

# NASA

National Aeronautics and Space Administration

Office of Inspector General

Office of Audits

# NASA'S COMPLIANCE WITH THE DIGITAL ACCOUNTABILITY AND TRANSPARENCY ACT OF 2014

November 7, 2017

Report No. IG-18-004





## **Office of Inspector General**

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# RESULTS IN BRIEF

## NASA's Compliance with the Digital Accountability and Transparency Act of 2014

NASA Office of Inspector General  
Office of Audits

November 7, 2017

IG-18-004 (A-17-010-00)

### WHY WE PERFORMED THIS AUDIT

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The Federal Government spends more than \$3.7 trillion annually, but tracking this money is difficult because spending data is often incomplete or inaccurate. To improve transparency and accountability over Federal spending, the Federal Funding Accountability and Transparency Act (FFATA) of 2006 was enacted. FFATA established USAspending.gov, a public website containing financial and recipient data on Federal contracts, grants, and other awards. In 2014, Congress and the President passed the Digital Accountability and Transparency Act (DATA Act) to expand on FFATA reporting requirements and increase the detail, quality, and transparency of Federal spending information on USAspending.gov.

As required by the DATA Act, the Office of Management and Budget (OMB) and U.S. Department of the Treasury (Treasury) developed Government-wide financial data standards that define specific reporting elements, such as an entity's legal name or the primary place where work will be performed. Treasury also developed standards – the DATA Act Information Model Schema – to assist agencies in deciding which financial and award systems they should use to report required information. Additionally, Treasury developed the DATA Act Broker system to ensure agency-submitted data is properly formatted and validated across financial and award systems. OMB guidance also requires agency officials responsible for their respective DATA Act submissions to review their data and certify its accuracy prior to publication on USAspending.gov. Finally, the DATA Act requires each Inspector General to assess how their agency implemented the data standards, as well as the completeness, timeliness, and accuracy of their agency's data.

We assessed (1) the completeness, timeliness, quality, and accuracy of NASA's fiscal year (FY) 2017, second quarter financial and award data submitted to Treasury for publication on USAspending.gov and (2) NASA's implementation and use of Government-wide financial data standards. Specifically, we reviewed applicable laws and regulations, interviewed personnel including NASA's Senior Accountability Officer and individuals on the NASA DATA Act team, prior audit reports, and data related to the Agency's financial reporting.

### WHAT WE FOUND

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NASA's FY 2017, second quarter submission complied with the requirements of the DATA Act. Based on our review, the Agency's submission was complete, timely, and properly used the Government-wide financial data standards required by the DATA Act. However, we identified minor errors with the accuracy and overall quality of the Agency's submission related primarily to the data fields involving the legal entity's name, address, primary place of performance, or highly compensated officer names. Some of these errors occurred because the systems that generated the data did not contain the most updated information and others due to manual entry errors. Additionally, we noted three types of errors related to how information was extracted from financial and award systems into Agency data files that in one case caused duplicate transactions. If uncorrected, these minor errors increase the risk that inaccurate data will be uploaded to USAspending.gov, decreasing the reliability and usefulness of the data.

## WHAT WE RECOMMENDED

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To improve the accuracy and quality of NASA's DATA Act submissions, we recommended NASA's Acting Chief Financial Officer and Assistant Administrator for Procurement (1) ensure contractor information such as legal entity name, address, and primary place of performance is current in Government-wide procurement and NASA systems; (2) continue working with Treasury officials to ensure Broker-related issues are resolved; and (3) ensure errors within Government-wide procurement systems related to Broker warning messages are corrected in a timely manner.

In response to a draft of this report, NASA management concurred with our recommendations and described its planned actions. We consider management's comments responsive; therefore, the recommendations are resolved and will be closed upon verification and completion of the proposed corrective actions.

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# Acronyms

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ASP	Award Submission Portal
CIGIE	Council of the Inspectors General on Integrity and Efficiency
DATA	Digital Accountability and Transparency Act
FAIN	Federal Award Identification Number
FFATA	Federal Funding Accountability and Transparency Act
FMFIA	Federal Managers' Financial Integrity Act
FPDS-NG	Federal Procurement Data System-Next Generation
FSRS	FFATA Subaward Reporting System
FY	Fiscal Year
GAO	Government Accountability Office
GSA	General Services Administration
GTAS	Governmentwide Treasury Account Symbol Adjusted Trial Balance System
IG	Inspector General
OIG	Office of Inspector General
OMB	Office of Management and Budget
PIID	Procurement Instrument Identifier
PRISM	Procurement Information System for Management
SAM	System for Award Management
SAO	Senior Accountability Officer
SAP	Systems Applications Products
SF	Standard Form

# INTRODUCTION

The Federal Government spends more than \$3.7 trillion annually; however, tracking this money is difficult because spending data is often incomplete or inaccurate. To improve transparency and accountability over Federal spending, in September 2006 the Federal Funding Accountability and Transparency Act (FFATA) of 2006 was signed into law. Among other things, FFATA required the Office of Management and Budget (OMB) to establish USAspending.gov, a public website containing financial and recipient data on Federal awards.<sup>1</sup> In May 2014, the Digital Accountability and Transparency Act of 2014 (DATA Act) was enacted to expand upon FFATA reporting requirements. According to the Government Accountability Office (GAO), the DATA Act offers the promise of a much more complete and accurate understanding of Federal spending by enabling – for the first time – the Federal Government as a whole to track taxpayers’ funds at multiple points in the Federal spending life cycle. Moreover, the Act should significantly increase the detail, quality, and transparency of data available to agencies, Congress, and the public.<sup>2</sup>

The DATA Act imposes requirements on several Government entities:

- OMB and the U.S. Department of the Treasury (Treasury) to increase the quantity, quality, and transparency of spending data available to agencies, Congress, and the public by establishing standards to enable the reporting and tracking of Government-wide spending at multiple points in the spending life cycle;
- Federal agencies to report the data in accordance with those standards on USAspending.gov; and
- Offices of Inspectors General (OIG) to assess how their agencies implement the data standards, as well as the completeness, timeliness, and accuracy of their agencies’ data.

In compliance with the Act, we assessed (1) the completeness, timeliness, quality, and accuracy of NASA’s fiscal year (FY) 2017, second quarter financial and award data submitted to Treasury for publication on USAspending.gov and (2) NASA’s implementation and use of the data standards. See Appendix A for details of the audit’s scope and methodology.

## Background

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The DATA Act expands upon FFATA reporting requirements by requiring greater transparency regarding Federal expenditures and establishing linkages between expenditures and award information. Under FFATA, only award data was required to be published on USAspending.gov, thus limiting taxpayers’ and policymakers’ ability to track how Federal dollars were dispersed after a contract or grant was awarded.

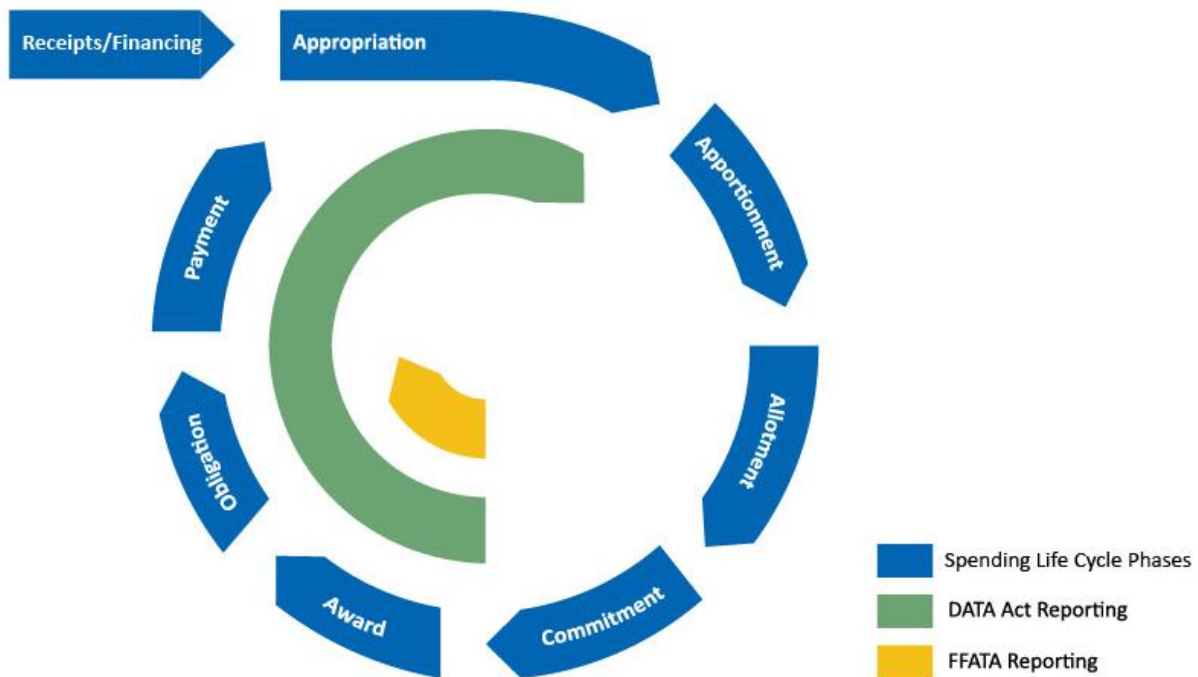
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<sup>1</sup> USAspending.gov is a publicly accessible, searchable database of information on Federal contracts and other Government assistance awards such as grants and cooperative agreements. Data on the site is updated daily, and agencies are required to submit data files within 30 days after modifying an award.

<sup>2</sup> GAO, “DATA Act: OMB and Treasury Have Issued Additional Guidance and Have Improved Pilot Design but Implementation Challenges Remain” (GAO-17-156, December 8, 2016).

If fully and effectively implemented, the DATA Act should enable tracking of Federal expenditures at multiple points, including when funds are appropriated, obligated, and subsequently spent on specific program activities. Differences in reporting under FFATA and the DATA Act are illustrated in Figure 1.

**Figure 1: Reporting on Federal Spending Life Cycle**



Source: NASA OIG analysis of Treasury, Bureau of the Fiscal Service data.

The Federal spending life cycle begins when Congress authorizes and appropriates and the President signs funding legislation for Government agencies and programs. Funds are apportioned by OMB to the agencies and may include specific time periods, programs, and activities for which the funds may be used. The agency then commits or reserves the funds in anticipation of future expenditures. Information collected in each of these life cycle phases is referred to as budget data. Once an agency has made an award (e.g., signed a contract or grant), the agency incurs an obligation and it sets aside funds for that specific use. Then agencies make payments by cash or cash equivalent to satisfy these Government obligations. Generally, information collected in these latter life cycle phases is referred to as financial data, while the term “award data” is only associated with the award phase.

