

**On-Time-Performance Incentives:
Inaccurate Invoices Were Paid Due to Long-standing Weaknesses in
Amtrak's Invoice-Review Process**

Audit Report No. 403-2010

April 21, 2011



Audit Report Issued By

**NATIONAL RAILROAD PASSENGER CORPORATION
OFFICE OF INSPECTOR GENERAL
10 G STREET, N.E.
WASHINGTON, DC 20002**

Memo

Date April 21, 2011

From David R. Warren, Assistant IG, Audit

To DJ Stadtler, Chief Financial Officer

Department Office of Inspector General

Richard Phelps, Vice President,
Transportation

Subject Metro-North On-Time-Performance
Incentives

cc Paul Vilter, Assistant Vice President,
Host Railroads
William Herrmann, Managing Deputy
General Counsel
Jessica Scritchfield, Principal Audit /
Controls Officer

Enclosed is our final report entitled *On-Time-Performance Incentives: Inaccurate Invoices were Paid Due to Long-standing Weaknesses in Amtrak's Invoice-Review Process*. The objectives of this audit were to (1) determine whether Metro-North Commuter Railroad complied with operating agreements in calculating on-time-performance incentives invoiced to Amtrak from October 2001 through December 2004, and (2) evaluate the adequacy of Amtrak controls and processes for reviewing on-time-performance incentive invoices.

The Amtrak Chief Financial Officer's response to our draft report is in the attached Appendix I of this report. Management agreed with all our recommendations and provided planned actions to address them.

Thank you for your cooperation during the course of this audit. If you have any questions, you can contact Dan Krueger, Senior Director, at (312) 880-5303 (Daniel.Krueger@amtrakoig.gov) or me at (202) 906-4742 (David.Warren@amtrakoig.gov).

Attachment

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**Amtrak Office of
Inspector General**

Summary of Report 403-2010

**Why OIG Performed This
Audit**

The Amtrak Office of Inspector General (OIG) conducted this audit because of previously identified control weaknesses and the significant dollars associated with Amtrak's on-time-performance incentive payments. Under operating agreements with host railroads, Amtrak pays them incentives to facilitate the on-time-performance of Amtrak trains. This is one in a series of OIG audits of Amtrak's on-time-performance incentive payments.

The objectives of this audit were to (1) determine whether Metro-North Commuter Railroad complied with operating agreements in calculating on-time-performance incentives invoiced to Amtrak from October 2001 through December 2004, and (2) evaluate the adequacy of Amtrak controls and processes for reviewing on-time-performance incentive invoices.

What OIG Recommends

In summary, OIG recommends that Amtrak

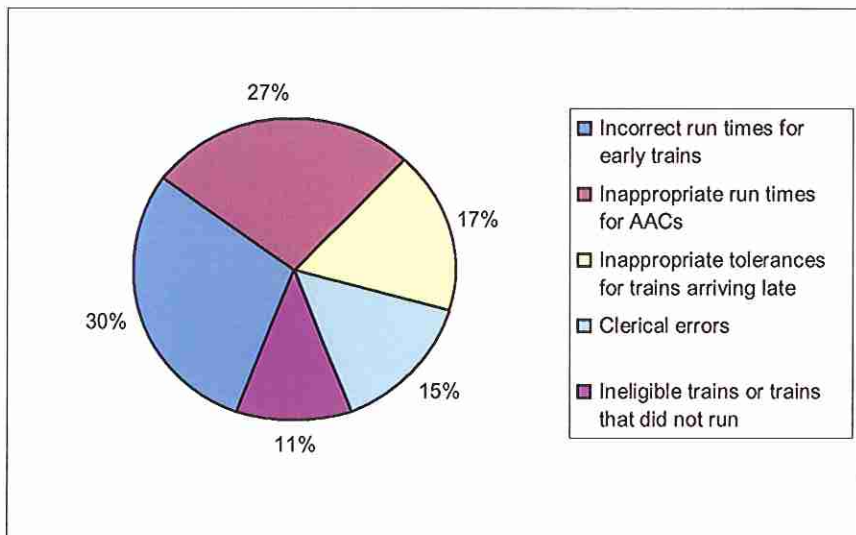
1. Recover \$519,932 that Amtrak overpaid Metro-North in on-time-performance incentives.
2. Ensure that Metro-North understands that the actual run time is to be used and compared with allowed run times shown in appendix V, table 1 in the calculation of on-time-performance incentives.
3. Expedite implementation of its plan for addressing long-standing weaknesses with associated goals, priorities, and milestones, and increase the capabilities of Amtrak's invoice-review process.

What OIG Found

OIG found that Metro-North Commuter Railroad inconsistently or inappropriately applied provisions of its operating agreement with Amtrak, and this caused invoices to be overstated. Metro-North's billing error rate of approximately 26 percent went undetected because of long-standing weaknesses in Amtrak's invoice-review process. Consequently, Amtrak overpaid Metro-North by almost \$520,000 in on-time-performance incentive payments from October 2001 through December 2004.

As shown in the chart below, the inaccurate invoices resulted from five categories of calculation errors. Metro-North applied incorrect run times for trains arriving early, used inappropriate run times for amended operating agreements—called amendment agreement changes (AACs), claimed inappropriate tolerances for trains arriving late, submitted erroneous invoices with clerical errors, and submitted invoices for ineligible extra or special trains, and for trains that did not run.

Five Error Categories by Percentage



Source: Amtrak OIG analysis of Metro-North and Amtrak data.

Amtrak's invoice-review process suffered from insufficient staff and cursory review procedures. While Amtrak has actions underway to improve its invoice-review process, these actions are taking longer to complete than originally estimated. In response to a March 2010 OIG report, Amtrak agreed to apply additional resources and establish a process to thoroughly review invoices for on-time-performance incentives and other costs before making payments. At that time, Amtrak provided us with a plan that contained milestone dates, including establishing the

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invoice-review process by December 31, 2010. This date has been extended.

