



Office of Inspector General | United States Postal Service

## Audit Report

# U.S. Postal Service Roofing Preventive Maintenance Program

Report Number SM-AR-18-006 | July 25, 2018



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# Highlights

## Objective

Our objective was to evaluate the effectiveness of the U.S. Postal Service's roofing preventive maintenance program.

The Postal Service has established a preventive maintenance program to oversee the process of extending roof life, protecting roof warranties, and reducing emergency repair replacement costs. Prior to August 2011, the Postal Service's Maintenance Operations group was responsible for the preventive maintenance of owned facilities' roofing. From August 2011 to August 2017, the Postal Service contracted with Roth Bros., Inc. to manage the program, which was not renewed. From September 2017 to present, there has not been a vendor contracted for nor Postal Services resources dedicated to conducting preventative maintenance on its owned facilities.

The Postal Service is responsible for about 195 million square feet of roofing across its portfolio of 8,349 owned facilities. We reviewed a statistical sample of 203 Postal Service-owned facilities.

## What the OIG Found

The Postal Service's roofing preventive maintenance program was not effective in ensuring the inspection of the roofs of all its owned facilities, having roofs inspected at a prescribed frequency, or addressing any identified critical issues. Specifically, we identified that Facilities management:

- Did not maintain an accurate inventory of all its owned facilities to ensure they were appropriately inspected.
- Did not schedule prescribed semiannual roofing inspections for its owned facilities, as required by policy and manufacturer's warranties.

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***“The Postal Service is responsible for about 195 million square feet of roofing across its portfolio of 8,349 owned facilities.”***

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- Did not address the contractor's recommendations, or implement an alternative corrective action, for eight of 29 (28 percent) facilities with roofing issues categorized as critical.
- Did not consistently track manufacturer warranty data for over 7,000 owned facility roofs.
- Did not adequately measure the effectiveness or impact of the roofing preventive maintenance program.

For a roofing preventive maintenance program to be effective, the facility owner should implement the recommended course of action to immediately re-roof those in critical condition. The Postal Service is also required to maintain the manufacturer's roofing warranty on file to submit any claims.

These issues occurred due to a combination of ineffective controls, budget constraints, and management decisions.

Current controls do not include a process to ensure updates to owned facilities are timely and accurate, maintain a centralized database to consolidate and manage warranty data, or establish a mechanism that isolates roofing costs/expense data in the electronic Facilities Management System to measure program effectiveness. In addition, in part due to budget constraints, management decided not to conduct the prescribed semiannual inspections on all its owned facilities or implement corrective actions for all critical roof issues identified.

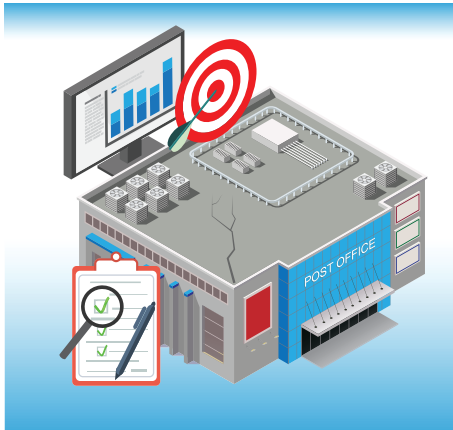
Failing to conduct prescribed roofing inspections increases the risk that the life expectancy of roofs will be reduced, required repairs will go undetected and escalate, and, ultimately, that manufacturer warranties may be voided, resulting in additional repair costs.

Additionally, by not adequately maintaining roof warranty documentation, there is the risk of paying for roof repairs that may be under manufacturer warranty. We identified \$18,760 in questioned costs that the Postal Service paid for roof repairs covered under a valid warranty.

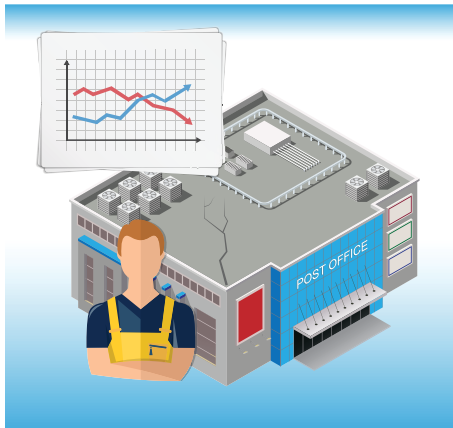
Lastly, without a way to measure program effectiveness, management does not have adequate data to make informed decisions, prioritize funding, and measure return on investment.

