



*The Research, Applied Analytics, and
Statistics Organization Project Management
Practices Need Improvement*

May 4, 2018

Reference Number: 2018-10-026

This report has cleared the Treasury Inspector General for Tax Administration disclosure review process and information determined to be restricted from public release has been redacted from this document..

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HIGHLIGHTS

THE RESEARCH, APPLIED ANALYTICS, AND STATISTICS ORGANIZATION PROJECT MANAGEMENT PRACTICES NEED IMPROVEMENT

Highlights

Final Report issued on May 4, 2018

Highlights of Reference Number: 2018-10-026 to the Commissioner of Internal Revenue.

IMPACT ON TAXPAYERS

IRS management relies on the Research, Applied Analytics, and Statistics (RAAS) organization to deliver research on topics that affect tax administration. The Government Performance and Results Modernization Act of 2010 states that to use taxpayer dollars in more cost-effective ways, agencies should set clear goals for outcome-focused priorities and measure, analyze, and communicate performance information to identify successful practices. Adherence to these goals is important because the IRS spent more than \$103 million on its RAAS organization in Fiscal Year 2017.

WHY TIGTA DID THE AUDIT

This audit was initiated to determine whether the RAAS organization monitors the project costs, timeliness, potential duplication, and impact of its research projects to ensure efficient use of resources. In addition, TIGTA followed up on whether the IRS implemented corrective actions to address prior audit recommendations.

WHAT TIGTA FOUND

The RAAS organization has not established standards to measure the impact of its research projects across all of its divisions and has not instituted project management controls to track research project costs and timeliness and avoid project duplication. Federal regulations require agencies to establish goals for outcome-focused results and express such goals in an objective and quantifiable manner. In addition, both the U.S. Government Accountability Office and TIGTA have made recommendations to the

RAAS organization over the last 15 years to establish performance standards that would allow it to measure the impact of its research projects. While one unit within the RAAS organization has established some ad hoc measures, the RAAS organization as a whole continues to lack basic measures for evaluating its impact on tax administration and taxpayers.

TIGTA also found that 99 percent of the RAAS organization's budget is devoted to employee and contractor labor and services, yet it does not estimate those labor costs prior to project initiation, does not monitor labor costs during project execution, and does not compare the actual labor costs against original estimates because it does not track employee or contractor labor hours associated with its projects. Similarly, the RAAS organization does not estimate or monitor research project time frames and therefore cannot evaluate the timeliness of projects.

Finally, TIGTA found that the RAAS organization's controls for avoiding duplication of research projects are not effective by design because they rely on individuals to recall whether a new project is a duplicate of one of the hundreds of ongoing and completed RAAS projects. By measuring the impact, costs, and timeliness of its research projects, the RAAS organization could then demonstrate and highlight its benefits to tax administration and, where appropriate, improve its operations.

WHAT TIGTA RECOMMENDED

TIGTA made four recommendations to the Director, RAAS, including to develop and implement effective performance measures to better assess the impact of the RAAS research projects on tax administration and taxpayers. The IRS agreed with all four recommendations and stated that the RAAS organization plans to formalize a performance measure framework for major categories of work.



TREASURY INSPECTOR GENERAL
FOR TAX ADMINISTRATION

DEPARTMENT OF THE TREASURY

WASHINGTON, D.C. 20220

May 4, 2018

MEMORANDUM FOR COMMISSIONER OF INTERNAL REVENUE

FROM: Michael E. McKenney
Deputy Inspector General for Audit

SUBJECT: Final Audit Report – The Research, Applied Analytics, and Statistics
Organization Project Management Practices Need Improvement
(Audit # 201710012)

This report presents the result of our review to determine whether the Research, Applied Analytics, and Statistics organization monitors the project costs, timeliness, potential duplication, and impact of its research projects to ensure efficient use of resources. In addition, the Treasury Inspector General for Tax Administration followed up on whether the Internal Revenue Service (IRS) implemented corrective actions to address recommendations from a prior audit report that reviewed the IRS's research efforts. This review is included in our Fiscal Year 2018 Annual Audit Plan and addresses the major management challenge of Achieving Program Efficiencies and Cost Savings.

Management's complete response to the draft report is included as Appendix V.

Copies of this report are also being sent to the IRS managers affected by the report recommendations. If you have any questions, please contact me or Gregory Kutz, Assistant Inspector General for Audit (Management Services and Exempt Organizations).



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Abbreviations

FY	Fiscal Year
GAO	Government Accountability Office
GPRA	Government Performance and Results Act
IRS	Internal Revenue Service
OCA	Office of Compliance Analytics
RAAS	Research, Applied Analytics, and Statistics
RAS	Research, Analysis, and Statistics
TIGTA	Treasury Inspector General for Tax Administration



The Research, Applied Analytics, and Statistics Organization Project Management Practices Need Improvement

Background

The Research, Applied Analytics, and Statistics (RAAS) organization within the Internal Revenue Service (IRS) provides statistical analyses, program evaluations, and research on topics affecting tax administration. This information is used by divisions throughout the IRS as well as external stakeholders, including the Department of the Treasury, the Office of Management and Budget, and Congress. According to the IRS, its management relies on applied analytics and research programs to deliver information that is integral to improving performance on strategic goals and objectives.

The RAAS organization encompasses two previous IRS offices—the Office of Research, Analysis, and Statistics (RAS) and the Office of Compliance Analytics (OCA)—that were merged in October 2016. The IRS Commissioner merged the two offices to integrate their organizational structures in a manner that supports and enhances the interaction between the two organizations and assists IRS leadership’s emphasis on analytics, innovation, and data-driven decision making. Currently, the RAAS organization has approximately 350 IRS employees,¹ made up primarily of economists, statisticians, operations research analysts, information technology specialists, and program management analysts, as well as close to 300 contractors and approximately 50 employees who are detailed from other agencies or student volunteers.² These individuals work within five divisions that support the IRS as a whole and other specific IRS business units, such as the Wage and Investment Division, through various research initiatives. According to the IRS, the five directorates and the services they provide are:

- The Statistics of Income division is responsible for formulating and executing the overall statistical policies and programs of the IRS. It provides reports on how the IRS collects and processes data in order to provide the general public and other Government agencies with information on the Federal tax system.³
- The Data Management division, which manages and delivers data for research purposes and develops new strategies, models, and processes. Some of the major projects under the Data Management division are the Compliance Data Warehouse⁴ and the Enforcement Revenue Information System.⁵

¹ According to an IRS Human Resources Employee Report and a staffing report provided by the RAAS organization in November 2017.