According to Amtrak, the invoice-review process is now estimated to be completed during the summer or fall of 2011. Delays were attributed to

- restructuring the organization by moving the function and responsibility for reviewing invoices for on-time-performance incentives and other costs from Amtrak's transportation department to its finance department to create a segregation of duties,
- creating and revising accurate position descriptions for employees responsible for reviewing invoices,
- developing a training plan for new employees,
- evaluating the risk for each host railroad and agreeing on an effective method for reviewing invoices (sampling versus a 100 percent review),
- developing policies and procedures for reviewing all invoices, and
- updating host railroad agreements through amendment agreement changes.

Amtrak's long-standing weaknesses in controls, processes, and resources for reviewing host railroads' invoices including on-time-performance incentives leave Amtrak vulnerable to making substantial overpayments. The significant amount of overpayments negatively affects Amtrak's cash flow and ability to effectively manage its activities. In the instance of this review, the overpayments exceeded \$500,000. Over time, we have identified approximately \$27 million in overpayments and potential recoveries. Amtrak could have used these funds in other programs to meet its acquisition goals and operating expenses, or to reduce federal subsidies.

In commenting on a draft of this report, management agreed with all of our recommendations and provided planned actions to address them. We are encouraged that management is aware of the significance of the subject improvements and is working aggressively in accordance with an implementation schedule. The cited actions are responsive to our recommendations and we will continue to follow up on implementation progress.

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BACKGROUND

The Rail Passenger Service Act of 1970 created the National Railroad Passenger Corporation, commonly known as Amtrak, to operate a national rail passenger system. When Amtrak was created, it was understood that host railroads, such as Metro-North Commuter Railroad (Metro-North),¹ would provide certain services, equipment, and facilities in order for Amtrak to provide national rail passenger service. Agreements were developed between Amtrak and host railroads to serve as a basis for determining costs associated with these services, equipment, and facilities. Amtrak included incentives in these agreements to encourage host railroads to facilitate Amtrak passenger train on-time operations.² The incentives relate to mutually agreed-upon running times between established checkpoints³ during a passenger train trip. Generally, service performance payments and related incentives are calculated using provisions described in appendix V of the operating agreements—Performance Payments and Penalties.

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, New York, and Poughkeepsie, New York, called 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, called the New Haven Line. The agreements authorize Metro-North to present monthly invoices to Amtrak for the use of those tracks and services.

The agreements include article V, section 5.1 (c), which gives Metro-North the right to additional payments for schedule adherence.⁴ On-time-performance (OTP) incentive payments are also set forth in appendix V:

“Performance payments will be paid for a route when an on-time-performance greater than ■% during a month is achieved. Performance penalties will be assessed against a route when the on-time-performance is less than ■% during a month.”

Appendix V of the operating agreements sets forth the specific criteria, generally referred to as tolerances,⁵ to be used to determine the on-time-performance percentage. The appendix also

¹ Metro-North Railroad is a subsidiary of New York State's Metropolitan Transportation Authority.

² When an Amtrak train operates on tracks owned or operated by host railroads, the host railroad's dispatching center generally has complete control over the Amtrak train's movement. An Amtrak engineer must comply with the host railroad's instructions, such as slowing down, stopping, or sitting on a side track for a passing train.

³ A checkpoint is a term used in an operating agreement to identify the initial starting point and endpoint of a trip or partial segment of a trip to calculate on-time performance incentives. This is usually a specific location, such as a station or a cross-over point between two tracks on the same railroad or between different railroads. There may be many checkpoints on a long-distance train route. Conversely, a route on Metro-North railroad from New Haven, Connecticut, to New Rochelle, New York, has only one checkpoint—the endpoint. There are no long-distance train routes on the Metro-North railroad.

⁴ Schedule adherence refers to the ability of the host railroad to facilitate an Amtrak passenger train's on-time operation, defined as a train that operates within the run time specified in the operating agreement, plus the aggregate amount of time of other excused delays (tolerances).

⁵ Tolerances are allowances given to the host railroad for delay minutes that permit an Amtrak train to be late at a checkpoint and still be considered on time so the host railroad can earn performance incentives.

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shows how the agreement provisions should be applied and how the OTP incentive should be calculated. For purposes of calculating OTP incentives, a train is considered on time if it completes its trip between endpoints⁶ in the number of minutes (or fewer) shown in table 1 of appendix V (see Appendix IV of this report), plus the aggregate amount of time of other tolerances listed. (See Appendix III of this report for the criteria we used for OTP incentive analysis for the Hudson and New Haven lines).

Amtrak has made significant changes to its Host Railroad Contract Administration activities in recent years. It started as one group. In 2005, it was restructured from one into two groups. One group was responsible for negotiating and preparing railroad agreements and reported through the Vice President of Strategic Partnerships and Business Development (Policy and Development under current organization). The other group was responsible for reviewing host railroad monthly invoices and approving them for payment. This group reported through the Vice President of Transportation. Job responsibilities between these groups were not clearly defined.

In April 2009, the group responsible for negotiating and preparing railroad agreements was moved to the Transportation Department reporting to Vice President – Transportation. This change was made in response to the recommendations in our report of August 21, 2008⁷. In October 2010, the group responsible for reviewing host railroad monthly invoices and approving them for payment was moved from the transportation department to the finance department, reporting to the Chief Financial Officer. Consequently, there is an appropriate separation of duties as these two groups are reporting through different areas of the organization.

Metro-North prepares and provides Amtrak with a summary report showing its calculations for each Amtrak train's monthly operating performance. These summary reports show the total number of trains operated by Amtrak, total on time, and on-time percentage. The monthly on-time percentage is determined by dividing the number of times the train arrived on time at the checkpoint by the number of trips operated to the checkpoint. Metro-North has agreed to provide, when requested, detailed data supporting the summary reports.

