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INSPECTION REPORT

NUMBER 20-06

Inspection of Next Generation Passport Program

March 11, 2020

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OFFICE *of the*
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MEMORANDUM

Date

March 11, 2020

To

Director, U.S. Government Publishing Office

From

Inspector General

Subject:

Final Report— Next Generation Passport Program 20-06

Enclosed please find the subject final report. The Office of Inspector General (OIG) conducted an inspection of GPO's Next Generation Passport Program to determine if GPO had the capability to produce the upgraded and more secure Next Generation Passports at the estimated quantity of more than 15 million total per year.

We found that with respect to machine and process readiness, GPO is prepared to meet future next generation passport orders. Our report contains no recommendations for GPO and considered management's comments responsive (appendix D).

We appreciate the courtesies extended to the staff during our inspection. If you have any questions or comments about this report, please do not hesitate to contact Nathan Deahl, Assistant Inspector General for Inspections, at (202) 512-2009 or me at (202) 512-0039.

MICHAEL P. LEARY
Inspector General

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Report No. 20-06 March 11, 2020

RESULTS IN BRIEF

What We Did

We inspected the Government Publishing Office's (GPO) Next Generation Passport Program with the intent of answering the following question: Is GPO prepared to meet the Department of State production orders for the blank Next Generation Passport booklets?

What We Recommend

Our report contains no recommendations for improvement.

Inspection of Next Generation Passport Program

What We Found

With Respect to Machine and Process Readiness, GPO Is Prepared to Meet Future Next Generation Passport Orders. We found no conditions hindering GPO's ability to meet the future Department of State orders for the Next Generation Passports. Additionally, the Department of State did not order Next Generation Passports for fiscal year 2020 but did forecast 17,557,000 ePassport books. GPO took proactive measures to fabricate Next Generation passports in Washington D.C. and Mississippi resulting in passports that met independently audited ISO 9001:2015 Quality Management Standards.

CONTENTS

INTRODUCTION

The Government Publishing Office (GPO) Office of Inspector General (OIG) assessed GPO's ability to meet the Department of State's (DoS) demand for the new, more secure, blank passport booklets. The new passport type is referred to as the Next Generation Passport (NGP). NGPs are an improvement over the ePassport in terms of security and data reliability. Based on the results we reviewed, we did not make any recommendations. The inspection scope and methodology are presented in appendix B.

Background

GPO has manufactured the U.S. passport for over 80 years. Since the electronic passport program began in 2005, GPO made well over 150 million ePassports for the, DoS. Also since 2005, U.S. passports have incorporated a digital chip and antenna array capable of carrying biometric identification data. GPO officials state that with other security printing features, this document is one of the most secure identification credentials available on the market.

Context of the Inspection.

The GPO OIG initiated this review from its inventory of projects (annual work plan). This inspection satisfies Goal 1 of the OIG work plan, to conduct inspections aimed at supporting the continued viability of GPO's business model. Further, this inspection is consistent with GPO's mission strategy of keeping America informed as the official, digital, and secure source for producing, preserving and distributing official Federal Government publications and information products for Congress, Federal agencies, and the American public.

The Issue

The Next Generation Passport Program exists because the DoS wanted to enhance the security of the ePassport (passports books as we know them today). In order to enact the upgrades, the GPO made modifications to its existing ePassport production machinery. GPO also acquired three new Die-Cutting Perforator[1] machines (DP) capable of employing a multitude of security upgrades to the passports' polycarbonate data and visa pages. For example, the data page will be personalized by DoS in order to reduce the threat of passport photo substitution techniques by counterfeiters. Additional security features are also added throughout the assembly process to complicate and thwart counterfeiting attempts. For security reasons, we do not detail the upgrades in this report.

[1] Die-cutting Perforator: The automated assembly line machine that separates three connected passports from one another, applies a barcode and serial number to each, laser perforates them, and packages them for shipment.

Objectives

Our objective was to determine if GPO had the capability to produce the upgraded and more secure NGP at the estimated quantity of more than 15 million total per year.

