AMTRAK OFFICE *of* INSPECTOR GENERAL
NATIONAL RAILROAD PASSENGER CORPORATION

GOVERNANCE:

Improved Procurement Practices Could Help Ensure Lowest Prices for Materials and Maximum Savings

OIG-A-2020-008 | April 15, 2020

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AMTRAK OFFICE of INSPECTOR GENERAL
NATIONAL RAILROAD PASSENGER CORPORATION

Memorandum

To: DJ Stadtler
Executive Vice President / Chief Administration Officer

From: Jim Morrison
Assistant Inspector General, Audits

Date: April 15, 2020

Subject: *Governance: Improved Procurement Practices Could Help Ensure Lowest Prices for Materials and Maximum Savings* (OIG-A-2020-008)

In fiscal year (FY) 2019, Amtrak (the company) spent about $1.8 billion buying goods and services through purchase orders from about 3,800 vendors. Because of the value of these transactions, sound purchasing practices are necessary to ensure that the company obtains these goods and services in a timely, efficient, and economical manner. In 2015, however, we reported that the company had weaknesses in its purchasing practices, including obtaining the lowest prices from vendors and negotiating optimum payment terms.[1] To address these weaknesses, we recommended that, when possible, the company implement the more economical purchasing practices we identified. We found that addressing these weaknesses could save the company up to $9.4 million a year. The company agreed to take the actions we recommended.

Our objective for this audit was to assess the extent to which the company has effectively implemented these actions. To assess the effectiveness of the company's practices for obtaining the lowest prices from vendors, we analyzed purchasing data on about $57 million the company spent on inventory materials in FY 2019. We focused on inventory materials because they have unique identifiers assigned to them in the company's financial system and can, therefore, be systematically analyzed. To assess the company's practices for negotiating more favorable payment terms, we focused on the approximately $1.5 billion the company spent on goods and services through

[1] *Governance: Opportunities Exist to Improve the Efficiency of Procurement Practices for Goods and Services* (OIG-A-2015-005), February 11, 2015.

purchase orders with payment terms of 60 days or less.[2] For additional details on our scope and methodology, see Appendix A.

SUMMARY OF RESULTS

The company is realizing some of the cost-saving opportunities we identified in 2015 but still has not fully addressed the gaps in procurement practices we highlighted. As a result, our analysis of the company's FY 2019 purchase data found missed cost-saving opportunities of up to $9.9 million.

We found that the company could have saved up to $4.5 million in material costs if it had a robust data analytics capability to assess its procurement data and used the results to influence its purchasing decisions. The company is beginning to assess data from past procurements to help it determine why it did not pay the best price for some materials, a promising lessons-learned tool. The company, however, does not have a predictive analytics capability—a leading industry practice—to forecast future demand for its materials and use this information to obtain the best prices for new purchases. Finally, we found that the company has opportunities to reduce costs in its purchase order contracts by negotiating early payment discounts, which could have saved up to $5.4 million in FY 2019. Until the company implements a robust data analytics capability and better negotiates discounts, it cannot ensure that it is achieving maximum cost savings. Accordingly, we recommend that the company develop and implement such a capability and direct its buyers to negotiate for early payment discounts and extended payment terms.

In commenting on a draft of this report, the Executive Vice President / Chief Administration Officer agreed with our recommendations and identified specific actions the company plans to complete by September 30, 2021 to implement them. These include developing or acquiring analytic capabilities to enable data driven procurement decisions and negotiating both early payment discounts and extended payment terms on new procurement contracts with its vendors. When fully implemented, these actions will address our recommendations. For management's complete response, see Appendix B.

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[2] Of the approximately $1.8 billion the company spent on goods and services through purchase orders, it spent about $300 million with vendors who had payment terms of more than 60 days.