² These staffing numbers do not include any research personnel working in the embedded research departments.

³ The RAAS Statistics of Income division produces data files for Federal statistical agencies on a reimbursable basis; it occasionally receives requests for special studies.

⁴ Provides tools, training, and computing services to IRS employees to support projects, analyses, and studies related to tax administration, enforcement, and customer service.

⁵ Tracks the direct hours spent on cases, the life span of enforcement cases, assessments, recommendations, collections, and the timing of revenue collected from all IRS enforcement actions.

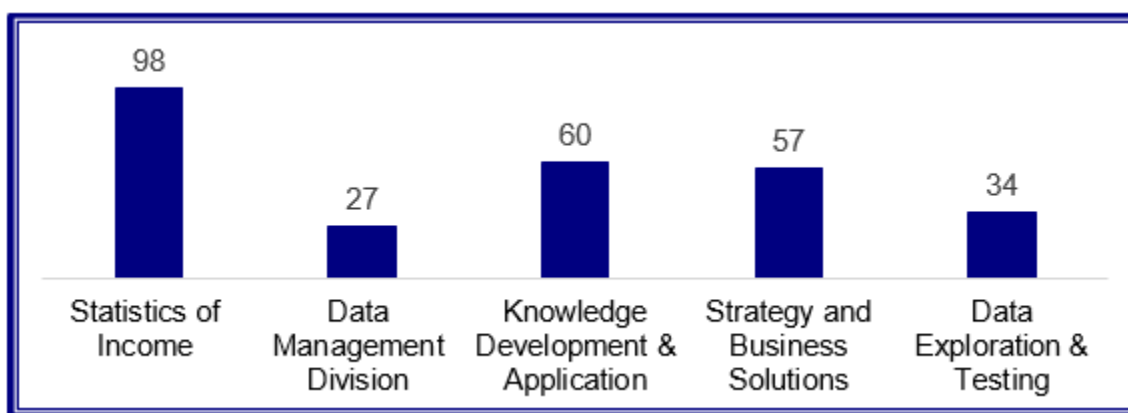


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- The Knowledge Development and Application division, which applies subject matter expertise in tax administration, economics, behavioral research, and statistical methodology. It also advises IRS leadership stakeholders in development, analysis, and implementation of policies and procedures.
- The Strategy and Business Solutions division, which designs and delivers core tools and services that advance the customer service, compliance, and enforcement priorities of the IRS. The Strategy and Business Solutions division includes a project management research lab and a business performance analytics lab that is responsible for partnering with IRS business unit leadership to collaboratively analyze business programs and provide program advisories that help proactively identify ways to improve outcome measurement and strengthen outcomes.
- The Data Exploration and Testing division, which extracts value from analytics through exploration, testing, and learning to improve tax compliance and enterprise operations.

The five RAAS divisions work to provide research, analytical, statistical, and technology services to its customers within the IRS. RAAS research costs are not billed back to internal IRS customers. In addition, external organizations use information published by the RAAS organization as well. Figure 1 below displays the number of active projects by each directorate of the RAAS as of July 2017, at which time the RAAS organization was leading 279 projects.⁶

**Figure 1: Number of Open Research Projects,
by RAAS Divisions as of July 2017**



Source: RAAS project repository database, extracted on July 11, 2017.

⁶ The 279 projects represented in the chart only include RAAS projects that were in process as of July 11, 2017. It also includes three projects led by the RAAS organization's Management and Engagement office that is outside of the five RAAS divisions. Completed projects and projects led by the embedded research organizations were not included.



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The IRS also has embedded research organizations within seven of its larger business units that conduct internal research projects. The business units with these embedded research organizations include Criminal Investigation, the Human Capital Office, the Large Business and International Division, the Small Business/Self-Employed Division, the Tax Exempt and Government Entities Division, the Taxpayer Advocate Service, and the Wage and Investment Division.⁷ These embedded research organizations also work in conjunction with the main RAAS organization when they need specific skills that they do not have in their own departments.

Since 1995, the IRS's research organization has had multiple audits conducted by either the U.S. Government Accountability Office (GAO), Treasury Inspector General for Tax Administration (TIGTA), or private sector audit firms. The reports issued by these entities were analyzed in a May 2001 GAO review and reported to the IRS Commissioner.⁸

The GAO review emphasized the findings of five audits conducted between 1995 and 2000 that identified issues with respect to the IRS's research operations. The GAO stated that its review illustrated the need for the IRS to measure the performance of its research organization. It specifically recommended to the IRS Commissioner that the IRS establish and institutionalize methods to monitor project progress and determine the overall impact of research.

More recently, in July 2009, TIGTA published a report⁹ that made three recommendations for the Director, Office of RAS,¹⁰ to better track and assess the impact of the IRS's research community projects based on more data-driven outcomes and decisions. In June 2010, the IRS responded that it implemented corrective actions in response to TIGTA's recommendations. Figure 2 summarizes TIGTA's July 2009 recommendations and the corrective actions taken by the IRS.

⁷ This audit focused on assessing the impact of RAAS-led research projects and not the embedded research organizations.

⁸ GAO, GAO-01-656R, *Status of IRS Research Organization* (May 2001).

⁹ TIGTA, Ref. No. 2009-10-095, *An Improved Project Management Process Is Needed to Measure the Impact of Research Efforts on Tax Administration* (July 2009).

¹⁰ That audit was prior to the merger with the OCA, when the RAAS organization was referred to as the RAS office.