Prior Evaluation Coverage

As a new GPO program there are no prior evaluations of the NGP. However, we have conducted past reviews of the ePassport program:

- Audit report 15-01, Supply Chain Risk: U.S. Blank ePassport Book, December 22, 2014. An audit in response to reported concerns about whether GPO identified and addressed risks necessary to protect passports in case a key component of the blank ePassport book was either compromised or had its supply chain threatened.

- Audit report 16-10, Procurement of End Sheets Used in the Production of U.S. Passports. An assessment of the steps GPO took in procuring end sheets—the inside front and back cover of the finished U.S. passport.

All previously reported recommendations associated with these reports were closed.

Criteria

- Memorandum of Understanding (MOU) Between The United States Department of State and The Government Printing Office, November 2, 2009. On December 17, 2014, Congress re-designated the agency the U.S. Government Publishing Office.

- International Standards Organization (ISO) Standard 9001:2015. *Quality Management Systems – Requirements,* 2015.

Federal Agencies Work Together to Create Next Generation Passports.

The MOU between DoS and GPO states that "GPO will manufacture blank passport books using paper, ink, materials and electronics agreed upon by the Interagency Boards and Committees (IABC)." The MOU's appendix A elaborates as follows:

- To foster better communication and to provide documented decision processes for all changes to the passport products, processes and associated systems, the GPO and the DoS shall establish an IABC system. The IABC system will consist of the four core bodies to include the relevant Product Planning and Engineering Change Control Committee or "Planning Committee."

- The Planning Committee reviews and approve changes to:
    - physical and electronic product features;
    - program and product requirements and specifications;
    - procurement plans;
    - process and system modifications;
    - product redesigns; and
    - other matters as assigned by the Steering Committee.

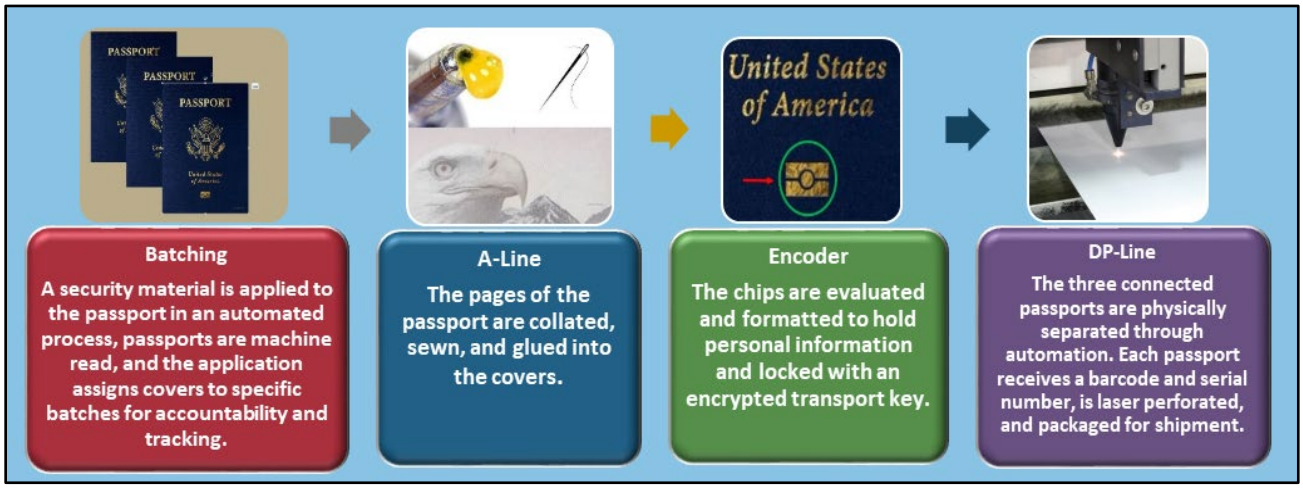
In October 2012, the Planning Committee approved GPO to work with the Department of Homeland Security and the Bureau of Engraving and Printing to create the Next Generation Passport.

Passport Production Machine and Line Descriptions

The passport production program is managed by GPO's Security and Intelligent Documents (SID) business unit. SID incorporated security upgrades into the next generation passport visa pages employing new equipment (three new DP machines). SID incorporated new design images, inks, and security features for the visa and data pages. SID worked with the Bureau of Engraving and Printing to redesign and enhance the end sheet and improved the book stitching method and threading.

