July 21, 2008

WALTER O'TORMEY
VICE PRESIDENT, ENGINEERING

SUBJECT: Audit Report – Engineering Investment Portfolio Measurement
(Report Number DA-AR-08-007)

This report presents the results of our self-initiated audit of the U.S. Postal Service's Investment Portfolio Measurement (Project Number 08YG004DA000). Our objective was to assess Engineering's capability to report on program performance as required for tollgate briefings and investment highlights. This included evaluating metric development, ownership, and measurement systems and overall information quality for Engineering programs approved in fiscal years (FY) 2006 and 2007. Click here to go to Appendix A for additional information about this audit.

## Reporting Engineering Program Performance

Postal Service Engineering routinely uses system data to test, measure, and report on program performance as required for tollgate briefings and investment highlights. However, Engineering can improve its reporting capability by including additional input from operational users. Although Engineering developed metrics for the programs we reviewed, these metrics could be more comprehensive to better attribute operational impact to Engineering programs. In addition, ownership of operational performance metrics could be assigned to operational units to reduce reporting control risks. Engineering is currently responsible for defining, measuring, and reporting on both technical and operational metrics. Consequently, some may not always perceive Engineering as completely objective when it reports on whether programs successfully satisfy performance requirements. Click here to go to Appendix B for our detailed analysis of this issue.

We recommend the Vice President, Engineering:

1. Seek greater participation from Operations when developing and reporting on operational performance metrics.

2. Seek greater separation of responsibilities for reporting on program metrics.

## Management's Comments

Management agreed with the finding and recommendations. In response to recommendation 1, Engineering stated they will provide this report to the relevant Operations and Finance organizations. This will reinforce the practice of having the organizations thoroughly review the performance metrics included in Decision Analysis Reports (DARs) during the validation period. Additionally, Engineering will seek greater participation from the appropriate Operations groups when developing operational performance metrics.

To address recommendation 2, Engineering indicated they will continue to fulfill their responsibilities as required by Handbook F-66. However, Engineering is not the owner of the post-DAR reporting process; therefore, management will provide this report to the appropriate Finance group to inform them of the desired improvement.

Click here to go to Appendix D for management's comments in their entirety.

## Evaluation of Management's Comments

The U.S. Postal Service Office of Inspector General (OIG) considers management's comments responsive to the recommendations and the corrective actions should resolve the issues identified in the report. The OIG considers both recommendations significant, and therefore requires OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. These recommendations should not be closed in the follow-up tracking system until the OIG provides written confirmation that the recommendations can be closed.

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Miguel Castillo, Engineering, or me at (703) 248-2100.

E-Signed by Darrell E. Benjamin,
VERIFY authenticity with ApproveIt

Darrell E. Benjamin, Jr.
Deputy Assistant Inspector General
for Support Operations

Attachments

cc: Harold G. Walker
Anthony Mazzei
Anthony Pajunas
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Thomas Shipe
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# APPENDIX A: ADDITIONAL INFORMATION

## BACKGROUND

The Postal Service had 32 active projects representing total authorized funding of approximately $6.9 billion, as of the fourth quarter of FY 2007. The investment in mail processing equipment portfolio represented 69 percent of the projects, and accounted for 88 percent of the approved capital investment.

The capital budget for investments is formulated to support implementation of the 5-Year Strategic Plan, as well as the performance goals for a given fiscal year. The Postal Service uses investment portfolio measurement to get feedback on projects through each phase of development and inform the organization of its success in meeting these goals.

The primary criteria that address investment portfolio measurement are Handbooks F-66 and F-66B.[1] These handbooks provide procedures to ensure major equipment investments support the strategic objectives of the Postal Service, make the best use of available resources, and establish management accountability for investment decisions. Major program performance results are reported quarterly in the Investment Highlights Report.

The requirements of the above guidelines are carried out using the following processes:

- Establish/Deploy/Implement/Review processes (i.e., budget process)
- Capital Investment Committee (CIC) Tollgate Review
- Compliance Reporting
- Investment Highlights Reports
- Interim Studies
- Cost Studies

The process for developing metrics consists of six steps:

- Identify the source(s) of savings in the DAR.
- Select and develop metrics that have a direct relationship with the source of the savings.
- Gain consensus with stakeholders (e.g., Operations, Engineering, Finance, Marketing, and Human Resources).
- Identify the data collection activity that will be required — existing or new.
- Identify the database and systems where the report metrics will be retained and incorporate the metrics into the DAR.