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Figure 2: TIGTA's 2009 Audit Recommendations and the Implemented Corrective Actions As Reported by the IRS

TIGTA 2009 Audit Recommendations	Implemented Actions as of 2017
Coordinate with the directors in each IRS research program to develop and implement effective business measures to better assess whether IRS research efforts achieve program objectives and show their impact on improving tax administration.	Business measures have been used; however, they have been discontinued since the merger of the RAS office and the OCA. No business performance measures are currently used.
Establish research standards and practices that define what activities constitute a research project and specify the required documentation that should be prepared and maintained for all research projects. The standards and practices should include, at a minimum, who requested the research, objectives of the research, estimated resources and time periods necessary to complete the project, a final report documenting the results of the research and potential actions taken by management, and the results of any post-research assessment.	The RAAS organization has developed research standards and defined what activities constitute a research project. It has established specific minimum required documentation that should be prepared and maintained for all research projects.
Develop guidance to ensure that basic project management information is captured, tracked, and monitored and allows for consistent and comparable reporting of IRS research efforts. This guidance should also include a requirement for management to clearly distinguish research projects from research activities on their databases.	The RAAS organization recently developed a project repository with the intended goal of capturing, tracking, and monitoring project information.

Source: The Department of the Treasury's internal corrective action tracking system and the RAAS organization's management responses.

The IRS also stated that it addressed TIGTA's recommendations by approving the creation of a repository system for storing and accessing information on research projects Service-wide. The tracking tool currently used was not completed until March 2016 and was a follow-up of earlier project repositories developed with contractor assistance starting in the spring of 2013. According to the RAAS organization, the project repository allows users to view, search, and update certain information for research and analytical projects across the IRS.¹¹ The project

¹¹ According to the RAAS organization, it is a requirement for all research projects to be entered into the project repository except for some ad hoc projects that require less than 40 hours to complete. Our review focused on the RAAS organization's process for managing its research projects. We did not confirm with the embedded research organizations whether they have entered 100 percent of their research efforts in the repository.



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repository also includes information such as title, status, category, customer, and primary Future State theme¹² that should be prepared and maintained for all research projects.

As of July 2017, the project repository included 891 research projects with six project categories, including Program, Project, Ad Hoc, Infrastructure, Behavioral, and Consulting. For purposes of this report, we will refer to all RAAS organization activities as research projects. Figure 3 below displays the breakdown of the projects led by the RAAS organization and the embedded research organizations for the 891 research projects listed in the project repository.

Figure 3: Number of Projects Listed in the Project Repository

Status	RAAS-Led Projects	Embedded Research Organization Projects	Total
Terminated ¹³	19	11	30
Completed	63	315	378
In-Process	279	204	483
Total Projects in Repository	361	530	891

Source: RAAS project repository database, extracted on July 11, 2017.

Prior to combining the RAS office and the OCA, the RAS office regularly reported business measures to the Commissioner in its quarterly Business Performance Review. The measures reported included customer satisfaction, employee satisfaction, employee headcount, products delivered, and number of citations made by media or external organizations. However, after the recent RAAS organization stand-up, the new organization paused production of the business measures for reevaluation and updating. According to the RAAS organization, its total expenditures for Fiscal Year (FY)¹⁴ 2017 were more than \$103 million,¹⁵ with \$102 million, or 99 percent, allocated to employee labor and contractor labor and services.¹⁶ Of that \$102 million, contractor labor accounted for \$49 million, or 48 percent, of the total RAAS

¹² The IRS Future State refers to the six themes and one focus area developed by the IRS Commissioner's office to align with existing Treasury Strategic Goals and Objectives and IRS Strategic Goals and Objectives and provide guidance for the outcomes the IRS seeks to achieve in the future.

¹³ For purposes of grouping the projects by status, those labeled as Indefinitely Suspended, On Hold, and Terminated in the repository were all categorized as Terminated projects.

¹⁴ Any yearly accounting period, regardless of its relationship to a calendar year. The Federal Government's fiscal year begins on October 1 and ends on September 30.

¹⁵ This amount represents the commitments, obligations, expenditures, and disbursements reported by the RAAS organization as of September 30, 2017. The total amount actually expended has not been verified by TIGTA.

¹⁶ The final 2017 RAAS organization budget does not break out contractor costs between labor and services. Services include subscriptions to online databases, a specific contract for asset locator services, and office supplies.



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expenditures. According to RAAS management, since the RAAS organization completed its reorganization in October 2016, there have been ongoing efforts to address recommendations and weaknesses identified in prior TIGTA and GAO reports. As a result, RAAS management stated that the organization has put an emphasis on developing internal controls and performance measures. However, these actions were still ongoing and had not been completed during fieldwork for this audit.

This review was performed with information obtained from the IRS Headquarters and field offices of the RAAS organization in Washington, D.C., during the period January 2016¹⁷ through January 2018. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.

¹⁷ TIGTA first initiated this audit in January 2016 and held planning meetings in February 2016, but due to reallocation of staffing resources, this audit was postponed and restarted in February 2017.



The Research, Applied Analytics, and Statistics Organization Project Management Practices Need Improvement

Results of Review

The RAAS organization's current project management practices do not enable it to effectively plan, monitor, or measure the impact of its research projects. The Government Performance and Results Act (GPRA) Modernization Act of 2010,¹⁸ enacted in January 2011, requires agency heads to "ensure the mission and goals of the agency are achieved through strategic planning, measurement, analysis, regular assessment of programs, and the use of data to improve results." However, the RAAS organization has not established project management procedures to determine how resources should be allocated in order to provide regular assessment of programs or whether the use of data and research programs improved tax administration or positively impacted taxpayers. Currently, the RAAS organization does not have standards for measuring the impact of research projects on the IRS or taxpayers. In addition, it does not ensure that the costs of research projects are calculated and does not monitor the timely completion of research projects. It also has not developed internal control mechanisms that will identify and avoid the duplication of any previous or current research projects other than a manual review by employees. By measuring the impact, cost, and timeliness of its research projects, the RAAS organization would be able to demonstrate and highlight the benefits of the research projects to tax administration and, where appropriate, improve its operations.