BACKGROUND

The Procurement department has primary responsibility for purchasing its goods and services for other departments in the company, including establishing policies and procedures and negotiating purchase order contracts with vendors. When end-users such as the Engineering and Mechanical departments need to purchase goods and services, they submit requests to Procurement, whose buyers then either solicit vendors through competitive bidding or select one from a list of approved vendors.[3] The buyers then negotiate a purchase order contract using the policies and procedures outlined in the company's procurement manual.

Leading private- and public-sector practices show that sound purchasing procedures can help reduce a company's operating expenses. Leading practices also suggest that proactively analyzing procurement data can help the company identify cost-saving opportunities. In addition, these practices suggest that the most advantageous contract terms for companies are generally those that combine an early payment discount and extended payment terms. Typically, paying an invoice early to obtain a discount offers more savings than extending the payment—to the 60th day, for example—when the interest rate is low.[4] By having both provisions in a purchase order contract, if the company cannot negotiate discounts, the next best option is to negotiate extended payment terms.

USING DATA ANALYTICS FOR BEST POSSIBLE PRICING

Since our prior report, the company has taken actions to obtain better prices from vendors, but our analysis of the company's most recent purchasing data shows that it is still missing cost-saving opportunities by not paying the lowest price for some inventory materials. This is because the company does not have the capability to

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[3] Buyers use competitive bidding when purchasing goods or services that the company has not acquired before, or when the end-user department has requirements for a material with particular specifications. For materials that the company previously purchased, buyers use the catalog to make purchases from pre-approved vendors.

[4] From FY 2016 to FY 2019, the company's overall weighted-average rate on all interest-bearing borrowings ranged from 3.05 to 4.6 percent. Assuming an interest rate of 4 percent, a discount of 1 percent earned on a $100 invoice paid on the 15th day will generate $1.164 in savings—a $1.00 discount and $0.164 in interest saved for delaying the payment by 15 days—compared to the interest savings of $0.658 that would result from delaying the payment of the same invoice to the 60th day.

proactively analyze its procurement data to ensure that it obtains the lowest prices, as leading practices suggest.

In response to our 2015 report, the company took efforts to achieve cost savings by consolidating purchases and setting up bulk orders. It did not, however, implement a systematic way to analyze procurement data to ensure that it identifies all cost-saving opportunities. Further, the company's efforts may not have worked as effectively as intended. When we analyzed the approximately $57 million in material purchases the company made in FY 2019, we found that, for $27 million of these purchases, the price the company paid different vendors for the same material varied from 10 to 423 percent. We calculated the cumulative differences between the lower-cost and higher-cost purchases to be up to $4.5 million—potentially a missed cost-saving opportunity.[5]

Our analysis also showed that the company likely did not pay the best available price for materials. For example, in FY 2019, the company spent about $540,000 buying Freon from two vendors, and we found that one vendor's price was about 93 percent higher than the other. The company, however, had been acquiring Freon from the higher priced vendor for several years. To its credit, in May 2019, the company solicited blanket orders for commonly used inventory materials, such as Freon, that were used in the previous 12 months. During this process, Procurement identified the lower-cost vendor and entered into a purchasing agreement with this vendor. By not identifying the lower-cost vendor earlier, however, the company overpaid at least $891,000 on the Freon it purchased from FY 2016 through FY 2019.

Procurement officials told us they are taking steps to improve the company's performance in purchasing materials. For example, they are working with the Finance department to generate a variance report that will show the instances where the purchase prices the company paid in the previous month differed from the FY 2020 target prices.[6] This report will allow the company to measure the progress the Procurement department made in finding lower prices, and it will allow officials to research the reasons why buyers paid higher prices. This is a positive step, but Procurement officials acknowledged that this report will let the company look back on

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[5] Procurement officials stated that in some cases, the buyers may not have been able to find a low-cost vendor that could fill the demand for items that the company needed immediately.
[6] Procurement officials told us that they established FY 2020 target prices for each material based on the average price the company paid in the most recent year in which a material was acquired.

historical purchases but will not provide the capacity to look ahead at how it can optimize future purchases, as leading practices suggest.