One of the DATA Act’s primary goals is to organize and analyze financial data in ways not previously possible by creating linkages between agency awards and newly required spending data. One way in which the DATA Act will provide greater insight is by requiring Federal agencies to report spending by object class code, a method that details how funds were dispersed under each award. For example, under FFATA, information on a construction contract would show the total amount of funds awarded without specific details as to the object class code of the obligation associated with the award. Under the DATA Act, if a procurement award was made for construction of a building, an agency would classify the obligation as “purchase and improvement of land and structures.” Reporting under the DATA Act



also includes: (1) budget and financial information on the different types of goods and services purchased by the Federal Government; (2) budget and financial information on financial arrangements beyond contracts and grants, such as public-private partnerships, interagency agreements, and user charges; and (3) data on financial assistance and procurement prime contracts greater than \$3,500 compared to the previous \$25,000 FFATA threshold.

## **Data Collection and Standardization**

The DATA Act requires OMB and Treasury to develop Government-wide financial standards to provide consistent, reliable, and searchable spending data for the USAspending.gov website. The process to develop these standards, or data elements, consisted of two interrelated processes: (1) establishing definitions that describe what is included in each data element to ensure information is consistent and comparable and (2) creating a data exchange standard with technical specifications that describe the format, structure, tagging, and transmission of each element. The data elements include items such as an entity's legal name and address as well as the primary place of performance.<sup>3</sup> Additionally, new elements were added such as a standardized unique identifier used to link financial and award information. Specifically, Federal procurement awards must now have a Procurement Instrument Identifier (PIID). Federal assistance awards such as grants continue to have a Federal Award Identification Number (FAIN).

As of August 2015, OMB and Treasury had standardized 57 data element definitions for reporting spending information – 49 data elements from FFATA and 8 from the DATA Act. See Figure 2 for a listing of the 57 data elements and Appendix B for the elements' definitions.

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<sup>3</sup> In this report, an entity is the awardee or recipient of Federal funds and includes contractors and grantees.

**Figure 2: DATA Act Standardized Elements**

<p><b>Account Level Data Standards</b> These data elements describe the appropriations accounts from which agencies fund Federal awards</p>	<ul style="list-style-type: none"> <li>• Appropriations Account</li> <li>• Budget Authority Appropriated</li> <li>• Object Class</li> </ul>	<ul style="list-style-type: none"> <li>• Obligation</li> <li>• Other Budgetary Resources</li> <li>• Outlay</li> </ul>	<ul style="list-style-type: none"> <li>• Program Activity</li> <li>• Treasury Account Symbol</li> <li>• Unobligated Balance</li> </ul>
<p><b>Award Characteristic Data Standards</b> These data elements describe characteristics that apply to specific financial assistance and/or procurement awards</p>	<ul style="list-style-type: none"> <li>• Action Date</li> <li>• Action Type</li> <li>• Award Description</li> <li>• Award Identification Number</li> <li>• Award Modification/Amendment Number</li> <li>• Award Type</li> <li>• Business Types</li> <li>• Catalog of Federal Domestic Assistance Number</li> </ul>	<ul style="list-style-type: none"> <li>• Catalog of Federal Domestic Assistance Title</li> <li>• North American Industrial Classification System Code</li> <li>• North American Industrial Classification System Description</li> <li>• Ordering Period End Date</li> <li>• Parent Award Identification Number</li> <li>• Period of Performance Current End Date</li> </ul>	<ul style="list-style-type: none"> <li>• Period of Performance Potential End Date</li> <li>• Period of Performance Start Date</li> <li>• Primary Place of Performance Address</li> <li>• Primary Place of Performance Congressional District</li> <li>• Primary Place of Performance Country Code</li> <li>• Primary Place of Performance Country Name</li> <li>• Record Type</li> </ul>
<p><b>Award Amount Data Standards</b> These data elements describe characteristics that apply to amount information for financial assistance and/or procurement awards</p>	<ul style="list-style-type: none"> <li>• Amount of Award</li> <li>• Current Total Value of Award</li> <li>• Federal Action Obligation</li> </ul>	<ul style="list-style-type: none"> <li>• Non-Federal Funding Amount</li> <li>• Potential Total Value of Award</li> </ul>	
<p><b>Awardee and Recipient Entity Data Standards</b> These data elements describe the awardees/recipients of Federal funds</p>	<ul style="list-style-type: none"> <li>• Awardee/Recipient Legal Entity Name</li> <li>• Awardee/Recipient Unique Identifier</li> <li>• Highly Compensated Officer Name</li> </ul>	<ul style="list-style-type: none"> <li>• Highly Compensated Officer Total Compensation</li> <li>• Legal Entity Address</li> <li>• Legal Entity Congressional District</li> <li>• Legal Entity Country Code</li> </ul>	<ul style="list-style-type: none"> <li>• Legal Entity Country Name</li> <li>• Ultimate Parent Legal Entity Name</li> <li>• Ultimate Parent Unique Identifier</li> </ul>
<p><b>Awarding Entity Data Standards</b> These data elements describe the characteristics of the entity that made the award</p>	<ul style="list-style-type: none"> <li>• Awarding Agency Code</li> <li>• Awarding Agency Name</li> <li>• Awarding Office Code</li> </ul>	<ul style="list-style-type: none"> <li>• Awarding Office Name</li> <li>• Awarding Sub Tier Agency Code</li> <li>• Awarding Sub Tier Agency Name</li> </ul>	
<p><b>Funding Entity Data Standards</b> These data elements describe the characteristics of the entity that provided the funding for an award</p>	<ul style="list-style-type: none"> <li>• Funding Agency Code</li> <li>• Funding Agency Name</li> <li>• Funding Office Code</li> </ul>	<ul style="list-style-type: none"> <li>• Funding Office Name</li> <li>• Funding Sub Tier Agency Code</li> <li>• Funding Sub Tier Agency Name</li> </ul>	

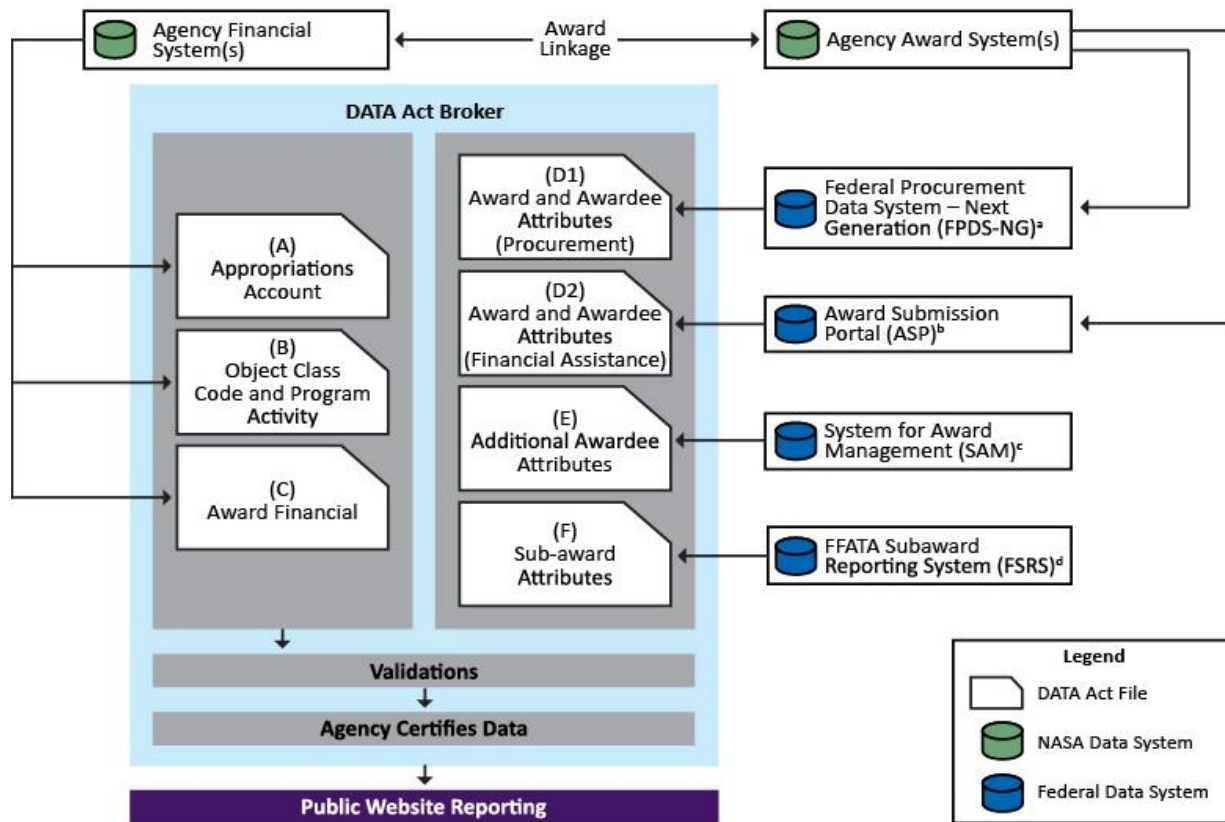
Source: OMB and Treasury.

## DATA Act Model and Broker

In addition to the data elements, Treasury developed a process to ensure agencies accurately report the required information. This involved Treasury developing standards for how information would be collected and validated. In April 2016, Treasury established the DATA Act Information Model Schema (Schema) as guidance on the financial and award reporting systems agencies should use to generate the DATA Act’s required data elements. Additionally, Treasury developed the DATA Act Broker (Broker), an automated system, to ensure that submitted data was correctly formatted into files and validated across the multiple reporting systems. After validation and certification, the Broker submits the data to the USAspending.gov website on a quarterly basis.<sup>4</sup> Figure 3 provides the information flow from reporting systems to the Broker, including the name and source of the data files from which the information originates.

<sup>4</sup> In addition to the DATA Act’s quarterly reporting via the DATA Act Broker, Treasury will continue daily and bi-weekly reporting on Federal award information coming directly from the following systems, all of which are described in further detail in Figure 3: Federal Procurement Data System-Next Generation, Award Submission Portal, System for Award Management, and FFATA Subaward Reporting System.

**Figure 3: Simplified DATA Act Information Model Schema**



Source: NASA OIG analysis of Treasury data.

