Office of Inspector General | United States Postal Service

Audit Report

Business Application Review of the HERO System

Report Number 19-016-R20 | August 24, 2020

On Friday, December 20, 2019 from 11:00 PM CST to Saturday, December 21, 2019 at 1:00 AM CST, your portal will be briefly unavailable due to a software update.

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Highlights

Objective

Our objective was to determine if the U.S. Postal Service developed the HERO system in accordance with policies, procedures, and industry best practices, and whether it is functioning as management intended.

In July 2015, the Postal Service approved a Decision Analysis Report (DAR) request for [redacted] to replace the existing Human Resource (HR) systems with a new cloud-based Integrated Human Resources System (IHRS) comprised of five modules that address HR functions. In September 2016, the Postal Service awarded [redacted] the contract to build an IHRS and required delivery of all five DAR modules. Because that supplier was unable to meet contractual requirements, the Postal Service awarded a contract to [redacted] to implement a cloud-based commercial-off-the-shelf integrated Human Resources system called HERO for [redacted]. This contract required delivery of four of the five IHRS DAR modules.

We reviewed the HERO system's requirements, business case, and contract and compared these to HERO's functionality. We also reviewed HERO's contract payment data and compared it to invoices to ensure accuracy.

We planned our fieldwork before the President of the United States issued the national emergency declaration concerning the novel coronavirus outbreak (COVID19) on March 13, 2020. The results of this audit do not reflect operational changes and/or service impacts that may have occurred as a result of the pandemic.

Findings

The Postal Service did not develop the HERO system in accordance with policies, procedures, and federal government security standards, and the system did not function as management intended.

In fiscal year (FY) 2018, [redacted] launched a module that did not support business needs and processes outlined in the contract and in FY 2019 only partially delivered a second module. We found that Postal Service management did not clearly communicate requirements to [redacted] leading to gaps in contract deliverables. Requirements form the basis for the entire supply chain process and provide the necessary detail to understand what is required to develop a solution that meets business needs.

These issues occurred because Postal Service management purchased a commercial-off-the-shelf solution that could not be customized to meet its business needs. In addition, Postal Service policy did not require a demonstration of the functional capabilities prior to purchase of the cloud solution. Further, management did not initiate required technical assessments of the vendor until after awarding the contract.

As a result, the Postal Service spent [redacted] for the contract but only received two partially completed modules out of five IHRS DAR modules. On average, management spent [redacted] annually from FYs 2018 to 2020 and ended the IHRS DAR investment in December 2019. In addition, because [redacted] did not fully complete the required modules, in January 2020 the Postal Service approved an additional [redacted] to upgrade the legacy system.

Postal Service management also did not complete an interim security assessment as required by policy to mitigate HERO contract risks while the [redacted] Federal Risk and Authorization Management Program (FedRAMP) authorization was in progress. This authorization is required and helps ensure stringent information security requirements are in place to alleviate risk associated with data security practices.

This occurred because the contracting officer and the Chief Information Security Officer agreed to award the contract and pursue an agency Authority to Operate without completing the required interim security assessment while [redacted] completed the FedRAMP authorization process. However, they could not meet FedRAMP authorization requirements which delayed the HERO system implementation by 16 months.

Finally, we found that 18 of 51 total HERO invoices issued from June 2016 to January 2020 totaling [redacted] in HERO system payments, were not retained by the contracting officer representative (COR) in Supply Management as required by policy. The COR is required to retain copies of all certified invoice records for six years following contract close out. Subsequently, Accounts Payable located copies of 17 of the 18 missing invoices and provided them to Supply Management.

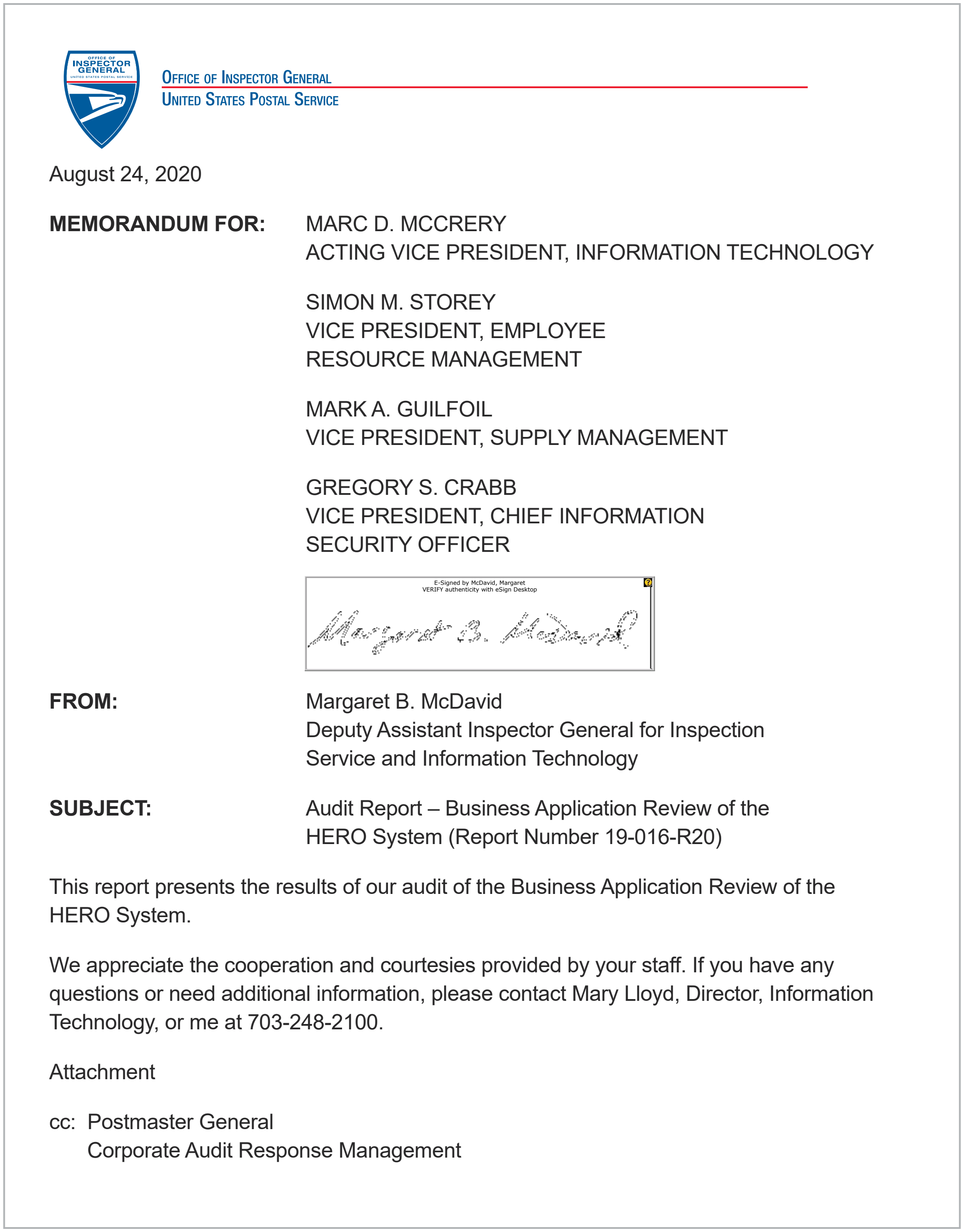
This occurred because there was a frequent change of COR and no policy existed at the time requiring centralized electronic storage of hard copy invoices. Without adequate controls over contract records, management may not be able to verify all amounts paid or services rendered, resulting in a risk of overpayment or paying for services not received.

