

Improvements Needed in Vendor Repair and Return Process

Final Audit Report #104-2008

March 23, 2010



Audit Report Issued By:

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Memo

Date March 23, 2010 From Gary E. Glowacki, Deputy Inspector General, Audits

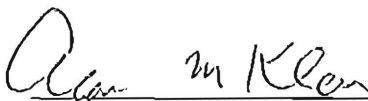
To William Maguire, Chief Logistics Officer Department Office of Inspector General - Audits

Subject Improvements Needed in Vendor Repair and Return Process, Final Audit Report #104-2008

cc

Enclosed is our Final Report, on the Vendor Repair and Return (R&R) Process. Our objectives were to determine whether open purchase orders (POs) for R&R parts are closed on a timely basis and if internal controls for the R&R process including warranty repairs are effective. The results of our audit were discussed with John Martin, Deputy Chief Logistics Officer, Procurement, David Herendeen, Deputy Chief Logistics Officer, Materials Management and Lee Smart, Director - Procurement and Materials Management.

We appreciate the courtesies and cooperation of your staff during this audit. If you have any questions, I can be reached by telephone at 202-906-4560 (ATS 777-4560) or by e-mail at GlowacG@amtrak.com.

for 

Gary E. Glowacki
Deputy Inspector General – Audits

Attachment

Distribution

John Martin, Deputy Chief Logistics Officer, Procurement
David Herendeen, Deputy Chief Logistics Officer, Materials Management
Lee Smart, Director – Procurement and Materials Management

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EXECUTIVE SUMMARY

Amtrak's Vendor Repair and Return (R&R) process includes the replenishment, distribution and disposal of train equipment parts/components (parts). One of Amtrak's major initiatives is to maintain its fleet and infrastructure in a state of good repair of which the vendor R&R process is an essential part. Continuous monitoring and follow-up on open R&R purchase orders (POs) with vendors is essential to maintain the Amtrak fleet and to ensure on-time performance and reliability. The Chief Logistics Officer in Procurement manages the Vendor R&R process.

**WHY WE DID
THIS AUDIT**

This audit was conducted to determine whether:

- Open purchase orders are closed on a timely basis; and
- Internal Controls for the Repair and Return process including warranty repairs are effective.

The audit objectives were to determine whether inactive (open) purchase orders for R&R parts are closed on a timely basis and, if internal controls for the R&R processes including warranty repairs are effective. Amtrak's policy on the R&R process for parts is "Vendor Repair and Returns" (P/1 11.51). The policy defines the purpose, functional responsibilities and procurement activities of the R&R process. Our scope included R&R expenditures of \$7.68 million for FY 2008.

Vendor Repair and Return policies and procedures need to be improved.

Our audit disclosed that there were 490 open POs for R&R parts for FY 2008 that were past the promised delivery date. This occurred because Procurement and Material management did not have guidelines specifying the responsibility for tracking open R&R purchase orders or for following up with vendors on the status of overdue part repairs. Amtrak's exposure for not tracking open R&R purchase orders may lead to a delay in the performance of critical maintenance work and the maintenance of higher inventory levels.

Our audit also found contracting agents do not consistently compare the cost of repairing a part to the price of purchasing a new part. Procurement personnel follow a procedure, although not written in any policy or guideline, that if the cost of repairing a part is less than 70 percent of the price of a new part, the part should be repaired. We compared the new price of 15 sample items with the cost for repairing items and determined the cost of repair for 3 of the 15 items exceeded the 70 percent threshold. We could not make a similar comparison for 15 other sample items because the price of the new part had never been entered into the automated procurement system. If the contracting agents do not perform and document the appropriate analysis regarding purchasing or repairing vendor R&R parts, Amtrak is at risk of not making cost effective decisions which could lead to higher maintenance costs.