<sup>a</sup> FPDS-NG is the primary Government-wide central repository for procurement data operated by the General Services Administration (GSA). Agency officials enter information for initial and modified contracts.

<sup>b</sup> ASP is the system used by Federal agencies to report monthly on financial assistance (e.g., grants) transactions for awards of more than \$25,000. Treasury is responsible for managing ASP, but officials replaced the system with the Federal Assistance Broker Submission in September 2017.

<sup>c</sup> SAM is managed by GSA. It is the primary U.S. Government repository for prospective Federal awardee information and the centralized Government system for certain contracts and grants. SAM also populates the entity name and address in FPDS-NG while certain executive compensation and other sub-awardee information is prepopulated to FSRS prior to the prime awardee’s reporting. SAM receives contract information from FPDS-NG, and contractors can update their data in SAM as frequently as needed within the reporting year.

<sup>d</sup> FSRS allows prime grant award and prime contract recipients to report sub-award activity, including executive compensation, and provides data on first-tier sub-awards reported by prime recipients on a monthly basis. Prime awardees must register and report sub-award information for first-tier sub-awardees, including award and entity information such as Data Universal Numbering System identification numbers. The sub-awardee attributes provide entity information, sub-awardee unique identifier, and relevant executive compensation data, if applicable. Some of this information is prepopulated based on entries in FPDS-NG and SAM. GSA is responsible for FSRS.

Each reporting system in the Schema provides slightly different insight into financial and award data. On the financial side, the authoritative source for data is the agency’s financial system. Three files – Files A, B, and C – are generated from the agency’s system, each with specific attributes. For example, summary-level appropriations data is reported to the Broker through File A, spending information organized by object class code is reported through File B, and spending information organized by transaction is reported through File C. On the procurement or award side, the authoritative sources are the Federal Procurement Data System-Next Generation (FPDS-NG), Award Submission Portal (ASP),

System for Award Management (SAM), and FFATA Subaward Reporting System (FSRS). Each of these four systems creates its own file. For example, information on a sub-contractor’s name and address is extracted from FSRS and reported through File F. Table 1 shows Files A through F that reside in the Broker and their associated authoritative sources according to the Schema and data attributes.

**Table 1: DATA Act File Attributes**

File Name	Authoritative Source	Types of Information Included
File A – Appropriations Account	Agency Financial System	Appropriations summary level aligned to SF-133 reporting <sup>a</sup>
File B – Object Class Code and Program Activity	Agency Financial System	Obligation and outlay information at the program activity and object class code level
File C – Award Financial	Agency Financial System	Obligations at the award and object class code level
File D1 – Award and Awardee Attributes (Procurement)	FPDS-NG	Procurement award and awardee details, such as product or service, awardee information, contract start and expiration dates, and place of performance
File D2 – Award and Awardee Attributes (Financial Assistance)	ASP	Financial assistance award and awardee details, such as awardee information and place of performance
File E – Additional Awardee Attributes	SAM	Additional prime awardee attributes, such as unique identifier and executive compensation information
File F – Sub-award Attributes	FSRS	Sub-awardee information, such as name, address, place of performance, and executive compensation

Source: NASA OIG analysis of OMB and Treasury data.

<sup>a</sup> Standard Form (SF)-133, *Report on Budget Execution and Budgetary Resources*, allows the monitoring of funds consistently across programs within the agency and across agencies on a quarterly basis.

The Broker assists with standardizing the format of the submitted data and facilitates the agency’s required validation process. First, the Broker determines whether data elements within the files comply with specific format requirements such as field type and character length and are correctly calculated. Second, the Broker performs validations by checking budget and financial data, including elements such as appropriation account, object class code, outlay, and program activity by cross-checking against multiple sources. Often these validations are complex, involving a multi-step approach. For example, a complex validation would be used to determine if Agency obligation data (which represents the amount of the Government’s obligation, de-obligation, or liability in dollars) for an award transaction in FPDS-NG matches data found in the Agency’s financial and award systems. Once the validation process is complete, the Broker produces an error report. The error report can contain “fatal errors” that would not allow the agency to certify and submit its data and “warnings” that highlight discrepancies but still allow certification. At this point in the Schema, agencies may correct errors. Finally, the Broker extracts data to create Files E (Additional Awardee Attributes) and F (Sub-award Attributes).

## Assuring Data Completeness and Accuracy

In addition to the Broker’s validations, the DATA Act requires agencies to validate and certify the completeness and accuracy of data, as noted in Figure 3. According to OMB guidance, each agency’s Senior Accountability Officer (SAO) is required to provide two types of assurances. First, SAOs must assure that the alignment among Files A through F is valid and reliable. Alignment is based on the

linkages between one file and another. For example, an award identification such as a PIID associated with a transaction in File C must align with the information extracted from FPDS-NG and found in File D1. Likewise, a FAIN associated with a transaction in File C must align with the information extracted from ASP and found in File D2.

Second, SAOs are required to assure the data submitted in Files A, B, and C is valid and reliable.<sup>5</sup> To provide this assurance, the SAO will confirm that internal controls over data quality mechanisms are in place for the data submitted in the DATA Act files.<sup>6</sup> For example, for agency-owned systems SAOs can rely on assurances provided under the Federal Managers' Financial Integrity Act (FMFIA) of 1982. Specifically, FMFIA requires agencies to establish internal accounting and administrative controls and provide annual statements of assurance that those controls are designed adequately and operating effectively. The statement includes any material internal control weaknesses identified through agency processes or independent audits of financial statements and identifies plans and schedules for correcting weaknesses. OMB has issued guidance for implementing FMFIA, which provides direction for establishing, assessing, correcting, and reporting on management controls.<sup>7</sup> Independent auditors who conduct agency financial audits are required to report whether the agency's financial management systems substantially comply with the aforementioned requirements. A clean audit and positive assurance statement demonstrates that data from reporting systems is reliable.

In addition, OMB Circular A-136 requires agencies to reconcile Standard Form (SF)-133, *Report on Budget Execution and Budgetary Resources*, data to the Statement of Budgetary Resources at the end of the third quarter and at year end.<sup>8</sup> For purposes of the DATA Act, these existing controls can be relied upon to provide assurance over Files A, B, C, D1, and D2. Additionally, for File D1, SAOs rely on the annual FPDS-NG Data Verification and Validation Report.<sup>9</sup> Finally, for the remaining files, SAOs are expected to leverage assurances based on the internal controls of the General Services Administration, the system owner. Where there are legitimate differences between files for either certification, the SAO may provide categorical explanations for misalignments. Any comments provided will be available publicly along with the certified data on USAspending.gov.

In addition to agencies' quarterly validations and certification, the DATA Act requires Inspectors General (IG) of each Federal agency to review a statistically valid sample of the spending data submitted by its agency. Each IG must submit to Congress a public report assessing the completeness, timeliness, quality, and accuracy of the data sampled and the implementation and use of the Government-wide financial data standards by the Federal agency. To do so, IGs are required to perform complex validations similar to those performed by the Broker and review how the agencies certified their data in order to report on the completeness, accuracy, and timeliness of the DATA Act submissions.

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<sup>5</sup> There is no requirement that Files E and F be validated.

<sup>6</sup> Existing data quality measures required by regulation and/or OMB guidance are sufficient for SAO reliance. The regulations include: OMB Memorandum M-15-12, "Increasing Transparency of Federal Spending by Making Federal Spending Data Accessible, Searchable, and Reliable," May 8, 2015, and OMB Memorandum M-17-04, "Additional Guidance for DATA Act Implementation: Further Requirements for Reporting and Assuring Data Reliability," November 4, 2016.

<sup>7</sup> OMB Circular A-123, "Management's Responsibility for Enterprise Risk Management and Internal Control," July 15, 2016.

<sup>8</sup> OMB Circular A-136, "Financial Reporting Requirements," August 15, 2017, and M-17-04, Appendix A.

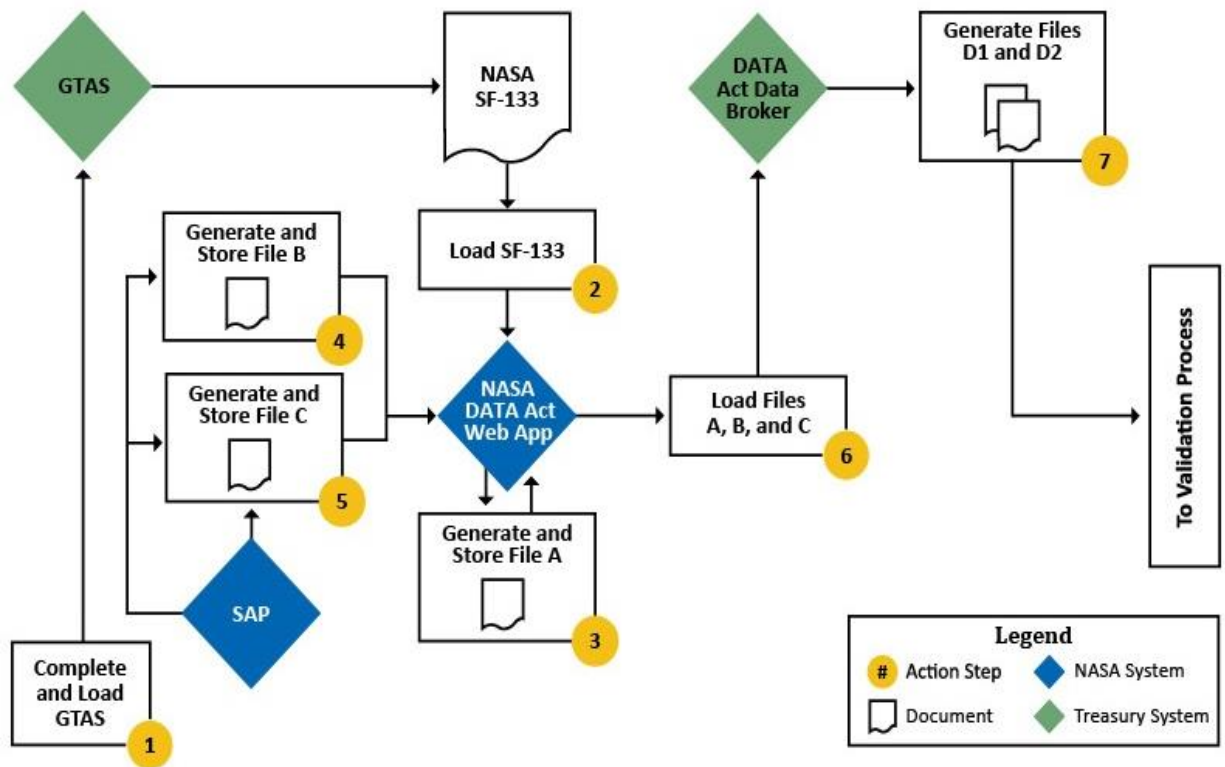
<sup>9</sup> Federal Acquisition Regulation 4.604, "Contract Reporting," requires an annual FPDS-NG Data Verification and Validation Report be sent to the General Services Administration.

