



March 31, 2009

TOM A. SAMRA  
VICE PRESIDENT, FACILITIES

WILLIAM J. SCHNAARS  
MANAGER, NEW YORK DISTRICT

EDWARD L. GAMACHE  
MANAGER, MAINTENANCE POLICIES AND PROGRAMS

SUBJECT: Audit Report – New York District Building Equipment Maintenance  
(Report Number DA-AR-09-006)

This report presents the results of our self-initiated audit of building equipment maintenance (BEM) in the New York District (Project Number 08YG033DA000). Our objectives were to determine whether BEM workhours in the New York District can be reduced through remote or electronic monitoring of building systems and whether outsourcing BEM is cost-effective. See [Appendix A](#) for additional information about this audit.

## Conclusion

The New York District can reduce overtime workhours for BEM by introducing remote building management systems already being piloted as part of the U.S. Postal Service's energy initiatives. Such technologies have the capability of not only reducing energy consumption, but also of potentially reducing overall workhours related to BEM routes.

The New York District also has the opportunity to update staffing packages to reflect current workhour requirements for BEM and subsequently conduct a cost analysis to determine whether outsourcing trade positions would be advantageous. Our limited cost comparisons of trade positions covered under labor distribution code (LDC) 37 showed that contractor hourly rates were more than in-house rates. However, until the New York District updates staffing packages and related workhours based on need, it could risk consuming unnecessary workhours. See [Appendix B](#) for our detailed analysis of this topic.

We recommend the Manager, New York District, in conjunction with the Vice President, Facilities, and the Manager, Maintenance Policies and Programs:

1. Define business requirements for capturing maintenance benefits associated with remote building management systems.

We recommend the Manager, New York District:

2. Update building equipment maintenance staffing packages to reflect current staffing requirements and subsequently conduct a cost benefit analysis to reassess the need for labor distribution code 37 positions.

We recommend the Manager, Maintenance Policies and Programs:

3. Issue a Maintenance Management Order to clarify requirements for periodically reviewing and updating building equipment maintenance staffing packages.

### **Management's Comments**

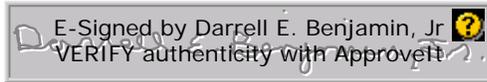
Management agreed with the findings and recommendations, and agreed to work together to identify appropriate technologies for self-monitoring and provide condition based information to prompt maintenance action. Management also completed a LDC 37 staffing package for Morgan Station as of March 2009, which resulted in a reduction of approximately 15 positions. Furthermore, management plans to issue guidance in quarter 3, fiscal year (FY) 2009, to periodically review and update staffing packages in response to recommendation 3. See [Appendix C](#) 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 corrective actions should resolve the issues identified in the report.

The OIG considers all the 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 Postal Service's 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, Director, Engineering, or me at (703) 248-2100.



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

cc: Rafael Vias  
Robert K. McNiece  
Katherine S. Banks

## APPENDIX A: ADDITIONAL INFORMATION

### BACKGROUND

The Postal Service uses LDC 37 to track workhours associated with BEM for the activities of tradesmen such as painters, electricians, and BEM mechanics. Handbook MS-1, *Operation and Maintenance Handbook of Real Property*, Chapter 13, dated November 1986, governs the staffing requirement for this function. In general, the manual provides guidance to:

- Promote the most effective and efficient use of staffing.
- Determine budgetary requirements.
- Evaluate the maintenance effort.
- Ensure maintenance efforts preserve building equipment in a safe and economical operating condition.

Workhour needs are generated locally through a staffing process that considers time for:

- Preventive and corrective maintenance.
- Equipment operation.
- Miscellaneous and space adjustments.
- Travel time to the various work locations on a route.

These hours are categorized for work associated with heating ventilation and air conditioning (HVAC), electrical, elevator, plumbing, and other building maintenance activities. Workhour needs are supported by considering frequencies, total productive staff hours,<sup>1</sup> and annual travel time for each category of maintenance. When completed, staffing packages are submitted for area office review and approval.

Table 1 shows the workhours tracked in LDC 37 for BEM mechanics and other trades. Of these, BEM mechanics consumed the most workhours, including overtime.

