
Office of Inspector General

Audit Report

Property, Plant, and Equipment

Federal Aviation Administration

Report Number: FE-2000-058

Date Issued: February 28, 2000





Memorandum

**U.S. Department of
Transportation**

Office of the Secretary
of Transportation

Office of Inspector General

Subject: **INFORMATION: Report on Property, Plant,
and Equipment, FAA
FE-2000-058**

Date: February 28, 2000

From: **John L. Meche
Deputy Assistant Inspector General
for Financial and Information Technology**

Reply To

Attn Of:

To **Federal Aviation Administrator**

This report presents our audit results on the Federal Aviation Administration (FAA) property, plant, and equipment asset accounts. The major assets for property, plant, and equipment include buildings, structures, and land, construction-in-progress, and equipment.

Our audit objective was to determine whether the reported amount for property, plant, and equipment was fair and reasonable as of September 30, 1999. This audit was performed in conjunction with our Chief Financial Officers Act responsibilities to opine on the Fiscal Year (FY) 1999 FAA Financial Statements. A separate report will be issued on the FY 1999 FAA Financial Statements.

Buildings, structures, and land are commonly called real property. In FAA, real property includes facilities such as air traffic control towers and enroute centers. Construction-in-progress includes costs for real property and equipment being constructed or acquired, and not yet in use. The largest component of construction-in-progress is work-in-process. Equipment is commonly called personal property. Major personal property items in FAA include primarily those systems that assist air traffic controllers, including radar, telecommunication, and automation equipment.

RESULTS IN BRIEF

FAA received a disclaimer of opinion on its FY 1998 Financial Statements primarily because it could not provide sufficient evidence to support total acquisition costs of \$11.9 billion and accumulated depreciation of \$3.5 billion reported for property, plant, and equipment. FAA was unable to provide sufficient

evidence of the acquisition costs of real property, could not support the reported amount for work-in-process, and substantially understated personal property because costs were charged to expenses rather than the cost of property.

During FY 1999, FAA made an extraordinary and labor-intensive effort to overcome accounting and financial system weaknesses with its property accounts. Before undertaking any significant remedies, FAA discussed its proposed actions with us and representatives of the Office of Management and Budget (OMB), the General Accounting Office (GAO), and the Department's Chief Financial Officer. FAA then provided periodic briefings on the results.

To address the FY 1998 property, plant, and equipment deficiencies, FAA hired additional contractors, detailed employees, used extensive employee overtime and compensatory time, and took these actions:

- For real property, FAA used cost estimating techniques to support the cost of property acquired before October 1, 1994, and maintained documentation supporting costs for property acquired since then.
- For work-in-process, FAA transferred supportable costs on completed projects to real property, personal property, or expense, and established documentation files to support the active work-in-process balance.
- For personal property, FAA analyzed appropriation data, budget information, and other financial records to determine personal property costs. This approach identified about \$4 billion of valid costs that had not been recorded in the personal property account.

As a result of its efforts, FAA reported \$10.8 billion as the net book cost for property, plant, and equipment as of September 30, 1999, in comparison to \$8.4 billion reported as of September 30, 1998. The \$10.8 billion is computed by subtracting accumulated depreciation of \$4.7 billion from total acquisition costs of \$15.5 billion.

By correcting its records to include supportable property amounts, FAA improved the accuracy of its financial information and is in a better position to calculate and defend cost-based user fees. Under the currently proposed fees, FAA would recover \$2 million more of annual depreciation costs for the personal property cost that was added to the books. If FAA fully implements user fees as envisioned in the President's budget, the annual recovery could increase to about \$200 million.

To determine whether FAA's cost for property, plant, and equipment was supportable as of September 30, 1999, we examined documentation supporting

acquisition cost and accumulated depreciation. We used a combination of statistical sampling and nonstatistical sampling of high-dollar items, and did extensive testing to examine each major account of the property, plant, and equipment line item.

Based on statistical sampling of work-in-process, we found the reported amount was within the acceptable tolerance and no adjustment was necessary. Our detailed testing work on real and personal property did not identify material dollar discrepancies. FAA revised acquisition dates to more accurately record accumulated depreciation. In our opinion, the \$10.8 billion reported by FAA for its property, plant, and equipment is fair and reasonable as of September 30, 1999.

FAA was able to provide sufficient evidence supporting the cost for its property, plant, and equipment by using alternative procedures and labor-intensive methods. These procedures and methods included preparing an electronic spreadsheet from multiple sources to compute depreciation for about 30,000 property items, manually researching and creating documentation files supporting \$1.5 billion in cost for about 20,000 backlogged job orders in work-in-process, and performing detailed manual searches of expense transactions back to 1982 to identify personal property costs.

FAA's existing property systems were not designed as an integrated system to accurately account for property costs and to compute depreciation. The lack of sufficient controls over the property accounts represents a material internal control weakness. FAA cannot continue these manual and labor-intensive methods which are expensive and prone to errors, mistakes, and inaccuracies.

FAA needs a better property management system that will facilitate the accumulation of documentation to support cost and simplify the process for recording amounts on its Financial Statements. A state-of-the-art system can compute and prepare a monthly report on depreciation by asset, track cost of an asset from construction or acquisition through disposal, and retrieve electronically stored documentation. The U. S. Coast Guard already has implemented a commercial, off-the-shelf, property accounting system that does this, and its new system also will be compatible with the Department's new accounting system scheduled for implementation by June 30, 2001.

The FAA Chief Financial Officer agreed and already has initiated implementing actions to address our recommendation. The DOT Chief Financial Officer also agreed with the report recommendation.

