



EVALUATION OF THE ACCURACY AND TIMELINESS OF PROCUREMENT DATA IN FAA'S ACQUIRE SYSTEM

**NAS Configuration Management and Evaluation Staff
Program Evaluation Branch (ACM-10)**

Report #2001-15

July 2, 2001

Executive Summary

In March 2000, the Office of the Secretary of Transportation's Senior Procurement Executive entered into a Memorandum of Understanding (MOU) with the Federal Aviation Administration's (FAA) Director of Acquisitions to define a transition of responsibility to collect, maintain, and report FAA contracting data. The MOU provided that the FAA would conduct an independent review of information in the ACQUIRE system to determine the accuracy and timeliness of data reported to OST. Subsequently, the Director of Acquisitions requested that the FAA's Program Evaluation Branch perform this evaluation.

As stipulated in the MOU, the evaluation objectives were to review information in the ACQUIRE system to determine the accuracy (reports using the data should be at least 95% accurate) and timeliness (correct contracting data should be in the system within 30 days after award of a contract document) of fiscal year 2000 procurement data. The evaluation team reviewed a statistically significant random sample of procurement transactions in each FAA region/center that was representative of the total contract population in that office.

We concluded that on a consolidated basis, 92% of the 28 accuracy-related data elements reported to OST for fiscal year 2000 were accurate based on a comparison of the ACQUIRE download and contract file documentation. On a regional basis, the accuracy percentage ranged from 88.3% (Headquarters) to 95.2% (Central Region). Based on contract file documentation, we could not determine the accuracy of 4.5% of the data elements (nonvalidations).

While the consolidated results do not reach the 95% accuracy requirement specified in the MOU, there is an important mitigating factor that needs to be emphasized. We could not determine the accuracy of certain data elements based on information in the contract file, and we did not have the time or resources to take the additional steps that would have been necessary to validate these data elements. Also, we could not confirm the accuracy of 2% and 1.3% of the data elements for the Aeronautical Center and the Southwest Region, respectively, because a critical data element had not been provided in the ACQUIRE data download we received. We were not aware of this oversight until after our fieldwork was completed. It is possible that the consolidated results would have reached the 95% accuracy requirement specified in the MOU had all data elements in the sample been validated.

The Office of Acquisitions (ASU) and the regions/centers have since taken actions that should improve the FAA's accuracy rating in the near future. First, the regions/centers have begun using exception reports that will assist in identifying potential inaccuracies that can be corrected prior to the end of the fiscal year. Second, ASU has initiated several updates to the ACQUIRE guidance to address some of the issues raised during our evaluation and plans to make additional changes based on the results of our evaluation. Third, the results of our evaluation highlighted the need to develop specific guidance for real estate and utility transactions, which have to be handled differently than other procurements reported in ACQUIRE.

The evaluation team also concluded that on a consolidated basis, 79.2% of the ACQUIRE procurements reported to OST for fiscal year 2000 were timely based on a comparison of the system-generated *Reserved/Approved Date* and signed legal documentation in the contract file. On a regional basis, the timeliness percentage ranged from 59.7% (Western Pacific Region) to 93.8% (Aeronautical Center). We could not validate the timeliness of 6.6% of the ACQUIRE procurements because the contract file did not include documentation indicating when the contracting officer signed the contract or modification.

While our evaluation indicates that fiscal year 2000 procurement information provided to OST was not timely, we plan to discuss these issues further with ASU and the regions/centers. It appears that certain procurement activities do not lend themselves to the 30-day timeliness criteria provided in the MOU. In addition, contract files may need to include additional documentation to support the data captured in ACQUIRE.

We plan to work with ASU and the regions/centers in the upcoming weeks to develop recommendations that will address the accuracy and timeliness issues identified during our evaluation.

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Introduction

Background

In August 1996, the Federal Aviation Administration (FAA) identified a need to modernize the agency's procurement automation capabilities to make the procurement process more efficient and to support electronic commerce. The implementation of the Acquisition Management System (AMS) underscored the need to replace the existing procurement systems because their functionality was closely tied to the Federal Acquisition Regulations. At the time the FAA's procurement functions were supported by the System for Acquisition Management and the Procurement Automated System. The FAA's Mission Need Statement for the replacement system concluded that these systems were over 10 years old, inefficient, and unreliable. Also, they did not comply with Office of Management and Budget Circular A-127 standards for financial systems. Accordingly, FAA implemented an updated procurement system, ACQUIRE [not an acronym], in fiscal year 1999 for the regions/centers. FAA added an Agency Contract Report Information (ACRI) Bolt-on to the ACQUIRE system to include data elements that ACQUIRE, a commercial off-the-shelf system, was not designed to capture.

In March 2000, the Office of the Secretary of Transportation's (OST) Senior Procurement Executive entered into a Memorandum of Understanding (MOU) with the FAA's Director of Acquisitions (ASU-1) to define a transition of responsibility to collect, maintain, and report FAA contracting data. Previously, FAA contracting data had been submitted to the OST's Contract Information System (CIS), which subsequently provided data to the Federal Procurement Data System. When the FAA transitioned to AMS, the CIS was not configured to accurately collect the agency's contracting data. The contracting process and definitions used by the CIS and the Federal Procurement Data System were designed for Federal Acquisition Regulation-based contracting systems. Accordingly, OST officially transferred to the FAA the responsibility for collecting, maintaining, and reporting FAA contracting data in the ACQUIRE system beginning the first day of fiscal year 2000. The March 2000 MOU provided that the FAA would conduct an independent review of information in the ACQUIRE system to determine the accuracy and timeliness of data reported to OST. In December 2000, OST amended the MOU to provide that the review was to be completed no later than July 1, 2001, and the report findings provided to the OST's Senior Procurement Executive and Office of Small and Disadvantaged Business Utilization no later than August 1, 2001. The FAA's Director of Acquisitions requested that ACM-10 conduct the review and provide the results to ASU-1 no later than July 1, 2001.¹

¹ Since July 1, 2001 is a Sunday, the report will be provided to ASU-1 on Monday, July 2, 2001.

Objectives

As defined in the MOU between OST's Senior Procurement Executive and the FAA's Director of Acquisition, the objectives of the evaluation were to review the results of ACQUIRE to determine the:

1. accuracy of data (reports using the data should be at least 95% accurate) and
2. timeliness of data (correct contracting data should be in the system within 30 days after award of a contract document)

Scope

The scope of our evaluation was fiscal year 2000 procurement transactions (identified as standard purchase orders in the ACQUIRE system) that were reserved/approved between October 1, 1999 and September 30, 2000. Since the ACQUIRE system operates independently at each region/center, our sample included procurement transactions from each of the following FAA sites:

1. AAL Alaskan Region, Anchorage, AK
2. ACE Central Region, Kansas City, MO
3. ACT William J. Hughes Technical Center, Atlantic City, NJ
4. AEA Eastern Region, Jamaica, NY
5. AGL Great Lakes Region, Des Plaines, IL
6. AMQ Mike Monroney Aeronautical Center, Oklahoma City, OK
7. ANE New England Region, Burlington, MA
8. ANM Northwest Mountain Region, Renton, WA
9. ASO Southern Region, Atlanta, GA
10. ASW Southwest Region, Fort Worth, TX
11. AWA Headquarters, Washington, DC
12. AWP Western Pacific Region, Los Angeles, CA

We focused our review on those data elements that the FAA's Office of Acquisitions (ASU) reports to OST, not every data element in the ACQUIRE system. ASU reported a total of 29 data elements to OST (28 related to accuracy and 1 related to timeliness). From our sample, we excluded specific types of transactions:

- legacy transactions that did not relate to fiscal year 2000 obligations
- administrative revisions, which had no financial impact on fiscal year 2000 obligations (the revisions in our sample already included administrative updates to the data elements)
- due to time and resource constraints, transactions (generally small purchases) completed by System Management Offices because those contract files are retained at numerous locations outside the regional offices

Methodology

To determine the accuracy and timeliness of FAA procurement data in ACQUIRE, the evaluation team performed the following:

- Obtained from ASU the criteria ACQUIRE users are provided to enter data accurately into the ACQUIRE system, including the ACQUIRE Flexfield Guide, ACRI Bolt-on Guide, and various ACQUIRE training materials
- Researched AMS and FAA's Acquisition System Toolset (FAST) to identify any contract file documentation requirements
- Obtained a list and description of all the data elements reported to OST for fiscal year 2000 (see Appendix A, Sampling Plan, for a list of the 29 data elements reported to OST for fiscal year 2000)
- Obtained a download of the entire ACQUIRE population for all contracting activities, including all of the regions/centers, from ACQUIRE implementation through December 2000 (see discussion below regarding data missing from this download)
- Identified the population of ACQUIRE standard purchase orders (SPOs) reported to OST for fiscal year 2000 and stratified these transactions by the data element, *Category Group* (research and development, real estate, services, supply, construction, and the Logistics & Inventory System used by the Aeronautical Center to replenish inventory items) and by the contract dollar value
- Using a 95% confidence level with a precision level of ± 5 percent, selected a stratified random sample of SPOs, including fiscal year 2000 modifications (identified as revisions in the ACQUIRE system) associated with these SPOs, for each region/center (see Appendix A, Sampling Plan, for details on our sampling methodology)
- Randomly selected alternate SPOs in the same category group and contract dollar value to replace the 37 contract files that the regions/centers could not locate while the evaluation team was on site
- Developed a data collection instrument (DCI) that would electronically compare data from the ACQUIRE download to data manually entered by the evaluation team based on their review of the contract file
- Reviewed a stratified random sample of contract files at each region/center to compare the ACQUIRE download to information in the contract file and enter the results in the DCI
- Used our own judgment in reviewing contract file documentation (see Appendix B, Supplemental Criteria by Data Element) to determine the accuracy of certain data elements
- Summarized the DCI results to determine regional statistics, then consolidated the results to obtain national statistics

Figure 1 shows the breakdown of our sample by Total SPOs, Total Revisions, and Total Data Fields (number of revisions multiplied by 29 data elements reviewed) by region/center.