Vendor Repair and Return Process Audit
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**Improvements Needed in Vendor Repair and Return Process
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BACKGROUND

The R&R process includes the replenishment, distribution and disposal of parts¹. One of Amtrak's major initiatives is to maintain its fleet and infrastructure in a state of good repair. The R&R process is an essential part of this effort. Continuous monitoring and follow-up on open R&R purchase orders with vendors is essential to maintain the Amtrak fleet and to ensure on-time performance and reliability. Total R&R expenditures in 2008 were \$7.68 million.

The R&R process for parts is defined in Amtrak Policy P/I 11.51 – "Vendor Repair and Returns". The policy defines the purpose, functional responsibilities and procurement activities of the R&R process for parts. The R&R process begins with a mechanic identifying and removing a defective part during preventative and scheduled maintenance of locomotives and train cars. The mechanic sends the defective part to the Material Control location on-site and requests a refurbished or new part to replace the defective part. The mechanic utilizes Amtrak's Work Management System (WMS) to place orders and receive parts from Material Control. After the mechanic places the order, WMS interfaces with Amtrak automated material procurement system (AAMPS²) to generate a pick ticket in Material Control. Material Control personnel and the contracting agents³ use the AAMPS to request, order, receive and pay for parts. Material Control personnel use AAMPS to determine if the part is to be repaired in-house, by an outside vendor, or covered under warranty. This audit includes only parts repaired by outside vendors and does not include parts repaired in-house.

¹ The Mechanical department is responsible for locomotive and train car routine and preventative maintenance as well as scheduled equipment overhauls.

² AAMPS supports all Inventory functions. This includes requisitions, purchase orders, receipts, and payments.

³ The Contracting Agent (CA) is "a duly appointed individual who is subordinate to the Contracting Officer". Material Control creates a Materials Requisition for the part and sends it to the CA. The CA contacts the vendor to obtain a quote and shipment information.

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RESULTS OF AUDIT

Finding 1: Open Repair POs to Vendors

We found R&R purchase orders were not closed in a timely manner. We obtained a report of R&R purchase orders for FY 2008 that were still open as of March 20, 2009. The breakdown of POs according to days past the promised delivery date is shown in the table below:

Days Past Promised Delivery Date	Number of Open FY 2008 POs as of March 20, 2009
0-200 Days	117
201-400 Days	282
Over 400 Days	<u>91</u>
Total	490

We judgmentally selected a sample of 30 open R&R purchase orders to determine whether the POs were still valid and whether Procurement and Material management had followed up with vendors on the status of the overdue parts. All 30 open POs we sampled were between 200 and 600 days past due from the promised delivery date.

One of the items sampled was a main transformer for a locomotive and on the date of our test, it was 347 days past due. The transformer was removed from the locomotive in October 2007 and the PO had a promised delivery date of March 31, 2008. It was finally received on November 16, 2009. Another open item was a water pump for an Amfleet café car. The pump was removed in December 2007 and the PO had a promised delivery date of January 11, 2008. As of March 20, 2009, it was 434 days past due.

We requested records of follow up from the Material Control personnel. There was no evidence of follow-up such as AAMPS system notes for the past-due parts in our sample. The lack of tracking and follow-up occurred because guidelines do not contain language specifying the need or responsibility of tracking open R&R purchase orders or following-up with vendors on the status of open R&R purchase orders.

Without an effective tracking and follow-up system, Amtrak is at risk of delaying critical maintenance work and impacting Amtrak's ability to maintain a state of good repair for its trains and cars.

Recommendations

We recommend the Chief Logistics Officer:

- 1) Establish the operational responsibilities to track open POs of R&R transactions.
- 2) Revise the policies and procedures to require Material Control personnel to track and follow-up with vendors on the status of R&R part POs.

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Management Response

Amtrak responded on December 9, 2009 and concurred with our recommendations. Amtrak stated that, currently, reports of open repair POs are run and orders are being reviewed and expedited by Material Control's expediting group. Amtrak also indicated that a formal process will be established within 90 days to track open repair orders to ensure repaired material is returned from the supplier and the POs closed within a reasonable timeframe.