## What the OIG Recommended

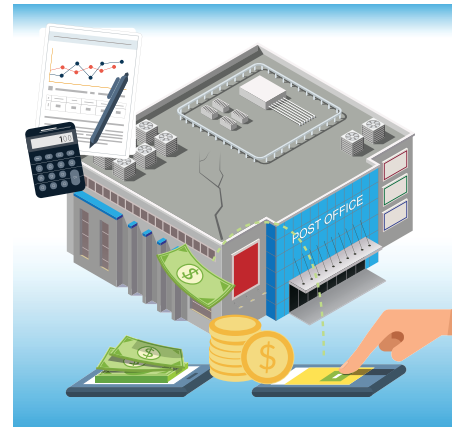
We recommended management:



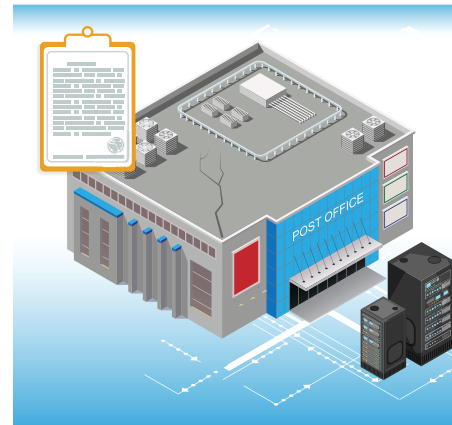
- Implement controls, including a process to ensure there is an accurate inventory of Postal Service-owned facilities in the Roof Asset Management System.



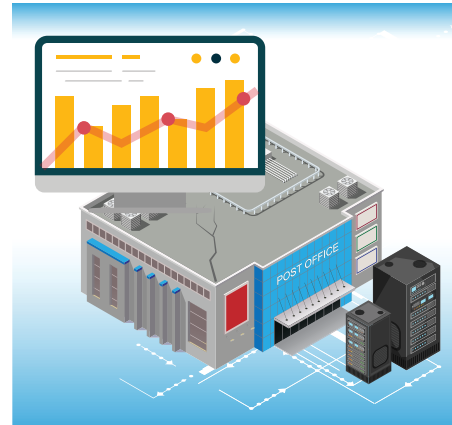
- Assess the cost-benefit of current policies being less prescriptive than manufacturer warranty requirements for conducting preventive maintenance inspections and revise policy accordingly.



- Request funding to address issues identified in the critical category and implement a process to document reasons for not addressing these issues.



- Establish a centralized database to maintain roofing warranty data.



- Develop performance metrics to measure the roofing preventive maintenance program's effectiveness and implement a process to track results.


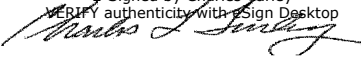
# Transmittal Letter



OFFICE OF INSPECTOR GENERAL  
UNITED STATES POSTAL SERVICE

July 25, 2018

**MEMORANDUM FOR:** TOM A. SAMRA  
VICE PRESIDENT, FACILITIES

E-Signed by Charles Turley  
VERIFY authenticity with e-Sign Desktop   


**FROM:** Charles L. Turley  
Deputy Assistant Inspector General  
for Supply Management and Human Resources

**SUBJECT:** Audit Report – U.S. Postal Service Roofing Preventive  
Maintenance Program (Report Number SM-AR-18-006)

This report presents the results of our audit of the U.S. Postal Service's Roofing Preventive Maintenance Program (Project Number 18SMG007SM000).

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Victoria Smith, Acting Director, Supply Management and Facilities, or me at 703-248-2100.

Attachment

cc: Postmaster General  
Corporate Audit Response Management

# Results

## Introduction/Objective

This report presents the results of our self-initiated audit of the U.S. Postal Service's Roofing Preventive Maintenance Program (Project Number 18SMG007SM000). Our objective was to evaluate the effectiveness of the roofing preventive maintenance program.

The Postal Service is responsible for about 195 million square feet of roofing across 8,300 of its owned facilities, which is valued at about \$3 billion. We reviewed a statistical sample of 203 Postal Service-owned facilities for fiscal years (FY) 2015, 2016, and 2017.

## Background

Damaged roofs can impact operations; employee working conditions by potentially causing health, safety, and security issues; and, ultimately, be a large expense to the Postal Service. To help manage these risks, the Postal Service Supply Management group launched the roofing preventive maintenance program and the Roof Asset Management System (RAMS) to identify roofs that require maintenance, reduce the number of roof replacements, prevent leaks, and keep facilities dry.