Recommendations

We recommend management:

- Update Management Instruction AS-800-2014-4, *Cloud Computing Policy*, to include early demonstrations of system functionality to key stakeholders to validate and verify the alignment of business needs and the technical capabilities before purchasing any cloud software solutions.
- Update Management Instruction AS-800-2014-4, *Cloud Computing Policy*, to state the Vice President, Information Technology, must approve a waiver for cloud solution purchases when the policy is not followed.
- Update the *Supplying Principles and Practices* to state the processes outlined in Management Instruction AS-800-2014-4, must be completed before awarding cloud solution contracts.
- Update the Postal Service Handbook AS-805, *Information Security*, to define the interim security assessment process, document the associated risks and mitigation plans, ensure proper document retention, and complete the process prior to the purchase of a cloud solution.
- Retrieve the missing HERO invoice and store it in the Contract Authoring and Management System.

Transmittal Letter



Office of Inspector General
United States Postal Service

August 24, 2020

MEMORANDUM FOR: MARC D. MCCRERY
ACTING VICE PRESIDENT, INFORMATION TECHNOLOGY

SIMON M. STOREY
VICE PRESIDENT, EMPLOYEE
RESOURCE MANAGEMENT

MARK A. GUILFOIL
VICE PRESIDENT, SUPPLY MANAGEMENT

GREGORY S. CRABB
VICE PRESIDENT, CHIEF INFORMATION
SECURITY OFFICER

E-Signed by McDavid, Margaret
VERIFY authenticity with eSign Desktop

Margaret B. McDavid

FROM: Margaret B. McDavid
Deputy Assistant Inspector General for Inspection
Service and Information Technology

SUBJECT: Audit Report – Business Application Review of the
HERO System (Report Number 19-016-R20)

This report presents the results of our audit of the Business Application Review of the HERO System.

We appreciate the cooperation and courtesies provided by your staff. If you have any questions or need additional information, please contact Mary Lloyd, Director, Information Technology, 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 Business Application Review of the HERO System (Project Number 19-016). Our objective was to determine if the U.S. Postal Service developed HERO in accordance with its policies, procedures, and industry best practices, and whether it is functioning as management intended.

FISCAL YEAR 2015

The Postal Service initiated an effort to align its Human Resources activities across the employee lifecycle and optimize employee HR management.

July 2015

The Postal Service approved a Decision Analysis Report request for [redacted] to replace the existing HR systems with a new cloud-based Integrated HR System.

Our fieldwork was planned before the President of the United States issued the national emergency declaration concerning the novel coronavirus outbreak (COVID19) on March 13, 2020. The results of this audit do not reflect operational changes and/or service impacts that may have occurred as a result of the pandemic.

Background

In fiscal year (FY) 2015, the Postal Service initiated an effort to align its Human Resources (HR) activities and processes across the employee lifecycle and optimize employee HR management. In July 2015, the Postal Service approved a Decision Analysis Report (DAR) request for [redacted] to replace the existing HR systems with a new cloud-based Integrated Human Resources System (IHRS). Based on a Carnegie Mellon University Software Engineering Institute assessment identifying critical vulnerabilities within the Postal Service's HR systems, IHRS was required to comply with stringent information security requirements including management controls over access and use of employee data.

When the Postal Service procures a new cloud-based system, managers are required to comply with the Cloud Services Request Assessment and Technology Initiative Prioritization Assessment outlined in Postal Service policy.[1] The assessments are used to evaluate the business needs justification and obtain approval of the Vice President, Information Technology (IT).

The Postal Service awarded an Indefinite Delivery Indefinite Quantity[2] contract to [redacted] to implement an IHRS solution on September 23, 2016. However, a stop work order was issued after contract award because [redacted] did not obtain Federal Risk and Authorization Management Program (FedRAMP) approval.[3] FedRAMP is a government-wide program that helps to ensure stringent information security requirements are in place for cloud products and services, including strong management controls over access and use of employee data.

[1] Management Instruction AS-800-2014-4, *Cloud Computing Policy*, dated July 2014.

[2] Type of contract that provides for an indefinite quantity of supplies or services during a fixed period of time.

[3] Award Recommendation – Integrated Human Resource Solution 1B-15-A-001; Email approving Award Recommendation 1B-15-A-001 Interim Delegation of Authority to sign Award Recommendations.

On June 13, 2017, the Postal Service entered into a subsequent contract with [redacted] to implement a commercial-off-the-shelf IHRS solution. The contract required [redacted] to integrate its Talent Management suite with the Postal Service's existing Core HR system,[4] providing the Postal Service with a cloud-based IHRS system called HERO.[5] The base contract price of [redacted] included [redacted] for a Software-as-a-Service Model – End-to-End[6] IHRS solution and [redacted] for configuration and implementation support. From June 2017 to January 2020, the Postal Service spent [redacted] awarded in the base contract.

According to the Postal Service's Human Resources group, HERO would ensure efficiency, reporting analysis, mobility, and improved accessibility. With these functionalities, HERO would enable centralization of information from both external and internal Postal Service sources into one workspace. It would also allow accessibility through a mobile device, online, or in-office to simplify hiring, training, and other HR-related tasks. HERO, along with business process modifications, was intended to drive operational results and improve the overall employee HR experience.

HERO was to provide five functional modules:[7]

1. Recruitment, Selection, Hiring, and Onboarding
2. Learning and Succession Planning
3. Performance, Goals, and Compensation Management
4. Workforce Planning, Predictive Analytics, and Reporting
5. Organizational Management/Personnel Administration

The HERO Learning and Succession Planning module was launched in December 2017 for Postal Service Headquarters, with selected field users added in April 2018. [redacted] launched the Learning functionality to all employees in October 2018. As a result, the Postal Service retired the Learning Management System in September 2018 and transitioned completely to HERO to support these processes. Additionally, the Succession Planning functionality was launched in FY 2019.

