cases over paid for incentives and services. We recommended improvements to the invoice-review process. Amtrak, in the last 6 months, has completed implementing those recommendations.

Specifically, we made recommendations with regard to the functions, responsibilities, and organizational structure of the two groups responsible for host railroad activities. Amtrak has restructured its organization. The group responsible for reviewing and approving payment of monthly host railroad invoices previously reported to the Vice President, Transportation. In October 2010, this group—now called the Host Railroad Invoice Administration (HRIA) group—began reporting to the Chief Financial Officer.

We also recommended that Amtrak develop and implement formal procedures that clearly define the invoice-review group's objectives and responsibilities. In response to our recommendation, Amtrak has implemented detailed procedures that clearly define the group's objectives and responsibilities.

We further recommended that Amtrak perform a real-time, thorough and complete review of railroad invoices prior to approving payment and automate the invoice review process. Amtrak now has begun performing real-time, thorough and complete reviews of railroad invoices prior to payments. HRIA has increased its staff by three positions. Amtrak has also developed and implemented an HRIA checklist for the invoice review process. The checklist holds employees accountable for making complete invoice reviews. It also provides managers with an understanding of the steps taken to

⁴ Host Railroad Contract Administration and Operations Management Controls (OIG Audit Report 401-2008, August 21, 2008).

review the invoice and any issues that prevent a full review from being performed. Additionally, group officers certify, by signing the checklist, that they have reviewed the appropriate documentation and recalculated the invoice prior to approving it for payment. Finally, HRIA has worked with the Information Technology Department to develop reports to facilitate a thorough and complete review of invoices prior to payment.

We believe that the actions Amtrak has taken, if sustained, should improve the review process and help ensure that invoice errors will be detected before payments are made. At some future point, we will conduct a follow-up review of Amtrak's invoice-review process.

Appendix III

COMMENTS FROM AMTRAK'S ACTING CHIEF FINANCIAL OFFICER

NATIONAL RAILROAD PASSENGER CORPORATION 40 Massachusetts Ave., N.E., Washington DC 20002

Memo

AMTRAK

Date February 13, 2013

H.T. Hatilineer From Gordon Hutchinson, Acting Chief Financial Officer

To David Warren, Assistant Inspector General, Audits Department Finance

- Subject OIG Audit 002-2011 Metro-North Ontime Performance Incentives
 - william Herrmann, Managing Deputy General Counsel, Litigation
 Jean Dober, Associate General Counsel Litigation
 Paul Vilter, Assistant Vice President Host Railroads
 Bob Thomas, Assistant Controller
 Melantha Paige, Senior Audit Liaison

This letter is in response to the Office of Inspector General's ("OIG") draft audit report number 002-2011 "On-time Performance Incentives: Undetected Errors Resulted in Overpayments," dated January 10, 2013. The subject of the audit is Metro-North Commuter Railroad's (Metro North) on-time-performance incentives invoiced in the period January 2005 through December 2010 pursuant to the January 1, 1990 and November 1, 1991 Operating Agreements between Amtrak and Metro North (respectively, "the Hudson Line" and "the New Haven Line" agreements), as amended.

The OIG's draft audit report provides useful information on which Amtrak Management can take action. With the information from the OIG's report, the Managing Deputy General Counsel, on behalf of Amtrak's Transportation and Finance Departments, will pursue any amounts that are recoverable under the law and within the terms of the applicable Operating Agreements between Amtrak and Metro North.

As soon as the final version of this report is issued, we will initiate appropriate discussions with Metro North and will keep the OIG apprised of our progress.

Appendix IV

ABBREVIATIONS

- HRIA Host Railroad Invoice Administration
- OIG Office of Inspector General
- OTP on-time performance

Appendix V

OIG TEAM MEMBERS

Dan Krueger Raymond Zhang Jana Brodsky Senior Director, Audits Senior Auditor Senior Auditor

OIG MISSION AND CONTACT INFORMATION

Amtrak OIG's Mission	The Amtrak OIG's mission is to provide independent,
	objective oversight of Amtrak's programs and operations
	through audits, inspections, evaluations, and investigations
	focused on recommending improvements to Amtrak's
	economy, efficiency, and effectiveness; preventing and
	detecting fraud, waste, and abuse; and providing Congress,
	Amtrak Management and Amtrak's Board of Directors
	with timely information about problems and deficiencies
	relating to Amtrak's programs and operations.

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