The Research, Applied Analytics, and Statistics Organization Does Not Measure the Impact of Its Research Projects Across All Divisions

The RAAS organization has not developed consistent measures across all its divisions to assess the impact of research projects on the IRS or taxpayers. The GPRA Modernization Act of 2010 states that Government leaders should set clear, ambitious goals for outcome-focused results and express such goals in an objective, quantifiable, and measurable form. In addition, agencies should measure, analyze, and communicate performance information in order to identify successful practices and to prevent and correct problematic practices. The Office of Management and Budget issued guidance in July 2016 that specifies the entities to which the GPRA Modernization Act applies to and states that agencies are expected to work with their components to identify priorities, goals, performance indicators, and other indicators relative to the mission and strategic objectives of the agency. Furthermore, the IRS's internal policy¹⁹ echoes the GPRA Modernization Act of 2010 and states that management should identify goals

¹⁸ Pub. L. No. 111-352, 124 Stat. 3866 (codified as amended in scattered sections of 3 U.S.C., 5 U.S.C., 31 U.S.C.).

¹⁹ Internal Revenue Manual 1.4.2 *Resource Guide for Managers, Monitoring and Improving Internal Control* (Feb. 4, 2015).



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and establish performance measures that will serve as progress indicators for correcting significant deficiencies.

Since 1995, the GAO and TIGTA have made multiple recommendations to the IRS to develop a process for determining the effectiveness of its research results. However, the RAAS organization has not implemented performance measures to assist in assessing the impact of its research projects across all of its divisions. In the prior FY 2009 TIGTA report,²⁰ TIGTA found that IRS research management primarily assessed the impact of their research program by measuring customer satisfaction. The report noted that customer satisfaction is not the most relevant and effective business measure because it does not directly show whether IRS research projects contributed to the research program's mission of providing information that supports data-driven decisions by IRS management. According to the RAAS organization, its customers were generally satisfied with its services when the FY 2009 TIGTA report was issued. Before recently pausing the use of its previous measures, the RAAS organization reported a 98 percent customer satisfaction rating in FY 2016. As stated in the FY 2009 TIGTA report, customer satisfaction is not the most relevant measure of a research project's impact. In addition, internal IRS customers receive RAAS research products at no cost, and thus additional measures are needed to determine the impact of research projects on the IRS's strategic goals and taxpayers.

After the October 2016 reorganization, the RAAS organization stated that it stopped the publication of previous performance measures, which included customer satisfaction, to develop more appropriate measures. Currently only one RAAS division, the Statistics of Income division, maintains its own ad hoc performance measures. These measures are examples of the type of quantitative information that could be used to help measure the impact of RAAS research projects. The Statistics of Income division's performance measures include:

- Page Views.
- Downloads.
- Total Full-Time Equivalents.²¹
- Timeliness.
- Product Quality.

The RAAS organization is currently in the process of developing new performance measures to be used within all of its divisions to assess research efforts; however, at the time of this audit, no measures were in place. Without effective business measures, IRS management's ability to make informed business decisions related to IRS research programs is hampered. For an

²⁰ TIGTA, Ref. No. 2009-10-095, *An Improved Project Management Process Is Needed to Measure the Impact of Research Efforts on Tax Administration* (July 2009).

²¹ A measure of labor hours in which one full-time equivalent is equal to the total number of regular hours worked and approved leave taken by employees, divided by the number of compensable hours applicable to each fiscal year.



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environment in which the IRS is operating under budget constraints, it is imperative that management is able to make informed decisions related to IRS research efforts to ensure that resources can be allocated to the subjects most relevant to the IRS and the American taxpayer.

Recently, TIGTA identified areas in which IRS resources could have been better used to increase the effectiveness of key programs. For example, in a review of the IRS's Volunteer Income Tax Assistance Grant Program,²² a program designed to increase tax preparation coverage to underserved populations, TIGTA found that the IRS has data that could be used to measure program success but has not taken the steps to verify the reliability of the data or analyze them to determine whether the program is in fact increasing its tax return preparation coverage to underserved populations. In another report,²³ TIGTA found that the IRS does not consistently prioritize which collection cases are worked and that there were limited data available to assess whether the IRS's goals for its Collection function were achievable. IRS's Collection function management annually establishes case selection priorities; however, TIGTA found that the case routing system does not consider those priorities when routing inventory. As a result, the high-priority cases are only a small portion of closed cases. These types of examples illustrate areas in which the RAAS organization could potentially provide benefits with the most quantifiable impact to IRS business units and help determine areas for the IRS to best use its limited resources.

Recommendation

Recommendation 1: The Director, RAAS, should develop and implement effective performance measures to better assess and demonstrate the impact of its research projects on tax administration and taxpayers.

Management's Response: The IRS agreed with this recommendation. The IRS stated that the RAAS organization will formalize a performance measurement framework for major categories of its work.

The Research, Applied Analytics, and Statistics Organization's Project Management Practices Need Improvement

The RAAS organization's current project management practices do not enable it to effectively monitor research project costs and time frames and do not establish project objectives. The RAAS organization also has not developed internal control mechanisms that will identify and avoid the duplication of any previous or current research project. Without an effective method to track resources, time frames, and objectives necessary to successfully complete a research

²² TIGTA, Ref. No. 2017-40-088, *Improvements Are Needed to Ensure That the Volunteer Income Tax Assistance Grant Program Extends Tax Return Preparation to Underserved Populations* (Sept. 2017).

²³ TIGTA, Ref. No. 2017-30-069, *Prioritization of Collection Cases Is Inconsistent and Systemic Enforcement Actions Are Limited for Inactive Cases* (Sept. 2017).



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project, the RAAS organization is unable to evaluate whether it is efficiently using limited resources to positively impact taxpayers and IRS objectives.

RAAS project management does not monitor project costs across its organization

We determined that more than 99 percent of RAAS research project costs are associated with IRS employee and contractor labor and services costs. However, the RAAS organization does not estimate or monitor employee and contractor labor costs on its research projects across all divisions. Federal guidance states²⁴ that the capability to forecast the effectiveness of procedures, including the disbursement of resources, provides additional assurance that the agency's objectives are being achieved.