Finding 2: Contracting Agents' Decision to Fix Defective Parts

Procurement personnel follow a procedure although not written in any policy or guideline that if the cost of repairing a part is less than 70 percent of the price of a new part, the part should be repaired. We judgmentally selected a sample of 30 R&R repair transactions to compare the price of new to the cost of repair to determine if the decision to repair the part or purchase a new part was done in accordance with existing procedure. We found contracting agents did not consistently compare the cost of repairing a part to the price of purchasing a new part.

We obtained a report for FY 2008 consisting of 3,315 R&R repair transactions and selected a sample of 30 items. Material Control was able to provide us the price of the new part for 15 of the 30 items. For the 15, we compared the price of the new part with the cost to repair the item. As shown in Exhibit B, for 12 of 15 transactions tested, the cost of repairing the R&R part ranged from 33 to 60 percent and complied with the existing procedure. We noted 3 instances where the cost of repair exceeded 70 percent of the price of a new part. For example, a Rheostatic Chopper Water Plate was repaired at a cost of \$27,245 when the cost of a new part was \$31,644. In this case the cost of repair was 86 percent of the price of a new part. Additionally, a Cycle Skipper Panel for a locomotive was repaired at a cost of \$5,118 when the cost of a new part was \$6,995 (repair cost 73 percent of the price of new part).

We contacted the Director of Procurement and Material Management and Material Control personnel to obtain the price of new parts for the remaining 15 transactions listed in Exhibit C. However, the pricing information was not available in AAMPS because these parts had never been purchased as new by Amtrak. Consequently, for 3 of the sampled items and 15 of the items where a new price was not available (total of 18 of the 30) the contracting agent did not comply with the current procedure. In summary, Amtrak had no assurance that its decision to repair the 18 items was cost effective and in the best interest of the company.

Recommendation

The Chief Logistics Officer should develop written procedures to ensure the contracting agents' decisions to repair a defective part is cost effective and in the interest of the company.

Management Response

Amtrak responded on December 9, 2009 and concurred with our recommendation. Amtrak stated that orders where it has been determined the material is beyond economical repair are being addressed by the contracting agent responsible for the PO. Formal procedures stating the process for determining when material should be scrapped will be developed within 90 days.

Auditor's Comment

Management's current and planned actions are responsive to all of our recommendations. However, we will consider the recommendations open until formal processes are developed and implemented for both Finding A and B.

OBSERVATION

As part of our audit, we selected a sample of 30 denied warranty coded R&R transactions in order to determine if internal controls for warranty repairs were effective. We found that 25 of the 30 denied warranty transactions were documented in AAMPS. Documentation was not found for the other five transactions we sampled. However, Amtrak did have other controls such as requiring the contracting agent to obtain technical expertise from other departments to determine the validity of the denied warranty claim.

Amtrak, in its reply to our draft report, stated that the contracting agent is not authorized to accept a warranty denial without the approval of Engineering, Standards & Compliance, and Mechanical. When a warranty claim is denied, the contracting agent advises Engineering, Standards & Compliance and Mechanical to obtain their technical expertise to determine if the denial is valid. In the event the Amtrak departments deem the warranty is valid, the contracting agent acts as a liaison between the supplier and the Amtrak department to resolve the issues. The process for warranty denials will be revisited within 90 days.

Based on management's response, we revised our final report and eliminated the recommendation for this observation.

Audit Staff:

George Atuobi
Joseph Zammarella
Alan Klein

Exhibit A – Objectives, Scope and Methodology

Objective and Scope

The audit objectives are to determine if open POs are closed on a timely basis and internal controls for the R&R process including warranty repairs are effective.

The scope of the audit encompasses Amtrak's R&R activities during FY 2008. The audit includes parts repaired only by outside vendors and did not include parts repaired in-house. As part of the audit, the Office of Inspector General (OIG) auditors visited eight locations that accounted for \$7.39 of the \$7.68 million of Amtrak's R&R expenditure during FY 2008.

Methodology

The audit included the following methods for gathering, analyzing and presenting data associated with the audit steps.