[1] F-66, *General Investment Policies*; F-66B, *Investment Policies and Procedures – Major Equipment*.

## OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to assess Engineering's capability to report on program performance as required for tollgate briefings and investment highlights. We evaluated metric development, ownership, and measurement systems and information quality for Engineering programs approved in FYs 2006 and 2007.[2]

The programs analyzed allowed us to assess critical aspects of investment portfolio management, specifically project performance metrics and the methodology for measuring those metrics. We also assessed the assignment of responsibility for tracking and reporting on those metrics.

The following table presents the programs we reviewed for this audit.

| ***Capital Investment Projects*** |
|---|
| ***Intelligent Mail Data Acquisition System (IMDAS)*** |
| ***Carrier Route Vehicles*** |
| ***Distribution Quality Improvement Program*** |
| ***Flats Sequencing System, Phase I*** |
| ***Additional Delivery Bar Code Sorters (DBCS 6) and Stacker Modules*** |

We assessed the process of metric development for DARs. For each sample project, we determined the party responsible for monitoring and reporting each aspect of project performance in view of those metrics. Subsequently, we reviewed the tollgate briefings and the Investment Highlights Report for each of the projects to gauge the effectiveness of the measures decision makers use.

We conducted this performance audit from November 2007 through July 2008 in accordance with generally accepted government auditing standards and included such tests of internal controls as we considered necessary under the circumstances. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We discussed our observations and conclusions with management officials on June 16, 2008, and included their comments where appropriate.

[2] Projects approved in 2006 and later were subject to CIC tollgate briefings.

## PRIOR AUDIT COVERAGE

We identified one prior OIG audit and a Government Accountability Office (GAO) testimony related to the objective of this audit.

| Report Title | Report Number | Final Report Date | Monetary Impact | Report Results |
|---|---|---|---|---|
| Management Operating Data System | MS-AR-07-003 | August 21, 2007 | None | We identified three system-wide internal controls that can be improved:<br>• Policies, procedures, and on-line training materials were outdated.<br>• Volume and work hour errors were not corrected.<br>• Reviews were not performed annually. |
| Information Technology: Further Improvements Needed to Identify and Oversee Poorly Planned and Performing Projects | GAO-07-1211T | September 20, 2007 | None | Congressional testimony on projects that were not well planned, not well performed, or both. |

# APPENDIX B: DETAILED ANALYSIS

## Comprehensive Program Measures Needed

In reporting program impact, performance metrics could be improved with more comprehensive information from Postal Service Operations, specifically for operational performance metrics.

As depicted in Appendix C, four of the five projects we reviewed had not established a comprehensive program performance reporting methodology that covered metric development, ownership, measurement systems, and information quality. The IMDAS program covered all these areas, while the others covered some of these areas.

Three[3] of the four projects without a comprehensive methodology could have expanded metrics to fully capture savings. These programs relied on either workhour reductions or machine performance metrics to justify the program, but could have taken the added step to associate savings directly with complement impact. This condition is generally true for generative Engineering capital investments. Identifying and reporting on complement impact by deployment site would help ensure operational workhour reductions are captured as planned and reduce the risk of workhours merely being shifted to other functions, and therefore not saved.

Lastly, one program's metrics focused solely on schedule and costs though there was an opportunity to also measure fuel savings. Specifically, the Carrier Route Vehicle Program could have captured flex fuel metrics as the vehicles purchased had this capability.

Postal Service investment policies[4] recognize that the success of a program needs to be measured, and that performance metrics will be used to monitor performance throughout all phases of the program. While the policies call for one metric for each valid requirement, such as workhours, they also recognize:

- The need to have a direct relationship to the source(s) of savings articulated in the DAR.
- The need to use other functionally based systems to provide the depth of information required to meet all DAR compliance reporting and program performance tracking requirements as necessary.