To do this, the department would need to implement a proactive data analytic capability to ensure that it obtains the best possible prices for materials. Procurement officials told us that they recently analyzed the company's material spending data and identified some cost-saving opportunities, but this was a one-time manual effort. Without a proactive data analytic capability that it can use routinely, the company is not able to predict its future material needs effectively and leverage this information to negotiate better prices on bulk orders with the vendors. In addition, the company is missing opportunities to identify new vendors who can supply the same materials at lower cost well before expiring purchase orders are up for renewal.

Procurement officials told us they are working with the Information Technology department to implement a proactive data analytic capability. They are evaluating whether to buy or build this capability, but the company has not developed a timeline for acquiring it or committed resources to do so.

IMPROVEMENTS IN PAYMENT PRACTICES MAY ENHANCE SAVINGS

The company has made significant progress in setting extended payment terms on new purchase order contracts but little progress in negotiating early payment discounts, which offer more savings than extended payment terms and are a standard industry practice. In FY 2019, the company had extended payment terms (45 or 60 days) for 70 percent of its purchase orders, compared to less than 1 percent when we reported in 2015.[7] In contrast, the company had early payment discounts on only 3.4 percent of its FY 2019 invoices—a slight decline from the 3.5 percent we reported in 2015.

Following the 2015 report, in August 2016, the company required its buyers to negotiate 45-day payment terms on new purchase order contracts with vendors when possible, and in April 2018, the Finance department changed the payment terms to 60 days to further increase savings.[8] This update, however, required negotiating early payment discounts only if vendors do not agree to 60-day extended payment terms. This is contrary to the widely accepted industry practice of negotiating for *both* options.

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[7] In 2015, we found that 75 percent of the company's invoices had payment terms of 30 days, whereas the industry norm was 45-to-60-day payment terms.

[8] Extending to 60-day payment terms allowed the company to delay paying its vendors and use these funds to pay down interest-bearing loans and save on interest.

In light of this change, Procurement buyers told us they did not negotiate early payment discounts because most vendors agreed to the extended payment terms.

The company's progress in negotiating extended payment terms has achieved cost savings, but because of the company's low interest rates, early payment discounts would have saved more. We estimate that the company saved about $1.1 million in interest in FY 2019 by extending payment terms to 45 or 60 days,[9] but could have saved up to $5.4 million if it had directed Procurement buyers to negotiate 1 percent early payment discounts on the same payments.[10] Generally, extended payment terms are a better option when the interest rates are high, but early payment discounts are more beneficial when interest rates are low.[11] Finance and Procurement department officials agreed that negotiating both options—early payment discounts and extended payment terms—would result in more savings. They also agreed to pursue the most beneficial option between the two, depending on the company's weighted-average interest rate at the time of negotiation, if the vendor does not agree to both terms.

CONCLUSIONS

As a result of gaps we identified, the company missed cost-saving opportunities of up to $9.9 million in FY 2019—funds it could have put to better use. With the capability to proactively analyze its purchase data, the company could better ensure that it pays the lowest prices for inventory materials. The company could further save by negotiating early payment discounts and extended payment terms with its vendors.

[9] We calculated the interest savings on invoices with 45- and 60-day payment terms assuming they were extended from 30-day payment terms. We also assumed 3.05 percent interest based on the company's overall weighted-average rate on all interest-bearing borrowings in FY 2019.

[10] Per standard industry practice, most vendors provide a 2 percent discount for early payments.

[11] For example, cost saving from a vendor offering a 1 percent discount for payment on the 10th day is the same as from a vendor offering no discount but providing a 60-day payment term if the company's weighted-average interest rate is 7.3 percent. If the company's interest rate is more than 7.3 percent, a 60-day payment term is financially beneficial; if the interest rate is less than 7.3 percent, a 1 percent early payment discount on the 10th day is beneficial.