In April 2018, all remaining modules were to be designed, configured, and enhanced to support incremental deployments in FY 2019. The Recruitment, Selection, Hiring and Onboarding Module was originally scheduled to be partially deployed in December 2017 and August 2018 to support targeted hiring initiatives. The Postal Service intended to fully deploy this module by February 2019 to support hiring nationwide.

Finding #1: HERO System Did Not Function as Management Intended

The Postal Service did not develop the HERO system in accordance with its policies and procedures and HERO did not function as required by the contract or as management intended. Specifically:

- The [redacted] Recruitment Module failed to launch in August 2018 due to issues with integration and veterans' preference calculations. The application contained gaps in functional requirements which translated into thousands of entries requiring manual corrections. The Postal Service continued to use the legacy system and did not transition hiring activities to the new module.

- [redacted] launched the Learning and Succession Planning Module in October 2018. Although the Succession Planning functions met contract requirements, they did not support business processes outlined in the Postal Service's Management Instruction for Corporate Succession Planning. For example, the module did not allow executive managers to identify and develop potential future leaders to assume executive manager positions. During our audit, Postal Service management stated they were taking corrective action to align the required policy to the module by December 2020.

[4] Software used to manage basic HR processes.
[5] PS Form 8203, Order/Solicitation/Offer/Award, [redacted], 1BITSW-17-B-0009, dated 6/13/2017.
[6] The provider of an application, software, and system will supply all the software, including installation, integration, and setup, as well as any hardware requirements for the customer so that no other vendor is needed.
[7] [redacted] was only required to deliver four of the five IHRS DAR modules. The Organizational Management and Personnel Administration module was not included in the [redacted] contract.

- In FY 2019, [redacted] only partially delivered the performance functionality of the Performance, Goals, and Compensation Management Module. For example, the career conversations and competencies functions were delivered, while the Performance Evaluation System replacement and compensation management functions were not delivered.

As a result, only two of the five DAR modules were partially integrated into the vendor's product as shown in Appendix B.

The Postal Service's *Supplying Principles and Practices* (SP&P) policy[8] states that it is essential to involve suppliers early and have effective, two-way communication to clarify business needs and system expectations. Postal Service needs must be defined in enough detail for suppliers to respond effectively. Requirements form the basis for the entire supply chain process and provide the necessary detail to understand what is required to develop a solution to meet the need.

These issues occurred because Postal Service management purchased a commercial-off-the-shelf solution that could not be customized to meet their business needs. Further, Postal Service policy did not require a demonstration of the commercial-off-the-shelf solution's functionality and capabilities prior to contract award to verify that it could meet business needs. Finally, management did not initiate the Cloud Services Request Assessment process or submit the Technology Initiative Prioritization Assessment until after awarding the contract.[9]

The Postal Service ended the IHRS DAR investment and stopped the remaining work on all [redacted] modules in December 2019. The Postal Service spent [redacted] of the base contract, including [redacted] from FYs 2018 to 2020.[10] This cost was incurred even though only two of the five DAR modules were partially integrated into the vendor's product. In addition, the Postal Service did not realize the [redacted] predicted savings stated in the DAR. Finally, due to the inability to fully complete all five modules, the Postal Service approved an additional investment of [redacted] on January 27, 2020 to upgrade the legacy Human Capital Enterprise System.

Recommendation #1

We recommend the **Acting Vice President, Information Technology**, update Management Instruction AS-800-2014-4, *Cloud Computing Policy*, to include early demonstrations of system functionality with key stakeholders to validate and verify the alignment of business needs and the technical capabilities before purchasing any cloud software solutions.

Recommendation #2

We recommend the **Acting Vice President, Information Technology**, update Management Instruction AS-800-2014-4, *Cloud Computing Policy*, to state the Vice President, Information Technology, must approve a waiver for cloud solution purchases when the policy is not followed.

Recommendation #3

We recommend the **Vice President, Supply Management**, update *Supplying Principles and Practices* to state the processes outlined in Management Instruction AS-800-2014-4, *Cloud Computing Policy*, must be completed before awarding cloud solution contracts.

Finding #2: Cloud Service Provider Not FedRAMP Approved

We found the Postal Service originally contracted with a supplier, [redacted], that was in the process of getting FedRAMP authorized, but management did not complete an interim security assessment (ISA) to identify and mitigate risk while the cloud provider's FedRAMP authorization was in process.

Postal Service policy[11] requires that applications which collect, transmit or store sensitive or enhanced data have an ISA when the cloud provider's FedRAMP authorization is in process.

[8] Postal Service's SP&P, Process Step 1: Identify Needs, Sections 1-6, Involve Suppliers Early; 1-6.2 Communication; 1-11 Define Requirements; 1.11.3 Requirement Specification, dated October 31, 2019.

[9] Although the contract was awarded on June 13, 2017, the Cloud Services Request Assessment process was initiated June 13, 2017, and the Technology Initiative Prioritization Assessment was submitted August 31, 2017.

[10] Per our policy, we are only claiming questioned costs for two years.

[11] Handbook AS-805, *Information Security*, Section 1-6.3.3, Cloud Solution Security and Privacy Assessment.

This occurred because the contracting officer and the Chief Information Security Officer (CISO) agreed to award the contract and pursue an agency Authority to Operate without completing the ISA while the supplier completed the FedRAMP authorization process. However, the supplier could not meet FedRAMP authorization requirements.

Because the Postal Service contracted with a supplier that did not achieve FedRAMP authorization and the CISO did not complete an ISA to identify associated risks, the implementation was delayed for 16 months. The deviation created an adverse impact on HR management's ability to replace systems reaching end-of-life and comply with the stringent information security requirements addressed in Carnegie Mellon's vulnerability assessment to alleviate risks associated with HR systems and data security practices.

Recommendation #4

We recommend the **Vice President, Chief Information Security Officer**, update the Postal Service Handbook AS-805, *Information Security*, to define the interim security assessment process, document the associated risks and mitigation plans, ensure proper document retention, and complete the process prior to the purchase of a cloud solution.

Finding #3: Missing HERO Invoices

We found that 18 of 51 HERO invoices issued from June 2016 to January 2020, totaling [redacted] in HERO system payments, were not retained by the contracting officer representative (COR) in Supply Management as required by policy.[12] The 18 missing invoices were hard copies, while the remaining 33 were provided by Accounts Payable. As a result, we could not initially verify [redacted] in HERO system payments. Supply Management policy states that all necessary records should be retained, accessible, and retrievable at contract close out. In addition, the COR letter describes COR responsibilities and states the COR should retain a copy of all certified invoices and maintain these records for six years following contract close out.

This occurred because the CORs assigned to oversee the contract changed frequently and invoices were not always transferred because there was no policy at the time to require centralized electronic storage of HERO hard copy invoices. Without adequate controls over contract records such as invoices, the Postal Service may not be able to verify all amounts paid or services rendered resulting in possible overpayments or paying for services not received.