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<sup>1</sup> Productive staff hours represent the time used to conduct maintenance tasks.

**Table 1- New York District Workhours and Overtime**

<i>Occupation</i>	<i>LDC 37 Workhours</i>	<i>Percentage of Total Workhours</i>	<i>LDC 37 Overtime</i>	<i>Overtime Percentage</i>
BEM Mechanic	137,828	25	12,541	33
Maintenance Technician	114,617	21	6,940	19
Painter	90,990	17	3,585	10
Maintenance Electrician	43,582	8	2,819	8
Plumber	44,797	8	4,686	12
Maintenance Mechanic	30,719	6	516	1
Building Maintenance Custodian	22,728	4	3,186	8
Carpenter	20,795	4	1,535	4
Welder	12,476	2	488	1
Machinist	9,957	2	452	1
Fireman Laborer	9,475	2	322	1
Stationary Engineer	3,743	1	229	1
Industrial Equipment Mechanic	1,644	0	211	1
Office Appliance Repairman	416	0	0	0
<b>Total</b>	<b>543,769</b>		<b>37,511</b>	

Data is for calendar year 2008 and was extracted from payroll, pay periods 1 through 26.

The Postal Service can contract for BEM and other trade services within the constraints of labor contract EL 912.<sup>2</sup> Generally, the Postal Service is required to consider public interest, cost, efficiency, availability of equipment, and qualification of employees when evaluating the need to subcontract. When contracting out for these services, the Postal Service has the responsibility to provide affected employees with advance notification and justification.

## **OBJECTIVES, SCOPE, AND METHODOLOGY**

Our objectives were to determine whether BEM workhours in the New York District can be reduced through remote monitoring of building systems and whether outsourcing BEM is cost-effective.

To accomplish our objectives, we interviewed New York District maintenance managers and headquarters maintenance officials. We evaluated supporting documentation for LDC 37 staffing packages at two large facilities<sup>3</sup> and ongoing Postal Service initiatives that would affect our objectives. We also compared Postal Service BEM labor rates with those of local industry. We extracted workhour data from the eFlash and payroll systems and route information from the Electronic Maintenance Activity Reporting and

<sup>2</sup> EL 912 2006-2010, *Agreement between United States Postal Service and American Postal Workers Union*, Article 32, provides for subcontracting. The duration of the agreement is November 21, 2006, through November 20, 2010.

<sup>3</sup> Morgan Processing and Distribution Center (P&DC) and James A. Farley P&DC.

Scheduling system. The data in these systems were sufficiently reliable to answer our objectives.

We conducted this performance audit from September 2008 through March 2009 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 objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We reviewed policies and procedures for internal controls, discussed our observations and conclusions with management officials on February 24, 2009, and included their comments where appropriate.

### **PRIOR AUDIT COVERAGE**

In the last several years, the OIG did not conduct any audits or reviews related to the objectives of this audit.

## APPENDIX B: DETAILED ANALYSIS

Our review of the New York District's justifications for BEM personnel showed that:

- BEM officials did not take advantage of less labor-intensive technologies to monitor building systems and control workhours.
- The two large facilities reviewed had not updated their BEM staffing packages – in fact, one had not been updated in 16 years. Therefore, the district could not determine whether it would be advantageous to outsource BEM trade positions, and the facilities may not be properly staffed for these positions.

### **Remote Monitoring of Building Systems**

Postal Service BEM policies<sup>4</sup> call for the efficient use of resources. However, when compared to leading BEM management practices, the New York District did not employ modern technologies that minimize resource usage.

Leading BEM management practices call for equipping modern buildings with smart monitoring systems that:

- Constantly test HVAC and security systems for failures.
- Optimize troubleshooting and repair.
- Reduce system downtime, training costs, actual repair costs, and travel time.

In contrast, the New York District attempted to comply with the Handbook MS-1 standard, which is more than 22 years old and is based on traditional labor-intensive approaches to monitoring and maintaining buildings.