The passport production system is composed of four distinct assembly or system line types. The system lines are redundant, for example, there are three distinct A-Line machines. Further, SID operates a second facility located in Stennis, Mississippi. The lines consist of the following components: 1) Batching, 2) A-Line, 3) Encoder, and 4) DP-Line described below, figure 1.

Figure 1. Next Generation Passport Line Descriptions



Quality Management System: ISO 9000 and Lean Six Sigma

The SID quality management system is supported by the application of two conventional manufacturing quality frameworks. The first is the ISO 9000 family standard and the second is the Lean Six Sigma Failure Modes and Effects Analysis (FMEA). The ISO 9000 family addresses various aspects of quality management and provides guidance and tools for companies and organizations wanting to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved. FMEA is a risk assessment tool that evaluates the severity, occurrence, and detection of risks to prioritize which ones are the most urgent.

Internal Audit Function and FMEA Risk Ratings

SID applied the internal audit ISO standard to its pilot production of NGPs. The internal audit function has documented procedures, roles for auditors, and instructions to document resultant findings if necessary. Identifying process weaknesses starts with SID's internal auditors. If any weaknesses or issues are found, they are reported to the SID manager responsible for that area. The manager responds to the internal auditors' findings allowing the auditors to verify that corrective actions were taken. Additionally, SID creates living risk assessments coupled with a FMEA risk ratings. The rating systems are categorized along qualitative measures of High, Medium and Low rankings. Each FMEA issue is also given mitigating descriptions, responsible owners, deadlines, and actions taken. When we spoke with SID management, they stated that their philosophy is that their manufacturing programs are living processes and that their production mode and facility never stops improving.

INSPECTION RESULTS

Finding 1. With Respect to Machine and Process Readiness, GPO Is Prepared to Meet Future Next Generation Passport Orders.

We inspected the GPO's Next Generation Passport Program (NGPP) with the intent of answering the following question. Is GPO prepared to meet the DoS production orders for the NGPs, estimated to be in excess of 15 million per year?

We found no conditions hindering GPO's processes and machine line readiness to meet DoS NGP orders. Ultimately, DoS did not order NGPs for fiscal year 2020. Nonetheless, GPO took proactive measures to assess passport fabrication in "test-runs" of the NGPs in Washington D.C. and Stennis Space Center, Mississippi. GPO was successfully audited against the ISO 9001:2015 Quality Management Standards by a 3rd party[2]. We attribute GPO's readiness to their proactive Quality Management System (QMS) and procedures.

As a result, GPO's assembly line machines and processes are well positioned to meet the future demand of the NGPP and ultimately enhance passport security.

Criteria

- MOU Between The United States Department of State and The Government Printing Office, November 2, 2009. On December 17, 2014, Congress re-designated the agency the U.S. Government Publishing Office.

- Data Analysis and Lessons Learned - DC Pilot December 2018. An internal quality review report detailing measurements from a micro run of 27,000 passports. Inspections and sampling measurements all within allowable tolerances.

- Data Analysis and Lessons Learned - Mississippi Pilot December 2018. An internal quality review report detailing measurements from a micro run of 27,000 passports at the Stennis Mississippi facility. Inspections and sampling measurements all within allowable tolerances.

GPO Ready for Next Generation Passport Orders

The GPO is the sole producer of United States Passports on behalf of the DoS. SID is operating to produce 17,557,000 ePassports in FY 2020 based on DoS forecasting in FY

[2.] American Management Technology, Inc. (AMTec) conducted an audit to verify compliance of SID's quality management system in accordance with ISO 9001:2015 standards, November 2018. AMTec is an accredited 3rd party quality management systems certification service to the ISO 9001:2015 standard.

2018 see figure 1 (green) below. However, DoS has not yet directed GPO[3] to manufacture any NGPs for FY 2020.

