OFFICE *of the*
INSPECTOR GENERAL
U.S. GOVERNMENT PUBLISHING OFFICE

OCTOBER 2024

U.S. Government Publishing Office Plant Operations Metrics Inspection

OIG Report Number 24-09

U.S. GOVERNMENT PUBLISHING OFFICE

710

OFFICE *of the* INSPECTOR GENERAL
U.S. GOVERNMENT PUBLISHING OFFICE

Date: September 27, 2024

To: Director, U.S. Government Publishing Office

From: Inspector General, U.S. Government Publishing Office

Subject: Final Report — Plant Operations Metrics Inspection, Report Number 24-09

Enclosed is the subject final report. The Office of the Inspector General (OIG) conducted an inspection of Plant Operations metrics. We reported one finding with five recommendations intended to improve Plant Operations metrics.

GPO reviewed the draft report and provided comments through the Director. In accordance with the Council of the Inspectors General on Integrity and Efficiency standards for inspections, we reviewed GPO's comments for relevance and completeness and included them in their entirety in Appendix D. Our office is always open to alternatives to meet the intent of the recommendations as the Agency is the best arbiter of how recommendations should be implemented.

GPO concurred with four recommendations and partially concurred with one recommendation. GPO's proposed actions were responsive to the recommendations. We summarize management's comments and provide a response throughout the body of the report. All recommendations remain open.

We appreciate the courtesies extended to our staff throughout this inspection. If you have any questions or comments about this report, please contact Connie Greene, Assistant Inspector General for Inspections, at cgreene@gpo.gov or (202) 512-1597.

NATHAN J. DEAHL
Inspector General

Attachment

RESULTS IN BRIEF

What We Did

The OIG inspection team inspected Plant Operations processes and procedures used to measure performance. Specifically, we:

1. Identified what metrics Plant Operations uses.

2. Determined how Plant Operations incorporates identifying and reporting metrics into its processes and procedures.

What We Recommend

Our report contains five recommendations designed to improve Plant Operations metrics at GPO. The recommendations focus on formalizing a culture that values the use of metrics for continuous quality improvement; updating technology; and collecting, analyzing, and reporting on data. GPO concurred with four recommendations and partially concurred with one recommendation. Overall, GPO's comments were responsive to the recommendations.

What We Found

Finding: Plant Operations should identify and implement additional metrics throughout the printing and publishing process to baseline, track, and ultimately improve performance. Plant Operations uses several metrics for its daily print responsibilities, the Congressional Record, the Federal Register, and calendars. Specifically, Plant Operations uses the number of pages and on-time delivery. Additionally, Plant Operations reports the number of bills that were issued. However, Plant Operations could identify and report on additional metrics throughout the printing and publishing process, such as 1) cycle time, that is, current job status and the time to produce a product; and 2) the status of the annual estimate of the number of pages to be printed. Plant Operations reports only limited metrics because of Title 44's focus on the number of copies, issued daily, and delivered promptly. Plant Operations has not identified other metrics that would help provide a robust picture of Plant Operations' performance, developed a formalized quality program, or updated workflows. Without doing so, Plant Operations has not demonstrated embracing a culture of measurement that would provide valuable insights into Plant Operations' performance.

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INTRODUCTION

The inspection team identified and examined the metrics that Plant Operations uses to measure their performance. The goal of the inspection was to identify and report any improvements to Plant Operations' effectiveness and efficiency with respect to using metrics and measuring performance. Our report contains one finding and, based on the results, five recommendations, presented in Appendix A. The inspection scope and methodology are presented in Appendix B.

Background

Context of the Inspection

We initiated this review from our Fiscal Year (FY) 2024 annual work plan. We focused on the products Plant Operations handles daily, for example, the Congressional Record, the Federal Register, and Congressional calendars. In addition, GPO's governing statute[1] identifies several additional products, described later in the report.

The Issue

Metrics, or key performance indicators (KPIs) are quantifiable measures used to gauge performance over time. Metrics can be used to monitor, analyze, and optimize performance, and can be compared with others. Failing to monitor or analyze metrics could result in poor performance awareness. Moreover, failing to quickly identify the time needed to produce a product, or the reason for a late delivery, could harm GPO's reputation.

Objectives

The objectives of this inspection were to:

1. Identify what metrics Plant Operations uses.

2. Determine how Plant Operations incorporates identifying and reporting metrics into its processes and procedures.

## Prior Evaluation Coverage: None

Criteria

- United States Code (U.S.C.) Title 44 – Public Printing and Documents, as amended (Title 44)

- Plant Operations Performance Plans, FYs 2021, 2022, and 2023

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[1] United States Code (U.S.C.) Title 44 – Public Printing and Documents, as amended, (Title 44)

Plant Operations

Plant Operations is a GPO business unit that delivers print and digital solutions to Federal customers. With over 500 employees, Plant Operations is an around-the-clock operation that delivers valuable products and solutions to Congress and the Federal Government. Its vision is to be a best-in-class provider of print and digital solutions for Congress and Federal agencies. Its mission is to efficiently deliver innovative and high-quality products to Congress and Federal agencies.[2] The Plant Operations Organizational chart is displayed in Figure 1 below.

Figure 1. Plant Operations Organizational Chart
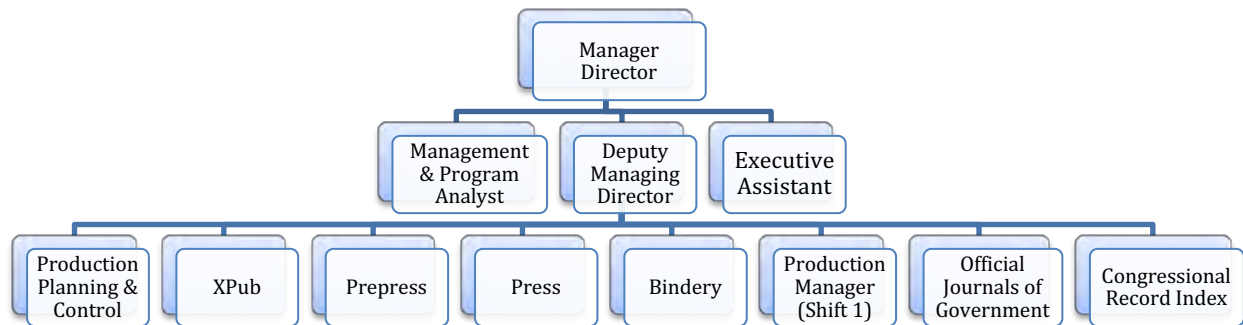
Source: OIG Analysis

Two of Plant Operations' Strategic Goals are:

- Modernize and Innovate

- Achieve Operational Excellence

To achieve these goals, Plant Operations plans to invest in modern production equipment and systems, invest in state-of-the-art digital technology, and modernize management information systems.

U.S.C. Title 44 – Public Printing and Documents, as amended (Title 44)

Title 44 identifies requirements related to public printing, including the following examples:

- Section 701, the "usual number" of copies of documents ordered by either House of Congress for binding and distribution is 1,682.