Modern building system technologies can also reduce the frequency of travel time. They accomplish this by performing diagnostics automatically and the results are studied remotely, instead of the traditional diagnostics that are part of the current preventive maintenance routines, which require the technician to physically visit the facility.

A Postal Service study,<sup>5</sup> which included the New York District, confirmed that modern systems result in a general reduction in BEM costs. In the study, the Postal Service estimated that implementing modern systems could lower BEM workhours related to travel and standby route time by 80 percent.

Although we could not confirm the extent of workhour benefits because of the age of the Postal Service's study, we agree that remote building monitoring systems can

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<sup>4</sup> MS-1 Chapter 13, Section 13-102, dated November 30, 1986.

<sup>5</sup> *Breakthrough Productivity Initiative: Proposal from Building Equipment Maintenance LDC 37.*

significantly reduce BEM time. For example, Table 2 shows traveling route information from the current staffing package for the Morgan Processing and Distribution Center (P&DC). In particular, the staffing package shows that 58 percent of time is related to travel during maintenance routes.<sup>6</sup>

**Table 2 – Comparison of Productive Staff-hours to Annual Travel Time – Morgan P&DC**

<i>Route Type</i>	<i>Productive Staff Hours</i>	<i>Minor Adjustments (10 Percent)</i>	<i>Annual Travel Time</i>	<i>Percentage Annual Travel Time</i>
HVAC (Air Conditioning)	5,327	533	4,561	44
HVAC (Compressed Systems)	1,325	132	1,850	56
HVAC (Fans & Pumps)	524	52	1,538	73
Elevator	413	41	650	59
Electrical	67	7	1,953	96
Miscellaneous Equipment	318	32	1,935	85
<b>Total</b>	<b>7,974</b>	<b>797</b>	<b>12,487</b>	<b>58</b>

When applied to the New York District, modern building technologies can reduce workhours associated with traveling to operating and stationary operating routes. These technologies would automate diagnostics for continuous passive monitoring, allowing technicians to focus on reacting to situations that call for maintenance work.

The Postal Service piloted remote building systems as an energy initiative because these systems provided favorable financial returns. During a 13-month pilot period at 16 small and medium-sized facilities, the Postal Service reported energy savings alone of more than 13 percent (or \$39,000<sup>7</sup>). While the pilot did not extend to the New York District, headquarters maintenance and facility energy managers agreed that these technologies can be further applied to improve BEM management in the New York District.

<sup>6</sup> As shown on Postal Service Form 4894, Traveling Operating Route, the Morgan P&DC staffing package reflects workhour categories of total productive staff hours, minor adjustments, annual travel time, and stationary route staff hours approved in 1993.

<sup>7</sup> Savings based on a 13-month period from July 20, 2007, through August 27, 2008.

### Benefits of Outsourcing Building Equipment Maintenance Unknown

We could not determine whether outsourcing positions for BEM in the New York District would be advantageous. As shown in Table 3, hourly labor rates appear to be less expensive in-house than prevailing contractor rates.<sup>8</sup>

**Table 3 – Comparison of Postal Service and Contractor Labor Rates**

<i>Title</i>	<i>2008 Postal Service Hourly Rate</i>	<i>Contractor Hourly Rate</i>	<i>Percentage Difference</i>
Maintenance Electrician	\$44.63	\$60.05	\$(15.42)
Maintenance Mechanic	\$40.59	\$46.29	\$(5.70)
Painter	\$43.26	\$45.75	\$(2.49)

However, the two sites analyzed had not updated their staffing packages to reflect the total hours needed. The staffing package for the Morgan P&DC was last updated in 1993. In addition, while the Postal Service continues to occupy parts of the James A. Farley P&DC, the staffing package had not been updated since the building was sold in FY 2007. Handbook MS-1 requires that the staffing package be revised when significant changes are made in buildings and equipment. However, the handbook does not stipulate the frequency with which staffing packages are to be completed.

Without current staffing packages, the New York District risks paying employees for unnecessary work. For example, we question the need for 27 painter positions at the James A. Farley P&DC. According to Handbook MS-1, the interior square feet the Postal Service is responsible for painting would require approximately three painters.<sup>9</sup> Reducing painter positions to prescribed standards could have a visible impact on overtime, since painters consumed the highest overtime for trade positions at the James A. Farley P&DC and the fourth highest in the district.