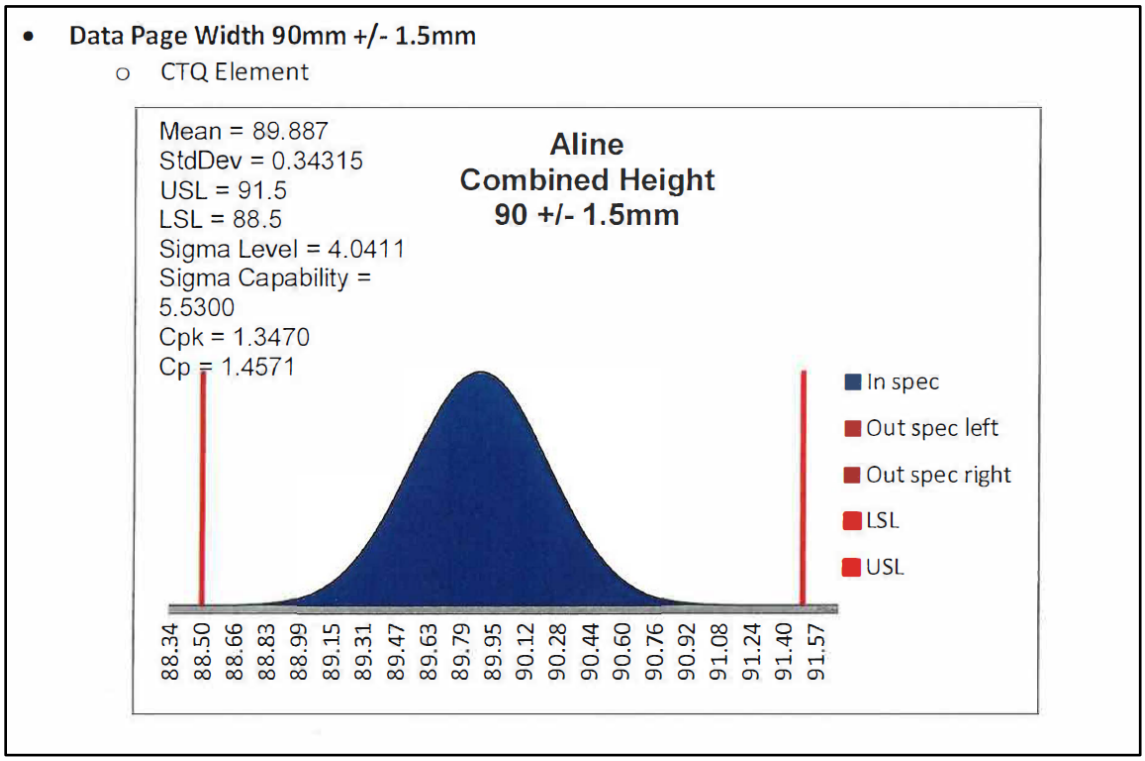
Table 1. Passport Projections Fiscal Years 2019 – 2021

FY 2018 Department of State Passport Projections			
Product Type	**FY 19 Forecast by Product**	**FY 20 Forecast by Product**	**FY 21 Forecast by Product**
Passport Book	18,042,000	**17,557,000**	16,954,000

While not yet producing next generation passports for specific DoS orders, GPO nevertheless fabricated books in test-runs in Washington D.C. and Stennis. GPO reported internally that it produced approximately 27,000 next generation passports at its Washington DC facility in December 2018. At that same time it produced a nearly identical amount of NGPs at its Stennis Mississippi facility. These small batches of test-runs showed positive quality control results verified in a lesson's learned report. For example, figure 2 shows the results after ePassport A-Lines (where the passport pages are assembled) were modified to produce NGPs. The relevant data page width measurements that were well within quality control tolerance ranges.

[3.] The Department of State's acquisition of new passport personalization technologies and equipment is ongoing and the resultant FY 2020 Next Gen Passport order is delayed.

Figure 2. Quality Measurement Dec 2018 Pilot Run



As a result of these test-runs, the GPO continues to refine its use of the new equipment to produce NGPs for DoS.