- Section 721, a Congressional Directory is to be printed and distributed as early as practicable during the first session of each Congress, and a supplement to each Congressional Directory, which shall be printed and distributed as early as practicable during the second regular session of each Congress. These directories are to be prepared under the direction of the Joint Committee on Printing.

- Section 723: Memorial addresses.

- Section 733: Documents and reports ordered by Members of Congress; franks and envelopes for Members of Congress.

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[2] Plant Operations Strategic Plan 2023-2027

- Section 734: Stationary, blank books, and other necessary items for the official use of the Senate and the House of Representatives.

- Section 901: The Congressional Record is to have an index published semimonthly during and at the close of sessions of Congress.

- Section 903: The Congressional Record, reporting public proceedings of each House of Congress, is issued daily during sessions and promptly revised, printed, and bound in permanent form for distribution after the close of each session.

- Section 1504: Federal Register documents are to be printed and distributed immediately, and daily issues are to be indexed.

GPO and Plant Operations have various names for the categories of products identified in Title 44, as identified in the bullets below. However, those categories do not reference Title 44 section numbers or chapters. Doing so could clearly indicate which sections are frequently in use and if any sections need to be updated. Examples of the categories of products and the corresponding Title 44 sections or chapters, listed in the sub-bullets below, include:

- Congressional Record Publications, Record Index, Record Indexers

  - Section 901: The Congressional Record Index

  - Section 903: The Congressional Record

- Miscellaneous Publications[3]

  - Section 709: Public and private laws, treaties

  - Section 713: Journals of Houses of Congress

  - Section 721: A Congressional Directory

  - Section 723: Memorial addresses

- Miscellaneous Publishing Services[4]

  - Section 733: Documents and reports ordered by Members of Congress; franks and envelopes for Members of Congress

  - Section 734: Stationery and blank books for Congress

- Details to Congress

  - Section 316: Detail of employees of Government Publishing Office to other Government establishments

- Bills, Resolutions

  - Section 706: Bills and resolutions: number and distribution

- Committee Reports

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[3] GPO Budget Submissions identify Miscellaneous Publications as the Congressional Directory, Senate and House Journals, memorial addresses of Members, serial sets, and publications not carrying a document or report number, such as laws and treaties.
[4] GPO Budget Submissions identify Miscellaneous Publishing Services as letterheads, envelopes, blank paper, miscellaneous services, blank forms, composition, binding, content management, and inaugural products for the support of both Houses of Congress.

- ▪ Section 726: Printing for committees of Congress

- ▪ Section 727: Committee reports: indexing and binding

- ● Documents

  - ▪ Section 730: Distribution of documents to Members of Congress

- ● Hearings & Committee Prints

  - ▪ Section 719: Classification and numbering of publications ordered printed by Congress; designation of publications of departments; printing of committee hearings

- ● United States Statutes at Large

  - ▪ Section 728: United States Statutes at Large: distribution

- ● Chapter 11 – Executive and Judiciary Printing and Binding

- ● Chapter 13 – Particular Reports and Documents

- ● Chapter 15 – Federal Register and Code of Federal Regulations

GPO's annual Budget Justification estimates Congressional Publishing workload volumes based on historical data. GPO provides estimates for each of their categories in both dollar amounts and in units, such as the number of pages, items, or hours. An example is in Figure 2, below.

Figure 2. FY 2023 Congressional Publishing Appropriation, Volume Increase/(Decrease)

Category	Unit	2021 Total	Increase/(Decrease) Quantity	Increase/(Decrease) Percent	2022 Total	Increase/(Decrease) Quantity	Increase/(Decrease) Percent	2023 Total
A. Congressional Record Publishing:								
Daily Record:								
Content Development	Page	14,003	(670)	(4.8)	13,333	67	0.5	13,400
Printing	Page	6,897	(330)	(4.8)	6,567	33	0.5	6,600
Record Index	Page	5,200	(100)	(1.9)	5,100	0	0.0	5,100
Record Indexers	Hours	22,900	2,100	9.2	25,000	0	0.0	25,000
B. Miscellaneous Publications	Page	28,400	(5,700)	(20.1)	22,700	(1,200)	(5.3)	21,500
C. Miscellaneous Publishing and Services	1,000 items	26,400	19,200	72.7	45,600	2,600	5.7	48,200
D. Details to Congress	Hours	69,700	28,400	40.7	98,100	(1,900)	(1.9)	96,200
E. Document Envelopes and Franks	1,000 items	2,200	1,900	86.4	4,100	(600)	(14.6)	3,500
F. Calendars	Page	25,700	11,700	45.5	37,400	(12,500)	(33.4)	24,900
G. Bills, Resolutions, and Amendments	Page	149,900	(21,100)	(14.1)	128,800	6,600	5.1	135,400
H. Committee Reports	Page	34,500	(6,700)	(19.4)	27,800	(700)	(2.5)	27,100
I. Documents	Page	62,100	(25,400)	(40.9)	36,700	(8,500)	(23.2)	28,200
J. Hearings	Page	117,050	60,950	52.1	178,000	34,500	19.4	212,500
K. Committee Prints	Page	17,500	600	3.4	18,100	6,400	35.4	24,500

Source: *GPO Budget Justification Fiscal Year 2023*[5]

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[5] GPO Budget Justification Fiscal Year 2023, February 16, 2022

Metrics and Key Performance Indicators

Metrics and KPIs can be used interchangeably: both are defined and quantifiable measures used to gauge performance over time. Examples of basic KPIs are:

KPI	Description
Throughput	How much a machine line can produce over a specific period of time.
Cycle time	The average amount of time to produce a product.
Avoided cost	The amount spent on machine maintenance versus repair cost due to breakdown, plus the lost production value due to the breakdown.
Changeover time	The amount of time switching from one task to another.
Takt time	The maximum permissible amount of time that can be spent manufacturing a product while still meeting the deadline.
Return on Assets	Annual net income divided by total assets.

Additional metrics or KPIs include:

KPI	Description
Capacity Utilization	The amount of capacity being used versus the total capacity.
First Pass Yield	The percentage of products manufactured to specification the first time through the process.
Material Yield Variance	The estimated amount of material required for a product compared against the amount of material actually used.
On-Time Delivery	The percentage of products delivered on-time.
Customer Returns or Rejects	The percentage of products that customers return because they received a bad product.
Scrap Rate	The number of products that are deemed scrap due to manufacturing defects that cannot be reworked versus the total number of products.

Benchmark: Security and Intelligent Documents (SID) Metrics

GPO's SID business unit produces secure Government documents for a wide variety of applications, including passports, travel documents, and credentials. SID produces and personalizes over 3,000,000 secure Federal smart card credentials each year for a variety of Federal agency customers, which are used to access our Nation's borders, our Federal buildings and facilities, and our information technology networks and architectures.