Prior to August 2011, the Postal Service Maintenance Operations group was responsible for the preventive maintenance of the roofs of its owned buildings. The Facilities group determined that Maintenance Operations was not completing roofing preventive maintenance as required and, as a result, the Postal Service awarded a contract to Roth Bros., Inc. for August 2011 through August 2017, to manage its roofing preventive maintenance. Roth Bros., Inc. conducts preventive maintenance inspections, cost analysis, budget planning, and forecasting services associated with roof inspections.

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*“Prior to August 2011, the Postal Service Maintenance Operations group was responsible for the preventive maintenance of the roofs of its owned buildings.”*

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A roof is considered a major investment of a commercial building and serves as protection against the elements for all the investments in the building. Routine roofing preventive maintenance addresses risks and helps minimize major issues and large structural investments. A roofing professional can determine the health of a roof, estimate the remaining life span of the roof, help develop a maintenance plan, and identify additional steps to protect the roof. Long-term benefits of roofing preventive maintenance result in extending roof life, protecting roof warranties, significantly reducing emergency roof repairs, and reducing roof replacement costs.

In addition, the Postal Service is required to manage and maintain the roofing of its owned facilities to meet manufacturer warranty stipulations and help control roof repair expenses. A manufacturer warranty covers material and labor costs necessary to repair a roof and return it to a satisfactory condition if damage occurs due to ordinary wear and tear or deficiencies in material or workmanship.

## Finding #1: Accurate Inventory of Owned Facilities

The Postal Service did not maintain an accurate inventory of its owned facilities to schedule roofing preventive maintenance inspections.

The inventory of owned facilities is managed in RAMS on the Roth Bros., Inc. website<sup>1</sup> and is used to schedule roofing inspections. We determined that the owned facilities inventory Roth Bros., Inc. maintains and uses for scheduling roofing preventative maintenance inspections was understated by 2.5 percent (five of the 203 sampled facilities reviewed were not included, or over 200 facilities projected over the universe). As such, these owned facilities did not receive a roofing preventive maintenance inspection during the five-year contract with Roth Bros., Inc.

The Postal Service did not have a complete or accurate inventory of its owned facilities for several reasons, including improper categorization of owned facilities in RAMS and current controls having no process for reconciling owned facilities with facility data from the vendor or ensuring timely and accurate RAM updates.

<sup>1</sup> RAMS is managed by Roth Bros., Inc., but the Postal Service owns the data.

When there are not adequate controls, such as reconciliations and timely system updates to ensure an accurate inventory of owned facilities, there is a risk that roofs will not be considered for the required semiannual inspections. In this instance, management did not consider a projected 200 roofs for semiannual inspections, increasing the risk of uninspected roofs manufacturer’s warranties being voided and potentially leading to increased roofing maintenance costs.

During the exit conference, Facilities management indicated they compared the inventory of owned properties in RAMS to the electronic Facilities Management System (eFMS). The results yielded 65 out of 8,349 Postal Service-owned facilities did not have accurate information. Facilities management took corrective

***“ In FY 2015, 64 percent of facilities had fewer than two inspections conducted.”***

action and updated the information in RAMS to match the information in eFMS.

**Recommendation #1**

**The Vice President, Facilities**, implement adequate controls, including a process to ensure there is an accurate inventory of Postal Service-owned facilities in the Roof Asset Management System.

**Finding #2: Schedule Semiannual Roofing Preventive C Inspections**

For FYs 2015, 2016, and 2017, Facilities management did not schedule roofing preventive maintenance inspections at the prescribed frequencies. In FY 2015, 64 percent of facilities (130 of 203, or 5,347 projected over the universe) had fewer than two inspections conducted; in FY 2016, 64 percent of facilities (130 of 203, or 5,347 projected over the universe) had fewer than two inspections conducted; and in FY 2017, 100 percent of facilities (203 of 203, or 8,349 projected over the universe) had fewer than two inspections conducted (see Table 1).

**Table 1: Fewer Than Two Preventive Maintenance Inspections Per Year**

Area	Sampled Facilities	Preventive Maintenance Inspections					
		FY 2015		FY 2017		FY 2017	
		Zero	One	Zero	One	Zero	One
Capital Metro	18	4	3	7	3	6	12
Eastern	38	7	16	5	18	28	10
Great Lakes	24	5	13	3	9	19	5
Northeast	23	4	15	1	12	22	1
Pacific	14	1	8	2	9	7	7
Southern	42	5	16	13	18	9	33
Western	44	10	23	6	24	35	9
Total	203	36	94	37	93	126	77
<b>Grand Total</b>		<b>130</b>		<b>130</b>		<b>203</b>	

Source: Roth Bros., Inc. AIM report and U.S. Postal Service Office of Inspector General (OIG) analysis.