FAA Region	Total SPO'S	Total Revisions	Total Fields	Missing
AAL Alaska	211	290	8410	5
ACE Central	171	209	6061	0
ACT Tech Center	264	361	10469	3
AEA Eastern	247	265	7685	0
AGL Great Lakes	220	335	9715	1
AMQ Aero Center	374	390	11310	2
ANE New England	165	195	5655	4
ANM NW Mtn.	216	271	7859	3
ASO Southern	235	310	8990	6
ASW Southwest	204	272	7888	6
AWA Headquarters	308	610	17690	7
AWP Western Pacific	218	330	9570	0
FAA	2833	3838	111302	37

Figure 1: Sample Breakdown by Region

As part of our methodology, we defined the following terms:

- Accuracy: contract file documentation was consistent with information in the ACQUIRE download based upon ASU criteria and our own judgment
- Discrepancy: contract file documentation was not consistent with information in the ACQUIRE download based upon ASU criteria and our own judgment
- Nonvalidation: could not determine from contract file documentation whether or not the information in ACQUIRE was accurate or timely

After completing our fieldwork, we became aware of several issues that impacted the ACQUIRE population and our statistical sample by region/center.

Data Missing in ACQUIRE Download Obtained from ASU

While conducting fieldwork in the New England Region, we learned that an active buyer in that region had not been included in our population. Upon further research, ASU found that due to a programming glitch, 585 transactions related to 5 buyers (3 buyers/547 transactions in the New England Region, 1 buyer/6 transactions in the Northwest Mountain Region and 1 buyer/32 transactions in the Southern Region) had been excluded from the ACQUIRE population for fiscal year 2000. As a result, our random sample was based on an incomplete population in these regions. ASU determined that the programming glitch occurred due to an incorrect assumption by their programmer and has taken action to ensure that this oversight does not occur in the future. We do not believe the missing data had a significant impact on the results of our evaluation.

We also learned that a critical data element [total estimated potential value of the contract purchase agreement (CPA)] had not been included in our download. When we originally

received the download from ASU, we had understood that the ACRI data elements were supposed to be completed if the *Total Estimated Potential Value of the Standard Purchase Order* (SPO), which was one of the 29 data elements evaluated, was greater than \$100,000. After we had completed our fieldwork, we found that this was true only when the SPO stood alone. If the SPO was tied to a CPA with a total estimated potential value greater than \$100,000, then the ACRI data elements were supposed to be completed. Since this data element was not included in the ACQUIRE data download we received, we could not determine whether ACRI applied when the SPO was less than \$100,000 and tied to a CPA. We thought contracting officers had been entering ACRI data when it was not required. As a result, we did not evaluate the accuracy of the ACRI data elements when an SPO tied to a CPA was less than \$100,000, unless we could determine that several SPOs under the same CPA totaled more than \$100,000. While the missing data element resulted in higher nonvalidation ratings for the Aeronautical Center (2% higher) and the Southwest Region (1.3% higher), we do not believe this had a significant impact on the results of our evaluation.

Statistical Sample by Region/Center

During our quality assurance review of the data collection instrument for each region/center, we discovered that we inadvertently had included legacy transactions (related to contracts prior to fiscal year 2000) in our statistical sample by region/center. When we removed these transactions, our statistical sample was less than required for the Alaskan Region (one SPO under) and the Northwest Mountain Region (four SPOs under). However, our statistical sample was greater than required for the Technical Center (14 SPOs over) and Headquarters (10 SPOs over). Since our consolidated sample, which included all of the regions/centers, exceeded the requirements for a statistical sample, we were able to extrapolate our results to the population.

Evaluation Results

As provided in the March 2000 MOU between OST and the FAA, the evaluation team reviewed information in the ACQUIRE system to determine the accuracy (reports using the data should be at least 95% accurate) and timeliness (correct contracting data should be in the system within 30 days after award of a contract document) of fiscal year 2000 procurement data.

We concluded that on a consolidated basis, 92% of the 28 accuracy-related data elements reported to OST for fiscal year 2000 were accurate based on a comparison of the ACQUIRE download and contract file documentation. On a regional basis, the accuracy percentage ranged from 88.3% (Headquarters) to 95.2% (Central Region). Based on contract file documentation, we could not determine the accuracy of 4.5% of the data elements (nonvalidations).

While the consolidated results do not reach the 95% accuracy requirement specified in the MOU, there is an important mitigating factor that needs to be emphasized. We could not determine the accuracy of certain data elements based on information in the contract file, and we did not have the time or resources to take the additional steps that would have been necessary to validate these data elements. Also, we could not confirm the accuracy of 2% and 1.3% of the data elements for the Aeronautical Center and the Southwest Region, respectively, because a critical data element had not been provided in the ACQUIRE download we received. We were not aware of this oversight until after our fieldwork was completed. It is possible that the consolidated results would have reached the 95% accuracy requirement specified in the MOU had all data elements in the sample been validated.

We also concluded that on a consolidated basis, 79.2% of the ACQUIRE procurements reported to OST for fiscal year 2000 were timely based on a comparison of the system-generated *Reserved/Approved Date* and signed legal documentation in the contract file. On a regional basis, the timeliness percentage ranged from 59.7% (Western Pacific Region) to 93.8% (Aeronautical Center). According to the MOU, accurate contracting data was to be in the system within 30 days after award of a contract document. However, we could not validate the timeliness of 6.6% of the ACQUIRE procurements because the contract file did not include documentation indicating when the contracting officer signed the contract or modification.

We plan to work with ASU and the regions/centers in the upcoming weeks to develop recommendations that will address these issues.

Conclusions

Conclusion 1: ACQUIRE Data was 92 Percent Accurate Overall

On a consolidated basis, 92% of the 28 accuracy-related data elements reported to OST for fiscal year 2000 were accurate (validated) based on a comparison of the ACQUIRE download and contract file documentation. On a regional basis, the accuracy percentage ranged from 88.3% (Headquarters) to 95.2% (Central Region). Based on contract file documentation, we could not determine the accuracy of 4.5% of the data elements (nonvalidations). These results are illustrated in Figures 2-4.

While the consolidated results do not reach the 95% accuracy requirement specified in the MOU, there is an important mitigating factor that needs to be emphasized. We could not determine the accuracy of certain data elements based on information in the contract file, and we did not have the time or resources to take the additional steps that would have been necessary to validate these data elements. Specifically, certain supplier data elements (e.g., *Taxpayer Identification Number* and *Type of Contractor*) were routinely maintained in an electronic vendor file in ACQUIRE and not necessarily documented separately in the contract file. To confirm the accuracy of these data elements, we would have had to contact the suppliers directly. Also, we could not confirm the accuracy of 2% and 1.3% of the data elements for the Aeronautical Center and the Southwest Region, respectively, because a critical data element [total estimated potential value of the contract purchase agreement] was not provided in the ACQUIRE data download we received. As noted in the methodology section of this report, we were not aware of this oversight until after our fieldwork was completed. It is possible that the consolidated results would have reached the 95% accuracy requirement specified in the MOU had all data elements in the sample been validated.