RECOMMENDATIONS

To maximize the effectiveness of its procurement practices and cost savings, we recommend that the Executive Vice President / Chief Administration Officer take the following actions:

1. Develop and implement a data analytics capability to help enable company Procurement buyers to make better informed purchasing decisions.
2. Direct Procurement buyers to negotiate for early payment discounts and extended payment terms, and to pursue the most beneficial option if the vendor does not agree to both terms.

MANAGEMENT COMMENTS AND OIG ANALYSIS

In commenting on a draft of this report, the company's Executive Vice President / Chief Administration Officer agreed with our recommendations and described the company's actions and plans to address them, which we summarize below.

- **Recommendation 1**: Management agreed with our recommendation and stated that they will work with Information technology to convert the recently developed variance reporting and annual spend analysis into a robust analytics tool. Further, management, along with the Information Technology department, will acquire or develop analytics with predictive and prescriptive capabilities to facilitate data-driven procurement decisions, and also assist in negotiating contracts with its vendors. The target completion date is September 30, 2021.

- **Recommendation 2**: Management agreed with our recommendation and will negotiate for both early payment discounts and extended payments terms on new purchase order contracts with vendors. Management stated that if a vendor did not agree to both options, Procurement buyers would negotiate the most beneficial option for the company. Further, management stated that the Procurement department will provide training to its buyers as part of their development. The target completion date is September 30, 2020.

For management's complete response, see Appendix B.

APPENDIX A

Objective, Scope, and Methodology

Our objective was to assess the extent to which the company effectively implemented actions to improve its purchasing practices since 2015. The scope of our work focused on analyzing FY 2019 purchasing data and the practices the Procurement department used to make these purchases. To conduct our work, we met with officials and staff from the Procurement and Finance departments. We performed our work from November 2019 through March 2020 in Washington, D.C., and Philadelphia, Pennsylvania.

To address our objective, we analyzed data from SAP[12], the company's procurement and accounts payable system, from October 1, 2018 through September 30, 2019. We performed several data analytics tests to determine if the company is:

- **Obtaining the lowest price from its vendors**. We developed a test to identify purchase orders valued at more than $10,000 that included the same inventory material but had unit prices that were at least 10 percent different from other vendors. We chose these parameters to identify large vendors with significant unit price variance. The test identified purchase orders for inventory materials valued at about $57 million that the company spent in FY 2019. To identify opportunities to buy inventory materials at the lowest cost, we compared the unit price paid for the same materials on these purchase orders. The results of this test cannot be projected to the entire population of purchase orders.

- **Negotiating for favorable payment terms**. We developed a test to analyze the approximately $1.8 billion the company spent in FY 2019 on goods and services through purchase orders to determine the company's actions in negotiating early payment discounts and extended payment terms with its vendors. To identify opportunities for more favorable terms, we compared the company's practices against leading private- and public-sector practices.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the

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[12] SAP Enterprise Resource Planning software processes enterprise-wide data from various business areas such as finance, procurement, payroll, and sales and distribution.

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 objective.

Internal Controls

We assessed the internal control components and underlying principles, and we determined that two of the five internal controls areas were significant to our audit objectives:

- **Control activities**. Management should design control activities to achieve objectives and respond to risk.
- **Monitoring.** Management should establish and operate monitoring activities to monitor the internal control system and evaluate the results.

We developed audit work to ensure that we assessed each of these controls. This included interviewing company officials, reviewing procurement practices, and analyzing purchasing data to ensure that the company pays the lowest prices for materials and negotiates favorable payment terms with its vendors. Because our review was limited to these internal control components and underlying principles, it may not have disclosed all of the internal control deficiencies that may have existed at the time of this audit.

Computer-Processed Data

To achieve our objective, we relied on computer-processed data from the company's procurement and accounts payable system, SAP. We compared a sample of downloaded data from SAP to the individual purchasing records to provide reasonable assurance that the data were accurate. Based on this test, we concluded that the data are sufficiently reliable to be used in meeting the audit objective.