Postal Service policy requires the Postal Service to conduct roofing preventive maintenance inspections semiannually.<sup>2</sup> In May 2016, management updated Postal Service policies to remove the preventive maintenance inspections frequency requirement. In addition to the handbook guidance, manufacturers require roofing preventive maintenance inspections to be conducted semiannually to maintain warranty validity.<sup>3</sup> The warranty<sup>4</sup> states that “routine inspections and maintenance are the building owner’s responsibility and roofs must be inspected at least semiannually. Failure to follow the maintenance program will void the guarantee<sup>5</sup> in its entirety.”

Management decided, in part due to budget constraints, not to conduct the prescribed semiannual inspections of all its owned facilities. For FYs 2015 and 2016, management implemented a method to evaluate facility roofs based on factors such as age and life expectancy of the roof, photos of the roof, and the number of roof leaks. Based on this information, a prioritized preventive maintenance schedule was provided to the contractor for inspection. As a result of this approach, in May 2016, management revised the policy to remove the semiannual inspection requirement. In FY 2017, the Postal Service chose not to exercise the inspection option in the roof preventive maintenance contract with Roth Bros., Inc. and did not conduct inspections due to budgetary constraints.

When roofing preventive maintenance inspections are not conducted as required, the Postal Service is at risk of reducing the life expectancy of its facility roof assets, incurring additional maintenance costs, and voiding the manufacturer warranty.

Industry studies<sup>6</sup> show that a proactive maintenance program can lower the average lifecycle cost of a roof to \$0.14 per square foot. A reactive maintenance program – where the contractor is called only after problems are discovered – can cost up to \$0.25 per square foot. When Facilities deviates from the proactive

maintenance program (preventive maintenance inspections) approach, there is a risk of the Postal Service incurring \$35 million in reactive maintenance expenses (see Table 2).

**Table 2: Proactive Versus Reactive Maintenance**

	FY 2016	FY 2017
Square Footage of Roof Space Based on Sample	122,681,625	191,690,039
Difference of Proactive versus Reactive Maintenance Costs	\$0.11	\$0.11
Proactive Potential Benefit Amount	\$13,503,288	\$21,085,904
Total Impact – Physical Safety & Security for FYs 2016-2017		<b>\$34,589,193<sup>7</sup></b>

Source: Industry best practices and OIG analysis.

**Recommendation #2**

**The Vice President, Facilities**, assess the cost-benefit of current policies being less prescriptive than manufacturer warranty requirements for conducting preventive maintenance inspections and revise policy accordingly.

**Finding #3: Contractor Recommendations for Critical Issues**

In FYs 2014, 2015, and 2016,<sup>8</sup> Facilities did not implement the contractor’s recommendation to immediately re-roof 28 percent (eight of 29) of Postal Service-owned facilities categorized as critical based on inspection. The contractor recommendation for a facility roof in critical condition is to immediately re-roof<sup>9</sup> the

2 Handbook MS-1, *Operation and Maintenance of Real Property*, Publication: TL-4, Appendix 13-B (p. 48), November 30, 1986.

3 Owner’s manuals obtained from the following roofing manufacturers: Firestone, Carlisle, Americanweatherstar, and Simon.

4 Definition of warranty - a written guarantee issued to the purchaser of an article by its manufacturer promising to repair or replace it if necessary.

5 Johns Manville Peak Advantage guarantee issued to the Postal Service, 4326 Bluff City Hwy., Bluff City, TN, 37618, July 31, 2017.

6 *Roofing Contractor*, the official publication of the International Roofing Expo®.

7 We calculated this amount using the percentage of facilities that were not inspected each year (FYs 2016 and 2017) applied to total Postal Service-owned facility roof square footage, multiplied by the \$0.11 shown in Table 2.

8 Annual summary reports from Roth Bros., Inc. to the Postal Service with recommendations for roof replacements to take place the following fiscal year.

9 Roth Bros., Inc. guidance states that a roof has three years of life left when it is designated as an “immediate re-roof.”



facility. When Facilities receives the contractor's recommendation, they conduct another evaluation to assess the condition and determine whether or not to re-roof the facility.

A roof placed into a critical category indicates issues such as failing seams, deterioration of drains or base flashings, and roofing membrane failings. As of the

date of this report, the Postal Service replaced one roof in FY 2017 and another is currently under construction. Three roofs are scheduled for replacement within two years; however, management decided to increase roof preventive maintenance inspections from 'basic' to 'aggressive'<sup>10</sup> on four of the roofs, rather than replace them. See Table 3 for details of the nine roofs recommended for immediate replacement.