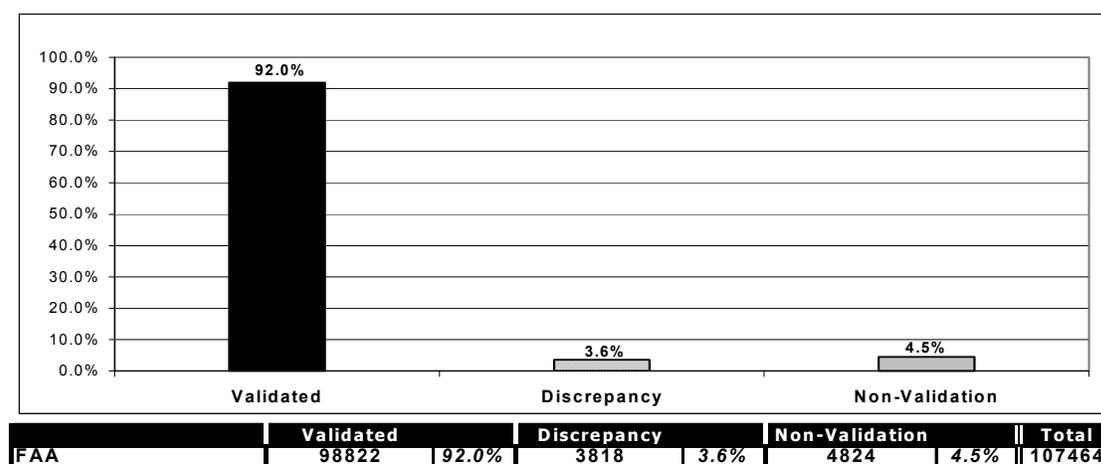


Figure 2: Consolidated Accuracy Results

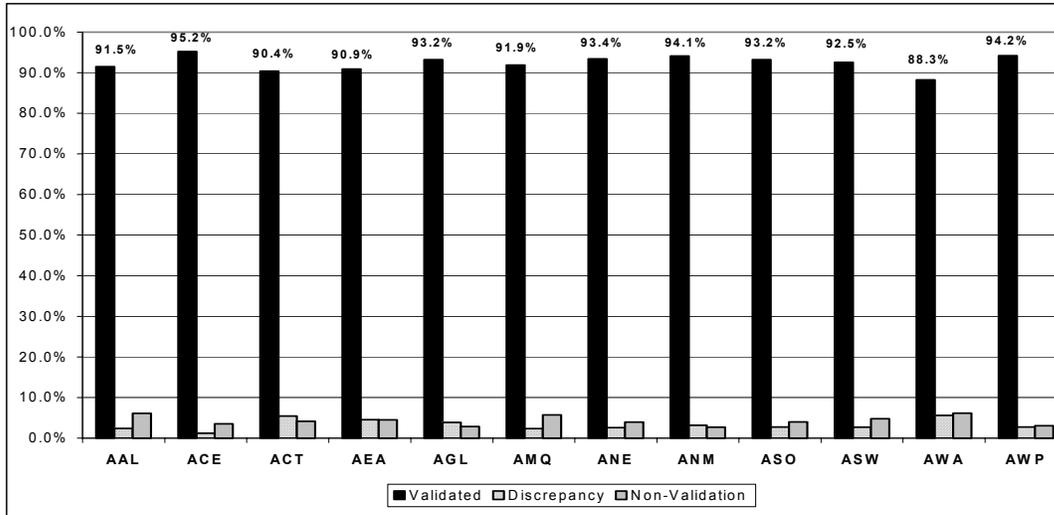


Figure 3: Consolidated Accuracy Results by Region

FAA Region	Validated	Discrepancy	Non-Validation	Total
AAL Alaska	7426 91.5%	196 2.4%	498 6.1%	8120
ACE Central	5573 95.2%	73 1.2%	206 3.5%	5852
ACT Tech Center	9137 90.4%	550 5.4%	421 4.2%	10108
AEA Eastern	6747 90.9%	338 4.6%	335 4.5%	7420
AGL Great Lakes	8744 93.2%	365 3.9%	271 2.9%	9380
AMQ Aero Center	10036 91.9%	256 2.3%	628 5.8%	10920
ANE New England	5101 93.4%	142 2.6%	217 4.0%	5460
ANM NW Mtn.	7140 94.1%	243 3.2%	205 2.7%	7588
ASO Southern	8092 93.2%	242 2.8%	346 4.0%	8680
ASW Southwest	7048 92.5%	206 2.7%	362 4.8%	7616
AWA Headquarters	15075 88.3%	953 5.6%	1052 6.2%	17080
AWP Western Pacific	8703 94.2%	254 2.7%	283 3.1%	9240
FAA	98822 92.0%	3818 3.6%	4824 4.5%	107464

Figure 4: Consolidated Accuracy Results by Region (Table)

Data Elements with the Highest Percentage of Discrepancies

The data elements with the highest percentage of discrepancies (i.e., 7 or more of the 12 regions/centers had a discrepancy rate of 5% or higher for these data elements) were the *Estimated Completion Date*, *Competition*, and the *Total Estimated Potential Value of the SPO*. Our download reflected any updates to the *Estimated Completion Date* and the *Total Estimated Potential Value of the SPO* as of mid-January 2001 when ASU provided us the data.

- *Estimated Completion Date (ECD)*: All 12 regions/centers had a discrepancy rate of 5% or higher for this data element. Some regions/centers entered *ECDs* prior to the *Reserved/Approved Date* and others did not update the *ECD* when making subsequent revisions to the contract. Also, the regions/centers were not in agreement about what date

should be used for this data element. Since the *ECD* is only an estimate, we accepted dates 30 days prior to or after the expected completion date indicated in the contract file documentation. It appears that the ASU guidance related to the *ECD* was not clear, particularly for certain types of procurements, such as utilities, that do not have an obvious *ECD*.

The Aeronautical Center reflected a high discrepancy rate for this data element because the region modified the ACQUIRE system to default to the *Revision Date*. However, this date may be prior to the *Reserved/Approved Date*, which signifies (with the exception of recurring obligations) when agency funds were obligated or deobligated. The region responded that it established a business practice where the estimated completion date could not be more than seven days prior to the *Revision Date*. In our opinion, this practice renders the *Estimated Completion Date* meaningless because it is not possible for the contract to be completed before agency funds have been obligated or deobligated. ASU agreed with our conclusion.

- *Competition*: Eight of the 12 regions/centers had a discrepancy rate of 5% or higher for this data element. A common error was categorizing federal supply schedule procurements as noncompetitive even though the ACQUIRE Flexfield Guide clearly provides that these procurements are to be considered competitive.
- *Total Estimated Potential Value of the SPO (TEPV)*: Seven of the 12 regions/centers had a discrepancy rate of 5% or higher for this data element. Some regions/centers did not update the *TEPV* when making subsequent revisions to the contract. Since the *TEPV* is only an estimate, we accepted amounts 10% below or above the expected potential value indicated in the contract file documentation.

We determined the accuracy of ACQUIRE data based on the ACQUIRE Flexfield Guide,² the ACRI Bolt-on Guide, ASU's training materials and other informal guidance, and our own judgment (see Appendix B, Supplemental Criteria by Data Element) based on a review of contract file documentation. During our discussions with region/center staff, we learned that numerous changes have been made to this guidance since the end of fiscal year 2000. However, rather than applying current guidance to past transactions, we used the guidance in effect during the evaluation period from October 1, 1999 through September 30, 2000. Unfortunately, it appears that some of this guidance was unclear, incomplete, or inaccurate for certain data elements. As a result, transactions were not entered into ACQUIRE accurately or consistently from region to region.

Data Elements with the Highest Percentage of Nonvalidations

The data elements with the highest percentage of nonvalidations (i.e., 7 or more of the 12 regions/centers had a nonvalidation rate of 5% or higher for these data elements) were the *Taxpayer Identification Number*, *Estimated Completion Date*, *Competition*, and *Type of Contractor*.

² We compared the 2/15/00 ACQUIRE Flexfield Guide to the 8/9/00 version and found only minor changes in the criteria for the data elements reported to OST.

- *Taxpayer Identification Number:* All of the regions/centers had a nonvalidation rate of 5% or higher for this data element. As noted previously, supplier information was routinely maintained in an electronic vendor file in ACQUIRE and not necessarily documented separately in the contract file.
- *Estimated Completion Date:* Ten of the 12 regions/centers had a nonvalidation rate of 5% or higher for this data element. For the most part, small purchase contract files did not include this information unless there was an estimated delivery date on the ACQUIRE form.
- *Competition:* Nine of the 12 regions/centers had a nonvalidation rate of 5% or higher for this data element. For the most part, small purchase contract files did not include this information unless the office had a policy to include a small purchase acquisition form in the file.
- *Type of Contractor:* Seven of the 12 regions/centers had a nonvalidation rate of 5% or higher for this data element. As noted previously, supplier information was routinely maintained in an electronic vendor file in ACQUIRE and not necessarily documented separately in the contract file.

According to the contract staff in the regions/centers, there is no requirement to include information related to these data elements in the contract file, particularly for small purchases. In addition, AMS and FAST provide very limited guidance on contract file documentation. As a result, contract file documentation policies and procedures varied widely from region to region. We plan to work with ASU and the regions/centers in the upcoming weeks to develop recommendations that will address specific guidance issues that we identified or were brought to our attention during the evaluation.

Summary

While our evaluation indicates that fiscal year 2000 procurement information provided to OST and the public is less than 95% accurate, subsequent actions taken by ASU and the regions/centers should improve the FAA's accuracy rating in the near future. First, the regions/centers have begun using exception reports that will assist in identifying potential inaccuracies that can be corrected prior to the end of the fiscal year. Second, ASU has initiated several updates to the ACQUIRE Flexfield Guide to address some of the issues raised during our evaluation and plans to make additional changes based on the results of our evaluation. Third, the results of our evaluation highlighted the need to develop specific guidance for real estate and utility transactions, which have to be handled differently than other procurements reported in ACQUIRE.

Conclusion 2: ACQUIRE Data was 79.2 Percent Timely Overall

On a consolidated basis, 79.2% of the ACQUIRE procurements reported to OST for fiscal year 2000 were timely based on a comparison of the system-generated *Reserved/Approved Date* and signed legal documentation in the contract file. On a regional basis, the timeliness percentage ranged from 59.7% (Western Pacific Region) to 93.8% (Aeronautical Center). According to the MOU, accurate contracting data was to be in the system within 30 days after award of a contract document. However, we could not validate the timeliness of 6.6% of the ACQUIRE procurements because the contract file did not include documentation indicating when the contracting officer signed the contract or modification. Timeliness results are illustrated in Figures 5-7.