During our audit, Accounts Payable located copies of 17 of the 18 missing invoices. The 17 missing invoices were provided to Supply Management personnel who took corrective action and filed them in the Contract Authoring and Management System.[13] One invoice for [redacted] remains outstanding.

Recommendation #5

We recommend the **Vice President, Supply Management**, retrieve the missing HERO hard copy invoice and store it in the Contract Authoring and Management System.

Management's Comments

Management agreed with the findings and recommendations in the report. In subsequent communication, management stated they strongly disagreed with the monetary impact because about [redacted] of the almost [redacted] identified is attributable to Software as a Service (SaaS) license costs and the elite package/global product support contract for functionality that was deployed and is in use today.

Regarding recommendation 1, management agreed with this recommendation and stated they will review and update MI AS-800-2014-4 to provide guidance on including early demonstrations of system functionality with key stakeholders to validate and verify the alignment of business needs and the technical capabilities prior to purchase. The target implementation date is June 30, 2021.

Regarding recommendation 2, management agreed with this recommendation and stated they will update MI AS-800-2014-4 to state that the Vice President,

[12] SP&P, Section 5-11.3, Processing Invoices, dated October 2019.
[13] Provides Supply Management personnel a web-interface to facilitate the solicitation, award, and administration of supplies, services, and transportation contracts.

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IT, must approve a waiver for cloud solution purchases when the policy is not followed. The target implementation date is June 30, 2021.

Regarding recommendation 3, management agreed with this recommendation and stated they will update the SP&P to refer to and incorporate guidance to contracting officers concerning the processes outlined in MI AS-800-2014-4. The target implementation date is July 31, 2021.

Regarding recommendation 4, management agreed with the intent of the recommendation and stated that updates to Handbook AS-805 will be made in the next round of updates. The target implementation date is March 31, 2021.

Regarding recommendation 5, management agreed with this recommendation and stated the contracting officer will seek to locate the missing invoice and store it in CAMS. The target implementation date is December 31, 2020. See Appendix C for management's comments in their entirety.

Evaluation of Management's Comments

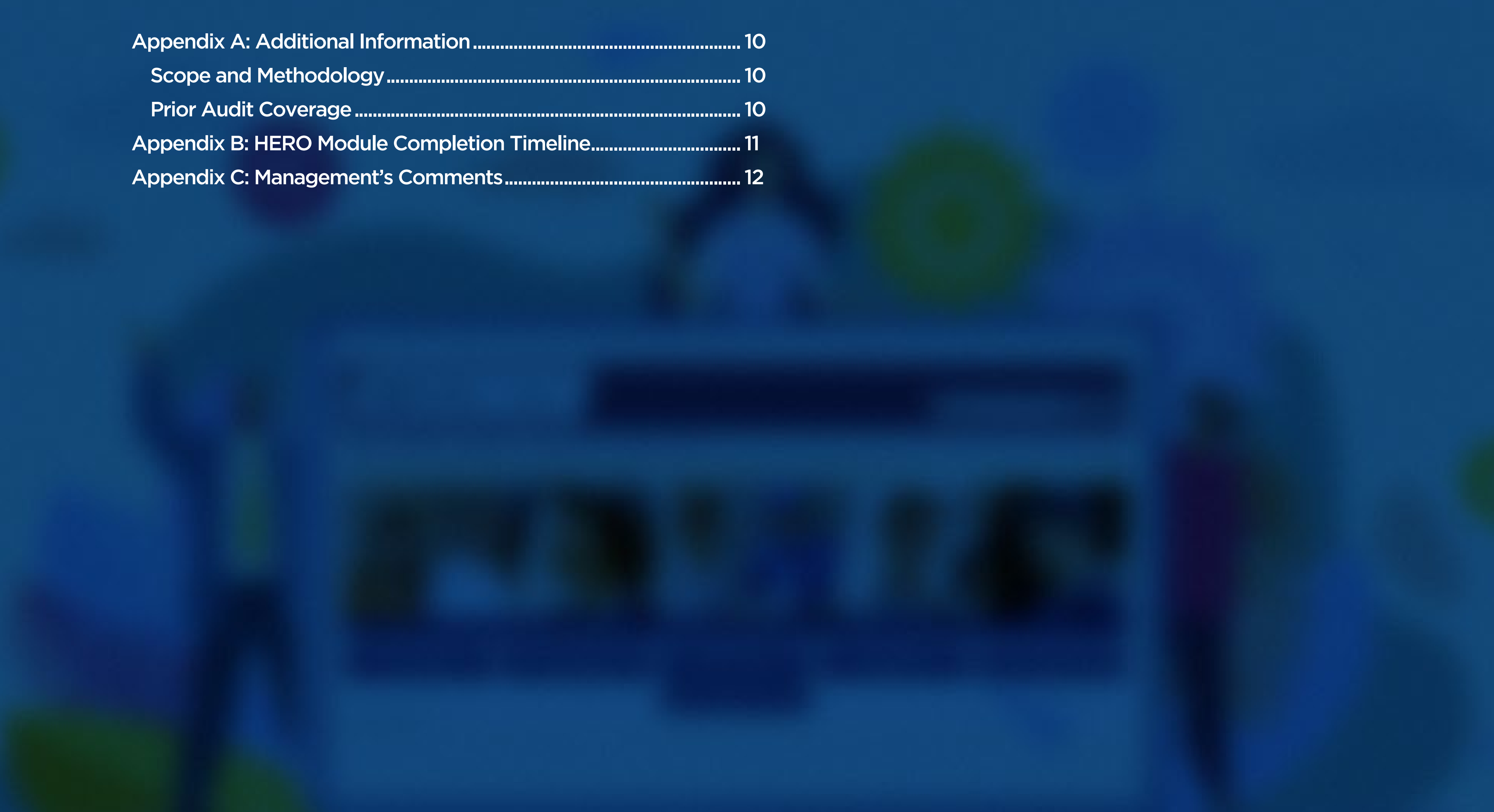
The OIG considers management's comments responsive to the recommendations and corrective actions should resolve the issues identified in the report.

The OIG considers the monetary impact assessed to be appropriate and the related costs unnecessary because the Postal Service acknowledged that it could not meet IHRS or HERO project goals and it met none of the DAR performance metrics. SaaS licenses were purchased to allow customers to use the cloud-based HERO software even though only two of the five DAR modules were partially integrated into the vendor's product under the HERO contract. These costs were incurred although management never achieved their business objective of an integrated HR system.

All recommendations require OIG concurrence before closure. Consequently, the OIG requests written confirmation when corrective actions are completed. All 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.

Appendices

Click on the appendix title below to navigate to the section content.