**Table 3: Nine Facilities Recommended for Immediate Roof Replacement**

Facility	Fiscal Year Recommended for Re-Roof	Fiscal Year Re-Roofed or (Planned)	Alternate Action Followed	Auditor Comments
Boise Overland Station, ID	2016	(2018)	Under construction	Waited 2 years
Brewster Post Office, MA	2016	2017	N/A	Waited 1 year
Davidson Post Office, NC	2015	N/A	Aggressive preventive maintenance	Program manager decided that immediate re-roof was not necessary.
KC Gladstone Branch, MO	2014	(2019)	Planned in future year	Waited 5 years
Lancaster Post Office, OH	2016	(2018)	Planned in future year	Waited 2 years
Pilot Mound Post Office, IA	2015	N/A	Aggressive preventive maintenance	Program manager decided that immediate re-roof was not necessary.
Powhatan Post Office, VA	2016	N/A	Aggressive preventive maintenance	Program manager decided that immediate re-roof was not necessary.
Tupelo GMF, MS	2014	No Date	Planned in future year	Was originally on 2014 list
West Fargo Post Office, ND	2016	N/A	Aggressive preventive maintenance	Program manager decided that immediate re-roof was not necessary.

Source: Roth Bros., Inc. AIM report and OIG analysis.

<sup>10</sup> Basic preventive maintenance includes removing all debris; cleaning roof drains, scuppers, and gutters; and making minor repairs to the roof membrane and flashings as needed. Aggressive preventive maintenance includes completing continuous preventive or corrective measures that are quantifiably captured and reported, stopping and preventing water entry that result in debris removal to allow the roof to properly shed water.

To fully maximize the intent of a roofing preventive maintenance program, the facility owner should implement the recommended course of action to mitigate the issues identified during an inspection, especially critical issues.

Management, decided to not implement corrective actions for all critical issues identified, in part due to budget constraints. Not replacing a roof in critical condition puts the Postal Service at risk of reducing the safety and security of its customers, employees, and business operations.

***“ Not replacing a roof in critical condition puts the Postal Service at risk of reducing the safety and security of its customers, employees, and business operations.”***

### Recommendation #3

**The Vice President, Facilities,** request funding to address issues identified in the critical category and implement a process to document reasons why these issues are not addressed.

## Finding #4: Track Roofing Warranty Data

The Postal Service does not consistently track manufacturer’s roof warranty data on owned facilities, such as when the roof was installed, who performed the installation, and the length and terms of the warranty.

From 2011 through 2017, Roth Bros., Inc. conducted roof inspections for all Postal Service-owned facilities and was responsible for tracking roof warranty data. At the time of contract execution, Facilities could not provide warranty data to Roth Bros., Inc. for 85 percent (7,082 of 8,349) of the owned facilities. Most of the warranty data available for the 1,267 owned facilities had roofs installed during the contract period.

The Postal Service is required to maintain the manufacturer’s roofing warranty on file to submit any claims. For example, one manufacturer’s warranty<sup>11</sup> states that “If you do have a problem, you should contact Johns Manville Guarantee

Services at the appropriate numbers provided. Please have the guarantee on hand so that we may more efficiently handle your inquiry.”<sup>12</sup>

The Postal Service did not adequately maintain warranty data due to poor document management practices. Currently, there is not a centralized database to consolidate and manage warranty data.

By not adequately maintaining roof warranty data, the Postal Service is at risk of replacing and repairing roofs that are under warranty and not meeting requirements of roofing manufacturers. For example, we found \$18,760 in questioned costs<sup>13</sup> due to the Postal Service paying for repairs at two facilities covered under warranty.

### Recommendation #4

**The Vice President, Facilities,** direct program management to establish a centralized database to maintain roofing warranty data.

## Finding #5: Measure the Roofing Preventive Maintenance Program

Facilities does not effectively measure the roofing preventive maintenance program. Specifically, there is not a methodology to measure program results; or metrics to track specific roof maintenance cost, cost-savings, or contractor performance. Facilities measures program effectiveness by comparing roof conditions from one year to the next as well as the number of roof leaks reported. These indicators alone are not conclusive in determining whether preventive maintenance on all Postal Service owned roofs is effective in achieving the goals of the program. Furthermore, roofing preventive maintenance inspections have not been conducted since March 2017. These inspections are the main source of information Facilities uses to measure program effectiveness.

A program is a plan of action aimed at accomplishing a clear business objective. It includes details on what work is to be done, by whom, when, by what

<sup>11</sup> Johns Manville Peak Advantage guarantee issued to the Postal Service, 4326 Bluff City Hwy., Bluff City, TN, 37618, July 31, 2017.