SID tracks numerous metrics and production goals. SID identifies, measures, and reports on KPIs for each of its machines and products. Further, they track the number of shipments, shipment accuracy, and space availability for production. For Inventory Management KPI, SID established goals for the dollar value of raw materials and work in process and tracks against those goals.

Further, SID implements metrics into its staff employee performance plans, such as:

- Establish and document process flows and work instructions for the new equipment and production steps associated with a specific program

- Update KPI display boards each month

- Develop KPIs, publish monthly KPI analyses for the business, and develop action plans for KPIs that are deficient

- Audit or develop workplace instruction and make any needed corrections, in coordination with the Quality Management Group

- Develop, create, and maintain a new metric for the 'front wall' that grades the quality operation of each processing center in the SID plant

- Report monthly KPIs on re-certification efforts, opportunities for improvement implementations, and quality management system improvements

Benchmark: Programs, Strategy, and Technology (PST) Metrics

GPO's PST is a support division responsible for managing Agency-wide programs and developing, implementing, monitoring, evaluating, and communicating the Agency's strategic initiatives.

In alignment with its responsibilities, PST also tracks various metrics, such as:

- Major milestones and improvements per FY

- Digital Content Services customer and amount billed per FY

- Maintenance issues resolved per Release

- Courts added per FY

- Retrievals per FY and Month

- Packages submitted per FY and Month

- Uptime percentage per Day

- Queries per second per Day

- GovInfo support issues opened/closed per FY

PST also implements metrics or ways to identify metrics, into its staff-employee performance plans. For example:

- Create a Customer Experience Journey Map (diagram or illustration) that captures a customer's initial interaction with GPO, relationship lifecycle, milestones, major steps, pain points, and moments of satisfaction

- Keeps senior managers and other appropriate officials advised in a timely fashion on developing trends, opportunities, and problems affecting operations, or policy in areas of responsibility

- Has clearly defined monitoring and evaluation procedures with timelines, project milestones, and due dates for every project

- Executes a wide range of analytical functions including the use of methods for product assessment and process improvement

INSPECTION RESULTS

Finding: Plant Operations should identify and implement additional metrics throughout the printing and publishing process to baseline, track, and ultimately improve performance.

Plant Operations uses several metrics for its daily print responsibilities, the Congressional Record, the Federal Register, and calendars. Specifically, Plant Operations uses the number of pages and on-time delivery. Additionally, Plant Operations reports the number of bills that were issued. However, Plant Operations could identify and report on additional metrics throughout the printing and publishing process, such as 1) cycle time, that is, current job status and the time to produce a product; and 2) the status of the annual estimate of the number of pages to be printed. Plant Operations reports only limited metrics because of Title 44's focus on the number of copies, issued daily, and delivered promptly. Plant Operations has not identified other metrics that would help provide a robust picture of Plant Operations' performance, developed a formalized quality program, or updated workflows. Without doing so, Plant Operations has not demonstrated embracing a culture of measurement that would provide valuable insights into Plant Operations' performance.

Criteria

- U.S.C. Title 44 – Public Printing and Documents, as amended

- Plant Operations Performance Plans, FYs 2021, 2022, and 2023

Title 44 states the "usual number" of copies of a document ordered by either House of Congress is 1,682. Additionally, the Congressional Record is to be "issued daily during sessions" and "to be delivered promptly on the day after the actual day's proceedings."

The performance plans for Plant Operations leadership include a goal of achieving 90 percent on-time delivery for the Congressional Record and 95 percent on-time delivery for U.S. House of Representatives and Senate calendars.

Plant Operations' Current Metrics

Plant Operations uses several metrics for its daily print responsibilities, which include the Congressional Record, the Federal Register, calendars, and bills. These are listed and defined, below.

Metric Reported	Definition
number of pages	The number of printed pages of a product.
on-time delivery	Whether the product delivery was on-time.
average book size	The average page count for books produced.
daily quantity	The daily distribution number of product items, such as pages, issues[6], and books.[7]
average delivery time	The average clock time all products were delivered.
average time the information was posted online	The average clock time files and associated data were posted to GovInfo.
number of bills processed[8]	The number of bills, or measures, received in the last seven days that are going through clerical, markup, and reading before being published and printed.

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[6] Issues are the daily Congressional Record and Federal Register.
[7] Books are groupings of the Congressional Record and Federal Register issues.
[8] Plant Operations works with PST to report this number.

While Plant Operations defines "on-time" as delivery before the Congressional session starts, its "on-time" calculation is more nuanced, allowing exceptions when material was received after midnight, or if there were more than 300 pages to be printed.

Internal and External Metrics Reports

Plant Operations reports on metrics internally to Plant Operations leadership through a monthly report and externally to GPO leadership through an Executive Dashboard and bi-weekly email reports. Examples of these reports are in Figures 3 and 4.

The internal monthly report for the Congressional Record shows the number of issues, the number of books, the number of pages distributed, the average book size in pages, the average number of subscriptions, the average posting time, the average delivery time, the number of times GPO was late delivering the Congressional Record, and the percentage of on-time delivery. This is shown in Figure 3. Daily deliveries of the Congressional Record to the House of Representatives and to the Senate count as half a delivery each. The .5 lates in November and December mean that GPO was late one time each of those months, to either the House of Representatives or the Senate.

Figure 3. Internal FY 2023 Congressional Record Subscription Pages Printed / Distributed

Congressional Record	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Monthly Averages
# of Issues:	3	23	15	23	18	20	14	22	16	20	3	20	16
# of Books:	1	7	19	16	12	18	8	17	13	12	1	23	12
# of Pgs. Distributed:	794,064	1,162,344	7,374,706	1,380,552	1,317,440	2,210,144	1,300,832	1,853,192	1,323,840	4,004,616	66,144	4,102,752	2,240,886
Avg. Book Size (Pgs.):	568	121	283	63	80	89	118	79	83	242	48	154	161
Avg. Subsciptions:	1,398	1,371	1,369	1,369	1,370	1,381	1,378	1,379	1,379	1,379	1,378	1,375	1,377
Avg. Posting Time:	3:24 AM	5:44 AM	9:11 AM	7:02 AM	5:27 AM	7:03 AM	5:51 AM	6:16 AM	5:21 AM	8:39 AM	3:36 AM	6:20 AM	6:09 AM
Avg. Delivery Time:	10:09 AM	9:30 AM	11:28 AM	9:39 AM	8:36 AM	9:24 AM	9:34 AM	9:10 AM	9:54 AM	11:17 AM	8:11 AM	9:56 AM	9:44 AM
# of GPO Lates:	-	0.5	0.5	-	-	0.5	1.5	-	1.5	-	-	1.5	0.5
% On-time delivery:	100%	93%	97%	100%	100%	97%	81%	100%	88%	100%	100%	93%	96%
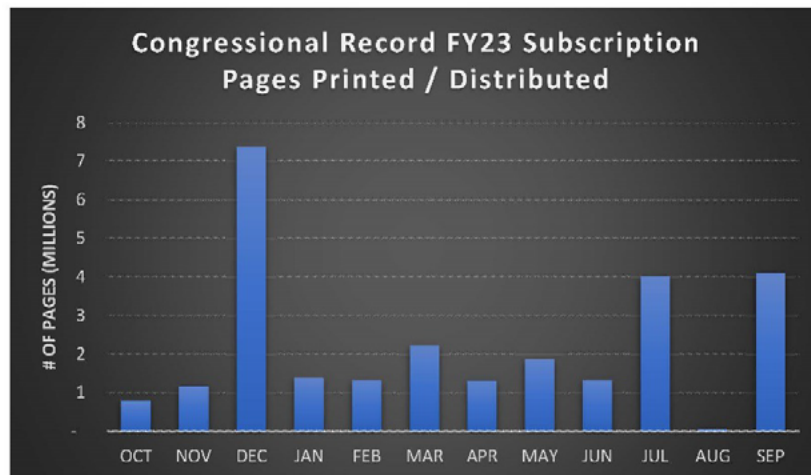
Congressional Record	FY23 Totals
# of Issues:	197
# of Books:	147
# of Pgs. Distributed:	26,890,626