Objectives

The objectives of this audit were to (1) determine whether Metro-North Commuter Railroad complied with the operating agreements in calculating OTP incentives invoiced to Amtrak from October 2001 through December 2004, and (2) evaluate the adequacy of Amtrak controls and

⁶ The term endpoint is used synonymously with checkpoint and is used in the operating agreement.

⁷ *Host Railroad Contract Administration and Operations Management Controls* (Audit Report 401-2008), August 21, 2008. We recommended that both the agreement negotiating group and the invoice reviewing group be placed under Operations, reporting to the Vice President—Transportation to clarify responsibilities for updating amendment agreement changes and reviewing host railroad invoices.

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processes for reviewing OTP incentive invoices. For management comments, see Appendix I; for details of our audit scope and methodology, see Appendix II; for tolerances used in OTP analysis, see Appendix III; for table 1 of the operating agreement, see Appendix IV; and for the audit team members, see Appendix V.

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RESULTS OF AUDIT

Inaccurate Invoices for On-Time-Performance Incentives and Long-standing Weaknesses in Amtrak's Invoice-Review Process Resulted in Overpayments

We found that Metro North inconsistently or inappropriately applied performance payment and penalty provisions of the operating agreement with Amtrak and this caused invoices to be overstated. The billing errors went undetected because of long-standing weaknesses in Amtrak's invoice-review process. Consequently, Amtrak overpaid Metro-North Commuter Railroad by almost \$520,000 in on-time-performance incentive payments from October 2001 through December 2004. The railroad's billing error rate was just under 26 percent.

Our review of 16 Metro-North monthly incentive invoices selected from October 2001 through December 2004 found that Metro-North overbilled Amtrak \$318,855 (see table below for details), almost 26 percent of the total \$1,238,704 OTP incentives. Using this error rate and the total \$2,019,858 OTP incentives paid during the 39 month period, we estimate that Amtrak overpaid Metro-North just under \$520,000 during the period.⁸

Amtrak consistently performed only a cursory review of Metro-North invoices before paying the OTP incentives and other costs. Amtrak's review processes are to notify⁹ the host railroad of any disagreements with invoices. From October 2001 through December 2004, Amtrak did not disagree with any Metro-North incentive invoices. Table 1 summarizes our analysis.

⁸ In a meeting with Metro-North officials on February 1, 2010, they agreed to our methodology as long as the types of errors found were consistent over the selected 16 months, which they were. See Appendix II for a detailed description of our methodology.

⁹ Amtrak usually notifies host railroads about the invoice disagreement by phone or email and documents the disagreement amount by notes in spreadsheets.

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Table 1. OIG Analysis of Selected Monthly Metro-North Invoices, October 2001–December 2004

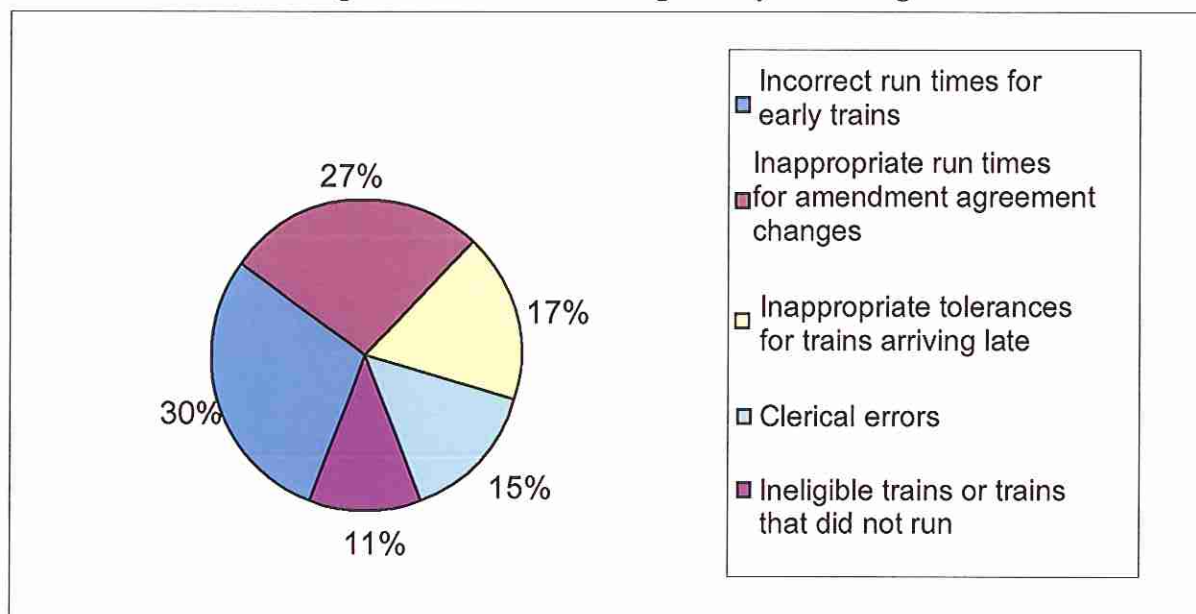
Month	Line (Segment)	Metro-North Invoiced Amount	Audited Amount	Over-Invoiced Amount
Dec. 2001	Hudson	\$54,905	\$52,697	\$2,208
Dec. 2001	New Haven	78,521	60,045	18,476
Jan. 2002	Hudson	57,777	51,995	5,782
Jan. 2002	New Haven	75,262	48,516	26,746
Feb. 2002	Hudson	48,424	47,568	856
Feb. 2002	New Haven	75,769	53,807	21,962
Mar. 2002	Hudson	50,954	44,967	5,986
Mar. 2002	New Haven	87,976	61,144	26,832
Apr. 2002	Hudson	32,794	22,313	10,481
Apr. 2002	New Haven	75,658	58,698	16,960
Aug. 2002	Hudson	45,204	39,450	5,754
Aug. 2002	New Haven	2,108	0	2,108
Mar. 2003	Hudson	44,806	43,434	1,372
Mar. 2003	New Haven	0	0	0
May 2003	Hudson	49,511	43,549	5,962
May 2003	New Haven	0	(19,246)	19,246
June 2003	Hudson	42,579	36,813	5,766
June 2003	New Haven	0	0	0
July 2003	Hudson	41,334	27,289	14,045
July 2003	New Haven	0	0	0
Nov. 2003	Hudson	32,953	31,659	1,294
Nov. 2003	New Haven	2,379	0	2,379
May 2004	Hudson	42,318	38,976	3,342
May 2004	New Haven	12,564	0	12,564
July 2004	Hudson	22,540	9,380	13,161
July 2004	New Haven	0	0	0
Sept. 2004	Hudson	38,305	20,302	18,003
Sept. 2004	New Haven	56,394	19,327	37,068
Oct. 2004	Hudson	42,485	42,067	417
Oct. 2004	New Haven	57,945	42,866	15,079
Dec. 2004	Hudson	18,956	10,914	8,042
Dec. 2004	New Haven	48,284	31,319	16,965
Total		\$1,238,705	\$919,850	\$318,855