<sup>12</sup> Johns Manville Guarantee Services handles customers warranty inquiries.

<sup>13</sup> Unnecessary, unreasonable, unsupported, or an alleged violation of law, regulation, contract, etcetera. May be recoverable or unrecoverable. Usually a result of historical events.

means, and/or resources will be used.<sup>14</sup> One key to a program's success is the evaluation process, which critically examines the program. It involves collecting and analyzing information about the program's activities, characteristics, and outcomes. Its purpose is to make judgments about the program, improve its effectiveness, and/or inform programming decisions.

Facilities is not measuring program effectiveness as management has not developed specific tracking metrics. Current controls do not include a mechanism to segregate roofing cost/expense data in (eFMS) to measure program effectiveness.

Without measuring program effectiveness or impact, the Postal Service cannot accurately assess if it is meeting the program's objectives in an economical and efficient manner, or if the program should continue or be discontinued. Without an avenue to measure program effectiveness, management does not have adequate data to make informed decisions, prioritize funding, and measure return on investment.

#### **Recommendation #5**

**The Vice President, Facilities**, develop metrics to measure the roofing preventive maintenance program's effectiveness and implement a process to track results.

## **Management's Comments**

Management disagreed with findings 1, 3, 4, and 5 and disagreed in part with finding 2. Management agreed with recommendations 1 and 2; however, disagreed with recommendations 4 and 5 and partially disagreed with recommendation 3. Management agreed with the monetary impact of \$18,760 in questioned costs.

Management believes that, based on information provided to the OIG during the exit conference, we should have revised our findings and recommendations to better reflect the information we received at the meeting, which demonstrated the effectiveness of the roofing preventative maintenance program.

Regarding recommendation 1, management stated that based on their review of the the RAMS database, it should have returned information that is over 99 percent accurate. Management further stated that the small sample size used created data that did not accurately reflect the completeness and accuracy of the information in the RAMS system. Management agrees that improvements to RAMS are possible and will work toward obtaining a higher level of accuracy. The target implementation date is September 30, 2018.

Regarding recommendation 2, management agrees and will develop policies to ensure that preventative maintenance is performed at the appropriate levels. The target implementation date is September 30, 2018.

Regarding recommendation 3, management disagreed partially, stating they are already requesting funding to address issues identified in the critical category, but will implement a process to document reasons for deferring any critical replacements. The target implementation date is September 30, 2018.

Regarding recommendation 4, management disagreed, stating that there already is an established centralized database to maintain roof warranties in RAMS.

Regarding recommendation 5, management disagreed, stating that metrics for measuring the roofing preventative maintenance program's effectiveness already exist and the results are tracked in RAMS. Management indicated they will review and, where necessary, strengthen metrics for measuring and tracking the roofing preventative maintenance program's effectiveness.

See [Appendix B](#) for management's comments in their entirety.

<sup>14</sup> BusinessDictionary.com.

## Evaluation of Management's Comments

The OIG consider management comments on recommendations 1, 2, 3, and 4 responsive and corrective actions planned should resolve the issues identified; however, we consider management's comments for recommendation 5 to be unresponsive.

We disagree with management's overall conclusion statement that, based on information provided at the exit conference, the findings and recommendations should have been revised. After the exit conference, management provided additional documentation related to findings 2 and 3; however, this additional documentation was not sufficient to support the claims management made during the exit conference. Therefore, the findings and recommendations did not warrant additional revisions.

Regarding recommendation 4, we agree with management's assertion that roofing manufacturer's warranties are maintained and stored in RAMS, the contractor's database. The intent of the recommendation is not to waste resources by establishing a duplicative database, but to ensure the Postal Service has full access and ownership of the data. During the audit, management communicated that the vendor contract relationship had ended and the Postal Service was in the process of assessing options to manage/continue the program. Management did not communicate a contingency plan to maintain manufacturer warranty data going forward.

Regarding recommendation 5, we disagree with management's assertion that the three metrics that measure program effectiveness (remaining life of roof, number of roof leaks, and cost to repair roof leaks) are effective in assessing overall program effectiveness as standalone metrics. We contend these metrics as standalone metrics measure reactive results, not the effectiveness of the program's proactive actions. The three measurement criteria do not factor in comparative analysis to assess whether the preventive maintenance program is effective in meeting program objectives in an economical and efficient manner, or if the program should continue or be discontinued. For example, assessing the remaining life of a roof does not directly correlate if actions under the preventative maintenance program contribute to expanding/declining the roof's life. In addition, current controls do not include a mechanism to segregate roofing cost/expense data in eFMS to measure program effectiveness. Therefore, it is not possible to accurately identify the costs/expenses specifically allocated to roofs in eFMS. As such, management should develop metrics to measure the roofing preventive maintenance program's effectiveness and implement a process to track results.