Source: GPO

Plant Operations reports externally to GPO leadership through an Executive Dashboard and bi-weekly email reports. The Executive Dashboard aims to provide the Director and the Executive Team with a tool to make data-driven decisions regarding GPO strategic goals and operations. Business Units report various information that they identified as important to meeting this goal. For example, the Security Services' Safety Branch reports on the number and type of accidents. Customer Services reports on its annual sales and weekly number of jobs. The Superintendent of Documents reports on the number of askGPO inquiries, the number of items added to GPO's Catalog of Government Publications[9], and the number of active depository libraries.

Plant Operations reports on the number of bills, or measures, received in the last seven days and that are in process, that is, going through clerical, markup, and reading processes before being published and printed. The Executive Dashboard also shows various historical data about Congressional bills, such as the total number of pages, the count of Congressional bills in a Congressional year, and the average number of pages of each of those bills. This is shown in Figure 4.

Figure 4. External Executive Dashboard – Backlog – FY 2021 – FY 2023
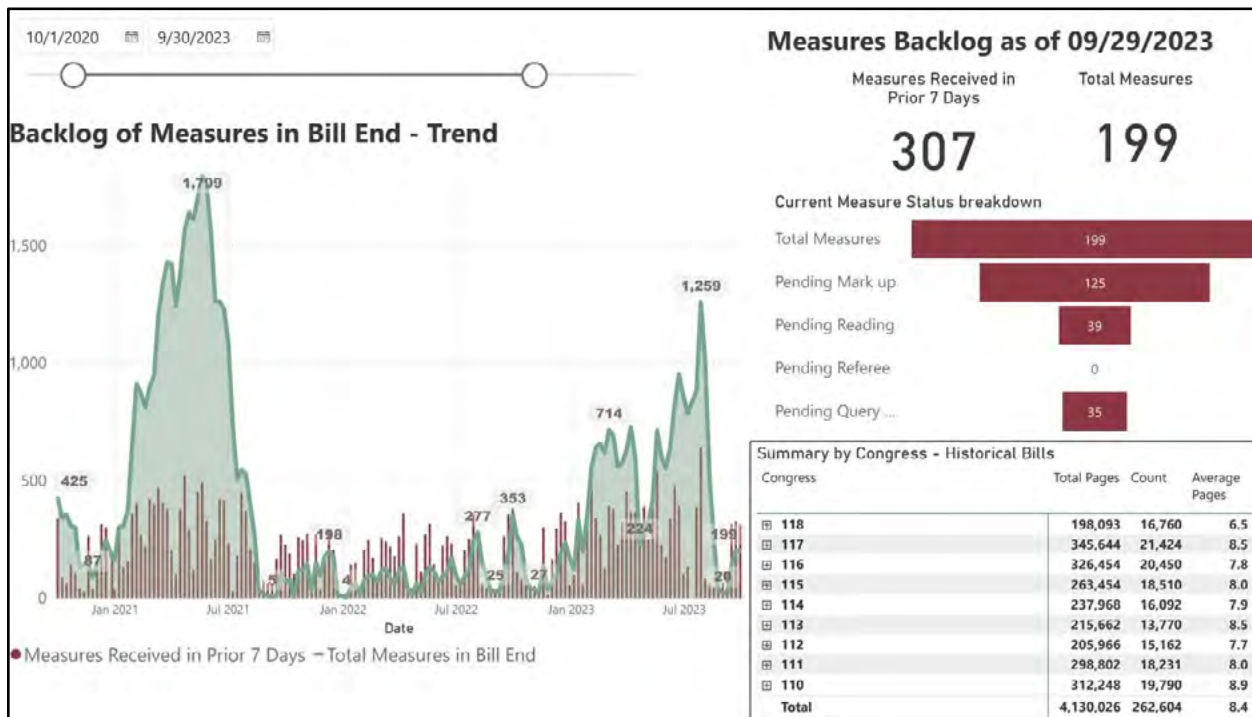
Source: GPO

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[9] The Catalog of Government Publications is the finding tool for federal publications that includes descriptive information for historical and current publications as well as direct links to the full document, when available.

Plant Operations also reports various information about the Federal Register and the Congressional Record, such as the percentage of on-time delivery and the number of pages.

The bi-weekly email reports are also provided to Congress to give insight into GPO operations. The various BUs choose what they want to highlight. Plant Operations provided information about the Congressional Record, the Federal Register, and Congressional bills, as listed below. Plant Operations defines volumes the same as issues: the daily Congressional Record and Federal Register.[10]

- Produced 551,600 printed pages of the Congressional Record (Volumes 106-110). Average delivery time on Capitol Hill was 10:17 am. The average book size was 100 pages and the daily quantity was 1,379 copies. The average time posting online was 6:33 am.

- 557 bills were processed during the period of June 18, 2023 – July 1, 2023.

- Produced 938,736 pages of the Federal Register. The average book size was 348 pages and the daily quantity was 328 copies. The average time posting online was 1:22 am.

Plant Operations' Official Journals of Government also reports a list of various products that Plant Operations produced and delivered, such as House documents, programs, and committee reports.

Similarly, SID's bi-weekly highlights report on the number of passports produced in both Washington, District of Columbia, and Stennis Space Center, Mississippi, along with the total number of smart cards produced. PST's bi-weekly highlights report on updates of GovInfo deployments, activities associated with XPub, and milestones for specific projects, such as the Congressionally Mandated Reports portal.

Our assessment is that the bi-weekly email is largely a status update with limited insight into trends or strategic goals.

Metrics Tracking

Plant Operations' metrics are primarily tracked manually and recorded on a spreadsheet that is updated daily. See an example in Figure 5 below. Information for the spreadsheet is emailed to Plant Operations leadership, with details about the type of binding, the total number of pages, the time the information was received, and the date and time the House of Representatives and the Senate will next convene.