Source: Amtrak OIG analysis of Metro-North and Amtrak data.

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As shown in Figure 1 below, the inaccurate invoices resulted from five categories of calculation errors. Metro-North applied incorrect run times for trains arriving early, used inappropriate run times for amended operating agreements—called amendment agreement changes (AACs), claimed inappropriate tolerances for trains arriving late, submitted erroneous invoices with clerical errors, and submitted invoices for ineligible extra or special trains, and for trains that did not run.¹⁰ The following sections discuss the five error categories.

Figure 1: Five Error Categories by Percentage



Source: Amtrak OIG analysis of Metro-North and Amtrak data.

Invoices Contained Incorrect Run Times for Trains Arriving Early

Metro-North's use of inaccurate run times for Amtrak trains arriving early caused nearly 30 percent of the errors.¹¹ Run time is the amount of time required to go from one checkpoint to the next, and is based upon a predetermined power-to-weight ratio (locomotive-to-number of passenger cars).

The OTP calculations should be based on the run times shown in table 1 of appendix V of the operating agreements between Amtrak and Metro-North. Specifically, the appendix states, "A trip shall be considered on time if a train completes its trip between its endpoints on Railroad █

¹⁰ The amount overbilled for an individual train cannot be determined because the invoice amount is calculated based on the aggregate performance of all trains during a month.

¹¹ Of the nearly 30 percent errors due to early arrival time, approximately 18 percent are for trains with scheduled station stops, and 11 percent are for trains without scheduled station stops.

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█ shown in table 1 of appendix V..." plus the aggregate amount of time of other tolerances listed. Accordingly, the number of minutes shown in the "Temporary Scheduled Time"¹² column of table 1, plus the aggregate amount of time of other tolerances listed, is the run time that Metro-North has to operate Amtrak's trains over its tracks in order to earn OTP incentives. The agreement does not address early, on-schedule, or late arrival times of an Amtrak train at the initial checkpoint as a factor for calculating actual run time or on-time-performance.

The actual run time begins at the arrival time on Metro-North's tracks at the initial checkpoint and ends when the train arrives at the endpoint. When reviewing Metro-North invoices, we found that Metro-North correctly calculated and used the actual run time in every instance that an Amtrak train arrived on-schedule or later than its scheduled time at the initial checkpoint; i.e., Metro-North correctly compared the minutes shown in table 1 of appendix V to the actual run time. However, in instances in which an Amtrak train arrived early (ahead of schedule as shown on its train sheets) at the initial checkpoint, we found that Metro-North did not use the actual run time (the time from the initial checkpoint to the endpoint) in its calculation of OTP. For these early arrival trains, Metro-North inappropriately applied appendix V of the agreement in its calculation of run time for OTP incentives. For example:

- According to Metro-North train sheets, on December 16, 2001, Amtrak Train 10 arrived at the initial checkpoint on Metro-North 84 minutes early and had an actual run time of 87 minutes to reach the endpoint. Train 10 actually has to complete the trip in a total █ minutes, including the basic tolerance, to be considered as on-time and eligible for incentives. Train 10 did not have any scheduled station stops in Metro-North territory. Metro-North reduced the actual run time of 87 minutes by █ minutes to claim that Train 10 was on-time. When we recalculated the OTP incentives for Train 10, we compared the actual run time of 87 minutes to the █ minutes allowed by table 1 to be considered as on-time and eligible for OTP incentives. On the basis of the actual run time of 87 minutes, Train 10 was not on-time. Using this methodology for all trains during December 2001, we identified an additional nine days during which Train 10 was late based on the actual run times. But, because Train 10 arrived earlier than scheduled on these ten days, Metro-North incorrectly considered them on-time and invoiced Amtrak for OTP incentives.

¹² Some amendment agreement changes used the heading: "Temporary Total Run Time."

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Figure 2. Metro-North Train Sheet for Train 10, December 16, 2001

AMTRAK DAILY OTP REPORT		NEW HAVEN LINE • Eastbound Saturday-Sunday		Date	12-16-01 Sun	eff 9/30/01	
This sheet must be faxed daily to Amtrak in New Haven							
10	Daily	Pwr	918	Cars	6	SS OS ✓	
CP216	0039	1115	no delay				Amtrak Delays
NH	0141	1242					Mechanical
						Passengers	
						E-60 Allow	
						Out-of-Slot	
						Total Delay	
						Amtrak	
						M-N Delay	
						Tolerance	

Source: Metro-North.