[3] Flats Sequencing System, Distribution Quality Improvement Program, and Delivery Bar Code Sorters 6.
[4] F-66, *General Investment Policies,* 3-3.2.2 and 4-6; F-66B, *Investment Policies and Procedures – Major Equipment*, 2-6.13.

## Reporting Responsibility Can Be Shared

Postal Service Engineering can also improve its capability for reporting program performance if responsibility was shared to reduce reporting control risks. Currently, Engineering owns the responsibility for independently defining, measuring, and reporting on program successes. This is true for programs reviewed and performance information reported in tollgate briefings and the Investment Highlights Report. In fact, for three of the five projects, Engineering was responsible for reporting non-technical measures, such as workhours.

Benchmarks[5] indicate using a multidisciplinary team with functional skills in financial management, engineering, acquisitions, scheduling, mathematics, and communications, along with participants from operations, is a best practice when baselining cost savings and analyzing performance. Centralizing the team allows for more effective deployment of technical and business skills while ensuring some measure of independence.

Applying this concept to Postal Service Operations rather than Engineering is best suited for decisions that influence workhour declines. Since some decisions are non-program related, such as labor scheduling to address volume declines, Operations is in a better position to report on non-technical metrics.

We recognize Engineering decisions impact technical requirements such as machine throughputs, rejects, and availability that enable Operations to reduce workhours and complements, accordingly. However, sharing reporting responsibilities would allow the Postal Service to capitalize on functional strengths in satisfying reporting requirements and enhance the perception of objectivity when Engineering reports on program performance at tollgate briefings and in the Investment Highlights Report. In addition, each functional area could attribute program decisions to measured outcomes where they have direct responsibility.

We also recognize that current Postal Service investment policies[6] rest program reporting responsibilities with the sponsoring organization. However, Postal Service investment policies are not clear when these responsibilities are shared or pertain to multiple sponsors.

## Information Quality

We noted that the Postal Service mail processing systems continuously collect machine data to routinely measure investment performance. For the programs reviewed, management was skilled in using available data sources to measure program performance. In addition, Engineering maintained an organization dedicated to program testing and quality assurance.

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[5] *Cost Assessment Guide*, *Best Practice for Estimating and Managing Program Costs* (Exposure Draft), GAO-07-1134SP, Chapter 6, dated July 2007.

[6] F-66B, *Investment Policies and Procedures, Major Equipment*, Chapter 6.

As it pertains to operational data, in August 2007, we reported that Management Operating Data System (MODS) internal controls were generally effective at the seven mail processing facilities we audited. Additionally, MODS data was valid and reliable at these facilities when used to assess overall plant efficiency. However, MODS internal controls were not effective in ensuring that volume and workhour data recorded against MODS operation numbers were reliable. For the programs we reviewed that were justified based on workhour reductions, we did not take issue with data quality as approved reductions were summarized at the plant level.

## APPENDIX C: RESULTS ANALYSIS TABLE

| SUMMARY TABLE OF AUDIT RESULTS | | | |
|---|---|---|---|
| **PROGRAM** | **METRIC DEVELOPMENT** | **METRIC OWNERSHIP** | **AUDIT COMMENTS** |
| ***Characterization of Performance Metrics*** | **Measure complete and reasonable?** | **Was metric responsibility assigned to appropriate organization?** | |
| | | | |
| **Intelligent Mail Data Acquisition System** | | | |
| *Project-related performance metrics* | Yes | Yes | |
| *Cost Savings-related performance metrics* | Yes | Yes | |
| | | | |
| **Carrier Route Vehicles Program (5,856)** | | | |
| *Project-related performance metrics* | No | Yes | Flex fuel metrics not developed |
| *Cost Savings-related performance metrics* | N/A | N/A | Non-Generative DAR |
| | | | |
| **Flats Sequencing System, Phase 1** | | | |
| *Project-related performance metrics* | Yes | N/A | FSS metrics will be monitored after First Article Testing |
| *Cost Savings-related performance metrics* | No | No | Reduction in staffing complement not made |
| | | | |
| **Additional Delivery Bar Code Sorters and Stacker Modules** | | | |
| *Project-related performance metrics* | Yes | Yes | |
| *Cost Savings-related performance metrics* | No | No | Reduction in staffing complement not made |
| | | | |
| **Distribution Quality Improvement Program** | | | |
| *Project-related performance metrics* | Yes | Yes | |
| *Cost Savings-related performance metrics* | No | No | Reduction in staffing complement not made |

# APPENDIX D. MANAGEMENT'S COMMENTS

WALTER O'TORMEY
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ENGINEERING

UNITED STATES POSTAL SERVICE.