All recommendations require OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. Recommendations 1, 2, and 3 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. Recommendation 4 is considered closed with issuance of this report and recommendation 5 will remain open as we coordinate resolution with management.

# Appendices

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# Appendix A: Additional Information

## Scope and Methodology

To accomplish our objective, we:

- Interviewed Postal Service managers associated with RAMS. We also interviewed personnel at Roth Bros., Inc., the roofing company the Postal Service contracted to conduct roof inspections as part of its roofing preventive maintenance program.
- Determined the roles and responsibilities of Postal Service groups responsible for the roofing preventive maintenance program.
- Interviewed Facilities and Supply Management personnel and reviewed relevant information and supporting documentation associated with the roofing preventive maintenance program.
- Obtained a statistical random sample of 203 of 8,349 Postal Service-owned facility roofs. We further stratified this sample by facility square footage and Postal Service area to include small, medium, and large facilities, as well as facilities from all geographic areas of the country.
- Reviewed 203 AIM<sup>15</sup> reports from the Roth Bros., Inc. roof management website. The AIM reports contain details and results of the preventive maintenance inspections, including budget summary amounts<sup>16</sup> and roof condition. We determined the number and type of roofing preventive

maintenance inspections and the condition results of each facility for years 2015, 2016, and 2017.

- Determined whether the Postal Service scheduled the required number of roofing preventive maintenance inspections with Roth Bros., Inc. and implemented recommendations resulting from those inspections.

We conducted this performance audit from November 2017 through July 2018, 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 that 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 on June 5, 2018, and included their comments where appropriate.

We assessed the reliability of the facilities risk model data by comparing the address information within the statistical sample to the AIM inspection reports and the Google mapping application to verify the existence of each facility. We determined that the data were sufficiently reliable for the purposes of this report.

<sup>15</sup> Reports available on the Roth Bros., Inc. RAMS website, which includes detailed displays of the facility's roof such as condition reports, preventive maintenance history, color codes, drawings, photos, budget summary, and the preventive maintenance checklist.

<sup>16</sup> Estimated cost to repair or replace the roof based on the condition noted due to the inspection.

## Prior Audit Coverage

There were two audits conducted in the last three years, which directly relate to this objective.

Report Title	Objective	Report Number	Final Report Date	Monetary Impact (in millions)
<i>Postal Service Warranty Process</i>	Determine whether the warranty claims process ensured that the Postal Service obtained a refund or replacement for purchases covered by a warranty program.	DP-AR-13-011	9/25/2013	\$10.7

# Appendix B: Management's Comments

TOM A. SAMRA  
VICE PRESIDENT, FACILITIES



July 13, 2018

LORI LAU DILLARD  
DIRECTOR, AUDIT OPERATIONS

SUBJECT: Roofing Preventative Maintenance Program (Report Number SM-AR-18-DRAFT)

Thank you for the opportunity to review and comment on the above referenced audit regarding the Roofing Preventative Maintenance program. Management disagrees with the finding that the program was not effective in ensuring the inspection of the roofs of all owned facilities, having roofs inspected at a prescribed frequency, or addressing any identified critical issues. Management believes that, based on the information provided to the Office of Inspector General (OIG) during the exit conference, findings and recommendations should have been revised to better reflect the information imparted to the OIG which demonstrated the effectiveness of the roofing preventive maintenance program. Management concurs with the monetary impact of \$18,760 for repairs of two roofs during the FY 2015 through FY 2017 period.

#### Findings:

OIG Finding #1: Facilities Management did not maintain an accurate inventory of all its owned facilities to ensure they were appropriately inspected.

Management disagrees with this finding. Management has established a proprietary computer program, the electronic Facilities Management System (eFMS) that contains information that reflects an accurate inventory of all owned facilities. In addition, Management has established a Roof Asset Management System (RAMS) which includes an inventory of all owned properties that will be reconciled with the information in eFMS when the new contract is issued in the next 30 days.

OIG Finding #2: Facilities Management did not schedule prescribed semiannual roofing inspections for its owned facilities, as required by policy and manufacturer's warranties.

Management disagrees with this finding in part and agrees in part. Management updated Postal Service policies in 2016 and, as a result, there is no longer a Postal Service policy requiring that Facilities have roofs inspected semiannually. Management agrees with respect to prescribed inspections under manufacturer's warranties. Roofs that are under warranty will be inspected as required by the manufacturers.