- According to Metro-North train sheets, on December 4, 2001, Amtrak Train 265 arrived at the initial checkpoint [REDACTED] early and had an actual run time of 73 minutes. Train 265 is allowed [REDACTED] minutes to complete the trip, including the basic tolerance, to be considered as on-time and eligible for incentives. In making its run time calculation, Metro-North did not compensate for Train 265's arriving early when calculating the run time for OTP incentives. Instead, it claimed that Train 265 was on-time, and invoiced Amtrak for OTP incentives. On the basis of the actual run time of 73 minutes, Train 265 was not on-time, it was [REDACTED] late, and was not, therefore, eligible for incentive payment.

Figure 3. Metro-North Train Sheet for Train 265, December 4, 2001

265	Daily	Pwr	713	Cars (6)	5	SS OS ✓	Amtrak Delays	Total Delay	5
CP12	1749	548 1/2	5" CP 19 Stopped to Remove				Mechanical	Amtrak	0
CP75	1856	701 5/4	Smoking Minutes from Undercarriage				Passengers	M-N Delay	5
						CP75 hold	Tolerance		
						Equip Allow			
						Out-of-Slot			

Source: Metro-North.

To develop an understanding of the magnitude of the impact of including early arrival minutes in the OTP incentive calculations, we analyzed early arrival times for 2 months from a sample of invoices for December 2001 and January 2002. Our analysis showed that 47 of 914 train trips (5 percent) reported as having early arrivals during this period exceeded the agreed upon run time after the early arrival time was included in the actual run-time calculation.¹³ There was no impact on the incentive calculations for 867 train trips (95 percent) reported as having early arrivals during this period.

¹³ A train trip on a host railroad is defined as a train's movement from initial checkpoint or station to destination checkpoint or station on the host railroad. An Amtrak passenger train may operate over more than one host railroad. If a train operates one trip per day, it will have 30 trips in a 30-day month.

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We discussed the results of our analysis with responsible Amtrak officials. They agreed that the operating agreements do not provide relief from the agreed upon run times when trains arrive at the initial checkpoint ahead of schedule.

Invoices Contained Inappropriate Scheduled Run Times for Amendment Agreement Changes

Metro-North's use of scheduled run times other than those permitted by signed AACs caused 27 percent of the errors. According to appendix V, item E—Revision of Scheduled Times:

“The Scheduled Time for each train covered by this Appendix V is set forth in Table 1. In January and July of each year, Amtrak's NEC (Northeast Corridor) Customer Services management shall meet with Metro-North's Operations Planning management to review and make appropriate changes to Scheduled Time for each train set forth in Table 1. ...”

According to the correspondence from a Host Railroad Department Senior Director to another host railroad, AACs and operating agreements must be signed to be valid. Amtrak's Train Planning and Scheduling Department under Transportation worked with Metro-North's operating department on scheduling adjustments. When concurrence on schedule adjustments was reached, Metro-North prepared a revised running time table and forwarded it to Amtrak's Contract Administration Department within the Transportation Department for signature approval.

Amtrak Management stated that the Hudson Line AAC was not updated for the period February 2002 through October 2004. Consequently, the AAC between Amtrak and Metro-North dated January 28, 2002 applied for that period. We used the January 28, 2002 AAC scheduled run time provisions to conduct our invoice-review. We found that the invoices were based on scheduled run times longer than those in the January 2002 AAC. This practice resulted in inaccurate on-time-performance incentive claims and thus overcharges.

We found a similar situation for the New Haven Line invoices covering the period May 2002 through October 2004. The AAC was not updated for this period and the applicable AAC was dated April 29, 2002. We found invoices were based on scheduled run times longer than those in the April 2002 AAC. This practice again resulted in inaccurate on-time-performance incentive claims and overcharges.

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Table 2 below shows examples of the inaccurate scheduled run time used in Metro-North invoices compared to the AAC scheduled run times for those trains.

Table 2: Examples of Scheduled Run Time Variances (in minutes)

Month and Year	Train Number	Run Time per Metro-North Invoice	Run Time Per AAC	Variance
January 2002	190	■	■	7
March 2003	93	■	■	4
May 2004	67	■	■	7

Source: Amtrak and Metro-North data.

Invoices Contained Claims for Inappropriate Tolerances for Trains Arriving Late

In approximately 17 percent of the total errors, Metro-North claimed tolerances for delays that were not allowed by the operating agreements. For example, for Train 195 on January 27, 2002, Metro-North's invoice showed a ■-minute tolerance for passenger train interference. The interference was attributed to a disabled Amtrak Train 143. However, the operating agreements do not list this situation in appendix V, and they do not allow a tolerance for this type of interference. In another example, for Train 2164 on April 5, 2002, Metro-North's invoice showed a ■-minute tolerance for inspecting pantograph alarm with no mechanical problem found. However, the operating agreements do not list this situation in appendix V, and they do not allow a tolerance for this type of inspection. Consequently, we identified these types of invoice errors as overpayments.

Invoices Contained Clerical Errors

Clerical errors produced 15 percent of all errors. Metro-North uses a train sheet¹⁴ 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, on January 23, 2002, Metro-North's billing summary showed that Amtrak Train 2172 was on time, but the train sheet showed that this train was ■■■■■ late (■■■■■ tolerance, in Figure 4 below). This error reduced the OTP percentage from 77.3 percent to 72.7 percent. Still, Metro-North invoiced Amtrak the incorrect amount or 77.3 percent. This error inflated the

¹⁴ A train sheet is completed by Metro-North and contains detail operation 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.

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Amtrak Did Not Thoroughly Review Invoices

In addition to Metro-North's errors, long-standing weaknesses in Amtrak's oversight and controls for reviewing OTP incentive invoices contributed to the overpayments to Metro-North. During this review, we discussed Amtrak's process for reviewing OTP invoices with Amtrak's Contract Administration Officer. He stated that he did not perform a detailed review of OTP invoices before payment approval. He also stated that he did not compare Metro-North data to Amtrak data to verify the tolerances claimed, departure and arrival times, and scheduled run times.