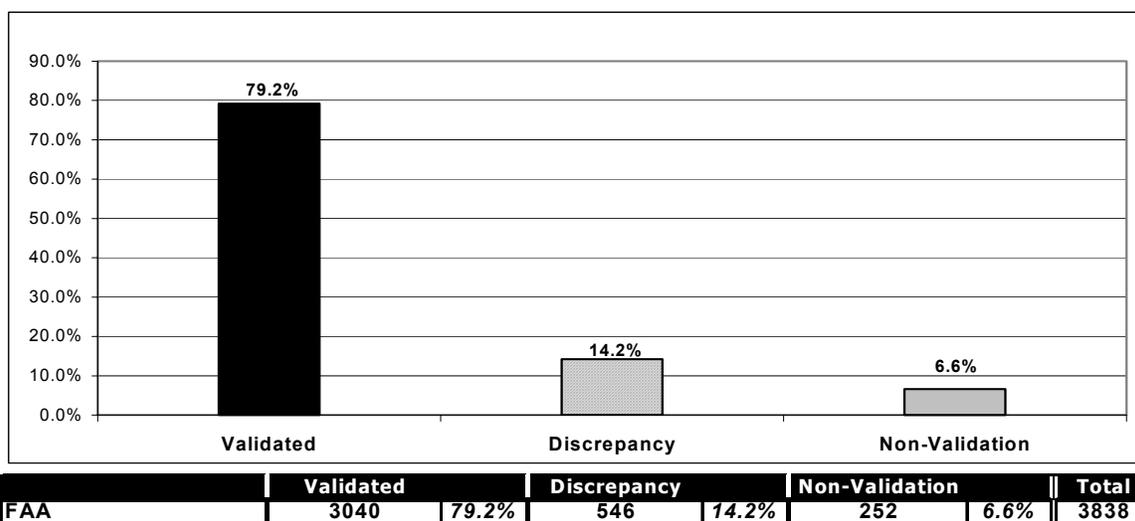


Figure 5: Consolidated Timeliness Results

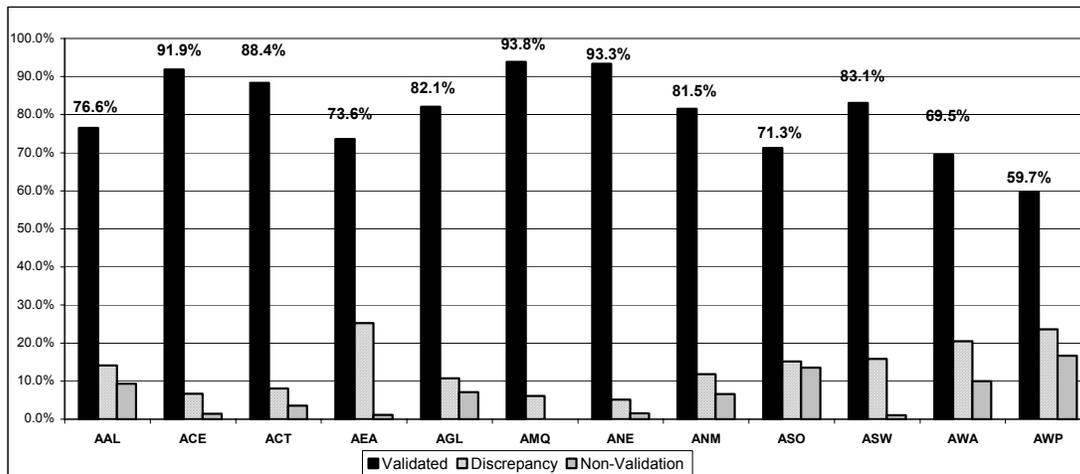


Figure 6: Consolidated Timeliness Results by Region (Chart)

FAA Region	Validated	Discrepancy	Non-Validation	Total
AAL Alaska	222 76.6%	41 14.1%	27 9.3%	290
ACE Central	192 91.9%	14 6.7%	3 1.4%	209
ACT Tech Center	319 88.4%	29 8.0%	13 3.6%	361
AEA Eastern	195 73.6%	67 25.3%	3 1.1%	265
AGL Great Lakes	275 82.1%	36 10.7%	24 7.2%	335
AMQ Aero Center	366 93.8%	24 6.2%	0 0.0%	390
ANE New England	182 93.3%	10 5.1%	3 1.5%	195
ANM NW/Mtn.	221 81.5%	32 11.8%	18 6.6%	271
ASO Southern	221 71.3%	47 15.2%	42 13.5%	310
ASW Southwest	226 83.1%	43 15.8%	3 1.1%	272
AWA Headquarters	424 69.5%	125 20.5%	61 10.0%	610
AWP Western Pacific	197 59.7%	78 23.6%	55 16.7%	330
FAA	3040 79.2%	546 14.2%	252 6.6%	3838

Figure 7: Consolidated Timeliness Results by Region (Table)

Regional Business Processes that Resulted in the Highest Percentage of Discrepancies

Regional business processes in 8 of the 12 regions/centers resulted in discrepancies of higher than 10%. There were two primary reasons for these discrepancies. First, procurements were not timely when they were reserved/approved in ACQUIRE prior to the contracting officer's signature on the legal documentation. This occurred when a contract specialist reserved/approved the transaction in ACQUIRE, then forwarded the ACQUIRE form or other legal document to the contracting officer for signature. This also occurred when the contracting officer reserved/approved the transaction in ACQUIRE, then signed the contract after it had been

returned with the contractor's signature. In both situations, the contracting officer signed the document several days or sometimes more than a month later.

Procurements also were not timely when certain real estate contracts were obligated in the system at the beginning of the fiscal year, but the contracting officer did not sign the legal documentation for several months afterwards. As a result, procurements reflected as reserved/approved in ACQUIRE may not be supported by legal documentation for several days, or even months, afterwards.

Second, procurements were not timely when they were reserved/approved more than 30 days after the contracting officer signed the legal documentation. This generally occurred when a contracting officer signed a legal document, such as a lease agreement, prior to receiving fiscal year funding. According to regional contract staff, this was done to lock in the current or more favorable rates. As a result, procurements reflected as reserved/approved in ACQUIRE may represent legal transactions that actually occurred in previous months.

Real estate contracts were affected in both cases. In 4 of the 8 regions with high discrepancies, real estate contracts represented more than 10% of the population (Northwest Mountain, Southern, Southwest, and Western Pacific Regions). However, the Central Region, where real estate contracts represented 13% of the population, had a noticeably lower discrepancy rate of 6.7%.

There was a lot of confusion in the regions/centers related to our evaluation of timeliness. It appears that the 30-day timeliness requirement in the MOU was not communicated to the regions/centers. In addition, there are no timeliness requirements in AMS, FAST, or the ACQUIRE guidance. As a result, the standard operating procedures for when data was to be entered in ACQUIRE varied widely from region to region.

Regional Business Processes that Resulted in the Highest Percentage of Nonvalidations

Regional business processes in 6 of the 12 regions resulted in nonvalidations of 5% or higher. We could not determine the timeliness of the nonvalidated procurements because there was no documentation in the contract file indicating when the contracting officer signed the contract or modification. While it is likely that the signed contract may be found in the accounting office, it should have been a standard operating practice to include a copy of the signed and dated contract or modification in the contract file.

Summary

While our evaluation indicates that fiscal year 2000 procurement information provided to OST was not timely, we plan to discuss these issues further with ASU and the regions/centers. It appears that certain procurement activities do not lend themselves to the 30-day timeliness criteria provided in the MOU. In addition, contract files may need to include additional documentation to support the data in ACQUIRE. We plan to work with ASU and the regions/centers in the upcoming weeks to develop recommendations that will address these issues.

Appendix A—Sampling Plan



ACQUIRE DATA EVALUATION

SAMPLING PLAN

*FAA Contract No. DTFA-0101-F03003
GSA MOBIS Contract No. GS-23F-9755H*

January 26, 2001

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1.0 PURPOSE

The purpose of this plan is to document the definitions and processes used to derive statistically significant sample sets for the evaluation of ACQUIRE data that are representative of the total database population at each Federal Aviation Administration (FAA) contracting center. These sample sets will be used to conduct a manual review of corresponding contract files to determine accuracy and timeliness of ACQUIRE data elements.

2.0 BACKGROUND

Based on the findings in the ACQUIRE Business Process Improvement (BPI) Project, Process Improvement Team Final Report, dated August 1996, the FAA identified a need to modernize the agency's procurement automation capabilities to make the procurement request and procurement process more efficient and to support electronic commerce. The implementation of the Acquisition Management System (AMS) underscored the need to replace the existing procurement systems because their functionality was closely tied to the Federal Acquisition Regulations (FAR). At the time the FAA's procurement functions were supported by the System for Acquisition Management (SAM) and the Procurement Automated System (PAS). According to the Mission Need Statement, these systems were over 10 years old, inefficient, and unreliable. Also, these systems did not comply with federal standards (OMB Circular A-127) for financial systems. The ACQUIRE BPI Project team concluded that the following benefits could be achieved with the implementation of new procurement processes using commercially available technology:

- The cycle time for small procurements could drop by nearly 50 percent, while that for large procurements could decrease by 20 percent;
- The time involved in conducting reporting activities could drop by 71 percent; and
- Labor effort and cost for small procurements could decrease by 35 percent, and by 14 percent for large procurements.