Appendix A: Additional Information

Scope and Methodology

The scope of our audit included a review of documents related to evolution of the initial cloud-based solution IHRS procurement process to the [redacted] contract requirements known as HERO. We compared Postal Service requirements to the functionality provided by the current version of the HERO application and determined the causes of any gaps between requirements and functionality.

To accomplish our objective, we:

Obtained and reviewed Postal Service policy, industry best practices, and industry standards for customer facing applications:

- Handbook AS-805, *Information Security*
- Handbook AS-805A, *Information Resource Certification and Accreditation*
- Handbook AS-805H, *Cloud Security*
- Management Instruction AS-800-2014-4
- FedRAMP authorization and associated controls
- National Institute of Standards and Technology Special Publication 800-53 v4, *Security and Privacy Controls for Federal Information Systems and Organizations*
- Postal Service's *SP&P*, October 2019

In addition, we:

- Reviewed the HERO system, DAR business case, contract, and system requirements and compared them to HERO system functionality.
- Reviewed HERO system contract payment data and compared it to invoices to ensure accuracy.
- Analyzed ServiceNow incident and change request tickets to identify unique trends or anomalies.
- Observed the relevant processes during fieldwork, including walk throughs and system functionality.
- Interviewed personnel with knowledge and experience of the application, including contracting officers, business owners, and IT and information security personnel.

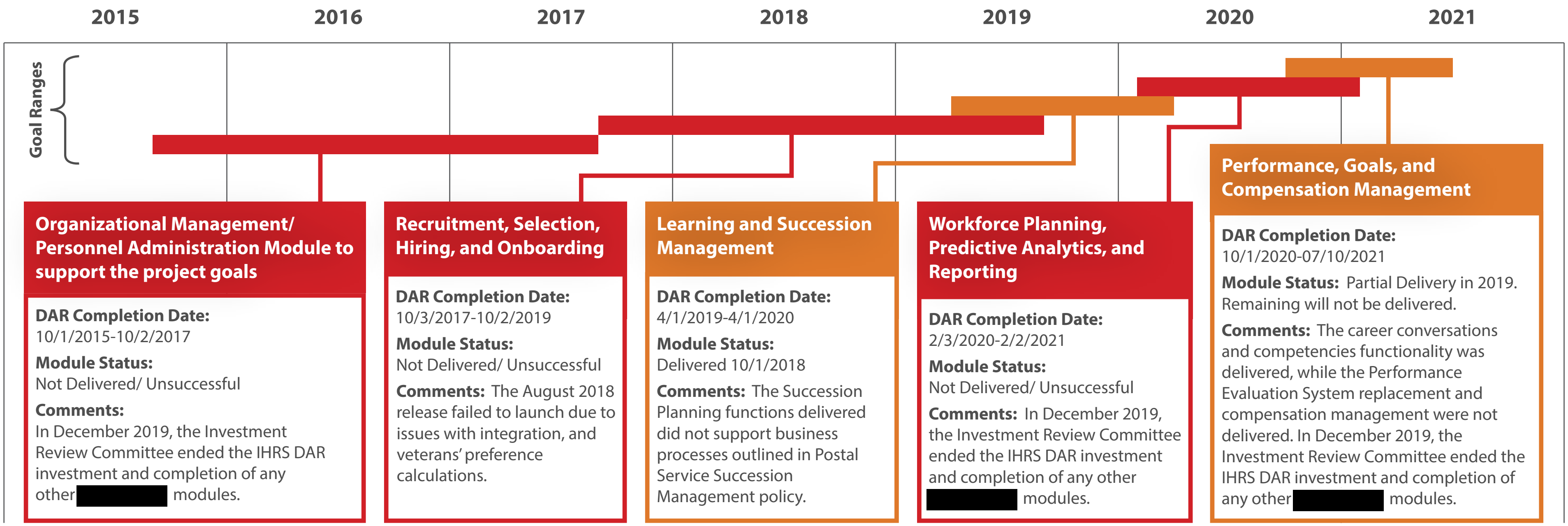
We conducted this performance audit from October 2019 through August 2020 in accordance with generally accepted government auditing standards and included such tests of internal controls as we considered necessary under the circumstances. Those standards require that we plan and perform the audit to obtain enough 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 July 17, 2020, and included their comments where appropriate.

We assessed the reliability of Electronic Data Warehouse invoice data by testing for reasonableness, accuracy, and validity against HERO invoice documents. We also noted the nature of the original source data (invoices submitted by the supplier) in making our assessment. We determined that the data were sufficiently reliable for the purposes of this report.

Prior Audit Coverage

The OIG did not identify any prior audits or reviews related to the objective of this audit conducted within the last five years.

Appendix B: HERO Module Completion Timeline



Organizational Management/ Personnel Administration Module to support the project goals

DAR Completion Date:
10/1/2015-10/2/2017

Module Status:
Not Delivered/ Unsuccessful

Comments:
In December 2019, the Investment Review Committee ended the IHRS DAR investment and completion of any other [redacted] modules.

Recruitment, Selection, Hiring, and Onboarding

DAR Completion Date:
10/3/2017-10/2/2019

Module Status:
Not Delivered/ Unsuccessful

Comments: The August 2018 release failed to launch due to issues with integration, and veterans' preference calculations.

Learning and Succession Management

DAR Completion Date:
4/1/2019-4/1/2020

Module Status:
Delivered 10/1/2018

Comments: The Succession Planning functions delivered did not support business processes outlined in Postal Service Succession Management policy.

Workforce Planning, Predictive Analytics, and Reporting

DAR Completion Date:
2/3/2020-2/2/2021

Module Status:
Not Delivered/ Unsuccessful

Comments: In December 2019, the Investment Review Committee ended the IHRS DAR investment and completion of any other [redacted] modules.