In the prior FY 2009 report,²⁵ TIGTA recommended that IRS management establish research standards and practices that include estimated resources, objectives, and necessary time periods to complete a project in order to ensure that research projects are properly planned, monitored, and tracked. In response, RAAS management developed new procedures for research project intake, selection, and evaluation of resources and developed a project repository to capture key project information. The RAAS organization also implemented a process for submitting requests for project initiation for RAAS support, referred to as the intake process, in April 2017. However, the new process made the capturing of key details (such as an estimate of resources needed to complete the research) optional, which resulted in the information not being documented in the new repository. RAAS management stated that the project repository was not originally built to manage or capture employee or contractor time spent on projects, monitor labor costs of those projects, or measure the impact of projects in the repository. According to RAAS management, the repository is an information-sharing platform dependent upon all researchers to share specific information about projects in alignment with the IRS strategic goals. RAAS management also stated that, as part of the intake process which is still under development, senior leaders will evaluate each project request to determine the skills and resources needed to support each project.

Since the RAAS organization implemented the new intake process, it received 51 requests to initiate new research projects.²⁶ However, our review of the intake process as of August 2017 showed that a discussion of project resources prior to approval was conducted by management for only four of the 51 new project requests. Specifically, while the new intake process should include discussions of required resources, including the need for employee and contractor labor, those estimates were not included in project details recorded in the RAAS tracking system.

²⁴ GAO, GAO-14-704G, *Standards for Internal Control in the Federal Government* (September 2014).

²⁵ TIGTA, Ref. No. 2009-10-095, *An Improved Project Management Process Is Needed to Measure the Impact of Research Efforts on Tax Administration* (July 2009).

²⁶ The 51 new research project requests were reviewed from inception of the Portfolio Review Process in April 2017 through August 2017.



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Because RAAS employee and contractor labor and service costs comprise 99 percent of the RAAS organization's annual budget, it should include a process for estimating those resources as part of its research project intake process.

The cause of this lack of cost monitoring comes from a combination of inadequate systems and management's view of the value of commonly accepted project management tools²⁷ such as monitoring labor hours and costs of specific projects. The RAAS Director stated that there is an emphasis to apply more effective cost tracking to the contractor resources that came under its control as a result of the reorganization. However, because the IRS business units that request RAAS research projects do not have to fund the projects, there is less emphasis on tracking costs. RAAS management stated that each of the legacy organizations (the RAS office and the OCA), as well as the embedded organizations, had their own systems and approaches to assigning and monitoring projects.²⁸ In addition, certain RAAS leadership stated that they believe it would not be an efficient use of time to record labor hours, and some senior managers specifically stated that monitoring labor costs was unnecessary. In meetings with RAAS management, they stated that there is an initiative underway to evaluate an appropriate way to capture labor by project; however, they are unsure of when or if it will be implemented. The majority of the RAAS's research project costs, as previously stated, are comprised of employee and contractor labor, which is currently not tracked on an individual project basis. Moreover, the RAAS has expended time and resources expanding its project tracking spreadsheet into the current project repository that has 49 fields, none of which track any IRS labor or contractor labor, either by hours or total costs expended on research projects.

RAAS project management does not track project time frames

In addition to not tracking research project costs, we found that the RAAS organization does not determine estimated research project completion times to monitor whether research projects are on schedule and within planned time frames. When initiating a research project and recording information in the repository, the RAAS organization has specific required fields that must be completed in order to initiate the project; however, project time frames are not included as a mandatory field. Not capturing key project information, such as time frames, is contrary to Federal guidance on project management. Specifically, the GPRA of 1993²⁹ and the GPRA Modernization Act of 2010 specify that information such as time frames, resources, and objectives are important for setting goals in major functions and operations of an agency.

²⁷ Office of Management and Budget, M-10-01, *Increased Emphasis on Program Evaluations* (October 2009).

²⁸ Only one division within the RAAS organization tracks internally how resources should be allocated.

²⁹ Pub. L. No. 103-62, 107 Stat. 285 (codified as amended in scattered sections of 5 U.S.C., 31 U.S.C.).



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Because documenting project time frames was an optional requirement, we randomly selected 14 research projects³⁰ from the research project repository to determine if key research project information was captured.³¹ Of the 14 RAAS-initiated research projects reviewed, we found that seven projects did not have an estimated time frame necessary to complete the project.³² RAAS management stated that the mandatory and optional fields were discussed with internal and external stakeholders prior to implementing the project repository as the centralized tracking system, and estimated completion time frames was not made mandatory. As such, the results for tracking time frames would be expectedly low. However, RAAS management also stated that they are working on incorporating the variables, including project time frames, into an enterprise research plan³³ by the end of FY 2017. Ensuring that time frame information for research projects is captured and monitored is key because RAAS research projects can last anywhere from days to more than a year. In addition, capturing this information will enable IRS management to monitor progress in achieving strategic goals and provide evidence of the RAAS organization's efficient use of limited resources.

RAAS program management does not track individual project objectives

While the RAAS relates each research project to the IRS's Future State themes, it does not systematically record planned objectives for each research project initiated. As previously stated, TIGTA's FY 2009 report recommended that IRS management needed to develop guidance to ensure that basic project management information is captured, tracked, and monitored. In response, the IRS developed the project repository to capture key project information. However, the RAAS organization does not require that the project objective for each research project be recorded. From our review of 14 RAAS-led research projects, we found that nine projects did not have separately stated objectives. The RAAS organization does not maintain another system, other than the project repository, that captures in-process and completed research project information for all its projects. Not recording project objectives makes it difficult for IRS management to review how each research project will align with existing IRS strategic goals and agencywide objectives that the IRS seeks to achieve in the future.

³⁰ From the 861 completed and in-process research projects listed in the project repository, we randomly selected 5 percent of the total research projects. This resulted in 43 RAAS-led and embedded research organization projects (14 were RAAS-initiated research projects and 29 were led by one of the embedded organizations).