In March 2000, the Office of the Secretary of Transportation's (OST) Senior Procurement Executive entered into a Memorandum of Understanding (MOU) with the FAA's Director of Acquisitions (ASU-1) to define a transition of responsibility to collect, maintain, and report FAA contracting data. Previously, FAA contracting data had been submitted to the OST's Contract Information System (CIS), which subsequently provided data to the Federal Procurement Data System. The contracting process and definitions used by the CIS and the FPDS were designed for FAR-based contracting systems. When the FAA transitioned to AMS, the CIS was not configured to accurately collect the agency's contracting data. Accordingly, OST officially transferred the responsibility for collecting, maintaining, and reporting FAA contracting data in the ACQUIRE system to the FAA beginning the first day of fiscal year 2000. The MOU states that the FAA will conduct an independent review of information in the ACQUIRE system to determine the accuracy and timeliness of data reported to OST. The review is to be completed no later than July 1, 2001¹, and the report findings are to be provided to the OST's Senior Procurement Executive and Office of Small and Disadvantaged Business Utilization (S-40) not later than August 1, 2001. The FAA's Director of Acquisitions requested that ACM-10 conduct

¹ Since July 1, 2001 is a Sunday, the report will be provided to ASU-1 on Monday, July 2, 2001.

an objective review of ACQUIRE, as required by the MOU, and report the results to ASU-1 no later than July 1, 2001.²

In addition to ASU-1, ACM-10 will report the results of the evaluation to the Assistant Administrator for Research and Acquisitions (ARA-1) and the Assistant Administrator for Region/Center Operations (ARC-1), who is responsible for the operations of nine regions and the Mike Monroney Aeronautical Center.

3.0 SCOPE

Based on the MOU with the OST's Senior Procurement Executive and agreements with ASU-110, the evaluation of ACQUIRE data will be limited to entries from fiscal year 2000 and only those key fields that are reported to DOT. Listed below are the FAA contracting centers at which ACM-10 will evaluate ACQUIRE data element accuracy and timeliness.

1. FAA Headquarters
2. William J. Hughes Technical Center
3. Mike Monroney Aeronautical Center
4. Alaska Region
5. Central Region
6. Eastern Region
7. Great Lakes Region
8. New England Region
9. Northwest Mountain Region
10. Southern Region
11. Southwest Region
12. Western Pacific Region

4.0 SOURCE DATA DESCRIPTION

The source data for this evaluation was extracted from the ACQUIRE system database by the Information Systems Integrated Product Team (IPT). The data were exported into Microsoft Excel files and submitted to ACM-10 for use in the ACQUIRE data evaluation. ACM-10 requested that the download contain the 29 key fields from the ACQUIRE database that are included in the FAA contracting information report that is submitted to DOT. Exhibit 4.1 provides a listing of those key fields from the ACQUIRE database.

² Prior to the December 2000 MOU revision, the report was due to ASU-1 on 4/2/01 and to OST on 5/1/01.

1.	Standard Purchase Order #	16.	Performance Country
2.	Revision Number	17.	Country of Manufacture
3.	CPA or Other Agency/Region #	18.	Taxpayer ID
4.	Revision Amount	19.	Type of Contractor
5.	Total Estimated Potential Value	20.	Kind of Contract Action
6.	Award Date	21.	Set Aside
7.	Reserved/Approved date	22.	Competition
8.	Estimated Completion Date	23.	Contract Type
9.	Supplier	24.	Woman Owned
10.	Address	25.	Subcontract Plan
11.	City	26.	Commercial Item
12.	State	27.	Category Code
13.	Postal Code	28.	Category Group
14.	Performance City	29.	Labor Statute
15.	Performance State		

Exhibit 4-1 Key Data Fields for the ACQUIRE Data Evaluation

The Information Systems IPT provided database extractions for FAA Headquarters, William J. Hughes Technical Center, Mike Monroney Aeronautical Center, and each regional contracting location. These extractions contain all ACQUIRE records from each contracting center and may contain records from several fiscal years. Exhibit 4-2 provides the number of records in each extraction for the 12 FAA contracting centers.

Contracting Center	Number of Records
FAA Headquarters	10,502
William J. Hughes Technical Center	3,746
Mike Monroney Aeronautical Center	40,248
Alaska Region	2,256
Central Region	1,785
Eastern Region	3,723
Great Lakes Region	2,696
New England Region	478
Northwest Mountain Region	3,182
Southern Region	6,843
Southwest Region	2,415
Western Pacific Region	3,649
Total Number of Source Records	68,024

Exhibit 4-2 Contracting Center ACQUIRE Data Extraction Size

5.0 ASSUMPTIONS

Several basic assumptions were developed to structure the sampling methodology and establish criteria for the evaluation of data element accuracy and timeliness. These assumptions are described in the subsections below.

5.1 The Standard Purchase Order Number is the Key Field

The sampling methodology will use the Standard Purchase Order number as the key field to determine the total population size for each FAA contracting center. A Standard Purchase Order (SPO) number is assigned to each individual acquisition at a contracting center and the ACQUIRE system creates a record for the original acquisition action. The system also creates new records under the same SPO number for all subsequent revisions. Therefore, the ACQUIRE source data used for this evaluation contains separate entries for each revision to a SPO record and the resulting population size of the source files can be substantial. The goal of the sampling plan is to accurately define the ACQUIRE data population for each contracting center and identify a set of sample records for manual review.

It is the accuracy and timeliness of information associated with each acquisition recorded in the database, as a whole, that is of primary concern to FAA acquisition managers and the focus of the ACQUIRE data evaluation. The methodology that ACM-10 will employ to evaluate timeliness and accuracy of ACQUIRE data elements will be to compare database entries with documentation in contract files. Therefore, there is a need to identify the total number of unique acquisition actions at each contracting center. The SPO number provides the means to determine that total. Once the population is determined, it is possible to identify a sample sufficiently large with which we can conduct a manual review and cross-reference the SPO numbers to individual contract files at contracting centers.

5.2 The Reserved/Approved Date Field is the Key Field to Sort FY 2000 Entries

The Reserved/Approved Date field is automatically generated by the ACQUIRE system database when a record corresponding to an individual SPO number is entered or revised. Since this field represents the entry date of each record, it is the key field for sorting fiscal year 2000 records. Using this field, all acquisition actions that were entered or revised in FY 2000 can be identified.

5.3 Contract Category and Value are the Key Attributes to Derive a Population Profile

The ACQUIRE source data are a heterogeneous population with a wide variety of data element types. Therefore, it is necessary to obtain a stratified random sample on key homogeneous groups within this heterogeneous population to derive a representative sample of acquisition actions at each FAA contracting center. With 29 key data fields in the ACQUIRE source data, there is a need to identify fields that provide a reasonable characterization of acquisition activities for each contracting facility.

The Contract Category field meets this stratification requirement. This field characterizes acquisition actions in general categories such as services, research and development, construction, and real estate. Analysis of the ACQUIRE source data for each contracting center shows that there were no more than four to eight categories for a given population. By calculating the percentage of acquisition actions in each category, it is possible to establish a population profile for a contracting center that provides a reasonable representation of its operations.

Additionally, contract value is of extreme importance to both Acquisition managers and senior FAA leadership. Therefore, it is important to also define the data populations for each contracting center in terms of total dollars. The challenge lies in selecting the proper ACQUIRE data field that best characterized the total value of each acquisition record. The "Total Estimated Potential Value" data field provides the most representative characterization of contract value and best addresses ambiguities caused by task order contracts and Indefinite Delivery, Indefinite Quantity (IDIQ) vehicles.

Using contract categories and total estimated values to build profiles of data populations for each contracting center, the breadth and depth of acquisition actions at each location can be accurately defined. These profiles can be used to build randomly stratified samples on which a manual review of data accuracy and timeliness can be conducted.

6.0 SAMPLING METHODOLOGY

Due to limited resources and the vast number of ACQUIRE transactions in fiscal year 2000, ACM-10 will determine the accuracy and timeliness of ACQUIRE data through inferential statistics and unbiased sampling techniques. ACM-10 will use this approach to identify a sample of ACQUIRE data that represents the characteristics of the total ACQUIRE data population. By evaluating the accuracy and timeliness of sample data, ACM-10 can apply its findings to the entire data population with a high degree of confidence as long as the sample is unbiased and of a sufficient size. Sample bias is eliminated by randomly selecting ACQUIRE records for evaluation. To determine the appropriate sample size, a standard statistical formula (presented in section 7.2) is used, applying a confidence level of 95% and a precision level of ± 5 percent.

To make accurate characterizations of the total ACQUIRE data population, the evaluation samples must be representative of the total population. The ACQUIRE source data is a heterogeneous population with downloads from FAA Headquarters and each of the regions and centers. The number and range of acquisition activity types varies greatly between the contracting centers. To develop highly representative samples of ACQUIRE data, stratified random samples for each contracting activity are constructed, characterizing each sample according to contract category (i.e. services, real estate, construction) and contract value range. Stratified sampling allows for achieving the desired accuracy with a smaller sample size, and applying findings to the total ACQUIRE data population with greater confidence.

A structured methodology, illustrated in Exhibit 6-1, was developed to determine the size and stratification of data samples. This methodology is based on the assumptions discussed in the previous section and the statistical techniques addressed above. A detailed description of each step of the methodology follows.