Figure 5. Excerpt of manual tracking spreadsheet FY 2023

Issue Number	Publication Date	Pages	Delivery Date	House Delivery	Senate Delivery	GPO Online Release	House Chamber Delivery	Senate Chamber Delivery	Senate Start Date	Senate Start Time	House Start Date	House Start Time	Quantity Produced
160	10/4/2022	18				2:57 AM			10/7/2022	10:00 AM	10/7/2022	1:30 PM	
161	10/7/2022	22				5:17 AM			10/11/2022	11:00 AM	10/11/2022	10:00 AM	
162	10/11/2022	568	10/12/22	10:09 AM	10:09 AM	6:18 AM	10:25 AM	10:27 AM	10/14/2022	11:30 AM	10/14/2022	11:30 AM	1,398
163	10/14/2022	22				3:05 AM			10/18/2022	11:00 AM	10/18/2022	9:00 AM	
164	10/18/2022	24				6:40 AM			10/20/2022	9:00 AM	n/a	n/a	
165	10/20/2022	4				1:08 AM			n/a	n/a	10/21/2022	11:00 AM	
166	10/21/2022	20				2:09 AM			10/24/2022	1:45 PM	n/a	n/a	
167	10/24/2022	4				12:45 AM			n/a	n/a	10/25/2022	11:00 AM	
168	10/25/2022	20							10/27/2022	12:00 PM	n/a	n/a	
169	10/27/2022	4				12:34 AM			n/a	n/a	10/28/2022	10:00 AM	
170	10/28/2022	16				4:57 AM			10/31/2022	10:00 AM	10/31/2022	11:00 AM	

Source: GPO

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[10] We previously described "issues" in the table of *Plant Operations' Current Metrics*.

Plant Operations Manufacturing System and Potential Metrics Reports

During our inspection, Plant Operations implemented its Plant Operations Manufacturing System (POMS), a production management information system designed to provide real-time production, cost, and performance information. POMS has the capability to track a large amount and various types of data. However, POMS's capability has not yet been used to feed Plant Operations metrics. Numerous information elements, or data fields, in POMS could be used to inform Plant Operations metrics including on-time delivery and number of pages. For example, Plant Operations could track a print job's current status and the total cycle time for a specific job; so, in addition to reporting where a bill is in processing, or that the Congressional Record is out for delivery, Plant Operations could also identify how many jobs, of any type, they are working on at any given time. POMS allows numerous measuring opportunities that have yet to be realized.

Since at least May 2023, PST has been working with Plant Operations on a cycle time report and dashboard. As of May 2024, a year later, the draft report and dashboard were still pending Plant Operations action. Figure 6 below is an example of the dashboard based on the report. Identifying the cycle times of various jobs would allow Plant Operations to identify variations between jobs, where there might be a bottleneck, and other areas for improvement.
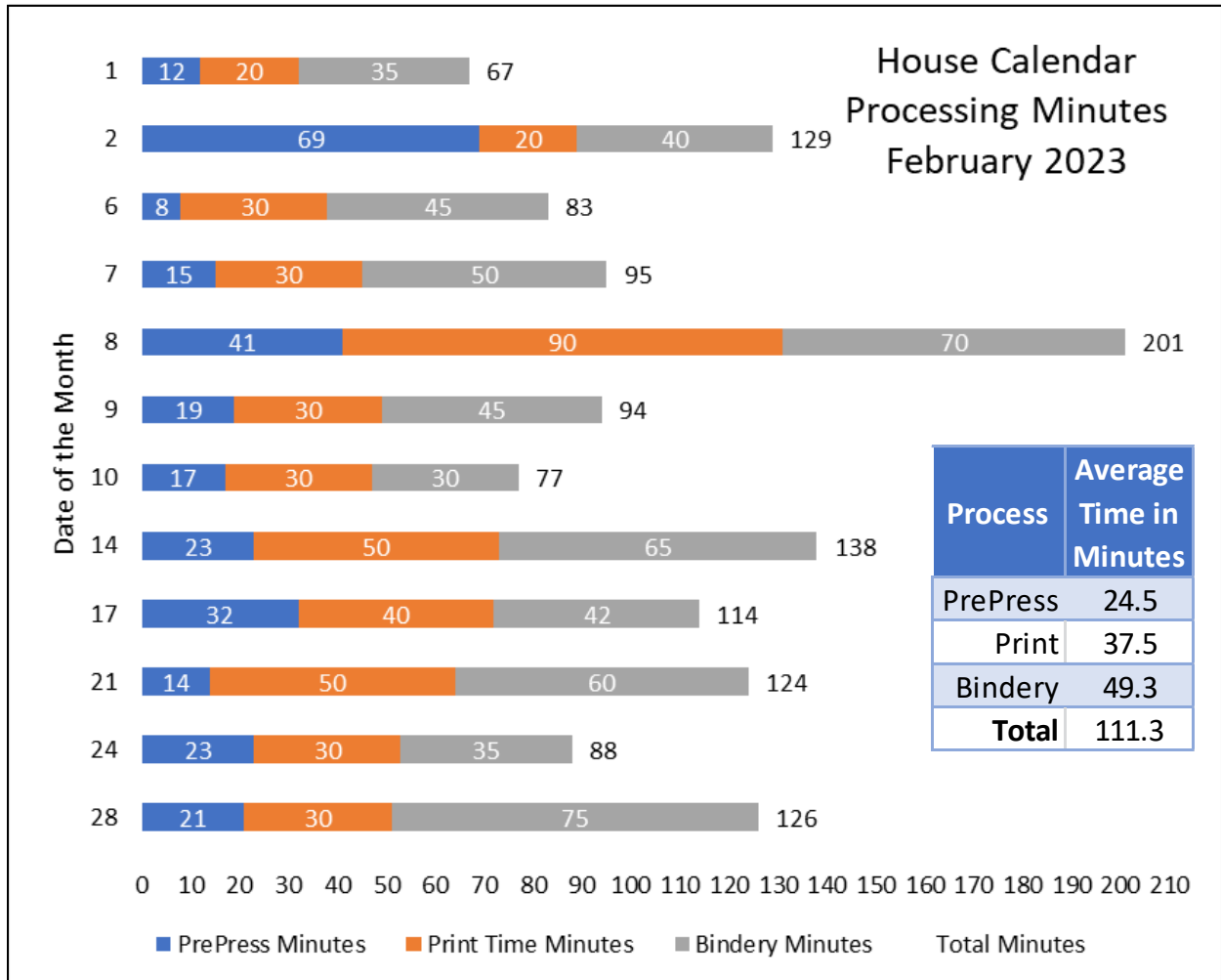
Figure 6. PST's Draft Proposed Cycle Time Report, House Calendar

Source: GPO

Figure 7 below is an OIG created example of an alternate way to show the cycle time for House Calendars from February 2023, excluding Transition time.

**Figure 7. House Calendar Processing Minutes – February 2023**

Source: OIG Analysis

In addition to taking action on the cycle time report and dashboard, Plant Operations could report on a variety of metric information, such as:

1. The status of the annual estimate of the number of pages to be printed, compared to their original estimate, as shown in Figure 8.