³¹ We looked for information that would assist IRS management in monitoring whether research is completed within established time frames and budgetary limits. For the purposes of this evaluation, we cross-referenced IRS RAAS project repository terms to the terms defined in the GPRA Modernization Act. See Appendix IV for the listing of terms.

³² We also found that 12 projects initiated by the embedded organizations did not list estimated time frames.

³³ The enterprise research plan is an initiative the RAAS organization started in FY 2017 to identify research and compile a list of priority research projects related to the IRS Strategic Plan.



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RAAS program management lacks sufficient controls to prevent project duplication

The RAAS organization has not developed sufficient internal control mechanisms that will identify and avoid the duplication of any previous or current research projects. In an April 2016 GAO report, the GAO found that the IRS could potentially save resources by better managing fragmentation and overlap in some of its programs.³⁴ The GAO stated that determining whether fragmentation, overlap, or duplication exists among program areas is a key step in identifying opportunities to improve efficiency and effectiveness. Currently, as research projects are initiated, the RAAS organization only informally attempts to determine if there is an overlap with current or previous research projects by asking its staff to recall if the current project is duplicative of other prior or ongoing projects. Furthermore, the current process for tracking project details does not include entering an individual project's objective as a required field. Entering individual project details could better allow an IRS employee not working directly on the project to determine if a new project could be a duplication of an ongoing or completed project. The RAAS organization stated that if an overlap in efforts is recognized in the planning stages by one of the program management office staff, it will contact the requestor to discuss. However, this process is heavily reliant on subject matter experts in the RAAS organization being available at the time a new research project is initiated and relies on those experts remembering if any of the almost 900 projects listed in the project repository are being duplicated. Although the RAAS organization has made efforts to avoid duplication by using implemented tools such as the project repository,³⁵ no standardized procedures currently exist, and the controls are not effectively designed to avoid project duplication.

While reviewing the RAAS project repository, we noted four instances in which different IRS employees entered the same project information into the project repository, causing a duplication of project titles. While this was not an actual duplication of projects, recording a project multiple times in the RAAS project repository illustrated that there was no standard process for reviewing the repository for duplicative research efforts. The RAAS organization stated that this was due to situations in which different RAAS members input the same project into the repository. Currently, there is no control in the process that will flag or stop duplicate projects from being initiated and worked by different research teams. By establishing standardized internal controls to protect against duplication of efforts, the RAAS organization can strengthen the current system to avoid duplicative information being entered into its current tracking tool and could maximize the resources necessary to accomplish its objectives.

³⁴ GAO, GAO-16-50T, *Government Efficiency and Effectiveness – Opportunities to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits* (April 2016).

³⁵ Previously there was no central database of all research projects; according to the RAAS organization, the project repository allows users to view, search, and update information for research and analytical projects across the IRS.



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Recommendations

The Director, RAAS, should:

Recommendation 2: Develop and implement guidance requiring RAAS divisions to record and monitor a research project's progress throughout its life cycle, along with the associated costs (including IRS and contractor employee labor time). This guidance should include comparing that information to the plans developed during project approval to determine whether research projects are within planned costs and time frames.

Management's Response: The IRS agreed with this recommendation and stated that procedures are now in place to ensure each new project request requiring more than 40 hours of work is reviewed by the RAAS leadership at biweekly portfolio review meetings. To be considered, projects must present an estimate of required contractor resources and identify RAAS staff who will participate on a project team. The IRS also stated that, once approved, any increase in resources aligned to a project must be approved by the executives and the overall budget is reviewed by the directors quarterly and adjusted as needed.

Recommendation 3: Develop and implement procedures to ensure that key project details, including project resources, time frames, and objectives, are captured in a project tracking tool before project approval.

Management's Response: The IRS agreed with this recommendation. The IRS stated that during the audit period, the RAAS organization had developed a new centralized intake process. However, the IRS stated that the process was implemented on April 1, 2017, after the audit period ended. This new intake process consists of an initial request form submitted online by the requesting organization, which has automatic notification to the RAAS organization. The initial request is assigned to a RAAS division and further developed by a senior RAAS team member via a secondary internal online questionnaire that is used to capture key project details, including project resources, time frames, and objectives. The IRS also stated that this second, more detailed, request form is shared with RAAS executives during regularly scheduled biweekly portfolio meetings to determine whether the project requests should be approved. Among the factors considered in these discussions are the potential contributions of the project to high-level organizational goals and objectives, an assessment of internal and contractor staff resources, and the time to complete the work within the requested time frame and costs. All request dispositions are tracked and archived. Once approval has been obtained, projects are entered into the IRS Research Portfolio repository and managed by a senior manager/analyst in a respective RAAS division.

Office of Audit Comment: Although the RAAS organization agreed with our recommendation, it stated that it has already implemented actions to address the



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recommendation through its new centralized intake process. TIGTA disagrees that the corrective action has been completed. During the audit, which ended January 2018, TIGTA was able to review the new centralized intake process (implemented April 1, 2017) that is referenced in the IRS's response and found that the new process made the capturing of key details optional, which resulted in the information not being consistently documented. In addition, our review of the new centralized intake process as of August 2017 found that management did not consistently conduct a discussion of project resources prior to approval. Furthermore, TIGTA's recommendation is to develop and implement procedures to ensure that key project details, including project resources, time frames, and objectives are captured in a project tracking tool *before* project approval. However, the process outlined in IRS management's response does not ensure that all key project details are tracked prior to approval.

Recommendation 4: Develop and implement procedures during project approval to ensure that new projects do not duplicate prior or ongoing projects.

Management's Response: The IRS agreed with this recommendation and stated that the RAAS organization will formalize a process whereby each new project request must include specific research objectives(s) during the project approval, followed by an appraisal of the proposed research objective(s) to determine if overlapping or duplicative research exists in the IRS Research Portfolio repository.