Performance, Goals, and Compensation Management

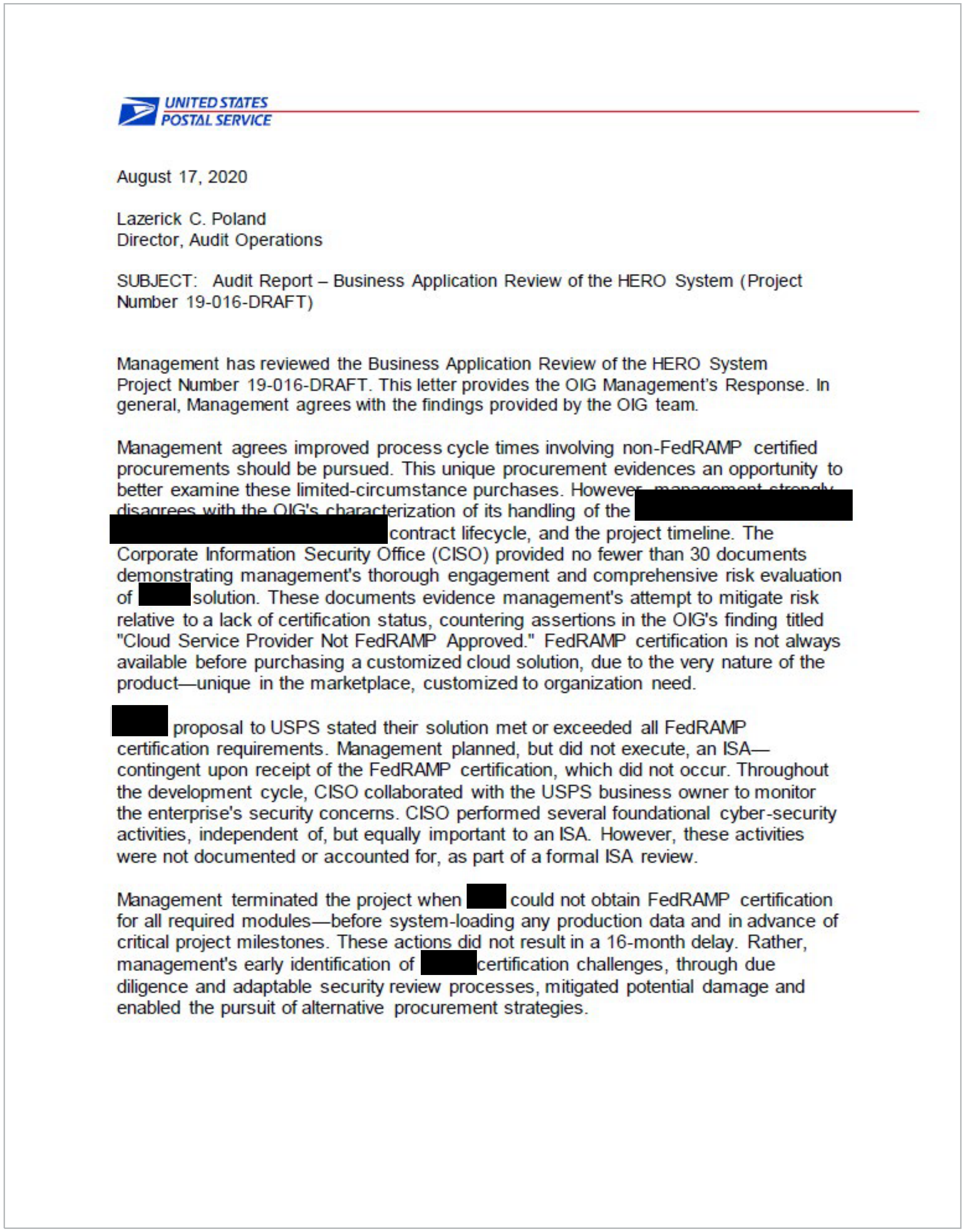
DAR Completion Date:
10/1/2020-07/10/2021

Module Status: Partial Delivery in 2019. Remaining will not be delivered.

Comments: The career conversations and competencies functionality was delivered, while the Performance Evaluation System replacement and compensation management were not delivered. In December 2019, the Investment Review Committee ended the IHRS DAR investment and completion of any other [redacted] modules.

Source: IHRS Investment Review Committee Post-Deployment Update, December 5, 2019.

Appendix C: Management's Comments



UNITED STATES POSTAL SERVICE

August 17, 2020

Lazerick C. Poland
Director, Audit Operations

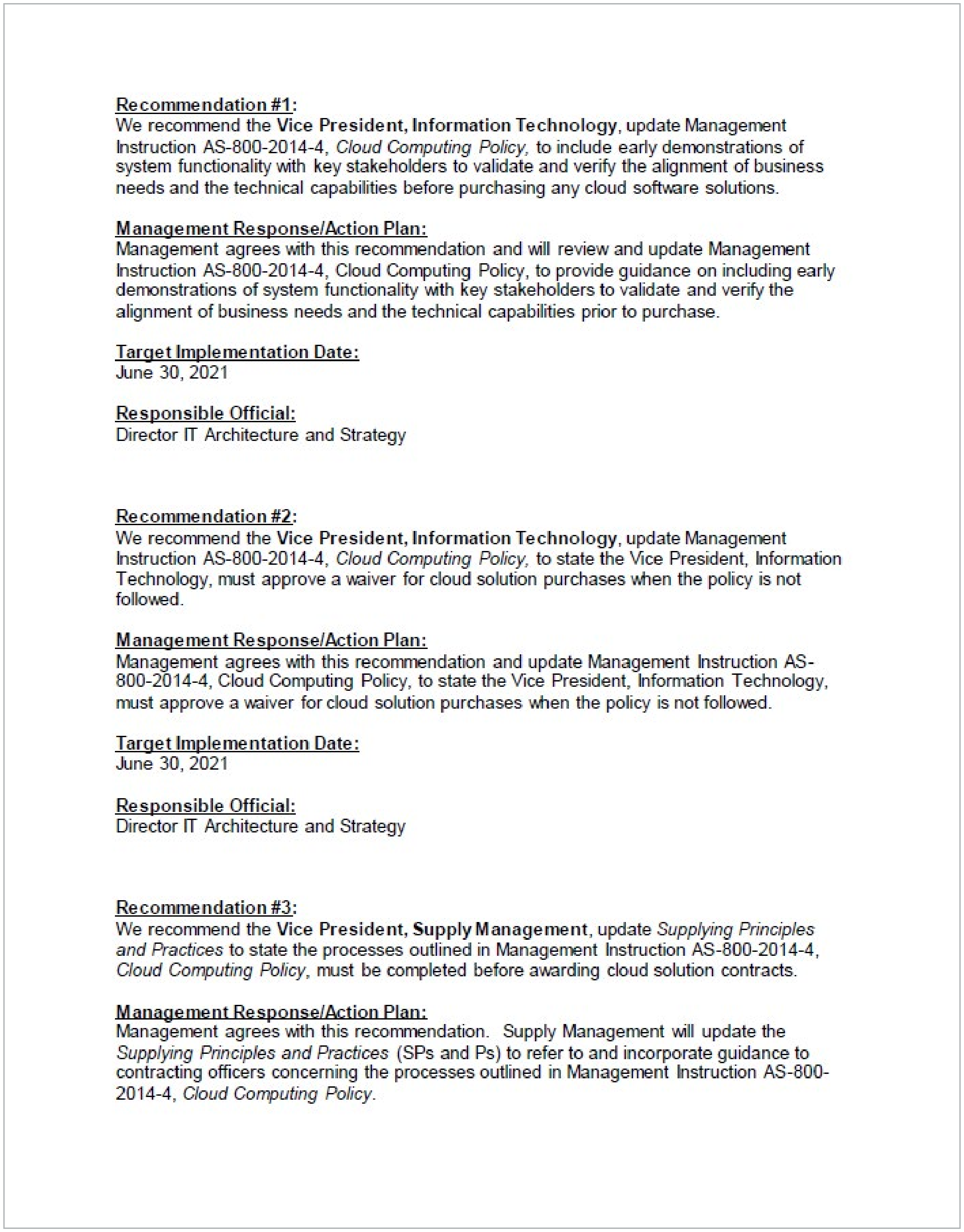
SUBJECT: Audit Report – Business Application Review of the HERO System (Project Number 19-016-DRAFT)

Management has reviewed the Business Application Review of the HERO System Project Number 19-016-DRAFT. This letter provides the OIG Management's Response. In general, Management agrees with the findings provided by the OIG team.