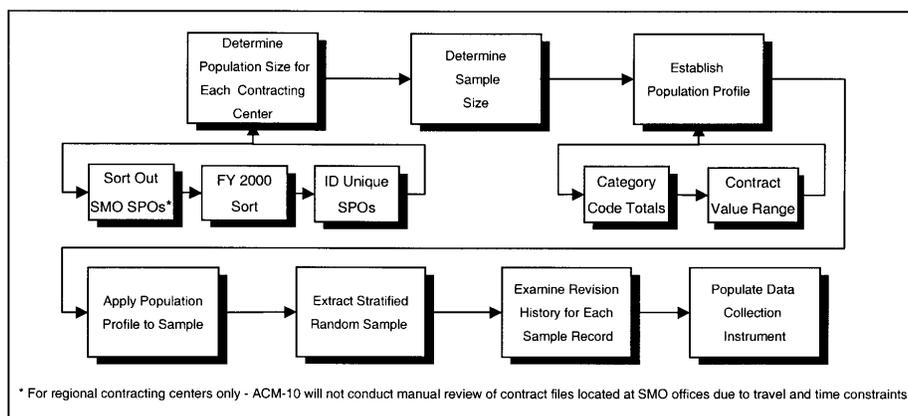


Exhibit 6-1 Sampling Methodology for ACQUIRE Data Evaluation

6.1 Determine Population Size for Each Contracting Center

To develop a representative sample for manual review, the total number of unique acquisition actions in the ACQUIRE database for a given contracting center that were either created or revised during fiscal year 2000 must be identified. First, all records in the source data with a Reserved/Approved Date in fiscal year 2000 are extracted. Since the ACQUIRE system creates a separate record for each revision to a given SPO number, all unique SPO numbers must be identified. The result of this extraction is the total number of unique SPO numbers that have been created or revised during fiscal year 2000. These unique SPO numbers also correspond to individual contract files that ACM-10 will use to conduct a manual validation of key data fields to determine data accuracy and timeliness.

During initial planning and coordination for this evaluation, ACM-10 discovered that acquisition actions at the regions with a value under \$100,000 might be administered at Sector Management Offices (SMOs). Due to limited resources and time, ACM-10 must limit its manual review of contract files to those that are resident at regional headquarters facilities. Therefore, SPOs associated with SMOs outside of the region headquarters must be segregated from the regional samples. Based on guidance from the regions, the "Buyer Name" data field will be used to identify SMOs outside the regional headquarters and remove associated SPOs from the total population prior to selecting stratified samples.

6.2 Determine Sample Size

Once the total population for a given contracting center is determined, the number of records that must be examined to assess data element accuracy and timeliness at a specified level of precision and confidence can be calculated. For this evaluation a precision level of ± 5 percent is used and

a sample sizes for a 95 a percent confidence level is calculated. The formula for determining sample size is shown in Exhibit 6-2.

$n = \frac{NZ * 0.25}{[d^2(N-1)] + (Z^2 * 0.25)}$	<p>Where: n = Sample size required N = Total population size D = Precision level Z = Number of standard deviation units of the sampling distribution corresponding to the desired confidence level</p>
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Exhibit 6-2 Formula for Determining Sample Size

6.3 Establish Population Profile

Once the total population of unique SPO numbers for a given contracting center has been determined, a population profile on which to stratify our sample can be established. The profile is established by identifying a small number of key attributes that best characterize the total population for fiscal year 2000. The attributes selected for to establish this profile are the "Contract Category" and the "Total Estimated Potential Value" fields from the ACQUIRE database.

A field statistics calculation is performed to determine the percentage of SPOs that fall into each contract group identified in the category field from the total population. This calculation provides a general range of the types of acquisitions the contracting center supported during fiscal year 2000. Once the category stratification is complete, an additional stratification based on the "Total Estimated Potential Value" data field is performed. To stratify by contract value, the following three ranges are used for each contract category identified in the first stratification:

- \$1 - \$100,000
- \$100,001 - \$1 million
- Above \$1 million

For the Aeronautical Center, an additional contract value range of \$1 - \$5,000 will be used due to the large number of low dollar transactions in their database. Based on these value ranges for each category, the percentage of SPOs with total estimated potential values that fall into each category will be computed.

6.4 Apply Population Profile to Sample Number

Once the sample size for each contracting center is determined, the appropriate population profile will be applied to each sample. By multiplying the category percentages by the sample

size, the resulting number of records in each stratum that must be extracted from the total population by random selection can be determined.

6.5 Extract Stratified Random Sample

After applying the population profile to the sample number, the appropriate number of files in each total value range for each of the contract categories in the population is selected at random. This random selection is performed using the automated stratified random extraction function resident in ACM-10's IDEA 3.03 auditing software application. The final output is a list of randomly selected SPOs for a given contracting center, either created or revised during fiscal year 2000, that match the characteristics of the profile for the total population.

6.6 Examine Revision History for Each Sample Record

Once the candidate SPOs have been identified, all revisions for each selected SPO, including those prior to fiscal year 2000, will be extracted from the source data. The purpose of this extraction is to establish a complete history of each SPO. Only those records that fall into the fiscal year 2000 range will be reviewed to determine ACQUIRE data accuracy and timeliness. Since acquisition personnel have up to 30 days after the award date to enter acquisition activities into ACQUIRE, applicable revisions with Reserved/Approved dates that are within 30 days beyond the end of fiscal year 2000 will also be reviewed. It is important to have the entire revision history on hand so that discrepancies can be analyzed in context. As stated in the assumptions, the primary concern is that the data elements for each acquisition action as a whole be accurate and timely. Therefore the entire history for each SPO needs to be available to assist in making that determination.

6.7 Populate Data Collection Instrument

The final step is to import data from each field of the selected records into ACM-10's Data Collection Instrument. Microsoft Excel macros will be used to conduct automatic comparisons between source data and that collected through manual review.

8.0 DEFINITION OF SAMPLES

Following the methodology described in the previous section, representative samples for each of the FAA contracting centers have been developed. The exhibits below provide calculations of population sizes for each contracting center. These exhibits also illustrate overall population profiles based on the stratification of contract category and total potential estimated value fields, and the sample sizes for each contracting center based on a 95 percent confidence level.

When examining the data in the exhibits below, please note the following:

1. The sum of Category percentages may not equal to 100% due to blank category fields
2. The sum of columns may not equal total population due to blank category fields
3. The sum of Stratified Sample Breakdown may not equal total sample size due to upward rounding revisions
4. "NA" means that there were no values in this range for a given contract category

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Sample Breakdown 95% ²
1,329	Construction	0.1%	1	\$.001-\$100	100.0%	1.00	1
				\$100-\$1,000	0.0%	0.00	0
				NA ³	0.0%	0.00	0
Sample Size Calculation 95% Confidence	R&D	1.7%	29	\$.001-\$100	13.8%	4.00	1
				\$100-\$1,000	41.4%	12.00	2
				\$1,000-\$100,000	44.8%	13.00	2
298	Real Estate	0.1%	1	\$.001-\$100	100.0%	1.00	1
				\$100-\$1,000	0.0%	0.00	0
				NA ³	0.0%	0.00	0
	Services	81.6%	1488	\$.001-\$100	43.2%	643.11	105
				\$100-\$1,000	24.9%	370.07	60
				\$1,000-\$4,526,512	31.9%	473.93	77
				\$.001-\$100	54.8%	147.99	27
	Supply	16.6%	270	\$100-\$1,000	20.0%	54.00	10
				\$1,000-3,000,000	25.2%	68.01	12

Exhibit 7-1 Population Profile and Sample Size for FAA Headquarters

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ²
711	Construction	1.1%	8	\$,001-\$100	37.5%	3.00	2
				\$100-\$1,000	50.0%	4.00	1
				\$1,000-\$1,197	12.5%	1.00	0
	R&D	25.0%	178	\$,001-\$100	60.1%	107.00	38
				\$100-\$1,000	31.5%	56.00	20
				\$1,000-\$50,000	8.4%	15.01	5
Real Estate	0.1%	1	\$,001-\$100	100.0%	1.00	0	
			NA ⁴	0.0%	0.00	0	
250	Services	57.9%	390	\$,001-\$100	61.5%	240.01	89
				\$100-\$1,000	24.9%	96.99	36
				\$1,000-\$157,337	13.6%	53.00	19
	Supply	15.9%	134	\$,001-\$100	87.3%	117.00	35
				\$100-\$1,000	12.7%	17.00	5
				\$1000 - \$1,452	0.0%	0.00	0
	LIS	0.0%	0	NA ⁴	0.0%	0.00	0
				\$100-\$1,000	0.0%	0.00	0
				NA ⁴	0.0%	0.00	0

Exhibit 7-2 Population Profile and Sample Size for William J. Hughes Technical Center

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
13,950	Construction	0.1%	15	\$,001-\$100	66.7%	10.00	1
				\$100-\$1,000	26.7%	4.00	0
				\$1,000-\$15,100	6.7%	1.00	0
	LIS	38.9%	5425	\$,001-\$100	99.7%	5410.90	144
				\$100-\$1,000	0.2%	9.22	1
				\$1,000-\$11,874	0.1%	4.88	0
374	Services	7.8%	1084	\$,001-\$100	81.4%	882.59	23
				\$100-\$1,000	15.6%	169.32	5
				\$1,000-\$500,000	3.0%	32.09	1
	Supply	53.2%	7426	\$,001-\$100	99.1%	7359.91	197
\$100-\$1,000				0.8%	57.18	2	
\$1,000-\$230,000				0.1%	6.68	0	

Exhibit 7-3 Population Profile and Sample Size for Aeronautical Center

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
474	Construction	5.1%	24	\$,001-\$100	75.0%	18.00	8
				\$100-\$1,000	20.8%	5.00	2
				\$1,000-\$5,949	4.2%	1.00	1
Sample Size Calculation 95% Confidence	Real Estate	3.4%	16	\$,001-\$100	75.0%	12.00	5
				\$100-\$1,000	12.5%	2.00	1
				\$1,000-\$3,722	12.5%	2.00	1
212	Services	61.4%	291	\$,001-\$100	88.0%	255.99	115
				\$100-\$1,000	8.9%	25.99	11
				\$1,000-\$85,513	3.1%	8.99	4
	Supply	30.2%	143	\$,001-\$100	86.7%	124.00	56
				\$100-\$1,000	6.3%	8.99	4
				\$1,000-\$29,980	7.0%	10.00	4