The DATA Act required submission of the first set of IG reports to Congress in November 2016; however, Federal agencies were not required to submit data until May 2017. As a result, IGs were not able to report on spending data submitted under the DATA Act. The Council of the Inspectors General on Integrity and Efficiency (CIGIE) identified this timing anomaly and decided that IGs would provide their first required reports by November 8, 2017, a 1-year delay from the statutory date, with two subsequent reports following on a 2-year cycle. On December 22, 2015, CIGIE’s Chairman issued a letter memorializing the strategy for dealing with the reporting date anomaly and communicated it to the Senate Committee on Homeland Security and Governmental Affairs and the House Committee on Oversight and Government Reform. See Appendix C for a copy of this letter.

## NASA’s DATA Act Process

NASA established a process for generating and uploading financial data per the requirements in the Schema. Specifically, the Agency generates File A by reformatting SF-133 report data obtained from Treasury’s web-based Governmentwide Treasury Account Symbol Adjusted Trial Balance System (GTAS). Files B and C are generated from the Agency’s core financial system, Systems Applications Products (SAP). All three files are then stored on an Agency-developed web application and are subsequently uploaded into the Broker. The Broker then generates Files D1 and D2. Figure 4 shows NASA’s seven-step process for uploading the required data.

**Figure 4: NASA’s Data Generation Process**

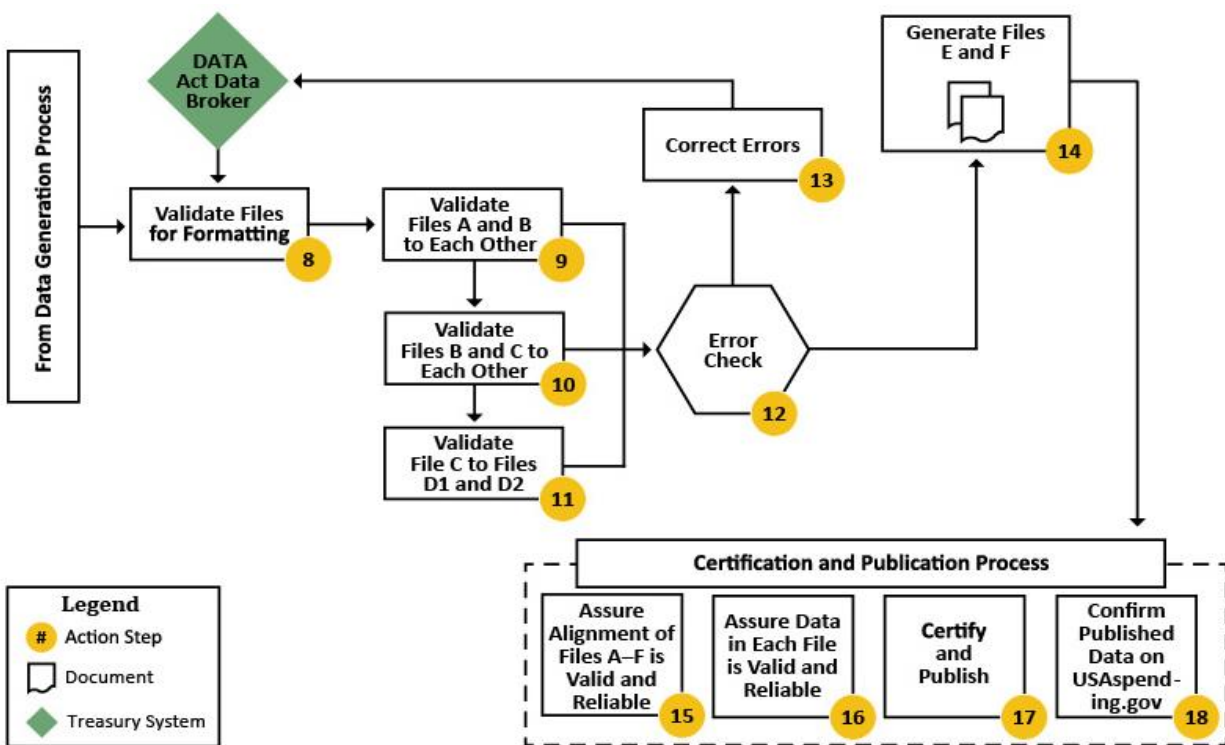


Source: NASA.



NASA’s validation process also aligns with the Schema as shown below in Figure 5 with Steps 8 through 18. In Steps 8 through 11, the Broker validates NASA’s data, along with Files D1 and D2 from external reporting systems. In Steps 12 and 13, the Broker generates an error report and NASA has the opportunity to resolve the issues. The Broker then generates Files E and F as noted in Step 14. NASA subsequently certifies and publishes its submission to USAspending.gov, completing Steps 15 through 18. The Agency’s final FY 2017, second quarter submission included 23,288 transactions worth about \$3.69 billion.<sup>10</sup>

**Figure 5: NASA’s Validation and Certification Process**



Source: NASA.

NASA relies on FMFIA requirements and OMB guidance to evaluate and assure the reliability of its internal controls over its financial management systems. Thus, the annual assurance of internal controls required by FMFIA and OMB and detailed in NASA’s Agency Financial Report covers its DATA Act submission. The FY 2016 Agency Financial Report stated that NASA received an unmodified “clean” audit opinion with no material weaknesses on its FY 2016 financial statements.<sup>11</sup> The Report attributed the “clean” audit opinion, in part, to NASA’s Continuous Monitoring Program, which provides an overall framework of management controls to assess and evaluate internal controls. As such, continuous monitoring activities support OMB Circular A-123 requirements by requiring Centers to report monthly on all control activities. Correctable items identified through the control activities are required to be

<sup>10</sup> The number and value of transactions are based on File C.

<sup>11</sup> NASA, “FY 2016 Agency Financial Report,” November 15, 2016. The FY 2016 opinion identified one significant deficiency related to information technology and one issue of noncompliance with certain provisions of Title 2 of the Code of Federal Regulations, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. NASA is developing plans to address these issues. However, neither issue impacts the reliability of NASA’s DATA Act submission.

addressed by Centers in a timely manner.<sup>12</sup> Control activities related to the DATA Act include reviewing and reconciling data submitted to Treasury’s GTAS, which assists in generating File A. NASA also relies on its annual FPDS-NG Verification and Validation process to identify errors between data in FPDS-NG and NASA systems.

## **GAO Identified Challenges with Government-wide DATA Act Implementation**

GAO has reported multiple challenges Government-wide with DATA Act implementation, including unclear data element definitions and data quality challenges associated with underlying source systems. In 2016, GAO reviewed the 57 definitions and identified several that could lead to inconsistent reporting.<sup>13</sup> For example, the use of the word “predominant” when defining the “Primary Place of Performance” data element may lead to varying interpretations across the agencies. Specifically, GAO found that agencies measured predominance for place of performance by the amount of time spent in a particular location, the number of staff deployed, or the amount of financial resources expended in a particular location. Without clarification, agencies run the risk of reporting data that cannot be aggregated Government-wide. In 2017, GAO also reported data quality concerns with the Federal award systems – the authoritative sources for DATA Act’s Files D through F. Specifically, GAO found FPDS-NG often contains inaccurate or incomplete data as agencies do not consistently input or document required information and the system is unable to identify more than one type of service purchased for each contract action.<sup>14</sup>

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<sup>12</sup> NASA Procedural Requirements 9010.2A, “The Continuous Monitoring Program and Financial Management Operating Procedures,” August 9, 2012.

<sup>13</sup> GAO, “DATA Act: Data Standards Established, but More Complete and Timely Guidance Is Needed to Ensure Effective Implementation,” (GAO-16-261, January 29, 2016).

<sup>14</sup> GAO, “DATA Act: As Reporting Deadline Nears, Challenges Remain That Will Affect Data Quality,” (GAO-17-496, April 28, 2017).



# NASA COMPLIED WITH THE DATA ACT BUT MINOR ERRORS AFFECTED DATA ACCURACY AND QUALITY

NASA complied with the requirements of the DATA Act for FY 2017, second quarter. Based on our review, NASA's submission was complete, timely, and properly used the Government-wide financial data standards. However, we identified minor errors with the accuracy and overall quality of the Agency's submission. Specifically, we found 270 errors in Files D1, D2, and E related to the legal entity's name, address, primary place of performance, or highly compensated officer names. Some of these errors occurred because the systems that generated the files did not contain the most updated information. Additionally, we noted three types of errors related to the Broker extraction process including duplicate transactions generated by the Broker within the Agency's File F. These minor errors increase the risk that inaccurate data will be uploaded to USAspending.gov, decreasing the reliability and usefulness of the data.

## NASA's DATA Act Submission Complete and Timely

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Overall, we found NASA's submission was complete, timely, and properly used the Government-wide financial data standards. We selected a sample of 385 transactions and found all were recorded in the proper period, January through March 2017, and contained all 57 DATA Act elements required by OMB and Treasury.<sup>15</sup> We also verified that each of the sampled transactions included all Treasury account numbers from which funds were obligated. Our sample was selected from File C, and then checked against Files A and B, which contained summary-level appropriations data. Moreover, we traced the associated summary-level data to the fiscal year beginning balance and/or current period ending balance in the FY 2017, second quarter SF-133.

We assessed timeliness by ensuring that all transactions were recorded within 30 days after the quarter in which they occurred by comparing the Agency's submission to its financial system. NASA also properly used the 57 DATA Act elements required by OMB and Treasury. See Appendix B for the full list of elements and their definitions. We evaluated whether each transaction within our sample contained all required standardized data elements and determined that each required data element was presented in conformance with the established data standard. Furthermore, NASA officials said they were in communication with Treasury as the data standards were developed and had no issues with the final standards.

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<sup>15</sup> We selected a random sample of 385 transactions to represent NASA's DATA Act submission. The sample contained 336 procurement transactions across 210 PIIDs and 49 financial assistance transactions across 34 FAINs, roughly 87 percent and 13 percent, respectively. For both types of transactions, some PIIDs and FAINs appeared more than twice due to multiple transactions occurring within the FY 2017, second quarter reporting period.