Management agrees improved process cycle times involving non-FedRAMP certified procurements should be pursued. This unique procurement evidences an opportunity to better examine these limited-circumstance purchases. However, management strongly disagrees with the OIG's characterization of its handling of the [redacted] contract lifecycle, and the project timeline. The Corporate Information Security Office (CISO) provided no fewer than 30 documents demonstrating management's thorough engagement and comprehensive risk evaluation of [redacted] solution. These documents evidence management's attempt to mitigate risk relative to a lack of certification status, countering assertions in the OIG's finding titled "Cloud Service Provider Not FedRAMP Approved." FedRAMP certification is not always available before purchasing a customized cloud solution, due to the very nature of the product—unique in the marketplace, customized to organization need.

[redacted] proposal to USPS stated their solution met or exceeded all FedRAMP certification requirements. Management planned, but did not execute, an ISA—contingent upon receipt of the FedRAMP certification, which did not occur. Throughout the development cycle, CISO collaborated with the USPS business owner to monitor the enterprise's security concerns. CISO performed several foundational cyber-security activities, independent of, but equally important to an ISA. However, these activities were not documented or accounted for, as part of a formal ISA review.

Management terminated the project when [redacted] could not obtain FedRAMP certification for all required modules—before system-loading any production data and in advance of critical project milestones. These actions did not result in a 16-month delay. Rather, management's early identification of [redacted] certification challenges, through due diligence and adaptable security review processes, mitigated potential damage and enabled the pursuit of alternative procurement strategies.



<u>Recommendation #1</u>:
We recommend the **Vice President, Information Technology**, update Management Instruction AS-800-2014-4, *Cloud Computing Policy,* to include early demonstrations of system functionality with key stakeholders to validate and verify the alignment of business needs and the technical capabilities before purchasing any cloud software solutions.

<u>Management Response/Action Plan:</u>
Management agrees with this recommendation and will review and update Management Instruction AS-800-2014-4, Cloud Computing Policy, to provide guidance on including early demonstrations of system functionality with key stakeholders to validate and verify the alignment of business needs and the technical capabilities prior to purchase.

<u>Target Implementation Date:</u>
June 30, 2021

<u>Responsible Official:</u>
Director IT Architecture and Strategy

<u>Recommendation #2</u>:
We recommend the **Vice President, Information Technology**, update Management Instruction AS-800-2014-4, *Cloud Computing Policy,* to state the Vice President, Information Technology, must approve a waiver for cloud solution purchases when the policy is not followed.

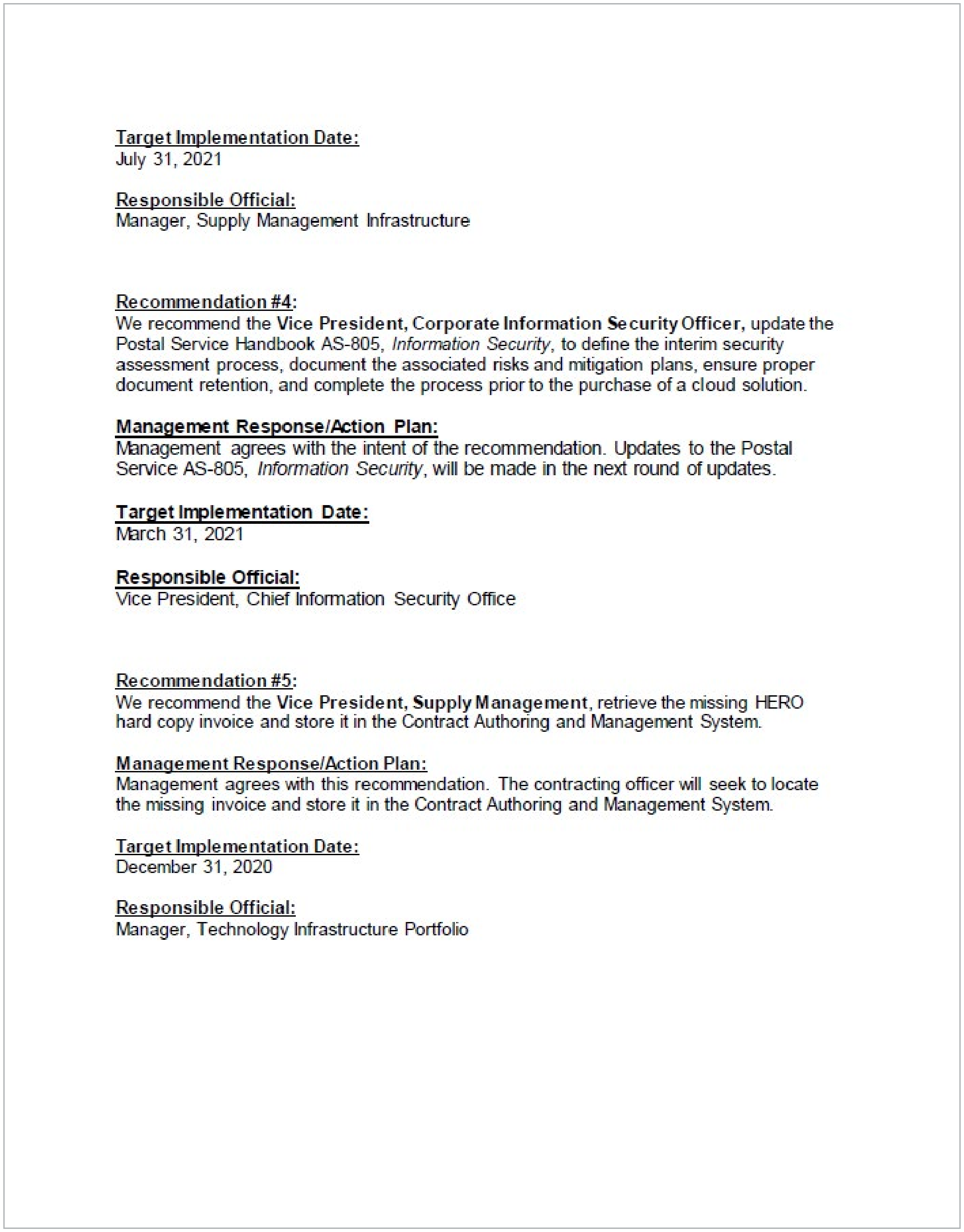
<u>Management Response/Action Plan:</u>
Management agrees with this recommendation and update Management Instruction AS-800-2014-4, Cloud Computing Policy, to state the Vice President, Information Technology, must approve a waiver for cloud solution purchases when the policy is not followed.