Exhibit 7-4 Population Profile and Sample Size for Alaskan Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
308	Construction	20.1%	62	\$,001-\$100	79.0%	49.00	27
				\$100-\$1,000	17.7%	11.00	6
				\$1,000-\$15,650	3.2%	2.00	1
Sample Size Calculation 95% Confidence	Real Estate	13.0%	40	\$,001-\$100	92.5%	37.00	20
				\$100-\$1,000	5.0%	2.00	1
				\$1,000-\$20,671	2.5%	1.00	1
171	Services	50.3%	155	\$,001-\$100	89.7%	139.00	77
				\$100-\$1,000	5.8%	9.01	5
				\$1,000-\$14,805	4.5%	7.01	4
	Supply	16.6%	51	\$,001-\$100	92.2%	47.00	26
				\$100-\$1,000	7.8%	4.00	3
				NA ⁴	0.0%	0.00	0

Exhibit 7-5 Population Profile and Sample Size for Central Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
689	Construction	5.5%	38	\$,001-\$100	71.4%	27.14	10
				\$100-\$1,000	14.3%	5.43	2
				\$1,000-\$25,485	11.4%	4.34	2
Sample Size Calculation 95% Confidence	Real Estate	7.7%	53	\$,001-\$100	87.5%	46.38	17
				\$100-\$1,000	12.5%	6.63	3
				NA ⁴	0.0%	0.00	0
247	Services	68.8%	474	\$,001-\$100	86.9%	411.95	147
				\$100-\$1,000	11.2%	52.90	19
				\$1,000-\$110,000	1.9%	9.15	3
	Supply	18.0%	124	\$,001-\$100	89.8%	111.39	39
				\$100-\$1,000	9.3%	11.56	4
				\$1,000-\$116,500	0.9%	1.05	1

Exhibit 7-6 Population Profile and Sample Size for Eastern Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
519	Construction	10.2%	53	\$,001-\$100	58.5%	31.00	13
				\$100-\$1,000	24.5%	13.00	6
				\$1,000-\$10,674	17.0%	9.00	4
	Real Estate	3.3%	17	\$,001-\$100	100.0%	17.00	7
				NA ⁴	0.0%	0.00	0
				NA ⁴	0.0%	0.00	0
220	Services	62.8%	326	\$,001-\$100	80.7%	262.98	111
				\$100-\$1,000	16.9%	55.00	26
				\$1,000-\$27,000	2.5%	7.99	3
	Supply	23.7%	123	\$,001-\$100	90.2%	111.00	46
				\$100-\$1,000	8.1%	10.00	4
NA ⁴	0.0%	0.00	0				

Exhibit 7-7 Population Profile and Sample Size for Great Lakes Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
288	Construction	22.6%	65	\$,001-\$100	83.1%	54.00	30
				\$100-\$1,000	12.3%	8.00	5
				\$1,000-\$8,817	4.6%	3.00	2
	Real Estate	2.8%	8	\$,001-\$100	62.5%	5.00	4
				\$100-\$1,000	37.5%	3.00	2
				NA ⁴	0.0%	0.00	0
165	Services	67.7%	195	\$,001-\$100	86.7%	169.01	96
				\$100-\$1,000	11.3%	22.00	13
				\$1,000-\$1,430	2.1%	4.00	1
	Supply	6.6%	19	\$,001-\$100	100.0%	19.00	12
				NA ⁴	0.0%	0.00	0
NA ⁴	0.0%	0.00	0				

Exhibit 7-8 Population Profile and Sample Size for New England Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
514	Construction	20.4%	105	\$,001-\$100	77.1%	81.00	35
				\$100-\$1,000	18.1%	19.01	8
				\$1,000-\$20,976	4.8%	5.00	2
	Real Estate	15.6%	80	\$,001-\$100	76.3%	61.00	26
				\$100-\$1,000	17.5%	14.00	6
				\$1,000-\$2,730	6.3%	5.00	2
220	Services	45.7%	235	\$,001-\$100	79.6%	186.99	80
				\$100-\$1,000	17.0%	40.00	17
				\$1,000-\$4,500	3.4%	7.99	4
	Supply	18.1%	93	\$,001-\$100	94.6%	88.00	38
				\$100-\$1,000	4.3%	4.00	1
\$1,000-\$3,000	1.1%	1.00	1				

Exhibit 7-9 Population Profile and Sample Size for Northwest Mountain Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
605	Construction	12.1%	73	\$,001-\$100	50.0%	36.50	14
				\$100-\$1,000	33.3%	24.33	9
				\$1,000-\$18,022	16.7%	12.17	5
Sample Size Calculation 95% Confidence	Real Estate	16.5%	100	\$,001-\$100	80.8%	80.81	31
				\$100-\$1,000	18.2%	18.18	7
				\$1,000-\$2,504	1.0%	1.01	1
235	Services	55.7%	337	\$,001-\$100	84.8%	285.84	111
				\$100-\$1,000	11.0%	37.10	15
				\$1,000-\$10,081	4.2%	14.05	6
	Supply	15.5%	94	\$,001-\$100	94.7%	89.00	34
				\$100-\$1,000	5.3%	5.00	2
NA ⁴	0.0%	0.00	0				

Exhibit 7-10 Population Profile and Sample Size for Southern Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
437	Construction	9.2%	40	\$,001-\$100	57.5%	23.00	11
				\$100-\$1,000	32.5%	13.00	6
				\$1,000-\$7,763	10.0%	4.00	2
Sample Size Calculation 95% Confidence	Real Estate	13.4%	58	\$,001-\$100	87.9%	51.00	23
				\$100-\$1,000	10.3%	6.00	3
				\$1,000-\$1,500	1.7%	1.00	1
204	Services	56.9%	247	\$,001-\$100	67.6%	167.00	78
				\$100-\$1,000	25.5%	63.01	30
				\$1,000-\$1,000,000	6.9%	16.99	8
	Supply	20.5%	89	\$,001-\$100	93.3%	83.00	39
				\$100-\$1,000	6.7%	6.00	3
NA ⁴	0.0%	0.00	0				

Exhibit 7-11 Population Profile and Sample Size for Southwest Region

Total Population	Population Profile	Category % Share of Total Pop ¹	Category QTY Share of Total Pop ²	Contract Value Range (000's)	Category % Breakdown	Category QTY Breakdown	Stratified Sample Breakdown 95% ³
495	Construction	15.4%	76	\$,001-\$100	59.2%	45.00	20
				\$100-\$1,000	26.3%	20.00	9
				\$1,000-\$877,780	14.5%	11.00	4
Sample Size Calculation 95% Confidence	Real Estate	11.7%	58	\$,001-\$100	46.5%	26.97	12
				\$100-\$1,000	31.0%	18.00	8
				\$1,000-\$3,000	22.1%	12.84	6
218	Services	63.2%	313	\$,001-\$100	73.5%	229.99	101
				\$100-\$1,000	23.0%	71.99	32
				\$1,000-\$47,045	3.5%	10.99	5
	Supply	9.7%	48	\$,001-\$100	77.1%	37.00	16
				\$100-\$1,000	18.8%	9.00	4
\$1,000-\$10,285	4.2%	2.00	1				

Exhibit 7-12 Population Profile and Sample Size for Western-Pacific Region

Appendix B—Supplemental Criteria by Data Element

In addition to the criteria provided in the ACQUIRE Flexfield Guide, ACRI Bolt-on Guide, and ACQUIRE training materials, we used informal guidance from ASU and our own judgment to evaluate each data element. Listed below are the 29 data elements reported to OST for fiscal year 2000 with a brief description and the criteria we used to evaluate each data element.

	Data Element	Description	Supplemental Criteria
1	SPO Number	Standard Purchase Order Number - unique number (first two digits = last two digits of the fiscal year; last five digits = contract number).	<ul style="list-style-type: none"> • Verified by contract file documentation such as the signed contract/lease, modification or ACQUIRE form. <p>Note: The ACQUIRE form was <u>not</u> required to evaluate the data element if another document provided this information.</p>
2	Revision Number	Sequential number generated by ACQUIRE for each action reserved/approved by a buyer.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the signed contract/lease, modification or ACQUIRE form. • Number not found in the contract file then considered a non-validation, not a discrepancy. <p>Note: The ACQUIRE form was <u>not</u> required to evaluate the data element if another document provided this information.</p>
3	Revision Amount	Dollar amount obligated or de-obligated for each revision.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the signed contract/lease, modification or ACQUIRE form. • Amount not found in the contract file then considered a non-validation, not a discrepancy. <p>Note: The ACQUIRE form was <u>not</u> required to evaluate the data element if another document provided this information.</p>

	Data Element	Description	Supplemental Criteria
4	Reserved/ Approved Date	System generated date when the buyer reserved/approved the revision in ACQUIRE.	<ul style="list-style-type: none"> Accepted if within 30 days after the date of the legal document. Contract/lease became legal document when unilateral agreement was signed by the contracting officer or the latest signature date of the contracting officer or the contractor when bilateral agreement. No date on the legal contract or no legal contract in the contract file then considered a non-validation, not a discrepancy. Only data element evaluated for timeliness. Not used to determine accuracy. <p>Note: The ACQUIRE form was <u>not</u> required to evaluate the data element if another document provided this information.</p>
5	Award Date	Start date of the purchase order or contract.	<ul style="list-style-type: none"> Verified by contract file documentation such as the signed contract/lease, modification or ACQUIRE form. Date not found in the contract file then considered a non-validation, not a discrepancy. <p>Note: The ACQUIRE form was <u>not</u> required to evaluate the data element if another document provided this information.</p>
6	CPA or Other Agency/ Region #	FAA national contract numbers, Indefinite Delivery/Indefinite Quantity contract numbers, or contract numbers for other Federal agency contracts.	<ul style="list-style-type: none"> SPO tied to a CPA: should have had a CPA number or was considered a discrepancy. Number in contract file but not in ACQUIRE or number was different then considered a discrepancy. Number not found in the contract file then considered a non-validation, not a discrepancy.