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OIG Finding #3: Facilities Management did not address the contractor's recommendations, or implement a corrective action, for 8 of 29 facilities with roofing issues categorized as critical (28%).

Management disagrees with this finding because, as discussed at the exit conference, management took the appropriate action in a timely manner for eight of the nine locations. Roof recommendations for four of the facilities identified were funded and processed timely. The other four were deferred because after further examination and review, Management decided the respective roof's conditions did not warrant immediate replacement and the expenditure could not be justified. Only one of the locations, the site known as Kansas City, Gladstone Branch, was not addressed timely. This roof will be inspected and a determination made during the first round of inspections under the new contract for roof inspection and maintenance.

OIG Finding #4: Facilities Management did not consistently track manufacturer warranty data for over 7,000 owned facility's roofs.

Management disagrees with this finding. Manufacturers' warranty data is tracked in the RAMS database. All active warranties are currently managed through this system.

OIG Finding #5: Facilities Management did not adequately measure the effectiveness or impact of the roofing preventive maintenance program.

Management disagrees with this finding because Management has already developed a system to track the effectiveness of the roofing preventive maintenance program. As explained at the exit conference, the program is currently measured on three metrics: remaining life of roof, number of roof leaks, and cost to repair roof leaks.

**Recommendations:**

Recommendation 1: The Vice President, Facilities, implement adequate controls, including a process to ensure there is an accurate inventory of Postal Service-owned facilities in the Roof Asset Management System.

**Management Response/Action Plan:**

As Management stated at the exit conference, based on reviewing the total database, the Roof Asset Management System database returns information on a basis that is over 99% accurate. While there may be a few inaccuracies in this system, Management believes this recommendation made by the OIG has been influenced by the small sample size used in the audit. OIG's sample was 203 of the 8,349 roofs on Postal Service owned facilities. The small sample size used (2.4% of all roofs) created data that did not accurately reflect the completeness and accuracy of the information in the RAMS system as a whole.

Nonetheless, Management agrees that improvements to the Roof Asset Management System are possible and will work towards obtaining a higher level of accuracy in the Roof Asset Management System. Management will provide documentation to demonstrate the steps being taken to improve.

Target Implementation Date:

September 30, 2018

Responsible Official:

Manager, Repair and Alteration - East

*Recommendation 2: The Vice President, Facilities, assess the cost-benefit of current policies being less prescriptive than manufacturer warranty requirements for conducting preventative maintenance inspections and revise policy accordingly.*

Management Response/Action Plan:

Management agrees with the recommendation and will develop policies to ensure that preventative maintenance is performed at the appropriate intervals. Management will provide documentation to demonstrate this review.

Target Implementation Date:

September 30, 2018

Responsible Official:

Manager, Repair and Alteration - East

*Recommendation 3: The Vice President, Facilities, request funding to address issues identified in the critical category and implement a process to document reasons why these issues are not addressed.*

Management Response/Action Plan:

USPS Management disagrees partially with the recommendation as management is already requesting funding to address issues identified in the critical category, but will implement a process to document reasons why any critical replacements are deferred. Management will provide documentation to support the process.

Target Implementation Date:

September 30, 2018

Responsible Official:

Manager, Repair and Alteration - East

Recommendation 4: The Vice President, Facilities, direct program management to establish a centralized database to maintain roofing warranty data.

Management Response/Action Plan:

Management disagrees with this recommendation as Management has already established a centralized database to maintain roof warranties within the RAMS database. Management believes it would be wasteful to spend Postal Service resources on establishing a duplicative database.

Target Implementation Date:

Not applicable.

Responsible Official:

Not applicable.

Recommendation 5: The Vice President, Facilities, develop performance metrics to measure the roofing preventative maintenance program's effectiveness and implement a process to track results.

Management Response/Action Plan:

Management disagrees with this recommendation as Management has already developed metrics to measure the roofing preventive maintenance program's effectiveness and the results are currently tracked in the RAMS database. Management will review and, where necessary, strengthen the metrics and tracking of the roofing preventive maintenance program's effectiveness.

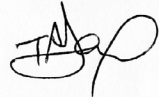
Target Implementation Date:

Not applicable.

Responsible Official:

Not applicable.

In conclusion, Management appreciates the OIG's efforts in auditing the Postal Service's Roofing Preventive Maintenance Program and preparing this Draft Audit Report.



Tom Samra  
Vice President, Facilities

cc: *Manager, Corporate Audit Response Management*



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