## Minor Errors Affected Data Accuracy and Overall Quality

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We identified minor errors in some of the transactions within our sample that affected the accuracy and overall quality of the data.<sup>16</sup> While the Broker's validation process identified issues in formatting and mismatches across DATA Act submission files, our assessment attempted to determine the accuracy of the information contained within the submission files. Specifically, of the 385 transactions we reviewed, we identified 125 with incorrect legal entity names or addresses and 103 with incorrect primary place of performance information in Files D1 and D2. We also identified 42 transactions in File E with incorrect or missing information in the Highly Compensated Officer Names data element.<sup>17</sup> Additionally, we found three types of errors related to how the Broker extracted information from the source systems.

### Source Systems Errors

We identified legal entity name and address errors in Files D1 and D2 which were caused by outdated vendor information in the files' source systems. Specifically, 5 transactions had incorrect Awardee/Recipient Legal Entity Names and 120 transactions had incorrect Awardee/Recipient Legal Entity Addresses in our sample of 385 transactions. According to OMB and Treasury's standardized data elements and definitions, the legal entity name and address should correlate to the entity's registration in SAM. NASA officials explained these errors occur when an entity updates its registration in SAM, including its name and address, but the updates are not recorded in the source system, FPDS-NG. NASA officials stated that entity information in FPDS-NG remains the same as it was at the time the contract was awarded unless a modification is executed by a NASA procurement official.

Additionally, we found that 103 transactions in our sample had incorrect primary place of performance ZIP+4 Codes and did not match their corresponding records in the Agency's contract writing system, Procurement Information System for Management (PRISM).<sup>18</sup> Sixty-seven transactions were mismatched because even though the first five digits in the ZIP Code aligned, the last four digits were either inaccurately entered into the system or not included in PRISM. The remaining 36 ZIP+4 Codes were a complete mismatch, as both the five-digit ZIP Code and the corresponding +4 digits were inaccurate in PRISM. According to OMB and Treasury, the ZIP+4 Code is a component of the primary place of performance address and identifies where the predominance of the work will be performed. The ZIP+4 Code is also used to generate place of performance city, county, and congressional district information. NASA officials explained that the mismatches resulted from input errors when Agency staff manually entered the place of performance ZIP+4 Code into FPDS-NG and PRISM.

We also identified mismatches when tracing data elements within NASA's DATA Act submission File E to SAM – the source system that generated the file. For instance, we found 42 transactions in File E for Highly Compensated Officer Names that did not match the names listed in SAM, information that is displayed on USApending.gov. Agency officials could not explain these errors. For six of the transactions,

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<sup>16</sup> We reported our errors by transaction given that our sample is comprised of File C transactions. As a result, an error with the awardee information, such as legal entity address and highly compensated officer name, may be counted multiple times if that awardee had multiple transactions.

<sup>17</sup> According to OMB and Treasury's standardized data elements, the Highly Compensated Officer Names data element includes the names of the five most highly compensated executives including officers, managing partners, or other employees in a management position.

<sup>18</sup> As of June 2017, the PRISM contract writing system functions were integrated with SAP and are now known as the Procurement for Public Sector system, or PPS.

no information existed in File E or on USAspending.gov. For another four transactions, we were able to match some but not all of the names. The remaining 32 transactions were not listed on USAspending.gov within the second quarter, but we were able to find matches when we searched subsequent periods.

Agency officials said they were unaware of the errors in Files D1 and D2 related to legal entity names, addresses, and places of performance because, according to the DATA Act, they are not required to compare the information contained in the D1 or D2 files against information in SAP or PRISM. They explained the systems do not lend themselves to an easy comparison and that a customized automated program would be costly to produce. While the Agency relies on the annual FPDS-NG Validation and Verification process to catch these types of errors, information within this reporting period will not be reviewed until FY 2018. This process, conducted by NASA's Office of Procurement, pulls a sample of FPDS-NG data and, among other things, verifies the data against PRISM and contract files. The resulting timing discrepancy between this validation process and Agency DATA Act submissions increases the risk that inaccurate data will be presented on USAspending.gov.

## Broker Generated Errors

We found three types of errors attributable to how the DATA Act Broker extracted information from source systems. While the Broker used the correct source according to the Schema, it did not always pull information from the correct field. For example, the Broker pulled data from the FPDS-NG field for "Base and All Options Value Current" rather than "Base and All Options Value Total." As a result, we found 284 errors when we compared the potential value of award in File D1 against the potential value recorded in SAP, which was generated from and corroborated to FPDS-NG.<sup>19</sup> For example, a contract with a \$70 million potential value was correctly recorded in SAP from the "Base and All Options Value Total" field in FPDS-NG, but the Broker's extraction formula recorded the potential value as being \$0 in File D1 based on the "Base and All Options Value Current" field in FPDS-NG. Due to this error, the potential value for this contract award is reported inaccurately on USAspending.gov. NASA officials said they brought this issue to the attention of OMB and Treasury, who are working to correct this error for the FY 2017, fourth quarter submission.

Likewise, the Broker appears to have pulled information from an incorrect field in FPDS-NG to populate the "Award Type" and "IDV\_Type" fields for File D1.<sup>20</sup> We found 336 transactions that had the same codes for both fields. However, based on the type of contract award, a transaction may or may not contain an "IDV\_Type" code. Additionally, we found one transaction in File D1 that had an "E" code within the "Award Type" field, an invalid selection for this field. Because this code exists for "IDV\_Type," the Broker may have pulled this information from the correct source system but the wrong data field.<sup>21</sup> Agency officials could not explain why this error occurred, but said they will bring the anomaly to the attention of OMB and Treasury.

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<sup>19</sup> This error did not affect 52 transactions associated with a procurement award's initial record in FPDS-NG that had no modifications. Such records would have identical current and total values for base and all option years. The error only occurred after funding modifications had been made, which affects the total amount of the base and all options value in FPDS-NG.

<sup>20</sup> The "Award Type" field refers to the type of award, such as a purchase order, entered into FPDS-NG. An "IDV\_Type" refers to the type of Indefinite Delivery Vehicle being entered into FPDS-NG. For example, a blanket purchase agreement is a type of Indefinite Delivery Vehicle represented by an "E" code.

<sup>21</sup> Ten data fields in FPDS-NG have an "E" code that represents a variety of contract attributes ranging from blanket purchase agreement, manufacturing and used outside of the United States, and commercial financial to commercial service.

We also identified duplicate entries within NASA's File F when comparing data in the file to the source system. File F contains information on sub-awards populated in FSRS by prime recipients. Within our sample, we found 15 awards with sub-awards and of these awards, 2 grants contained duplicate records – one had six duplicate records and the other had three. Duplicate entries in File F may skew the public's view of sub-award information because a sub-awardee may be counted more than once, which inflates the number reported on USAspending.gov. NASA officials explained they and Treasury are aware of this Broker-related issue and are working to resolve the problem for future submissions. In addition, we identified three sub-awards associated with two unique identifiers missing from File F but recorded in FSRS. Agency officials explained that two of the sub-awards were missing due to a timing issue; based on FSRS data, the FSRS record was created in April 2017 after File F was generated even though the sub-awards occurred in March 2017. For the third sub-award, Agency officials did not have an explanation but stated they would report the issue to Treasury.

## **Data Submission Generated Few Broker Warnings**

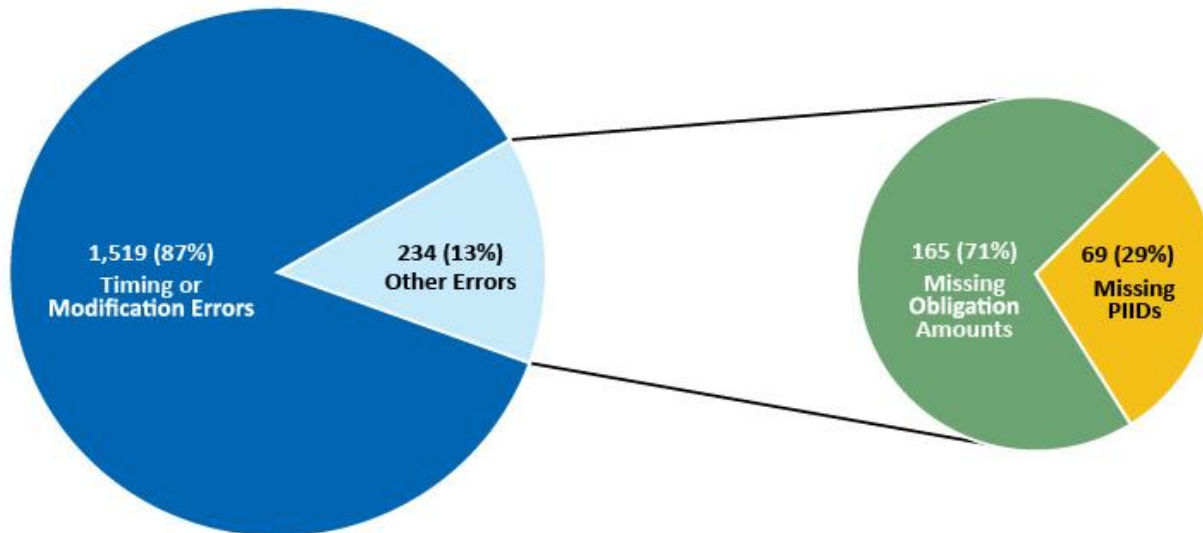
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NASA complied with the requirements of the DATA Act even though the Broker identified a limited number of warnings across the entire submission. Of the approximately 23,000 transactions included in NASA's DATA Act submission for FY 2017, second quarter, the Broker generated 1,854 warning messages, or about 8 percent of the total transactions. The majority of these warnings were at the transaction level within File C; however, 101 warnings were generated when the Broker compared summary-level data within File B. The reasons for these warnings ranged from time lags to financial reconciliation processes. However, according to NASA officials, most of the 1,854 warnings were corrected by NASA prior to final submission or will be adjusted in the next quarter.

## **Detailed Transaction Data**

NASA's detailed transaction data, consisting of File C, contained 1,753 warning messages. Specifically, the Broker identified two types of issues: the first group related to missing PIIDs between Files C and D1 (1,588 errors) while the second group related to obligation amounts missing between Files C and D1 or D2 (165 errors). NASA officials reviewed the warnings and reported that the majority related to missing PIIDs between Files C and D1 and were traced to timing issues between financial processes. For example, a warning resulted when an obligation was recorded within the Agency's financial system and in File C but had not yet been recorded within FPDS-NG and in File D1 at the end of a financial quarter. Similarly, warnings also occurred for File D1 awards that included administrative modifications – that is, a change to an award that did not result in the obligation of additional funds. Because no additional funds were obligated, the transaction was not recorded in File C, thereby causing a discrepancy in the reconciliation. NASA officials anticipate these warning messages will be resolved by the next quarterly submission. Once Agency officials excluded timing and modification warning messages, 234 warning messages remained. Figure 6 details the quantity and type of warning messages in NASA's data.