	Data Element	Description	Supplemental Criteria
7	Total Estimated Potential Value of the SPO	Total value of the SPO including any unexercised options of the SPO.	<ul style="list-style-type: none"> • Amount found in the contract file was off by more than $\pm 10\%$ or nothing entered into ACQUIRE then considered a discrepancy. • Amount not found in contract file then considered a non-validation, not a discrepancy.
8	Estimated Completion Date	Projected final completion date of all unexercised options of the SPO.	<ul style="list-style-type: none"> • Date found in contract file was off by more than ± 30 days then considered a discrepancy. • Estimated completion dates prior to the reserved/approved date or nothing entered in ACQUIRE then considered a discrepancy. • Date not found in contract file then considered a non-validation, not a discrepancy.
9	Category Group	One of six groups to define like items or characteristics.	<ul style="list-style-type: none"> • Group made sense based on the documentation in the contract file then considered accurate. • Group did not make sense or nothing entered into ACQUIRE then considered a discrepancy.
10	Category Code	Further specifies the category group.	<ul style="list-style-type: none"> • Code made sense based on the documentation in the contract file then considered accurate. • Code did not make sense or nothing entered into ACQUIRE then considered a discrepancy.

	Data Element	Description	Supplemental Criteria
11	Kind of Contract Action	Code that best described the type of contract award, such as a new definitive contract, termination for default, etc.	<ul style="list-style-type: none"> • Code made sense based on the documentation in the contract file then considered accurate. • Code did not make sense or nothing entered into ACQUIRE then considered a discrepancy.
12	Type of Contractor	Code that best described the type of contractor, such as large business, nonprofit hospital, etc.	<ul style="list-style-type: none"> • Accepted a large business contractor without further support. If contract was verified to be a set aside for a particular type of contractor, then accepted that type of contractor without further support. • Contract file information differed with ACQUIRE then considered a discrepancy. • Type of contractor not found in contract file then considered a non-validation, not a discrepancy.
13	Set Aside	Code that described if the contract was or was not set aside for a small business, a very small business, or a SEDB 8(a).	<ul style="list-style-type: none"> • Accepted “not applicable” without further support. • Contract file information differed with ACQUIRE then considered a discrepancy. • Set aside not found in contract file then considered a non-validation, not a discrepancy.
14	Competition	Code that described if the contract was competed, not available for competition, follow-on to a competed action, or not competed.	<ul style="list-style-type: none"> • Accepted “competed” if the contract was under the federal supply schedule and “not competed” or “not available for competition” if the contract was for real estate or utilities. • Code did not make sense or nothing entered into ACQUIRE then considered a discrepancy. • Competition not found in contract file then considered a non-validation, not a discrepancy.

	Data Element	Description	Supplemental Criteria
15	Women Owned	Yes or No, was the contractor a woman owned business.	<ul style="list-style-type: none"> • Accepted “no” without further support. • Contract file information differed with ACQUIRE then considered a discrepancy. • Women owned not found in contract file then considered a non-validation, not a discrepancy.
16	Supplier Name	Name of the contractor.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the contract/lease, modification or signed ACQUIRE form.
17	Address	Contractor address.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the contract/lease, modification or signed ACQUIRE form.
18	City	Contractor city location.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the contract/lease, modification or signed ACQUIRE form.
19	State	Contractor state location.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the contract/lease, modification or signed ACQUIRE form.
20	Postal Code	Contractor zip code.	<ul style="list-style-type: none"> • Verified by contract file documentation such as the contract/lease, modification or signed ACQUIRE form.
21	Taxpayer ID	Taxpayer identification number (TIN) for the contractor.	<ul style="list-style-type: none"> • Accepted ACQUIRE entry without further support if contractor was federal agency or contract was for real estate since TIN was not required for these contractors in FY 2000. • Number in contract file was not a legitimate TIN or nothing entered into ACQUIRE then considered a discrepancy. • TIN not found in contract file then considered a non-validation, not a discrepancy.
22	Contract Type	Code that best described the type of contract, such as licenses or permits,	<ul style="list-style-type: none"> • Code made sense based on the documentation in the contract file then considered accurate.

	Data Element	Description	Supplemental Criteria
		firm fixed-price, etc.	<p>then considered accurate.</p> <ul style="list-style-type: none"> • Code did not make sense or nothing entered into ACQUIRE then considered a discrepancy.
<p><u>ACRI Data Elements:</u> Agency Contract Report Information (ACRI) Bolt-on data elements.</p> <p>ACRI applied for the seven data elements below based on the criteria in the ACRI Bolt-on Guide, where ACRI data needed to be completed if the Total Estimated Potential Value (TEPV) of the stand alone SPO or contract purchase agreement (CPA) was greater than \$100,000 (\$1 million for construction otherwise \$5 million threshold applied for Subcontract Plan).</p>			
23	Commercial Item	Yes or No, was the contract for a commercial off-the-shelf (COTS) item.	<ul style="list-style-type: none"> • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise, considered a discrepancy. • Nothing entered in ACQUIRE when ACRI criteria met, then considered a discrepancy.

	Data Element	Description	Supplemental Criteria
24	Subcontract Plan	Yes or No, did the contractor have a subcontract plan. ACRI threshold greater than \$1 million for construction contracts otherwise greater than \$5 million.	<ul style="list-style-type: none"> • Since the ACQUIRE system required an entry if ACRI criteria was met, we accepted entries even though contracts did not meet the \$1 million or \$5 million criteria for subcontract plan. • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise considered a discrepancy. • Nothing entered in ACQUIRE when ACRI criteria met, then considered a discrepancy. • If contract file contained no information on subcontract plan then considered a non-validation, not a discrepancy.
25	Performance State	U.S. state or territory code where majority of the work was performed or the equipment was installed. Also, may refer to the manufacturing assembly point, processing plant, construction site, location of mine, or where the product acquired was grown. For Real Estate actions this was the facility/site location.	<ul style="list-style-type: none"> • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise considered a discrepancy. • Nothing entered in ACQUIRE when ACRI criteria met, then considered a discrepancy. • If contract file contained no information on performance state then considered a non-validation, not a discrepancy.
26	Performance City	City where majority of the work was performed or the equipment was installed. Also, may refer to the manufacturing assembly point, processing plant, construction site, location of mine, or where the product acquired was grown. For Real Estate actions this was the facility/site location.	<ul style="list-style-type: none"> • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise considered a discrepancy. • Nothing entered in ACQUIRE when ACRI criteria met, then considered a discrepancy. • If contract file contained no information on performance city then considered a non-validation, not a discrepancy.

	Data Element	Description	Supplemental Criteria
		location.	
27	Performance Country	Non-U.S. country code where majority of the work was performed or the equipment was installed. Also, may refer to the manufacturing assembly point, processing plant, construction site, location of mine, or where the product acquired was grown.	<ul style="list-style-type: none"> • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise considered a discrepancy. • If contract file contained no information on performance country then considered a non-validation, not a discrepancy.
28	Country of Manufacture	Country in which the equipment was manufactured or if a service where the contractor was located.	<ul style="list-style-type: none"> • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise considered a discrepancy. • Nothing entered in ACQUIRE when ACRI criteria met, then considered a discrepancy. • If contract file contained no information on country of manufacture then considered a non-validation, not a discrepancy.
29	Labor Statute	Type of labor statute applicable to the contract awarded.	<ul style="list-style-type: none"> • If the data in ACQUIRE made sense based on the documentation in the contract file then considered accurate; otherwise considered a discrepancy. • Nothing entered in ACQUIRE when ACRI criteria met, then considered a discrepancy. • If contract file contained no information on labor statute then considered a non-validation, not a discrepancy.

Appendix C—Acronyms

AAL	FAA’s Alaskan Region
ACE	FAA’s Central Region
ACM	FAA’s NAS Configuration Management and Evaluation Staff
ACRI	Agency Contract Report Information
ACT	FAA’s William J. Hughes Technical Center
AEA	FAA’s Eastern Region
AGL	FAA’s Great Lakes Region
AMQ	FAA’s Mike Monroney Aeronautical Center
AMS	Acquisition Management System
ANE	FAA’s New England Region
ANM	FAA’s Northwest Mountain Region
ASO	FAA’s Southern Region
ASU	FAA’s Office of Acquisition
ASW	FAA’s Southwest Region
AWA	FAA’s Headquarters Region
AWP	FAA’s Western Pacific Region
CIS	Contract Information System
CPA	Contract Purchase Agreement
DCI	Data Collection Instrument
ECD	Estimated Completion Date
FAST	FAA’s Acquisition System Toolkit
MOU	Memorandum of Understanding
OST	Office of the Secretary of Transportation
SPO	Standard Purchase Order
TEPV	Total Estimated Potential Value of the Standard Purchase Order