GPO's Readiness is a Result of Proactive Quality Management

Based on our review, we determined that SID maintains an independently audited ISO 9000 compliant QMS. We reviewed their ISO 9000 audit results and they demonstrated that SID's QMS is effectively implemented. SID affirms that they are committed to developing, producing and supplying high quality secure documents and credentials on time and in the most cost efficient manner possible. The ISO 9000 compliance requires that SID continually reviews and improves their processes.

GPO is Well Positioned to Meet Next Generation Passport Demand

Based on our review, we also determined that GPO is well positioned to meet the future demand of the NGPP. This new passport, when ordered and put into use by DoS, will enhance U.S. passport security.

Appendix A. Table of Recommendations

Recommendation	Management Response	Status	Description of Benefits
There are no recommendations for this report.	**N/A**	**N/A**	**N/A**

Appendix B. Scope and Methodology

SCOPE

We performed an inspection of SID's NGP program and its ability to meet the DoS passport fabrication projections. Our inspection focused on pilot activities at GPO's Central Office in DC and included activities at the Stennis Alternate Production facility in Mississippi. Specifically we focused on the machines, assembly procedures, and quality management.

METHODOLOGY

The GPO OIG took the following actions for this project:

- Reviewed internally generated quality control reports for test-runs of NGP.
- Reviewed previous OIG Audit reports.
- Reviewed Independent Auditors ISO quality management practices compliance reports.
- Reviewed SID's internal audit procedures.
- Reviewed policy and the MOU between GPO and DoS.
- Reviewed Request for Change SID Management Approval of the NGP.
- Reviewed DoS Action Memo authorizing the NGPP.
- Evaluated historical ePassport production quantities for fiscal years 2017, 2018 and a portion of 2019.
- Evaluated internal risk assessments of pilot runs fabricating NGPs
- Toured the passport production lines in Washington D.C. and Stennis, MS.
- Interviewed GPO personnel.
- We did not review NGP supply chain risks or raw materials stock for production.

This inspection was originally planned as an Audit but was subsequently turned over to the OIG Inspections Division in December 2019.

This inspection was conducted in accordance with the Quality Standards for Inspections and Evaluations of the Council of the Inspectors General for Integrity and Efficiency, January 2012.

Appendix C. Abbreviations

CP	A measure of center
CPK	A measure related to standard deviations
CTQ	Critical To Quality
DoS	Department of State
DP	Die-Cutting Perforator
ePassport	Electronic Passports
FMEA	Failure Modes and Effects Analysis
IABC	Interagency Boards and Committees
ISO	International Standards Organization
MOU	Memorandum of Understanding
NGP	Next Generation Passport
NGPP	Next Generation Passport Program
QMS	Quality Management System
SID	Security and Intelligent Documents
SBU	Sensitive But Unclassified
LSL	Lower Specification Limit
USL	Upper Specification Limit

Appendix D. Management Comments

MEMORANDUM

GPO

Date: March 5, 2020

To: Michael P. Leary, Inspector General

From: Hugh Nathanial Halpern, Director

Subject: Management Response to OIG Report #20-06, Inspection of Next Generation Passport Program dated 3 March 2020

Mike:

Thank you for the opportunity to provide a Management Response to the Office of Inspector General (OIG) Report #20-06, titled Inspection of Next Generation Passport Program and dated March 3, 2020.

The GPO has worked closely with Department of State and other federal agencies to design, print and manufacture a new electronic passport for our nation. The Next Generation Passport is enhanced with new security features, artwork and state-of-the-art technologies to include a polycarbonate data page and laser perforated book identification numbers. Our GPO business unit, Security and Intelligent Documents, continues to be an ISO9001/2015 certified environment subject to annual outside inspections by third party auditors and has a well-established Quality Management System that focuses on customer service and continuous process improvements.

It is noted that your team's Inspection Results as published in the OIG Report 20-06 concluded that "With respect to machine and process readiness, the GPO is prepared to meet future Next Generation Passport orders" and additionally did not make any recommendations for improvement.

The GPO continues to value the work that the OIG team performs for our agency and welcomes any future inspections.

HUGH NATHANIAL HALPERN

Appendix E. Report Distribution

Director, GPO
Acting Deputy Director
Acting Chief of Staff
Director, Security and Intelligent Documents