Our August 2008 report pointed out that Amtrak's management controls over the review of invoices for OTP incentives and other costs were inadequate and ineffective, and that host railroads had consistently overbilled Amtrak for OTP incentives and other costs. We made recommendations to Amtrak to improve its invoice-review process.

In March 2010, we reported that another host railroad (CSX) had overbilled Amtrak for OTP incentives.¹⁵ In that report, we concluded that Amtrak had not taken steps to improve its management controls and review process for these invoices. In response, Amtrak agreed to apply additional resources and establish a process to thoroughly review invoices for OTP incentives and other costs before making payments. At that time, Amtrak also agreed to implement these improvements and provided us with a plan showing the tasks to be completed, with milestone dates. The invoice-review process was to be completed by December 31, 2010.

According to the Amtrak Principal Audit/Internal Controls Officer, the process to implement these improvements is going more slowly than originally planned, and the current estimated completion date is summer or fall 2011. The official explained that it is taking longer than originally planned to complete because of

- restructuring the organization by moving the function and responsibility for reviewing invoices for OTP incentives and other costs from Amtrak's transportation department to its finance department to create a segregation of duties,
- creating and revising accurate position descriptions for employees responsible for reviewing invoices,
- developing a training plan for new employees,
- evaluating the risk for each host railroad and agreeing on an effective method for reviewing invoices (sampling versus a 100 percent review),

¹⁵ *CSX On-Time Performance Incentives: Inaccurate Invoices and Lack of Amtrak Management Review Lead to Overpayments* (Audit Report 406-2005, March 30, 2010).

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- developing policies and procedures for reviewing all invoices, and
- updating host railroad agreements through amendment agreement changes.

Over time, we have identified approximately \$27 million in overpayments and potential recoveries. This significant over-expenditure of Amtrak funds hurts the company's cash flow and ability to effectively manage its activities. In the case of Metro-North, Amtrak's cash flow was affected by more than \$500,000 for the 39-month audit period, not including interest. Amtrak could have used these funds in other programs to meet its acquisition goals and operating expenses, or reduce federal subsidies.

CONCLUSIONS

Metro-North inconsistently or inappropriately applied the performance payment and penalty provisions of the operating agreements with Amtrak. These errors were not detected by Amtrak in its invoice-review process because of long-standing weaknesses in Amtrak's controls, processes, and resources for reviewing host railroads' invoices for OTP incentives and other costs. This situation leaves Amtrak vulnerable to substantial overpayments. Amtrak has an effort underway to strengthen its invoice-review processes and capabilities, however, this effort is taking longer to complete than Amtrak anticipated. The timely completion of this process will reduce Amtrak's risk of making improper OTP incentive payments and make financial resources available to meet other priorities.

RECOMMENDATIONS

We recommend that Amtrak's Chief Financial Officer and Vice President—Transportation work collaboratively to take the following actions:

1. Recover the \$519,932 Amtrak overpaid Metro-North in OTP incentives.
2. Ensure that Metro-North understands that the actual run time is to be used—[REDACTED]—and compared against allowed run times shown in the appendix V, table 1 in the calculation of OTP incentives.
3. Expedite the implementation of the plan for addressing long-standing weaknesses with associated goals, priorities, and milestones and increase capabilities in Amtrak's OTP invoice-review process. The plan, at a minimum, should provide for the
 - enforcement of all requirements of operating agreements with host railroads in the calculation of OTP incentives;

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- timely execution of AACs with host railroads; and
- development of a system to detect and correct errors in OTP incentive invoices, including inaccurate claims for tolerances, before paying OTP incentives.

MANGEMENT COMMENTS AND OIG RESPONSE

In commenting on the draft of this report, Management agreed with all our recommendations and provided planned actions to address them. We are encouraged that management is aware of the significance of the subject improvements and is working aggressively in accordance with an implementation schedule. The cited actions are responsive to our recommendations and we will continue to follow-up on implementation progress.

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Appendix I

Management Comments

NATIONAL RAILROAD PASSENGER CORPORATION
 30th Street Station, 5th Floor Southeast, Philadelphia, PA 19104

Memo



Date	March 24, 2011	From	DJ Stadtler, Chief Financial Officer
To	David Warren, Assistant Inspector General, Audits	Department	Finance
		Subject	On-Time Performance Incentives
		cc	Richard Phelps, Vice President, Transportation Paul Vilter, Assistant Vice President, Host Railroads William Herrmann, Managing Deputy General Counsel Jessica Scritchfield, Principal Audit / Controls Officer

This letter is in response to the Office of Inspector General's ("OIG") draft audit report number 403-2010 "On-Time Performance Incentives: Inaccurate Invoices Were Paid Due to Long-standing Weaknesses in Amtrak's Invoice-Review Process," dated February 24, 2011.

Response to OIG Recommendation 1:

Management concurs with the OIG recommendation and is currently reviewing documentation provided by the OIG. With this information, the Managing Deputy General Counsel will conduct a legal review of the January 1, 1990 and November 1, 1991 Operating Agreements with Metro North (the "Contracts") and evaluate Amtrak's claim

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for repayment of \$519,932 for overpaid on-time performance payment incentives identified by the OIG. On behalf of all departments responsible for Amtrak's Host Railroads activities, and specifically (1) within the Transportation Department, the Host Railroads Contract Compliance function (newly added to the Transportation Management Group) as well as the Host Railroads Group ("Host Railroads"), and (2) within the Finance Department, the Host Railroad Invoice Administration Department ("HRR Invoice Administration"), the Law Department will immediately initiate and pursue those claims where appropriate.