2. The current work in process, to show the volume of work currently being processed.

3. Scrap and waste rates, in order to gain efficiency.

4. Machine utilization, to show which machines are used the most and how frequently.

Figure 8. Congressional Record FY 2021 − Estimates & Actuals
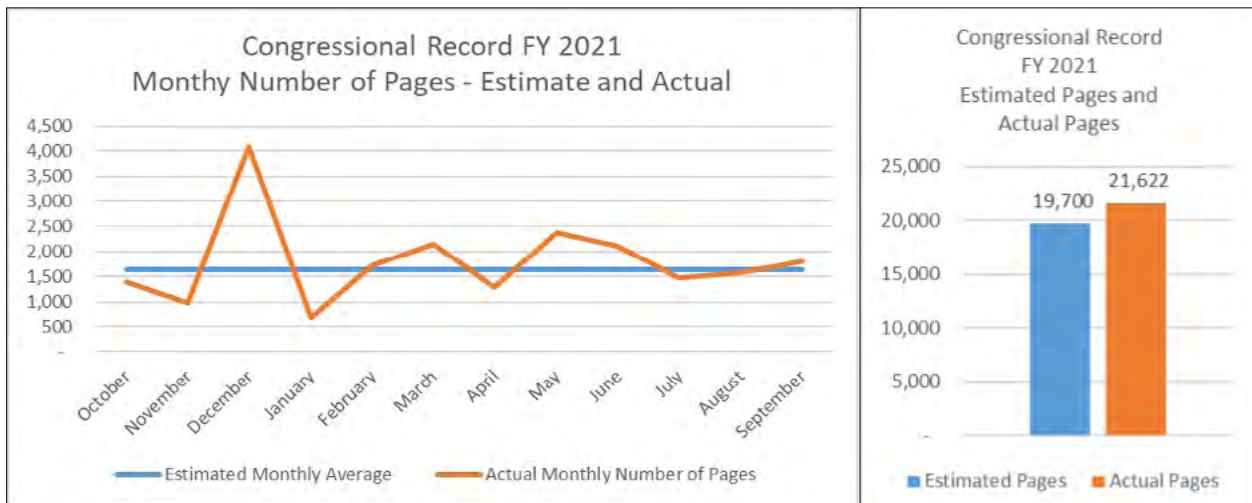
Source: OIG Analysis

Contributing Factors to Identifying and Reporting Minimal Metrics

Plant Operations currently tracks minimal metrics, e.g. the number of pages and on-time delivery, as these align with the requirements of Title 44. Further, the performance plans of Plant Operations leadership focus on measures such as on-time delivery. However, Plant Operations has not embraced a culture of measurement, including identifying other metrics that would help provide a robust picture of Plant Operations' performance, developing a formalized quality program, and having up-to-date and accurate workflows.

Metrics to Measure Performance

Plant Operations cannot report how long it took to produce various products, to identify if production was efficient. For example, while the FY 2023 Congressional Record manual tracking spreadsheet includes information that would identify how long it takes to move through the production process, such as Last Page to Plate Time, Last Plate to Press Time, Bindery Times, Enroute for Delivery Time, Delivery Date, and Delivery Time for the House and Senate and GPO Online Release, not all of the fields are consistently filled in. These types of measurements, about how long it takes to produce various products and how long it takes to move through the production process, could help Plant Operations make informed decisions about resource allocation and process improvements.

Further, neither the FY 2023 Congressional manual tracking spreadsheets nor POMS is set up to track customer service concerns, that is, reasons why a delivery might not be on-time or explain other issues about specific products, such as incorrect deliveries, inaccurate graphics, or typing errors. This information is tracked manually in two separate locations. Delivery times and exception delay reasons are tracked in the previously mentioned spreadsheet, which is updated daily. Delay reasons center around the time that the job was received and the number of pages associated with the job.[11] The issues, such as incorrect numbering or an incorrect graphic, are tracked in a separate spreadsheet in SharePoint. By not having the issues tracked in POMS, Plant Operations staff must use *another* system to track information. Additionally, staff may not be able to easily identify every job that has an issue associated with it. Further, staff may not be able to identify complaint themes and determine a resolution to resolve the issue.

Additionally, Plant Operations does not have anyone to lead data collection, analysis, and reporting. While the Production Manager role has generally had some responsibility for reporting on metrics, this tasking may be better suited to a different role that requires training in data analytics. In comparison, SID collects, analyzes, and reports on various data. Many of its managers and supervisors track and report on numerous metrics or statistics and production goals for awareness in their respective areas. This includes KPIs for each of the machines and products. SID tracks metrics such as the number of shipments, error rates, and return reasons. Further, SID tracks metrics for Inventory Management, including warehouse space availability and days of inventory available. Additionally, SID reports on its goal dollar value and the actual dollar value of the raw materials and work in progress. SID regularly reports on its goals, metrics, and KPIs, identifying what they have, as well as targets, averages, and actuals. SID's variety of metrics, paired with their quality activities, discussed below, demonstrate a culture of measurement. Centralizing the lead on data collection, analysis, and reporting could help Plant Operations embrace a culture of measurement. It could also encourage accountability, by fostering a culture of responsibility and holding teams responsible for their outcomes.

Altogether, measuring performance in multiple ways would provide valuable insights into Plant Operations' performance, beyond the minimal metrics that align with the requirements of Title 44.

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[11] As previously stated, Plant Operations allows exceptions to its "on-time" deliveries when material was received after midnight, or if there were more than 300 pages to be printed.

Quality Aspects and Best Practices

Plant Operations has limited quality training; leadership largely stated that quality is built into its processes. Plant Operations leadership further stated that quality is not directly measured or trained. However, relying on processes instead of a combination of processes and staff could result in not identifying quality issues, that is, in delivering products with errors or identifying errors late in the process and spending time redoing the work.

While many employees are focused on their own activities, understanding how quality is showcased in other activities can help them see the big picture and better understand how they fit into the process. In comparison, SID has a quality policy, stated in the text box, and identifies various quality roles for groups of its staff, such as bookbinders, press operators, printing plant workers; management, engineers, and support staff; and the quality team. Additionally, SID developed two internal trainings to highlight how they review for quality regularly, and how they adhere to certification standards. Both are provided to new employees as part of their initial introduction to SID and as part of their initial training.

> Security and Intelligent Documents (SID) is committed to developing, producing and supplying high quality secure documents and credentials, on time and in the most efficient manner possible. We do this by continually reviewing and improving our processes using a culture of employee involvement throughout the division.
>
> SID Quality Policy

Further, SID is certified in Quality Management Systems, which outlines the basic elements of a good quality management system, which are good business practices. Elements include: leadership and commitment; planning; monitoring and measuring resources; communication; performance evaluation, including monitoring, measurement, analysis and evaluation, internal audit, and management review; and continual improvement.

A formalized quality program within Plant Operations could further ensure Plant Operations meets its own standards, and ultimately achieves its goals and meets its customer's needs and expectations.