Prior Reports

We reviewed the following audit report that was relevant to our work:

Amtrak OIG:

- *GOVERNANCE: Opportunities Exist to Improve the Efficiency of Procurement Practices for Goods and Services* (OIG-A-2015-005), February 11, 2015

Tennessee Valley Authority OIG:

- *Early Payment Discounts on Vendor Invoices* (Audit 2017-15500), May 30, 2018

APPENDIX B

Management Comments

NATIONAL RAILROAD PASSENGER CORPORATION

Memo

AMTRAK

Date April 10, 2020

To Jim Morrison, Assistant Inspector General, Audits

From DJ Stadtler, EVP

Departments Administration

cc Eleanor Acheson, EVP General Counsel
Stephen Gardner, Sr. EVP
Carol Hanna, VP Controller
Roger Harris, EVP
Scot Naparstek, EVP COO
Dennis Newman, EVP
Steven Predmore, EVP
Mark Richards, Sr Director Amtrak Risk & Controls
Mark Vierling, VP Procurement and Logistics
Tracie Winbigler, EVP CFO
Christian Zacariassen, EVP CIO

Subject Management Response to *GOVERNANCE: Improved Procurement Practices Could Help Ensure Lowest Prices for Materials and Maximum Savings* (Draft Audit Report for Project No. 002-2020)

This memorandum provides Amtrak's response to the draft audit report entitled, "*GOVERNANCE: Improved Procurement Practices Could Help Ensure Lowest Prices for Materials and Maximum Savings*". Management appreciates the opportunity to respond to the OIG recommendations. As indicated in our responses, we agree with each of the OIG recommendations and will initiate actions to address each in a timely manner.

Recommendations:

To maximize the effectiveness of its procurement practices and cost savings, we recommend that the Executive Vice President/Chief Administration Officer take the following actions:

1. Develop and implement a data analytics capability to help enable company Procurement buyers to make better informed purchasing decisions.

   Management Response/Action Plan: The Procurement and Supply Chain teams will continue working with the Information Technology Team to implement analytics capabilities and to move the recently developed variance reporting and annual spend analysis created via spreadsheets into a more robust reporting and analytics tool set. P/SC will also continue working in conjunction IT to acquire or develop procurement analytics capabilities that drive data cleansing efforts, predictive, and prescriptive analytics for decision making use by the teams. Increased data driven procurement decisions will not only support our response to this recommendation but will assist in creating stronger negotiation efforts to address recommendation number two in this report.

Responsible Amtrak Official(s): Mark Vierling Vice President and Chief Procurement Officer, Sovan Shatpathy, Vice President and Chief Technology Officer

Target Completion Date: Spend Analytics portion of development by 9/30/2021.

2. Direct Procurement buyers to negotiate for early payment discounts and extended payment terms, and to pursue the most beneficial option if the vendor does not agree to both terms.

   Management Response/Action Plan: The Procurement and Supply chain teams will incorporate both payment terms and early payment discount requests as part of the negotiation effort on all new procurements. As we finalize commodity structure and commodity landscape development, we will provide training to the Contract Administrators as part of the development. Understanding that both may not be acceptable to a supplier in negotiation the P/SC team will utilize a "Best for Amtrak" approach to the outcome of all negotiations.

   Responsible Amtrak Official(s): Mark Vierling Vice President and Chief Procurement Officer

   Target Completion Date: 9/30/2020

APPENDIX C

Abbreviations

FY	fiscal year
OIG	Amtrak Office of Inspector General
the company	Amtrak

APPENDIX D

OIG Team Members

Eileen Larence, Deputy Assistant Inspector General, Audits

Vijay Chheda, Senior Director

Ashish Tendulkar, Audit Manager

Drew Woodall, Senior Auditor-Lead

Clare Shepherd, Auditor

Alison O’Neill, Communications Analyst

OIG MISSION AND CONTACT INFORMATION

Mission

The Amtrak OIG's mission is to provide independent, objective oversight of Amtrak's programs and operations through audits 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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