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Appendix I

Detailed Objective, Scope, and Methodology

Our overall objective was to determine whether the RAAS organization monitors the project costs, timeliness, potential duplication, and impact of its research projects to ensure efficient use of resources. In addition, we followed up on whether the IRS implemented corrective actions responsive to recommendations from a prior audit report that reviewed the IRS's research efforts. To accomplish this objective, we:

- I. Identified whether the IRS implemented corrective actions responsive to the recommendations made in TIGTA's Fiscal Year¹ 2009 research efforts audit.²
 - A. From the prior report, we identified the findings, our corresponding recommendations, and IRS management's response. We used the Joint Audit Management Enterprise System³ to determine what corrective actions the IRS implemented to address each recommendation and validated that each action had been completed.
 - B. Conducted interviews with IRS management within the IRS research community, reviewed IRS memoranda and Internal Revenue Manual⁴ sections, and reviewed the project repository and RAAS internal guidance to determine if the corrective actions were implemented.
- II. Identified whether the RAAS organization has mechanisms in place to: 1) measure key project elements such as costs, labor hours, and timeliness; 2) avoid duplication of research projects within the RAAS organization and embedded research organizations; and 3) evaluate the impact of research efforts on tax administration.
 - A. Identified Federal laws, regulations, and Treasury Directives, if applicable, regarding project management and research performance measures.

¹ Any yearly accounting period, regardless of its relationship to a calendar year. The Federal Government's fiscal year begins on October 1 and ends on September 30.

² TIGTA, Ref. No. 2009-10-095, *An Improved Project Management Process Is Needed to Measure the Impact of Research Efforts on Tax Administration* (July 2009).

³ An audit tracking and management control system maintained by the Treasury Department. The information on it is used to assess the effectiveness and progress of the IRS in correcting its internal control deficiencies and implementing corrective actions in response to audit recommendations.

⁴ The Internal Revenue Manual is the primary, official source of IRS "instructions to staff" related to the organization, administration, and operation of the IRS. It details the policies, delegations of authorities, procedures, instructions, and guidelines for daily operations for all IRS divisions and functions.



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- B. Identified IRS policies and procedures and interviewed RAAS management and employees regarding project management practices and research performance measures.
- C. Used project management software data and interviews with RAAS management and staff members to validate the extent to which the RAAS defines, monitors, tracks, and reports performance and costs of its research projects.
 - 1. Obtained a project repository extract for all current and completed research projects performed by the RAAS organization and validated the data by viewing the source system and requesting an extract while onsite with RAAS personnel.
 - 2. Randomly sampled 43 projects (5 percent of the population of 861 projects) from the RAAS project repository to determine if key project details are being included for monitoring, tracking, and reporting purposes. A sampling plan was reviewed by TIGTA's contract statistician. We used a random sample to ensure that each completed and in-process research project had an equal chance of being selected, which enabled us to obtain sufficient evidence to support our results.
 - 3. Requested a list of all IRS employees and contractor employees working in the RAAS organization and validated the data in the Discovery Directory.⁵
 - 4. Determined if employees in the RAAS organization report and track their project work time. We asked RAAS management to provide access to the project tracking and performance measures implemented or currently under development.
 - 5. Evaluated the RAAS organization's recently developed project intake process to determine if the process has mechanisms in place to: (a) properly assess project feasibility prior to accepting projects, (b) prevent duplicating projects, and (3) enable timely acceptance of projects.
 - 6. Requested copies of RAAS contracts to determine how much contract labor is expended each year on RAAS research projects.
 - 7. Used findings from Steps II.C.1 through II.C.6 to determine if the RAAS organization has the ability to track current project costs and performance and whether it has the ability to evaluate proposed research projects for feasibility.

Internal controls methodology

Internal controls relate to management's plans, methods, and procedures used to meet their mission, goals, and objectives. Internal controls include the processes and procedures for planning, organizing, directing, and controlling program operations. They include the systems

⁵ An IRS Enterprise Directories Services site that maintains IRS and TIGTA employee information through a web interface with a search screen for detailed employee information.



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for measuring, reporting, and monitoring program performance. We determined that the following internal controls were relevant to our audit objective: IRS policies and procedures for tracking and assessing project details during a research project's planning, execution, and completion phases; IRS policies and procedures to avoid duplicating prior or ongoing research projects; and IRS policies, procedures, and practices for planning, monitoring, and measuring the effectiveness of research projects. We evaluated these controls by interviewing management, reviewing Internal Revenue Manual procedures, and reviewing the project repository used to track research projects.



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Appendix II

Major Contributors to This Report

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Appendix III

Report Distribution List

Director, Research, Applied Analytics, and Statistics
Director, Office of Audit Coordination



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Appendix IV

*Research, Applied Analytics, and Statistics
Project Repository Terms in the
GPRA Modernization Act of 2010*

This appendix presents detailed information on the key project information as established by the GPRA Modernization Act of 2010.¹

RAAS Project Repository Term	GPRA Modernization Act of 2010 Section 306. Agency Strategic Plans	Page Number
Customers	(3) Customer, client, citizen, or other recipient.	Pg. 6 of 20
Team Members	(4) Employees.	Pg. 6 of 20
Objectives	(2) General goals and objectives, including outcome-oriented goals, for the major functions and operations of the agency; and (12) objective measurement and achieve intended objectives.	Pg. 2 of 20
Estimated Resources	(4)(A) A description of the operational processes, skills, and technology, and the human, capital, information, and other resources required to achieve those goals and objectives; and (5)(A) other resources and strategies required to meet those performance goals.	Pg. 3 of 20 & Pg. 5 of 20
Critical Dates	(5) Establish clearly defined quarterly time frames; (6) identify major management challenges that are Governmentwide or cross-cutting in nature and describe plans to address such challenges, including relevant performance goals, performance indicators, and time frames.	Pg. 4 of 20

¹ Pub. L. No: 111-352, 124 Stat. 3866 (codified as amended in scattered sections of 3 U.S.C., 5 U.S.C., 31 U.S.C.). GPRA stands for Government Performance and Results Act. The GPRA Modernization Act of 2010 uses the acronym in its title.