Response to OIG Recommendation 2:

Management concurs with the OIG recommendation that the parties' application of existing contract terms needs to be clarified in some instances, and all of the aforementioned HRR teams from Transportation and Finance are currently reviewing the Contracts to identify where the parties' understanding of how on-time performance is calculated with respect to run times, arrival times, departure times, etc. needs to be clarified internally and, if necessary, with Metro North. The Senior Director of Host Railroads will review the contract language and will seek any necessary clarification with Metro North by April 30, 2011.

Response to OIG Recommendation 3:

Management concurs with the OIG recommendation.

The OIG audit report provides useful information on which Amtrak Management can take action. Management is committed to making improvements to the HRR Invoice Administration's review process and is in the process of implementing specific action steps to allow Management to perform complete and thorough invoice reviews prior to payment. Management is currently in the process of developing policies and procedures for reviewing all invoices to include increased focus on on-time performance incentives, incremental track maintenance, special trains, relief requests, special work requiring authorization notices, etc.; creating checklists and job aids detailing audit procedures and required supporting documentation; obtaining invoices and supporting documentation from host railroads via electronic methods versus hard copies via U.S. mail; hiring additional HRR Invoice Administration employees; extending 15-day payment terms with host railroads; developing electronic reports to allow comparison and analyses of on-time performance, mileage, and checkpoint data; reviewing job descriptions for employees at host railroads paid by Amtrak; and documenting a list of contract provisions in need of re-evaluation so that appropriate contract amendments can be executed.

The HRR Invoice Administration is currently in the process of identifying language from the Contracts that may be subject to differing interpretation as between Amtrak and Metro

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North, and will have discussions with the HRR teams within Transportation as to what parts of the Contracts may need clarification. Subsequent to Management's discussions, Host Railroads will work with Metro North to prepare any clarification that Management deems necessary for improved understanding of on-time performance payment incentives and the billing review process.

The HRR Invoice Administration is working with the IT Department in developing various automated reports, e.g. on-time performance, mileage, and checkpoint reports, which will help Amtrak to electronically detect invoice errors. Currently, the IT Department is working to create these reports which will allow Amtrak to utilize various levels of data during its invoice-review process, including conducting searches by date, train, checkpoint, etc. In addition, the HRR Invoice Administration is documenting segment, route and checkpoint information in a compatible and usable electronic format. Management will begin using all of these resources to facilitate an improved process for reviewing monthly invoices. Although it is difficult to project an exact timeline for the entire scope of the required project, Management is aware of the significance of the subject improvements and is working aggressively in accordance with a implementation schedule that occurs through Summer/Fall of 2011.

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Appendix II

Scope and Methodology

We conducted this audit between January 2010 and January 2011, in accordance with generally accepted government auditing standards. These 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.

For the 39-month audit period from October 1, 2001, through December 31, 2004, Metro-North invoiced and Amtrak paid \$2,019,858 in OTP incentives. The operating agreements that applied during the audit period were effective January 1, 1990, for Hudson Line, and November 1, 1991, for the New Haven Line. The agreements were further amended through Amendment Agreement Changes. We reviewed and used these agreements as the basis to determine the accuracy and validity of Metro-North's monthly invoices for OTP incentives and to verify the compliance of Metro-North invoices with appendix V of the operating agreements with Amtrak.

The authority to perform an audit of Metro-North invoices is included in Article V, Section 5.2(b), of the operating agreements. This section allows Amtrak to audit and evaluate any payment in terms of both financial and operational issues. Under Article V, Section 5.2(c), Metro-North is required to maintain supporting accounting, operating, and mechanical department records, and any other related data that may be required. Such supporting documents shall be available for Amtrak review and audit.

The audit included the following methods for gathering, analyzing, and summarizing data:

- We reviewed the operating agreements and their amendments, focusing on sections that relate to the invoicing of OTP incentives.
- We reviewed our prior audit reports 216-2001 regarding OTP incentive payments and 401-2008 regarding management's internal controls.
- We interviewed a responsible Amtrak officer on control process for reviewing incentive invoices.
- We obtained Train Operations Support System (TOSS)¹⁶ data to acquire trip data for our analysis of OTP incentives for which Metro-North invoiced Amtrak.

¹⁶ The Train Operations Support System is managed by Amtrak and contains data on train operations, including departure and arrival times, delays in the trip and reasons for the delays.

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- We selected a judgmental sample of Metro-North's monthly OTP incentive invoices for detail review. We selected one of the three months from 2001 based upon the highest dollar amount invoiced. For the years 2002, 2003, and 2004 we selected five months from each year based on the highest dollar amounts invoiced and selected at least one of each of the 12 calendar months to ensure a fair representation throughout the year. In a meeting with Metro-North officials on February 1, 2010, they agreed to our sampling methodology.
- We reviewed the detailed support for a sample of Metro-North's monthly OTP invoices submitted to Amtrak.
- We compared Amtrak TOSS data with Metro-North OTP detail data, including departure and arrival times, tolerances claimed, delay minutes and reasons of delays.
- We compared OTP invoices of the sample months with all available support documentation.
- We calculated the over-billed and/or under-billed amounts resulting from inaccurate Metro-North invoices.
- We calculated the invoice error rate for the months sampled and applied this error rate to the total OTP incentive amount from October 1, 2001, through December 31, 2004. In a meeting with Metro-North officials on February 1, 2010, they agreed to our estimation methodology as long as the types of errors found were consistent over the selected 16 months. We consistently applied this methodology throughout the audit.

Use of Computer Data

We used Amtrak TOSS data in our analysis of Metro-North's monthly OTP incentives invoices. In our audits of other host railroad OTP invoices, we found that the TOSS data were accurate and reliable when compared with source documents, such as Conductor Delay Reports. In this audit, therefore, we judged that it was not necessary to verify the reliability of the TOSS data.

Internal Controls

One of our objectives for this audit was to evaluate the adequacy of Amtrak's oversight and controls for reviewing OTP incentive invoices. This was discussed at length in the body of this report. We did not review Metro-North's internal control structure. Rather, we performed and relied on substantive tests to determine the dollar amount attributable to errors invoiced by Metro-North.