Outdated Workflow Diagrams

Plant Operations does not have current workflow diagrams for all of its categories of products. In response to our data call, we received two workflow diagrams for the Congressional Record and the Federal Register. The Congressional Record Workflow Chart was dated May 27, 2009, while the Federal Register Workflow Chart was undated. Plant Operations leadership stated the charts were not accurate and were not current. The workflows did not reflect the use of digital files and the installation of new printing and binding machines. The outdated workflows provided several potential key performance indicators or metrics that could be identified, such as: the number of files received; why changes were rejected; date, time, and counts of materials for deliveries; personnel and vehicle used for deliveries; and supplies available, used, and remaining.

Workflow diagrams could also be useful for other Plant Operations products, such as: memorial addresses, identified in Title 44, Section 723; printing for committees of Congress, from Title 44, Section 726; and other special event items, such as invitations or programs.

As discussed above, elements of a good quality management system include planning; communication; and continual improvement. Workflow diagrams could be considered elements of planning how the work is to be done, communicating that to staff, and reviewing if the process could be improved.

Without up-to-date and accurate workflows, Plant Operations may not be able to identify where its workers may be varying from general processes, if those processes could or should be improved, and how those processes could be improved.

In summary, without measuring performance in multiple ways, without a formalized quality program, and without up-to-date and accurate workflows, Plant Operations does not demonstrate embracing a culture of measurement that would provide valuable insights into Plant Operations' performance.

Recommendations

For the Director, GPO:

Recommendation 1. Recommendation 1. Develop and formalize a quality program for Plant Operations that emphasizes a culture of measurement and continuous improvement.

Management Comments

GPO concurred with the recommendation. Plant Operations plans to establish a quality program, enhance its metrics, and continue to develop a culture of continuous improvement. This includes creating a quality mission statement, establishing an evaluation process for essential publications, providing training in specific areas, and maintaining its industry certification.

OIG Response

GPO's concurrence and planned actions are responsive to this recommendation.

Recommendation 2. Assign or hire an expert to lead data collection, analysis, and reporting across all of Plant Operations.

Management Comments

GPO concurred with the recommendation. Plant Operations plans to make department managers responsible for ensuring data is collected consistently and evaluated for accuracy. The distributed responsibility will support Plant Operations' goal of developing a culture committed to analytics. Plant Operations has a billet responsible for leading the efforts to accomplish data collection, analysis, and reporting.

OIG Response

GPO's concurrence and planned actions are responsive to this recommendation.

Recommendation 3. Recommendation 3. Determine if any of the potential metrics highlighted in this report would benefit Plant Operations and its stakeholders, and if so, track and report on those metrics.

Management Comments

GPO concurred with the recommendation. Plant Operations plans to implement a range of performance metrics, including:

    i.   Cycle time (Proofroom, Press, Bindery, and Delivery)
    ii.   Delivery performance (core products)
    iii.   Off-loading dock to customer time
    iv.   Total pages produced (core products)
    v.   Bill End – Bill count
    vi.   Bates and Bietel Bills
    vii.   Customer complaints and corrective actions

Plant Operations will add additional metrics as POMS is updated.

OIG Response

GPO's concurrence and planned actions are responsive to this recommendation.

Recommendation 4. Create new workflow diagrams, with cycle times, for each type of product identified in Title 44.

Management Comments

GPO concurred with the recommendation. Plant Operations plans to update workflow diagrams to reflect its current processes for all product types mentioned in Title 44.

OIG Response

GPO's concurrence and planned actions are responsive to this recommendation.

Recommendation 5. Use POMS to replace the manual tracking of information, track complaints and issues, and generate metrics reports.

Management Comments

GPO partially concurred with the recommendation.

Regarding using POMS to replace the manual tracking of information, Plant Operations may need to track some metrics manually as POMS may need more capability to ingest all manual tasks. Plant Operations will ensure that all manually tracked data associated with key metrics is documented, tracked, and reported on the Executive Dashboard.

Regarding using POMS to track complaints and issues, Plant Operations has established an internal SharePoint site as the location where complaints and issues will be tracked.

Regarding using POMS to generate metrics reports, Plant Operations plans to report metrics either through POMS or manually.

OIG Response

GPO's partial concurrence and planned actions are responsive to this recommendation. Our understanding of POMS capabilities was that the next planned update would address a variety of manually tracked data, automating that data collection. We encourage GPO to use POMS to the greatest extent possible to maximize efficiency and to ensure that data is collected consistently and accurately, as referenced in the Management Comments for Recommendation 2.

Appendix A. Table of Recommendations

Recommendation	Management Response	Status	Return on Investment
Director, GPO			
1. Develop and formalize a quality program for Plant Operations that emphasizes a culture of measurement and continuous improvement.	GPO concurred with the recommendation. Plant Operations will establish a quality program, enhance its metrics, and continue to develop a culture of continuous improvement. Plant Operations expects this effort to be implemented by December 31, 2025.	Open	Non-Monetary – Initiate best business practices *Embracing a culture of measurement and continuous improvement would provide valuable insights into Plant Operations' performance.* Non-monetary - Validate existing processes *Documenting measurement and continuous improvement activities would validate activities Plant Operations already engages in and provide an opportunity to improve those activities.*
2. Assign or hire an expert to lead data collection, analysis, and reporting across all of Plant Operations.	GPO concurred with the recommendation. Plant Operations' department managers will have responsibilities for data collection and accuracy. Plant Operations has a billet responsible for leading the efforts to accomplish data collection, analysis, and reporting. Plant Operations expects this effort to be implemented by February 1, 2025.	Open	Non-monetary - Provide analysis/data to decision makers *Centralized collection, analysis, and reporting of Plant Operations metrics would provide leadership with accurate, consistent, and meaningful information.* Non-monetary - Improve management controls *Centralized collection, analysis, and reporting of Plant Operations data would help management identify areas that may need increased management oversight.* Non-monetary - Improve systems/processes *Centralized collection, analysis, and reporting of Plant Operations data would help management identify necessary process changes.*

Recommendation	Management Response	Status	Return on Investment
Director, GPO			
3. Determine if any of the potential metrics highlighted in this report would benefit Plant Operations and its stakeholders, and if so, track and report on those metrics.	GPO concurred with the recommendation. Plant Operations identified a range of performance metrics on seven topics. Plant Operations will add additional metrics as POMS is updated. Plant Operations expects to introduce the metrics in January 2025 and implement data analytics technologies by July 2025.	Open	Non-monetary - Provide analysis/data to decision makers *Identifying beneficial Plant Operations metrics would provide leadership with meaningful information when making decisions.* Non-monetary - Improve management controls *Identifying beneficial Plant Operations metrics would help management identify areas that may need increased management oversight.* Non-monetary - Initiate best business practices *Identifying beneficial Plant Operations metrics would encourage potential comparison across GPO Business Units and help identify best practices that Plant Operations could adopt.*
4. Create new workflow diagrams, with cycle times, for each type of product identified in Title 44.	GPO concurred with this recommendation. Plant Operations will update workflow diagrams to reflect its current processes for all product types mentioned in Title 44. Plant Operations expects this effort will be implemented by October 2025.	Open	Non-monetary - Validate existing processes *Documenting workflows would validate regular activities Plant Operations already engages in and provide, identify, and remove redundancies, as appropriate.* Non-monetary - Improve systems/processes *Documenting workflows would provide an opportunity to improve regular activities and encourage improvement of those activities.*