<u>Target Implementation Date:</u>
June 30, 2021

<u>Responsible Official:</u>
Director IT Architecture and Strategy

<u>Recommendation #3</u>:
We recommend the **Vice President, Supply Management**, update *Supplying Principles and Practices* to state the processes outlined in Management Instruction AS-800-2014-4, *Cloud Computing Policy*, must be completed before awarding cloud solution contracts.

<u>Management Response/Action Plan:</u>
Management agrees with this recommendation. Supply Management will update the *Supplying Principles and Practices* (SPs and Ps) to refer to and incorporate guidance to contracting officers concerning the processes outlined in Management Instruction AS-800-2014-4, *Cloud Computing Policy*.



<u>**Target Implementation Date:**</u>
July 31, 2021

<u>**Responsible Official:**</u>
Manager, Supply Management Infrastructure

<u>**Recommendation #4:**</u>
We recommend the **Vice President, Corporate Information Security Officer**, update the Postal Service Handbook AS-805, *Information Security*, to define the interim security assessment process, document the associated risks and mitigation plans, ensure proper document retention, and complete the process prior to the purchase of a cloud solution.

<u>**Management Response/Action Plan:**</u>
Management agrees with the intent of the recommendation. Updates to the Postal Service AS-805, *Information Security*, will be made in the next round of updates.

<u>**Target Implementation Date:**</u>
March 31, 2021

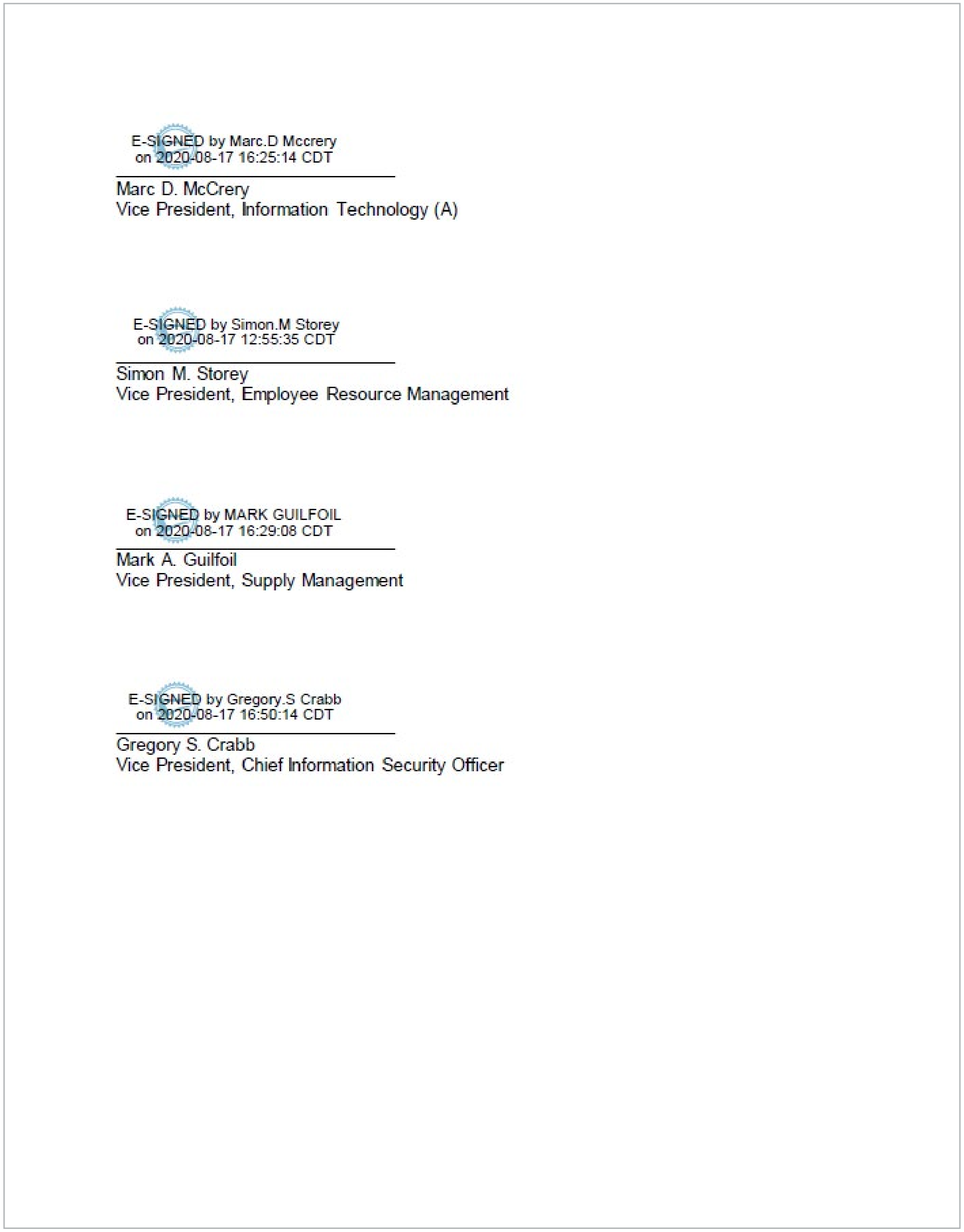
<u>**Responsible Official:**</u>
Vice President, Chief Information Security Office

<u>**Recommendation #5:**</u>
We recommend the **Vice President, Supply Management**, retrieve the missing HERO hard copy invoice and store it in the Contract Authoring and Management System.

<u>**Management Response/Action Plan:**</u>
Management agrees with this recommendation. The contracting officer will seek to locate the missing invoice and store it in the Contract Authoring and Management System.

<u>**Target Implementation Date:**</u>
December 31, 2020

<u>**Responsible Official:**</u>
Manager, Technology Infrastructure Portfolio



E-SIGNED by Marc.D Mccrery
on 2020-08-17 16:25:14 CDT

Marc D. McCrery
Vice President, Information Technology (A)

E-SIGNED by Simon.M Storey
on 2020-08-17 12:55:35 CDT

Simon M. Storey
Vice President, Employee Resource Management

E-SIGNED by MARK GUILFOIL
on 2020-08-17 16:29:08 CDT

Mark A. Guilfoil
Vice President, Supply Management

E-SIGNED by Gregory.S Crabb
on 2020-08-17 16:50:14 CDT

Gregory S. Crabb
Vice President, Chief Information Security Officer

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