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Appendix V

Management's Response to the Draft Report



DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224

April 10, 2018

MEMORANDUM FOR: MICHAEL E. MCKENNEY
DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM: Benjamin D. Herndon
Chief Research and Analytics Officer
Research, Applied Analytics & Statistics (RAAS)

SUBJECT: Draft Audit Report – The Research, Applied Analytics, and
Statistics Organization Project Management Practices Need
Improvement (Audit # 201710012)

We appreciate your recommendations that will provide greater accountability across the Research, Applied Analytics, and Statistics (RAAS) organization. We agree that additional measures like those suggested will allow our new organization to better achieve our mission of leading a data driven culture through innovative and strategic research, analytics, statistics, and technology services, while supporting effective and efficient tax administration in partnership with internal and external stakeholders, using world-leading applied taxation science.

The collection and analysis of tax administration data are essential to the management, planning, and evaluation of IRS programs and activities. Research projects, studies, and tests are integral to the Service's decision-making processes, ensuring progress toward strategic goals.

For historical context, two existing headquarters-based research organizations: Research, Analysis, and Statistics (RAS) and the Office of Compliance Analytics (OCA) were integrated to form a new organization, RAAS, which stood up with Treasury approval in November 2016.

Standup in 2016 was contemporaneous with a new research coordination model to ensure that the Service's research dollars are being spent efficiently by reducing duplication of effort, and by leveraging research projects to meet the needs of multiple IRS program areas.

Three governing bodies within the research coordination model (Research Policy and Planning Committee, Research Directors Coordinating Council, Project Management Office) work collaboratively to integrate the needs of the IRS as a whole, coordinate comprehensive research activities, and facilitate priority development processes. RAAS agrees that it is important to build on existing framework and performance measures to more consistently assess, monitor and demonstrate the impact of its vital work. As you noted, many of these efforts were underway during the audit. Below, we address each of the recommendations in your report.



The Research, Applied Analytics, and Statistics Organization Project Management Practices Need Improvement

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Recommendation 1: Develop and implement effective performance measures to better assess and demonstrate the impact of its research projects on tax administration and taxpayers.

Corrective Action

We agree. Our research reveals the need to closely align performance metrics with specific outputs to produce meaningful, useful measures of program performance and impact. Measures for projects that result in tangible products, especially those that are regularly produced, are more easily quantified than measures for products that result in less tangible outputs and not all dimensions of performance can be measured for each product or project. To be meaningful, RAAS performance indicators must be carefully aligned to each category of its work. RAAS will formalize a performance measurement framework by major category.

Implementation Date

July 15, 2019

Responsible Official

Ben Herndon, Chief Research and Analytics Officer

Recommendation 2: Develop and implement guidance requiring RAAS divisions to record and monitor a research project's progress throughout its life cycle, and the associated costs, including IRS and contractor employee labor time. This guidance should include comparing that information to the plans developed during project approval to determine whether research projects are within planned costs and time frames.

Corrective Action

We agree that a process should be put in place to ensure that the highest levels of RAAS leadership have visibility into how RAAS' complete portfolio of projects and programs are progressing to plan. TIGTA notes in its review that during the audit period, RAAS introduced a *project input process*, which includes standardized templates that customers complete when requesting assistance with project. Procedures now in place to ensure each new project request requiring more than 40 hours of work is reviewed by the RAAS leadership at bi-weekly portfolio review meetings, led by the PMO. To be considered, projects must present an estimate of required contractor resources and identify RAAS staff who will participate on a project team. Once approved, any increase in resources aligned to a project must be approved by the executives and the overall budget is reviewed by the directors quarterly and adjusted as needed.

RAAS agrees that it must better quantify the staff resources assigned to projects. One RAAS organization is currently testing a time-keeping process for employees to report time against large projects/programs found in the IRS Research Portfolio project repository. At the close of the test, RAAS will analyze results and use lessons learned to develop an implementation plan.

Implementation Date

April 15, 2019

Responsible Official

Ben Herndon, Chief Research and Analytics Officer



The Research, Applied Analytics, and Statistics Organization Project Management Practices Need Improvement

Recommendation 3: Develop and implement procedures to ensure that key project details, including project resources, time frames, and objectives, are captured in a project tracking tool before project approval.

Corrective Action

We agree. During the audit period, RAAS had developed a new centralized intake process. However, it was implemented on April 1, 2017, after the audit period ended. This new intake process consists of an initial request form submitted on-line by the requesting organization, which has automatic notification to the RAAS PMO. The initial request is assigned to a RAAS Division by the PMO and then further developed by a senior RAAS team member via a secondary internal on-line questionnaire which is used to capture key project details, including project resources, time frames, and objectives. During regularly scheduled bi-weekly portfolio meetings, this second, more detailed, request form is shared with RAAS executives to determine whether the project request should be approved. Among the factors considered in these discussions are the potential contributions of the project to high level organizational goals and objectives, an assessment of internal and contractor staff resources, and the time to complete the work within the requested timeframe and costs. All request dispositions are tracked by the PMO and archived. Once approval has been obtained, projects are entered into the IRS Research Portfolio repository and managed by a senior manager/analyst in a respective RAAS organization.

Implementation Date

Implementation completed

Responsible Official

Ben Herndon, Chief Research and Analytics Officer

Recommendation 4: Develop and implement procedures during project approval to ensure that new projects do not duplicate prior or ongoing project.

Corrective Action

We agree. RAAS has already implemented procedures during the project initiation stage to identify overlap with new project requests to current or previous research projects. The new RAAS Project Intake process established in 2017 addressed this risk and now new projects are reviewed for duplication and evaluated prior to approval by a Portfolio Committee involving all RAAS division directors at regularly scheduled portfolio review meetings. Projects approved at these portfolio meetings are published and shared with all RAAS employees via the weekly RAAS Report, which offer another opportunity for employees to identify possible duplicative efforts. RAAS will formalize a process where each new project request must include specific research objectives(s) during the project approval, followed by an appraisal of the proposed research objective(s) to determine if overlapping or duplicative research exists in the IRS Research Portfolio repository.

Implementation Date

October 15, 2018

Responsible Official

Ben Herndon, Chief Research and Analytics Officer