July 15, 2008

LUCINE WILLIS
DIRECTOR, AUDIT OPERATIONS
1735 NORTH LYNN STREET
ARLINGTON, VA 22209-2020

SUBJECT: Response to Draft Audit Report – Engineering Investment Portfolio Measurement (Report Number DA-AR-08-DRAFT)

USPS Engineering has reviewed OIG Report DA-AR-08-DRAFT and provides the following responses.

**OIG RECOMMENDATION #1:**

***Seek greater participation from Operations when developing and reporting on operational performance metrics.***

***MANAGEMENT RESPONSE:***

USPS Engineering agrees with this finding. By copy, we will be providing the report and this response to the relevant Operational and Finance organizations to reinforce the practice of having them thoroughly review the performance metrics included in Decision Analysis Reports (DARs) during the validation period. Additionally, we will seek greater participation from the appropriate Operational group(s) when developing operational performance metrics.

It is worth noting that Engineering sponsored DARs are not developed in a vacuum. In fact, input from relevant outside organizations begins early in the process. During the initial planning stages, many discussions are held to solidify objectives, approaches, and major assumptions that will drive and support the program's business assessment. A formal pre-briefing meeting is held prior to DAR development with both Headquarters and Area operational experts to review these items and seek their comments and input. Operational input and review continues throughout the DAR development phase. Moreover, in most instances, the prime Headquarters Operational group involved in overseeing the use of any new technology purchases becomes a co-sponsor of the DAR, requiring their signature. Finally, Operations does participate in the validation process and submits a formal concurrence form for every DAR produced.

Overall, the attention to DAR performance metrics has increased recently. The newly instituted Tollgate process places added emphasis and requirements on program performance reporting during the last three tollgates – Conversion, Execution, and Post-Deployment. Also, the Investment Highlights Report has recently undergone changes including revising how program performance is reported. This along with other ad hoc reporting and review efforts has acted to significantly increase the tracking of program performance.

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**OIG RECOMMENDATION #2:**

***Seek greater separation of responsibilities for reporting on program metrics.***

***MANAGEMENT RESPONSE:***

USPS Engineering generally agrees with this finding. However, Engineering is not the process owner of the post-DAR reporting process and will continue to fulfill its responsibilities as required by Handbook F-66. By copy, we will let the appropriate Finance group controlling the process know of this desired improvement.

It is worth noting that there are many groups involved in monitoring program progress during the implementation and post-deployment periods. Much of this monitoring is designed to not only report on program progress but to also make appropriate adjustments to further optimize the benefits of the program. And, this effort often includes more detailed metrics than those included in a typical DAR.

The recent Flats Sequencing System (FSS) program is a good example. Although still in the pre-production phase, FSS equipment along with overall program plans are being monitored by many groups, from many different perspectives, and at many different levels. Bi-weekly senior management meetings are being held to monitor schedule and equipment performance. Updates are provided routinely at the Board of Governors subcommittee level (at the Capital Projects Committee level in the past and now at the newly established Operations Ad Hoc Committee level) Our Headquarters Delivery group and local Area and District organizations are also actively involved in monitoring sequenced volumes and percentages at delivery units along with workhour and staffing impacts. Our monitoring in Engineering is also intense, particularly with regard to machine performance and operational methods including staffing requirements.

We believe the actions described above, along with copying the relevant Operational and Finance groups involved in DAR performance metrics, will address the Audit Report's concerns and provide heightened awareness to this activity. If you have any additional questions, please contact me or Tom Shipe, Manager, Technology Planning and Analysis, at (703) 280-7879 or Thomas.P.Shipe@usps.gov.

Walter O'Tormey

cc: Mr. Pajunas
Ms. Malcolm
Mr. Williamson
Mr. Mazzei
Mr. Williams
Ms. Banks