- Interviewing key personnel to compile information needed to identify potential risks and issues of the R&R activities and to conduct the audit.
- Reviewing R&R transaction reports and other related documentation.
- Documenting processes and procedures related to R&R and closing of related open POs.
- Conducting a risk analysis and preparing controls matrix to identify risk levels based on survey work, preliminary analysis of background/training material and information gathered from sources such as entrance conference and preliminary interviews.
- Using judgmental sampling based on number of transactions generated by location to select R&R transactions for process examination.
- Testing R&R transactions to ensure R&R procedures are effective and open POs are closed on a timely basis.

We utilized certain data and reports generated by the AAMPS system. While we performed limited tests to assess the reliability of the data generated through the system, our audit scope did not include testing of the general and application controls associated with the AAMPS system.

We conducted the audit in accordance with the Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Exhibit B – New Part Pricing Available

#	Amtrak Location	Part Descriptions	Entry Date	Quantity	Price of New Part	Cost of Repair	% Cost of Repair Compare to Price of New Part
1	090	Module Assy, Eco-B2, F/HHP Loco	06/24/2008	1	\$25,384.98	\$14,706.83	59%
2	100	Blower, Vacuum Pump, F/Vacuum Waste	06/04/2008	1	\$2,060.00	\$1,568.98	76%
3	100	Toilet Assy, Monogram, F/Viewliner Mod	05/16/2008	1	\$3,094.46	\$1,834.00	59%
4	120	Diaphragm Assy, Modular F/AMF, S/L (W)	05/19/2008	1	\$5,542.33	\$3,369.00	60%
5	130	Antenna, Scanner U/ON High Speed Trains	05/09/2008	1	\$5,076.00	\$2,459.00	48%
6	130	CTV Box, Part of "ACSES" Advanced Civil	04/23/2008	1	\$5,687.00	\$2,459.00	43%
7	130	Power Supply, F/CAB Signal AEM-7 (2OF3)	08/19/2008	1	\$2,601.00	\$1,040.40	40%
8	130	Air Drier, 994-100 F/AEM-7 Loco Air	02/11/2008	1	\$4,960.00	\$2,623.30	52%
9	025	Panel, Cycle Skipper, P42dc, Amd-103 Loc	12/19/2007	1	\$6,995.00	\$5,118.00	73%
10	040	Air Conditioner, 12 Tons F/SI Li (W)	09/03/2008	1	\$28,097.39	\$9,386.59	33%
11	040	Air Conditioner, 12 Tons F/ Superliner	02/05/2008	1	\$28,097.39	\$12,242.66	43%
12	100	Module Assy, Eco-Rh2, F/ Hhp Loco	07/24/2008	1	\$46,482.21	\$16,437.04	35%
13	130	Return Air Module, F/ Amf I & Ii Reman	05/24/2008	1	\$1,000.00	\$368.00	37%
14	130	Rheostatic Chopper, Water Plate, Aem-7ac	06/19/2008	1	\$31,644.00	\$27,244.73	86%
15	130	Battery Charger, 18kw 60hz, F/Aem-7ac	07/29/2008	1	\$55,000.00	\$18,600.00	34%