**Figure 6: NASA Broker Warnings**



Source: NASA OIG analysis of NASA’s Broker Warning Report.

Sixty-nine of the 234 warnings resulted from processing errors, reporting of large bank card transactions, and errors within FPDS-NG data causing missing PIIDs. NASA is the only agency that enters grant information into FPDS-NG, and according to Agency officials many of the processing errors occurred because the Broker pulled duplicate grant information from that system into Files D1 and D2 (the designated file for financial assistance awards). Agency officials further explained that they were working with Treasury to resolve these duplication errors within the Broker. Reporting of bank card purchases also resulted in errors. Specifically, large bank card transactions are individually identified within FPDS-NG, which generates File D1, while in the Agency financial system these transactions are rolled up under the bank card’s contract unique identifier. As a result, File C does not contain the same detailed level of data as File D1, thus creating a discrepancy between the files. Agency officials also identified several records within FPDS-NG that appeared inaccurate and indicated the records would be corrected for the next quarterly submission. For example, one unique identifier contained an extra character, which made it invalid and resulted in an error.

The remaining 165 warning messages related to missing obligations between Files C and D1 that resulted from financial reconciliation processes, rounding errors between the files, and additional errors within FPDS-NG data. Agency officials explained that a reconciliation process is used while closing out purchase orders to ensure that cost and payments have been appropriately recorded. For example, in one transaction an amount of \$8.78 was recorded in File C while File D1 showed a value of zero, resulting in a Broker validation warning. According to Agency officials, the difference in amount was the result of the reconciliation process creating an adjustment to the cost in the Agency’s financial system with no associated record created in FPDS-NG. Warning messages also were caused by errors within FPDS-NG records. For example, one transaction within File C, totaling \$353,758.06, was listed as \$318,978.06 within File D1. NASA records reflected that a contract modification tied to this transaction was not finalized until May 1, 2017 – the following quarter – and would not have been entered into FPDS-NG until that time. The remaining errors were deemed immaterial by Agency officials because the difference was \$100 or less and, as such, would not be corrected.

## Appropriations Data

In addition to the transaction-level errors, NASA's summary-level appropriations data consisting of Files A and B contained 101 warning messages. NASA's File A submission, which includes summary-level appropriations organized by Treasury account, did not generate any fatal errors or warning messages from the Broker validation process. NASA's File B submission, which includes summary-level financial data organized by object class code and program activity name, resulted in 101 warning messages related to mismatches in program activity name between the submission and OMB's list of acceptable program activity names within the Broker.<sup>22</sup> For example, the appropriation entitled "Safety, Security and Mission Services" was identified as "Cross Agency Support" in File B. NASA officials reported that eight program activity names were not included by OMB because the majority of these originated prior to 2006 and had not yet been added to the Broker's list. The Agency subsequently submitted a revised list to OMB, which was approved and loaded into the Broker. Officials anticipate this will eliminate these warning messages in future submissions. The Broker also validated the total value of Agency appropriations within Files A and B and determined that the files matched.

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<sup>22</sup> Program activity names are located within the Program and Financing section of the President's Budget.

# CONCLUSION

NASA complied with the requirements of the DATA Act for FY 2017, second quarter; however, the minor issues we identified in our review may impact the accuracy and overall quality of the data presented to the public on USAspending.gov. As such, it is imperative that the Agency continues to work closely with Treasury to resolve the issues identified and ensure that data populated to the site is an accurate depiction of NASA's financial activity during the reporting period.

# RECOMMENDATIONS, MANAGEMENT'S RESPONSE, AND OUR EVALUATION

To improve the accuracy and quality of NASA's DATA Act submissions, we recommended NASA's Acting Chief Financial Officer and Assistant Administrator for Procurement:

1. Ensure contractor information such as legal entity name, address, and primary place of performance is current in FPDS-NG and NASA systems.
2. Continue working with Treasury officials to ensure that the Broker-related issues are resolved.
3. Ensure FPDS-NG errors related to Broker warning messages are corrected in a timely manner.

We provided a draft of this report to NASA management who concurred with our recommendations and described actions the Agency plans to take to address them. We consider management's comments responsive; therefore, the recommendations are resolved and will be closed upon verification and completion of the proposed corrective actions.

Management's comments are reproduced in Appendix D. Technical comments provided by management have also been incorporated, as appropriate.

Major contributors to this report include Laura Nicolosi, Mission Support Director; Tekla Colón, Project Manager; Rebecca Pselos; Benjamin Patterson; and Shari Bergstein. Lauren Suls provided editorial and graphic assistance.

If you have questions about this report or wish to comment on the quality or usefulness of this report, contact Laurence Hawkins, Audit Operations and Quality Assurance Director, at 202-358-1543 or [laurence.b.hawkins@nasa.gov](mailto:laurence.b.hawkins@nasa.gov).



Paul K. Martin  
Inspector General



## APPENDIX A: SCOPE AND METHODOLOGY

We performed this audit from March 2017 through October 2017 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 objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Our overall objective was to assess (1) the completeness, timeliness, quality, and accuracy of NASA's FY 2017, second quarter financial and award data submitted to Treasury for publication on USAspending.gov and (2) NASA's implementation and use of the data standards.

To determine whether NASA complied with the requirements of the DATA Act, we reviewed applicable laws and regulations and interviewed various personnel including NASA's SAO and individuals on the NASA DATA Act team from the Office of the Chief Financial Officer, Office of Procurement, and Agency Applications Office. We performed detailed audit steps as outlined in the Federal Audit Executive Committee DATA Act Working Group's guide, "Inspectors General Guide to Compliance under the DATA Act," issued February 27, 2017. This work included obtaining the Agency's FY 2017, second quarter DATA Act submission for Files A through F and the SAO's certification report. We ensured the totals of Files A and B matched, and that File A included all appropriations and outlays recorded in the Agency's FY 2017, second quarter SF-133. We also verified that all program activity names, codes, and object classes listed in File B matched the codes defined in the Program and Financing Schedule of the President's Budget. Additionally, we ensured File C included an award identification number, was linked to reportable award-level transactions, and linked to Files D1 through F. We used a simple random sample to select 385 transactions from File C to perform detailed testing.

The detailed testing included verifying the validity of financial information reported in Files D1 and D2 by matching the amount of award and current and potential values of award to source systems. We also verified main account codes, object class codes, and transaction obligation amounts from File C to NASA's financial system – SAP. We also matched non-financial elements such as awardee/recipient legal name, address, and primary place of performance from Files D1 and D2 to either SAP or PRISM. We verified legal entity name, address, primary place of performance, and congressional district from File D1 to FPDS-NG. We matched the awardee unique identifier in File E to Files D1 and D2 and the legal entity name, address, primary place of performance, and congressional district to SAM and highly compensated officer name to USAspending.gov. Finally, we matched non-financial elements within File F such as legal entity name, address, highly compensated officer name, and congressional district to FSRS.

To test for completeness, we ensured (1) all transactions that should have been recorded were recorded in the proper period and (2) that all transactions contained the data elements required by the DATA Act (see Appendix B for a list of required elements). To test for accuracy, we ensured each sampled transaction's financial and non-financial elements matched to both the source system of FPDS-NG, SAM, or FSRS and to NASA's systems – SAP and PRISM. To test for timeliness, we ensured each transaction was reported within 30 days after the quarter in which it occurred. Finally, to test for quality, we assessed the internal control process NASA has in place over DATA Act reporting as described below, and the results of the detailed testing as described above. For each of the tests performed, we considered the reasonableness of NASA's process to resolve all variances.

## Federal Laws, Regulations, Policies, and Guidance

We reviewed the following laws, regulations, policies, and guidance for information related to implementation of the DATA Act.

- Pub. L. No. 113-101, “Digital Accountability and Transparency Act of 2014,” May 9, 2014
- Pub. L. No. 109-282, “Federal Funding Accountability and Transparency Act of 2006,” September 26, 2006
- Pub. L. No. 104-208, “Federal Financial Management Improvement Act of 1996,” September 30, 1996
- OMB Circular A-123, “Management’s Responsibility for Enterprise Risk Management and Internal Control,” July 15, 2016
- OMB Memorandum M-17-04, “Additional Guidance for DATA Act Implementation: Further Requirements for Reporting and Assuring Data Reliability,” November 4, 2016
- OMB Memorandum M-15-12, “Increasing Transparency of Federal Spending by Making Federal Spending Data Accessible, Searchable, and Reliable,” May 8, 2015
- OMB Memorandum M-10-06, “Open Government Directive,” December 8, 2009
- OMB Management Procedures Memorandum No. 2016-03, “Additional Guidance for DATA Act Implementation: Implementing Data-Centric Approach for Reporting Federal Spending Information,” May 3, 2016
- OMB, “Controller Alert: DATA Act Implementation and Offices for Financial Assistance Awards,” December 4, 2015
- U.S. Department of the Treasury, “Federal Spending Transparency Data Standards,” accessed March 29, 2017
- U.S. Department of the Treasury, “DATA Act Information Model Schema Version 1.0,” accessed March 29, 2017
- NASA Procedural Requirements 9010.2A, “The Continuous Monitoring Program and Financial Management Operating Procedures,” August 9, 2012
- NASA Procedural Requirements 9010.3, “Financial Management Internal Control,” September 30, 2008
- NASA Procedural Requirements 9130.1, “NASA Financial Information Systems,” September 30, 2008

## Use of Computer-Processed Data

We used computer processed data extracted from NASA’s financial system – SAP – and contract writing system – PRISM. We used this data to determine the reliability and accuracy of NASA’s DATA Act submission. Although we did not independently verify the reliability of all this information, we compared it with other available supporting documents to determine data consistency and reasonableness. From these efforts, we believe the information we obtained is sufficiently reliable for this report.

## Review of Internal Controls

We reviewed and evaluated the internal controls associated with NASA's process to implement the DATA Act as well as gained an understanding of the controls in place over the systems from which the data was derived. We identified weaknesses in the process as described in the report. Our recommendations, if implemented, should correct the weaknesses.

## Prior Coverage

During the last 5 years, GAO has issued 10 reports of significant relevance to the subject of this report. Unrestricted reports can be accessed at <http://www.gao.gov>.