Recommendation	Management Response	Status	Return on Investment
Director, GPO			
5. Use POMS to replace the manual tracking of information, track complaints and issues, and generate metrics reports.	GPO partially concurred with this recommendation. While POMS will take over most of the manual tracking tasks, Plant Operations may need to continue to track some metrics manually as POMS may need more capability to ingest all manual tasks. Plant Operations has established an internal SharePoint site as the location where complaints and issues will be tracked. Plant Operations plans to fully implement tracking and reporting for these metrics, whether through POMS or manually, and display them on the Executive Dashboard by March 31, 2026.	Open	Non-monetary - Improve systems/processes *Use of automated processes, instead of manual, can decrease inaccurate information and can support consistency in information. It can also allow staff to focus more on analyzing information instead of data entry.* Non-monetary - Provide analysis/data to decision makers *Use of automated reports can provide consistent information to leadership and help them identify where adjustments may be needed.*

Appendix B. Scope and Methodology

Scope

Our team of inspectors performed this inspection of Plant Operations metrics. Our review of information to inform metrics covered FY 2021 – FY 2023 (October 1, 2020 – September 30, 2023). The organizational scope of this inspection included Plant Operations and all of its divisions: Production Planning & Control, XPub, Prepress, Press, Bindery, Production Manager (Shift 1), Official Journals of Government, and Congressional Record Index. The organizational scope also included SID and PST to benchmark other metrics in GPO and to identify best practices.

Our scope reviewed POMS as it related to informing metrics and excluded an extensive review of the system.

Methodology

The inspection team:

- Interviewed:

  - Managers, Supervisors, and other personnel within:

    - Office of the Director

    - Plant Operations

    - SID

    - PST

    - Agency Support Operations

    - Intergovernmental Affairs

    - Finance

- Reviewed performance plans; standard operating procedures; workflow charts; spreadsheets and reports; and electronic databases.

- Performed a walk-through of the GPO Plant Operations.

This inspection was conducted in accordance with the *Quality Standards for Inspections and Evaluations of the Council of the Inspectors General on Integrity and Efficiency*, December 2020 (Blue Book).

Appendix C. Abbreviations

BU	Business Unit
FY	Fiscal Year
GPO	Government Publishing Office
KPI	Key Performance Indicator
OIG	Office of the Inspector General
POMS	Plant Operations Manufacturing System
PST	Programs, Strategy, and Technology
SID	Security and Intelligent Documents
Title 44	U.S.C. Title 44 – Public Printing and Documents, as amended
U.S.C.	United States Code

Appendix D. Management Comments

HUGH NATHANIAL HALPERN
Director

MEMORANDUM

Date: September 24, 2024

To: Inspector General

Subject: Agency Response to the OIG Draft Report on Plant Operations Metrics Inspection 24-01-II

Thank you for the opportunity to offer the Agency's response to the Draft Report on Plant Operations Metrics Inspection 24-01-II.

Agency Response to Recommendations in the Draft Report

Recommendation 1

Develop and formalize a quality program for Plant Operations emphasizing a measurement culture and continuous improvement.

GPO concurs with the recommendation.

Plant Operations will establish a quality program, enhance its metrics, and continue developing a culture of continuous improvement.

The Plant will undertake the following initiatives:

1. Create a quality mission statement highlighting our purpose, objectives, and core values.

2. Establish an attributes-based quality evaluation process for essential publications.

3. Provide specific training in areas that positively influence product quality and operational efficiency.

4. Certification: Maintain our industry certification, validating that our printing processes meet the highest printing standards and ensure consistent print quality.

Plant Operations expects to complete the review and implement these changes by December 31, 2025.

Recommendation 2

Assign or hire an expert to lead data collection, analysis, and reporting across Plant Operations.

GPO concurs with this recommendation.

To ensure a culture focused on metrics, Plant Operations department managers will ensure data is collected consistently and evaluated for accuracy from their departments. This distribution of responsibility is critical for engagement and accountability to achieve our goal of developing a culture committed to analytics across the operation. Plant Operations has a billet responsible for leading the efforts to accomplish data collection, analysis, and reporting. The Management and Program Analyst will be the person responsible for these activities.

Plant Operations expects to complete the assignment of these data collection, analysis, and reporting responsibilities and implement these processes by February 1, 2025.

Recommendation 3

Determine if any of the potential metrics highlighted in this report would benefit Plant Operations and its stakeholders. If so, track and report on those metrics.

GPO concurs with this recommendation.

Plant Operations will implement a range of performance metrics that will provide valuable insights into our operations and benefit our stakeholders. These metrics will include:

- Cycle time (Proofroom, Press, Bindery, and Delivery)
- Delivery performance (core products)
- Off-loading dock to customer time
- Total pages produced (core products)
- Bill End – Bill count
- Bates and Bietel Bills
- Customer complaints and corrective actions

Furthermore, Plant Operations intends to add additional metrics when the shopfloor data module (auto-count) is implemented and we learn the system's complete capabilities.

Plant Operations plans to introduce these metrics in January 2025 and aims to complete the process by July 2025 as we implement data analytics technologies.

Recommendation 4

Create new workflow diagrams, with cycle times, for each product type identified in Title 44.

GPO concurs with this recommendation.

Plant Operations will update workflow diagrams to reflect our current processes for all product types mentioned in Title 44. The above recommendation addresses any previous issues about cycle time.

Plant Operations intends to complete the updated workflow diagrams by October 2025.

MEMORANDUM

Recommendation 5

Use POMS to replace the manual tracking of information, track complaints and issues, and generate metrics reports.

GPO partially concurs with the recommendation.

The POMS system will take over most of the manual tracking tasks. While we aim to automate manual tasks, POMS may need more capability to ingest all manual tasks. Therefore, Plant Operations may need to continue to track some metrics manually. Plant Operations will ensure that all manually tracked data associated with key metrics is documented, tracked, and reported on the Executive Dashboard. Plant Operations has established an internal SharePoint site as the location where complaints and issues will be tracked.

Plant Operations plans to fully implement tracking and reporting for these metrics, whether through POMS or manually, and display them on the Executive Dashboard by March 31, 2026.

Thank you for the opportunity to provide the Agency's input on this product from your office. The Agency spent approximately 18 hours preparing this response.

If you have any questions, please contact me.

HUGH NATHANIAL HALPERN

cc: **Deputy Director**
        Chief of Staff
        General Counsel

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U.S. GOVERNMENT PUBLISHING OFFICE

America Informed

gpoighotline@gpo.gov