Exhibit C – New Part Pricing Not Available

#	Amtrak Location	Part Descriptions	Entry Date	Quantity	Price of New Part	Cost of Repair
1	040	Condenser Unit, Compressor, Comp. (W)	02/07/2008	1	Not available	\$5,479.00
2	040	Hvac Unit, F/ P-42 Loco (R&R @ B.G.)	07/29/2008	1	Not available	\$10,334.82
3	040	Compressor, Air W/Motor, Ge Dash 8-32bwh	07/24/2008	1	Not available	\$25,867.48
4	061	Main Alternator, F/ Ge P-32cd Locomotive	05/29/2008	1	Not available	\$22,517.44
5	061	Waste Tank Assy, F/Horizon Car, Monogram	05/15/2008	1	Not available	\$15,875.21
6	085	Cab Signal Mechanism - Complete, Group 2	02/27/2008	1	Not available	\$7,500.00
7	085	Cab Signal Mechanism Complete, Group 5	07/31/2008	1	Not available	\$6,995.00
8	090	Comp./Cond. Unit, W/Double Fan Amf I (W)	06/04/2008	1	Not available	\$8,825.00
9	090	Module, Traction	05/28/2008	1	Not available	\$32,600.61
10	100	Condenser Unit	02/07/2008	1	Not available	\$7,270.00
11	120	Comp./Cond. Unit, W/Single Fan, Amf I(W)	05/28/2008	1	Not available	\$5,183.20
12	120	Compressor, A/C Comp.F/ Amf-Hep-Viewlier	02/09/2008	18	Not available	\$28,212.48
13	130	Compressor, A/C Comp.F/ Amf-Hep-Viewlier	01/07/2008	1	Not available	\$1,536.63
14	130	Module, Pmcf - Water Plate, F/ Aem-7 Ac	08/26/2008	1	Not available	\$27,571.92
15	130	Module, Traction Inverter, F/ Aem-7 Ac	03/21/2008	1	Not available	\$24,139.00

Appendix – Management Response

NATIONAL RAILROAD PASSENGER CORPORATION

30th Street Station, 5th Floor, Southeast, Philadelphia, PA 19104

Memo



Date December 9, 2009
To Gary E. Glowacki
Deputy Inspector General, Audits

Received 12/17

From William J. Maguire
Department Procurement & Materials Mgmt
Subject Vendor Repair & Return Audit
to Jeff Martin, Deputy Logistics
Officer – Procurement
David Herendeon, Deputy Logistics
Officer – Materials Mgmt
Lee Smart, Director – Procurement
and Materials Management

This is in response to your memo dated November 16, 2009 addressing the audit of Vendor Repair and Return (R&R) Process.

Finding 1: Open Purchase Orders

Recommendation:

The Material Control personnel should consistently track and follow up with vendors on the status of overdue component repairs to ensure that repair issues are identified and resolved on a timely basis. We recommend that the Chief Logistics Officer should establish the operational responsibilities to track open purchase orders of Vendor R&R transactions and include supervisory oversight to ensure compliance.

Management Response:

Concur. Currently, reports of open repair purchase orders are run and orders are being reviewed and expedited by Material Control's expediting group. A formal process will be established within 90 days to track open repair orders to ensure repaired material is returned from the supplier and the purchase order closed within a reasonable timeframe. David Herendeon, Deputy Logistics Officer – Materials Mgmt

Finding 2: Buyer's Decision to Fix Defective Parts

Recommendation:

The Chief Logistics Officer should develop a written procedure to ensure buyers' decisions to repair a defective part be based on the cost of repairing a part compared to the price of new is less than 70%. In addition, management should establish a supervisory review process to ensure compliance with the procedures. The decision methodology should be periodically evaluated to ensure that it would be cost effective to fix the part.

Management Response:

Concur. Orders where it has been determined that the material is beyond economical repair are being addressed by the contracting agent responsible for the purchase order. Formal procedures stating the process for determining when material should be scrapped will be developed within 90 days. Lee Smart, Director -- Procurement and Materials Management

Other Observations: Denied Warranty Claims

Recommendation:

The Chief Logistics Officer should establish controls to require buyers to review all rejected warranty claims and document the reason for warranty rejection in the Purchase Order Award Analysis module of AAMPS.

Management Response:

Partially concur. The contracting agent is not authorized to accept a warranty denial without the approval of Engineering, Standards & Compliance and Mechanical. When a warranty claim is denied, the Contracting Agent advises Engineering, Standards & Compliance and Mechanical to obtain their technical expertise to determine if the denial is valid. In the event the Amtrak departments deem the warranty is valid, the contract agent acts as a liaison between the supplier & the Amtrak departments to resolve the issues. The process for warranty denials will be revisited within 90 days. Lee Smart, Director -- Procurement and Materials Management