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Appendix III

Tolerances

We used the following criteria to calculate OTP incentives for Amtrak trains operating over the Hudson Line:

Tolerances	Description
(a)	A [redacted]-minute tolerance.
(b)	Holds for [redacted]
(c)	Delays as a result of [redacted]
(d)	Delays as a result of [redacted]
(e)	[redacted] tolerance [redacted]
(f)	[redacted] tolerance [redacted]
(g)	[redacted] tolerance [redacted]
(h)	[redacted] tolerance [redacted]

Source: Metro-North's Hudson Line Operating Agreement with Amtrak, January 1, 1990.

¹⁷ Metro-North uses the term CP which stands for a control point. It is a specific location on Metro-North tracks as referenced in Metro-North engineering diagrams.

¹⁸ Amfleet is a term that identifies a type of rail passenger car operated by Amtrak. Amfleet cars are a series of intercity railroad passenger cars built for Amtrak by the Budd Company in two series during the late 1970s and early 1980s. These are the first cars built specifically for Amtrak.

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We used the following criteria to calculate OTP incentives for Amtrak trains operating over the New Haven Line:

Tolerances	Description
(a)	A ■-minute tolerance.
(b)	Holds for [REDACTED]
(c)	Delays as a result of [REDACTED]
(d)	Delays as a result of [REDACTED]
(e)	[REDACTED] tolerance [REDACTED]
(f)	[REDACTED] tolerance [REDACTED]
(g)	[REDACTED] tolerance [REDACTED]

Source: Metro-North's New Haven Line Operating Agreement with Amtrak, November 1, 1991.

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Appendix IV

**Table 1 of Appendix V
 of an Operating Agreement**

Appendix V
Table 1

Effective Date: October 28, 2001

Route	Train Identification		Train Consist		Running Time Calculation					Temporary Adjustments (see below)		Performance Rate \$/101	Notes		
	NB/SB	Train	Frequency	Locomotive	Cars	TPC Running Time (min)	Station dwell times			13% Recovery Time	Total Scheduled Time (min)			Add'l Running Time	Temporary Scheduled Time (min)
							YNY	CRT	FOU						
The Hudson Line between Poughkeepsie CP 75 (MP 75.5) and Spuyten Duyvil (MP 11.8)	NB	295	Daily (7)	1 DM-32	6									656.72	
	NB	63	Daily (7)	1 DM-32	6										
	NB	251	Daily (7)	1 DM-32	6										
	NB	69	Daily (7)	1 DM-32	6										
	NB	261	Daily (7)	1 DM-32	6										
	NB	283	Daily (7)	1 DM-32	6										
	NB	281	Daily (7)	1 DM-32	6										
	NB	257	Mo-Fr (5)	1 DM-32	6										
	NB	259	Mo-Th (4)	RTL-II	5										
	NB	289	Fr (1)	RTL-II	5										
	NB	49	Daily (7)	1 DM-32	10										
	NB	265	Daily (7)	1 DM-32	6										
	NB	207	Mo-Fr (5)	1 DM-32	6										
	NB	269	SaSu (2)	1 DM-32	6										
	NB	271	Daily (7)	1 DM-32	6										
	NB	273	Mo-Th (4)	1 DM-32	6										
	NB	277	FrSaSu (3)	1 DM-32	6										
SB	236	Mo-Fr (5)	1 DM-32	6											
SB	1236	SaSu (2)	1 DM-32	6										Deadhead	
SB	240	Daily (7)	1 DM-32	6											
SB	238	Sa (1)	1 DM-32	6											
SB	242	Mo-Fr (5)	1 DM-32	6											
SB	244	Sa (1)	1 DM-32	6											
SB	246	Mo-Fr (5)	1 DM-32	6											
SB	248	Daily (7)	1 DM-32	6											
SB	250	Mo-Fr (5)	1 DM-32	6											
SB	284	Mo-Sa (6)	1 DM-32	6											
SB	254	Su (1)	1 DM-32	6											
SB	256	Daily (7)	1 DM-32	6											
SB	48	Daily (7)	1 DM-32	10											
SB	286	Daily (7)	1 DM-32	6											
SB	202	Mo-Fr (5)	1 DM-32	6											
SB	284	Mo-Sa (6)	1 DM-32	6											
SB	264	Su (1)	1 DM-32	6											
SB	68	Daily (7)	1 DM-32	6											
SB	268	Su (1)	1 DM-32	6											
SB	64	Daily (7)	1 DM-32	6											
SB	266	Su (1)	1 DM-32	6											
SB	288	Su (1)	1 DM-32	6											

Note: Performance rate shown is 1998 rate; subject to annual adjustment in accordance with Section F

TEMPORARY SCHEDULE ADJUSTMENTS

Northbound

Train	Time	Explanation
63		Following 805 between CP58 and CP72
251		Following 809/8809 between CP58 and CP72

Southbound

Train	Time	Explanation
242		Waiting for 63 to clear Croton-Harmon station

NRPC *[Signature]* HL-020 Revised Effective October 28, 2001 Rail/620

Source: Amtrak AAC HL-020 with Metro-North dated October 28, 2001 with Metro-North.

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Appendix V

Audit Team Members

This report was prepared and the review was conducted under the direction of Dan Krueger, Senior Director, Audits. Raymond Zhang contributed to this audit and report.

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OIG Mission and Contact Information

Amtrak OIG's Mission

Amtrak OIG's mission is to

- conduct and supervise independent and objective audits, inspections, evaluations, and investigations relating to Amtrak programs and operations;
- promote economy, effectiveness, and efficiency within Amtrak;
- prevent and detect fraud, waste, and abuse in Amtrak's programs and operations;
- review security and safety policies and programs; and
- review and make recommendations regarding existing and proposed legislation and regulations relating to Amtrak's programs and operations.

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