<sup>8</sup> Contractor rate for Manhattan, NY, used as U.S. Bureau of Labor Statistics (BLS) average contractor rates for New York, New Jersey and Pennsylvania. BLS rates do not include administrative and other overhead costs that are part of the contractor rate presented.

<sup>9</sup> Handbook MS-1, Chapter 13, Sections 13-505.1 and 13-505.2.

**APPENDIX C: MANAGEMENT'S COMMENTS**

ENGINEERING



March 25, 2009

LUCINE M. WILLIS  
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Draft Audit Report-New York District Building Equipment Maintenance  
Report Number DA-AR-09-DRAFT

We appreciate the opportunity to review and comment on the subject draft audit report. We have reviewed the subject report and in general agree with the findings. We have specific comments regarding recommendations 1 and 3.

Recommendation 1: Define business requirements for capturing maintenance benefits associated with remote building management systems.

We agree that purchase and installation of modern building system technology provides the opportunity to reduce maintenance labor in a number of areas, including the ability of modern systems to self monitor and provide condition based information which will prompt maintenance action and the capability to remotely view and control system functions. We look forward to working with the Facilities Group and New York District to more fully explore use of this technology in order to define available benefits and cost savings opportunities.

Recommendation 3: Issue a Maintenance Management Order to clarify requirements for periodically reviewing and updating building equipment maintenance staffing packages.

We agree with the recommendation of clarifying the requirement for periodically reviewing and updating building equipment maintenance staffing packages. We are currently in the process of determining the most efficient and effective method to implement the process change. In Quarter 3, FY 09, we will issue a policy defining maintenance staffing package review requirements and provide a management process that will assist field managers in implementing the policy change.

We do not believe this report contains any proprietary or business information that should not be publicly disclosed or there are any required exemptions under the Freedom of Information Act (FOIA).

A handwritten signature in black ink, appearing to read "Ed Gamache".

Edward L. Gamache  
Manager, Maintenance Policies & Programs

cc: Mr. O'Torney  
Mr. Samra  
Mr. Schnaars  
Ms. Banks

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PLANT MANAGER (MAJOR)  
NEW YORK DISTRICT  
MORGAN PROCESSING & DISTRIBUTION CENTER



March 16, 2009

LUCINE M. WILLIS  
Director Audit Operations

Re: OIG Custodial Maintenance Audit  
DA-AR-09-DRAFT

Recommendation that the Manager, New York District update staffing packages to eliminate duplication in cleaning operations, to include an adjustment of cleaning frequencies as determined by local conditions.

The New York District has completed all Custodial staffing packages and have been approved by the Area Office. The reductions were approximately 54 positions. The Area Office is reviewing the staffing at the Morgan P&DC in light of four compressions in mail processing. They will make recommendations for facility review. The New York District will continue to contract out all offices meeting the guidelines, once the positions go vacant.

We will make adjustments to staffing should there be changes to the labor contract.

Re: OIG Building Equipment Maintenance Audit  
DA-AR-09-DRAFT

Recommendation that the Manager, New York District update building equipment maintenance staffing requirements and subsequently conduct a cost benefit analysis to reassess the need for labor distribution code 37 positions.

Staffing packages for LDC 37 have been completed and reviewed by the Area Office. The latest staffing guidelines were done. Central Maintenance Services package was approved in May, 2004, with a staff reduction of 37 positions. The LDC 37 positions, while in JAF, are not for JAF. The function covers all Station operations for the District. The Morgan P&DC package was completed and reviewed by the Area Office in March, 2009. There was a staff reduction of approximately 15 positions.

The District is also evaluating all trade positions to determine if a maintenance mechanic position can handle the work. It will allow more versatility in the work performed.

We will work with the other functions noted in the review, in providing input. We are also open to new technologies which they may devise, in equipment monitoring.

Sincerely,

A handwritten signature in cursive script that reads "Victor J. Pacheco".

Victor J. Pacheco  
cc: Katherine S. Banks

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