### *Government Accountability Office*

*DATA Act: As Reporting Deadline Nears, Challenges Remain That Will Affect Data Quality*  
(GAO-17-496, April 28, 2017)

*DATA Act: Office of Inspector General Reports Help Identify Agencies' Implementation Challenges*  
(GAO-17-460, April 26, 2017)

*DATA Act: OMB and Treasury Have Issued Additional Guidance and Have Improved Pilot Design but Implementation Challenges Remain* (GAO-17-156, December 8, 2016)

*DATA Act: Initial Observations on Technical Implementation* (GAO-16-824R, August 3, 2016)

*DATA Act: Improvements Needed in Reviewing Agency Implementation Plans and Monitoring Progress*  
(GAO-16-698, July 29, 2016)

*DATA Act: Section 5 Pilot Design Issues Need to Be Addressed to Meet Goal of Reducing Recipient Reporting Burden* (GAO-16-438, April 19, 2016)

*DATA Act: Progress Made but Significant Challenges Must Be Addressed to Ensure Full and Effective Implementation* (GAO-16-556T, April 19, 2016)

*DATA Act: Data Standards Established, but More Complete and Timely Guidance Is Needed to Ensure Effective Implementation* (GAO-16-261, January 29, 2016)

*DATA Act: Progress Made in Initial Implementation but Challenges Must be Addressed as Efforts Proceed*  
(GAO-15-752T, July 29, 2015)

*Federal Data Transparency: Effective Implementation of the DATA Act Would Help Address Government-wide Management Challenges and Improve Oversight* (GAO-15-241T, December 3, 2014)

# APPENDIX B: DATA ACT DATA ELEMENTS

Pursuant to the DATA Act, OMB and Treasury established the following set of Government-wide data standards for Federal funds made available to or expended by Federal agencies and entities receiving Federal funds.

## Account Level Data Standards

The data elements in Table 2 describe the appropriations accounts from which agencies fund Federal awards.

**Table 2: Account Level Data Standards**

Data Element	Data Definition
Appropriations Account	The basic unit of an appropriation generally reflecting each unnumbered paragraph in an appropriation act. An appropriation account typically encompasses a number of activities or projects and may be subject to restrictions or conditions applicable to only the account, the appropriation act, titles within an appropriation act, other appropriation acts, or the Government as a whole.
Budget Authority Appropriated	A provision of law (not necessarily in an appropriations act) authorizing an account to incur obligations and to make outlays for a given purpose. Usually, but not always, an appropriation provides budget authority.
Object Class	Categories in a classification system that presents obligations by the items or services purchased by the Federal Government. Each specific object class is defined in OMB Circular A-11, <i>Preparation, Submission, and Execution of the Budget</i> .
Obligation	Obligation means a legally binding agreement that will result in outlays, immediately or in the future. When you place an order, sign a contract, award a grant, purchase a service, or take other actions that require the Government to make payments to the public or from one Government account to another, you incur an obligation.
Other Budgetary Resources	New borrowing authority, contract authority, and spending authority from offsetting collections provided by Congress in an appropriations act or other legislation, or unobligated balances of budgetary resources made available in previous legislation, to incur obligations and to make outlays.
Outlay	Payments made to liquidate an obligation (other than the repayment of debt principal or other disbursements that are “means of financing” transactions). Outlays generally are equal to cash disbursements but also are recorded for cash-equivalent transactions, such as the issuance of debentures to pay insurance claims, and in a few cases are recorded on an accrual basis such as interest on public issues of the public debt. Outlays are the measure of Government spending.
Program Activity	A specific activity or project as listed in the program and financing schedules of the annual budget of the U.S. Government.

Treasury Account Symbol *excluding sub-account	The account identification codes assigned by Treasury to individual appropriation, receipt, or other fund accounts. All financial transactions of the Federal Government are classified by Treasury Account Symbol for reporting to Treasury and OMB.
Unobligated Balance	Unobligated balance means the cumulative amount of budget authority that remains available for obligation under law in unexpired accounts at a point in time. The term “expired balances available for adjustment only” refers to unobligated amounts in expired accounts.

Source: OMB, “Federal Spending Transparency Data Standards.”

## Award Characteristic Data Standards

The data elements in Table 3 describe characteristics that apply to specific financial assistance and/or procurement awards.

**Table 3: Award Characteristic Data Standards**

Data Element	Data Definition
Action Date	The date the action being reported was issued/signed by the Government or a binding agreement was reached.
Action Type	Description (and corresponding code) that provides information on any changes made to the Federal prime award. There are typically multiple actions for each award.
Award Description	A brief description of the purpose of the award.
Award Identification Number	The unique identifier of the specific award being reported, i.e. Federal Award Identification Number, for financial assistance and Procurement Instrument Identifier for procurement.
Award Modification/ Amendment Number	The identifier of an action being reported that indicates the specific subsequent change to the initial award.
Award Type	Description (and corresponding code) that provides information to distinguish type of contract, grant, or loan and provides the user with more granularity into the method of delivery of the outcomes.
Business Types	A collection of indicators of different types of recipients based on socio-economic status and organization/business areas.
Catalog of Federal Domestic Assistance Number	The number assigned to a Federal area of work in the Catalog of Federal Domestic Assistance.
Catalog of Federal Domestic Assistance Title	The title of the area of work under which the Federal award was funded in the Catalog of Federal Domestic Assistance.
North American Industrial Classification System Code	The identifier that represents the North American Industrial Classification System Code assigned to the solicitation and resulting award identifying the industry in which the contract requirements are normally performed.
North American Industrial Classification System Description	The title associated with the North American Industrial Classification System Code.

Ordering Period End Date	For procurement, the date on which, for the award referred to by the action being reported, no additional orders referring to it may be placed. This date applies only to procurement indefinite delivery vehicles (such as indefinite delivery contracts or blanket purchase agreements). Administrative actions related to this award may continue to occur after this date. The period of performance end dates for procurement orders issued under the indefinite delivery vehicle may extend beyond this date.
Parent Award Identification Number	The identifier of the procurement award under which the specific award is issued, such as a Federal Supply Schedule. This data element currently applies to procurement actions only.
Period of Performance Current End Date	The current date on which, for the award referred to by the action being reported, awardee effort is completed or the award is otherwise ended. Administrative actions related to this award may continue to occur after this date. This date does not apply to procurement indefinite delivery vehicles under which definitive orders may be awarded.
Period of Performance Potential End Date	For procurement, the date on which, for the award referred to by the action being reported if all potential pre-determined or pre-negotiated options were exercised, awardee effort is completed or the award is otherwise ended. Administrative actions related to this award may continue to occur after this date. This date does not apply to procurement indefinite delivery vehicles under which definitive orders may be awarded.
Period of Performance Start Date	The date on which, for the award referred to by the action being reported, awardee effort begins or the award is otherwise effective.
Primary Place of Performance Address	The address where the predominant performance of the award will be accomplished. The address is made up of six components: Address Lines 1 and 2, City, County, State Code, and ZIP+4 or Postal Code.
Primary Place of Performance Congressional District	U.S. congressional district where the predominant performance of the award will be accomplished. This data element will be derived from the Primary Place of Performance Address.
Primary Place of Performance Country Code	Country code where the predominant performance of the award will be accomplished.
Primary Place of Performance Country Name	Name of the country represented by the country code where the predominant performance of the award will be accomplished.
Record Type	Code indicating whether an action is an individual transaction or aggregated.

Source: OMB, "Federal Spending Transparency Data Standards."

## Award Amount Data Standards

The data elements in Table 4 describe characteristics that apply to amount information for financial assistance and/or procurement awards.

**Table 4: Award Amount Data Standards**

Data Element	Data Definition
Amount of Award	The cumulative amount obligated by the Federal Government for an award, which is calculated by USAspending.gov or a successor site. For procurement and financial assistance awards except loans, this is the sum of Federal Action Obligations. For loans or loan guarantees, this is the Original Subsidy Cost.
Current Total Value of Award	For procurement, the total amount obligated to date on a contract, including the base and exercised options.
Federal Action Obligation	Amount of Federal Government's obligation, de-obligation, or liability, in dollars, for an award transaction.
Non-Federal Funding Amount	For financial assistance, the amount of the award funded by non-Federal source(s), in dollars. Program Income (as defined in 2 C.F.R. § 200.80) is not included until such time that Program Income is generated and credited to the agreement.
Potential Total Value of Award	For procurement, the total amount that could be obligated on a contract if the base and all options are exercised.

Source: OMB, "Federal Spending Transparency Data Standards."

## Awardee and Recipient Entity Data Standards

The data elements in Table 5 describe the awardees/recipients of Federal funds.

**Table 5: Awardee and Recipient Entity Data Standards**

Data Element	Data Definition
Awardee/Recipient Legal Entity Name	The name of the awardee or recipient that relates to the unique identifier. For U.S.-based companies, this name is what the business ordinarily files in formation documents with individual states (when required).
Awardee/Recipient Unique Identifier	The unique identification number for an awardee or recipient. Currently the identifier is the 9-digit number assigned by Dun & Bradstreet referred to as the DUNS® number.
Highly Compensated Officer Name	First Name: The first name of an individual identified as one of the five most highly compensated "Executives." "Executive" means officers, managing partners, or any other employees in management positions. Middle Initial: The middle initial of an individual identified as one of the five most highly compensated "Executives." "Executive" means officers, managing partners, or any other employees in management positions. Last Name: The last name of an individual identified as one of the five most highly compensated "Executives." "Executive" means officers, managing partners, or any other employees in management positions.

Highly Compensated Officer Total Compensation	The cash and noncash dollar value earned by one of the five most highly compensated executives during the awardee's preceding fiscal year and includes the following (for more information see 17 C.F.R. § 229.402(c)(2)): salary and bonuses; awards of stock, stock options, and stock appreciation rights; earnings for services under non-equity incentive plans; change in pension value; above-market earnings on deferred compensation which is not tax qualified; and other compensation.
Legal Entity Address	The awardee or recipient's legal business address where the office represented by the Unique Entity Identifier (as registered in the System for Award Management) is located. In most cases, this should match what the entity has filed with the State in its organizational documents, if required. The address is made up of five components: Address Lines 1 and 2, City, State Code, and ZIP+4 or Postal Code.
Legal Entity Congressional District	The congressional district in which the awardee or recipient is located. This is not a required data element for non-U.S. addresses.
Legal Entity Country Code	Code for the country in which the awardee or recipient is located, using the ISO 3166-1 Alpha-3 GENC Profile, and not the codes listed for those territories and possessions of the United States already identified as "states."
Legal Entity Country Name	The name corresponding to the Country Code.
Ultimate Parent Legal Entity Name	The name of the ultimate parent of the awardee or recipient. Currently, the name is from the global parent DUNS® number.
Ultimate Parent Unique Identifier	The unique identification number for the ultimate parent of an awardee or recipient. Currently the identifier is the 9-digit number maintained by Dun & Bradstreet as the global parent DUNS® number.

Source: OMB, "Federal Spending Transparency Data Standards."

## Awarding Entity Data Standards

The data elements in Table 6 describe the characteristics of the entity that made the award.

**Table 6: Awarding Entity Data Standards**

Data Element	Data Definition
Awarding Agency Code	A department or establishment of the Government as used in the Treasury Account Fund Symbol.
Awarding Agency Name	The name associated with a department or establishment of the Government as used in the Treasury Account Fund Symbol.
Awarding Office Code	Identifier of the level n organization that awarded, executed, or is otherwise responsible for the transaction.
Awarding Office Name	Name of the level n organization that awarded, executed, or is otherwise responsible for the transaction.
Awarding Sub Tier Agency Code	Identifier of the level 2 organization that awarded, executed, or is otherwise responsible for the transaction.
Awarding Sub Tier Agency Name	Name of the level 2 organization that awarded, executed, or is otherwise responsible for the transaction.

Source: OMB, "Federal Spending Transparency Data Standards."



## Funding Entity Data Standards

The data elements in Table 7 describe the characteristics of the entity that provided the funding for an award.

**Table 7: Funding Entity Data Standards**

Data Element	Data Definition
Funding Agency Code	The 3-digit CGAC agency code of the department or establishment of the Government that provided the preponderance of the funds for an award and/or individual transactions related to an award.
Funding Agency Name	Name of the department or establishment of the Government that provided the preponderance of the funds for an award and/or individual transactions related to an award.
Funding Office Code	Identifier of the level n organization that provided the preponderance of the funds obligated by this transaction.
Funding Office Name	Name of the level n organization that provided the preponderance of the funds obligated by this transaction.
Funding Sub Tier Agency Code	Identifier of the level 2 organization that provided the preponderance of the funds obligated by this transaction.
Funding Sub Tier Agency Name	Name of the level 2 organization that provided the preponderance of the funds obligated by this transaction.

Source: OMB, "Federal Spending Transparency Data Standards."

# APPENDIX C: CIGIE LETTER



December 22, 2015

The Honorable Ron Johnson  
Chairman  
The Honorable Thomas Carper  
Ranking Member  
Committee on Homeland Security  
and Governmental Affairs  
United States Senate  
Washington, D.C.

The Honorable Jason Chaffetz  
Chairman  
The Honorable Elijah Cummings  
Ranking Member  
Committee on Oversight and Government Reform  
U.S. House of Representatives  
Washington, D.C.

Dear Mr. Chairmen and Ranking Members:

The Council of the Inspectors General on Integrity and Efficiency (CIGIE) recognizes and appreciates your leadership on issues of Government transparency and accountability. In particular, we believe the enactment last year of the Digital Accountability and Transparency Act of 2014 (DATA Act) will significantly improve the quality of Federal spending data available to Congress, the public, and the accountability community if properly implemented. To make sure this happens, the DATA Act provides for strong oversight by way of the Federal Inspectors General and the Government Accountability Office (GAO). In particular, the DATA Act requires a series of reports from each to include, among other things, an assessment of the completeness, timeliness, quality, and accuracy of data submitted by agencies under the DATA Act.

I am writing this letter on behalf of CIGIE to inform you of an important timing anomaly with the oversight requirement for Inspectors General in the DATA Act. Your staffs have been briefed on this timing anomaly, which affects the first Inspector General reports required by the DATA Act. Specifically, the first Inspector General reports are due to Congress in November 2016. However, the agencies we oversee are not required to submit spending data in compliance with the DATA Act until May 2017. As a result, Inspectors General would be unable to report on the spending data submitted under the Act, as this data will not exist until the following year. This anomaly would cause the body of reports submitted by the Inspectors General in November 2016 to be of minimal use to the public, the Congress, the Executive Branch, and others.

To address this reporting date anomaly, the Inspectors General plan to provide Congress with their first required reports in November 2017, a one-year delay from the due date in statute, with subsequent reports following on a two-year cycle, in November 2019 and November 2021. We believe that moving the due dates back one year will enable the Inspectors General to meet the

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intent of the oversight provisions in the DATA Act and provide useful reports for the public, the Congress, the Executive Branch, and others.

Although we think the best course of action is to delay the Inspector General reports, CIGIE is encouraging the Federal Inspector General Community to undertake DATA Act “readiness reviews” at their respective agencies well in advance of the first November 2017 report. Through a working group, CIGIE has developed guidance for these reviews. I am pleased to report that several Inspectors General have already begun reviews at their respective agencies, and many Inspectors General are planning to begin reviews in the near future. We believe that these reviews, which are in addition to the specific oversight requirements of the Act, will assist all parties in helping to ensure the success of the DATA Act implementation. We have kept GAO officials informed about our plan to delay the first Inspector General reports for one year, which they are comfortable with, and our ongoing efforts to help ensure early engagement through Inspector General readiness reviews.

Should you or your staffs have any questions about our approach or other aspects of our collective DATA Act oversight activities, please do not hesitate to contact me at (202) 514-3435.

Sincerely,



Michael E. Horowitz  
Chair, Council of the Inspectors General on Integrity and Efficiency  
Inspector General, U.S. Department of Justice

cc: The Honorable David Mader, Controller, OMB  
The Honorable Gene Dodaro, Comptroller General, GAO

# APPENDIX D: MANAGEMENT'S COMMENTS

National Aeronautics and Space Administration  
**Headquarters**  
 Washington, DC 20546-0001



November 1, 2017

Office of the Chief Financial Officer

Reply to Attn of:

TO: Assistant Inspector General for Audits

FROM: Acting Chief Financial Officer

Assistant Administrator for Procurement

SUBJECT: Agency Response to OIG Draft Report, "NASA's Compliance with the Digital Accountability and Transparency Act of 2014" (A-17-010-00)

NASA appreciates the opportunity to review and comment on the Office of Inspector General (OIG) draft report entitled, "NASA's Compliance with the Digital Accountability and Transparency Act of 2014" (A-17-010-00), dated October 11, 2017.

In the draft report, the OIG makes three recommendations addressed to the Acting Chief Financial Officer (CFO) and Assistant Administrator for Procurement (AA/OP) intended to improve the accuracy and quality of NASA's Digital Accountability and Transparency Act (DATA Act) submissions.

Specifically, the OIG recommends the following:

To improve NASA's risk assessment process, the Acting CFO and AA/OP should:

**Recommendation 1:** Ensure contractor information such as legal entity name, address, and primary place of performance is current in Federal Procurement Data System-Next Generation (FPDS-NG) and NASA's systems.

**Management's Response:** NASA concurs. The Office of Procurement will ensure contractor information is current in FPDS-NG and NASA systems through the Center self-assessments and the validation and verification efforts conducted under the NASA data quality plan.

**Estimated Completion Date:** December 31, 2017

**Recommendation 2:** Continue working with Treasury officials to ensure that the Broker-related issues are resolved.

**Management's Response:** NASA concurs. The report outlines three Broker-related issues for resolution:

1. Incorrect use of FPDS-NG field "Base and All Options Value Current" in File D1, Award, and Awardee Attributes. Per Treasury, this issue was corrected with the implementation of DATA Act Information Model Schema (DAIMS) v1.1 in September 2017.
2. Incorrect use of FPDS-NG fields "Award Type" and "IDV Type" in File D1, Award, and Awardee Attributes. NASA will submit a USASpending service desk request for this issue.
3. Duplicate entries in File F, Sub-award Attributes from Federal Funding Accountability and Transparency Act Sub-award Reporting System (FSRS). NASA will submit a USASpending service desk request for this issue.

**Estimated Completion Date:** December 31, 2017

**Recommendation 3:** Ensure FPDS-NG errors related to Broker warning messages are corrected in a timely manner.

**Management's Response:** NASA concurs. Note that warning messages in DATA Act submissions are intended as flags for agency review, not as an indication of a critical error. Data submissions that generate a warning message prior to submission will be accepted for publication while data that generate a critical error message will not be accepted. The Agency Applications Office (AAO) submits warning message information related to FPDS-NG issues/errors to the Office of Procurement as soon as the submission has been processed in the Broker and all issued warning messages have been reviewed. The data in FPDS-NG and the Agency Core Financial System related to each warning will be reviewed and corrected. NASA will continue this process for future submissions.

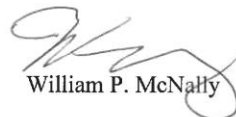
**Estimated Completion Date:** December 31, 2017

We have reviewed the draft report for information that should not be publicly released. As a result of this review, we have not identified any information that should not be publicly released.

Once again, thank you for the opportunity to review and comment on the subject draft report. If you have any questions or require additional information regarding this response, please contact Joe McIntyre on (202) 358-4423.



Andrew Hunter



William P. McNally

# APPENDIX E: REPORT DISTRIBUTION

## National Aeronautics and Space Administration

Acting Administrator  
 Acting Deputy Administrator  
 Acting Associate Administrator for Mission Support  
 Acting Chief Financial Officer  
 Deputy Chief Financial Officer  
 Assistant Administrator for Procurement  
 Associate Deputy Chief Financial Officer

## Non-NASA Organizations and Individuals

Office of Management and Budget  
     Deputy Associate Director, Energy and Space Programs Division  
 Government Accountability Office  
     Managing Director, Office of Financial Management and Assurance  
     Director, Office of Acquisition and Sourcing Management  
 Treasury Office of Inspector General

## Congressional Committees and Subcommittees, Chairman and Ranking Member

Senate Committee on Appropriations  
     Subcommittee on Commerce, Justice, Science, and Related Agencies  
 Senate Committee on Commerce, Science, and Transportation  
     Subcommittee on Space, Science, and Competitiveness  
 Senate Committee on Homeland Security and Governmental Affairs  
 Senate Committee on the Budget  
 House Committee on Appropriations  
     Subcommittee on Commerce, Justice, Science, and Related Agencies  
 House Committee on Oversight and Government Reform  
     Subcommittee on Government Operations  
 House Committee on Science, Space, and Technology  
     Subcommittee on Oversight  
     Subcommittee on Space  
 House Committee on the Budget

**(Assignment No. A-17-010-00)**