BACKGROUND

The Statement of Financial Accounting Standards Number 6 (the Standard) states that general property, plant, and equipment should be recorded at historical cost. The Standard also recognizes that in some cases historical cost information is not available because of age. The Standard therefore provides that if historical cost information has not been maintained, estimates are required. Estimates shall be based on (1) cost of similar assets at the time of acquisition or (2) current cost of similar assets adjusted for inflation since acquisition. Using an acceptable cost estimating model is one technique for estimating historical cost when actual costs are not available.

Based on this guidance, the Department's Chief Financial Officer issued a policy statement on December 2, 1996, authorizing FAA to use approved cost valuation methodologies to estimate historical cost for items acquired before October 1, 1994, the effective date of the Government Management Reform Act. FAA also was required to retain documentation for all property, plant, and equipment purchases occurring on or after October 1, 1994.

ANALYSES OF PROPERTY ACCOUNTS

Real Property

In our FY 1998 audit, we were unable to obtain sufficient evidence supporting the acquisition costs of real property. This occurred primarily because much of the property was old, and records supporting historical costs did not exist, or at best, were extremely time consuming to locate. To overcome these deficiencies for the FY 1999 Financial Statements, FAA used a cost estimating model for the old property, and searched for and retrieved actual documents for all other property.

FAA reported real property at \$3.1 billion as of September 30, 1999. To determine a supportable cost for real property acquired before October 1, 1994, FAA used a Department of Defense cost estimating model and annual construction cost factors to estimate historical costs. FAA used the model to calculate present replacement cost, and then adjusted the result for geographic construction cost variances. FAA then adjusted the replacement cost to the year the facility was acquired to estimate historical costs. FAA validated and documented appropriate measurements, such as square footage, for major real property assets acquired before October 1, 1994.

Documentation included blueprints, technical drawings, and actual measurements. FAA also documented when the property was put in service through joint acceptance inspection reports, pictures of corner stones or dedication plaques, and copies of relevant print articles. Based on this cost estimating modeling effort, FAA reported \$825 million for major real property assets. The modeling effort

resulted in a 5-percent decrease (\$43 million) from that recorded as acquisition cost.

To support the remaining \$2.3 billion cost, FAA established documentation files for each major real property acquisition, identified assets that were fully depreciated, and certified to the accuracy of acquisitions under \$250,000.

To validate the \$825 million for property items supported by model cost estimating techniques, we verified the mathematical accuracy of cost calculated by the model, and examined FAA contracts for real property construction that supported the calculated amounts. We also selected a nonstatistical sample of 209 high-dollar items totaling \$395 million and examined the applicable data elements (acquisition date, square footage, or linear feet) for accuracy. We found 25 items were incorrect and needed revision. FAA corrected the inaccuracies, and recomputed the cost. We verified that FAA revalidated data elements by checking source documents.

For real property items supported with documentation, we examined 629 documentation files for \$799 million and found \$1.7 million for 15 items was not adequately supported. Although the unsupported amount was not material, we conducted a follow-up review of the 15 items and examined 80 additional items totaling \$48 million. We found FAA had satisfactorily resolved the 15 items, and all 80 items were adequately supported. We also examined property reported as fully depreciated, and tested the accuracy of property with a unit cost under \$250,000 that had been certified by FAA. We did not identify any material deficiencies.

Based on our detailed testing work, in our opinion the \$3.1 billion acquisition cost reported by FAA for real property is fair and reasonable as of September 30, 1999.

Construction-In-Progress

FAA reported construction-in-progress at \$2.4 billion as of September 30, 1999. Work-in-process was reported at \$1.2 billion and the remaining \$1.2 billion pertained to common costs, contractor support, equipment not yet in use, and equipment retained by manufacturers and not shipped to FAA sites.

In our FY 1998 audit, we reported that FAA (1) had a backlog of costs for completed projects that was still in the work-in-process account, and (2) did not have documentation to support the reported work-in-process amount.

As property is acquired and buildings are constructed, associated costs are accumulated and charged to the work-in-process account until projects are

completed and systems placed in operational service. When projects are completed, the project costs should be transferred to an appropriate asset account and property record (real or personal property). FAA controls costs in the work-in-process account through the assignment of job order numbers.

At the start of FY 1999, FAA identified a backlog of over 17,000 job orders for completed projects totaling about \$1.4 billion. During the year, FAA identified another backlog of 3,000 job orders totaling \$143 million. To eliminate the backlog, FAA established documentation standards so costs that were transferred from work-in-process were fully supported. FAA eliminated the backlog by September 30, 1999.

We visited the nine FAA regions to examine documentation supporting the \$1.2 billion for work-in-process. We selected a statistical sample of 107 items for \$637 million to determine whether costs were adequately supported. We identified seven errors ranging from \$1,619 to \$1.4 million, with a net difference of \$1.9 million. Based on our sample results, the amount reported by FAA for work-in-process was within the acceptable tolerance of \$1.1 to \$1.3 billion, so no adjustment was necessary.

We also examined detailed transactions and adjustments supporting \$1.16 billion for common costs, contractor support, equipment not yet in use, and equipment retained by manufacturers. We found amounts were supported by contract documents, represented systems that were not yet commissioned, and were correctly reported as construction-in-progress.

Based on our detailed testing work, in our opinion the \$2.4 billion reported by FAA for construction-in-progress is fair and reasonable as of September 30, 1999.

Personal Property

For FY 1998, we reported FAA had significantly understated its personal property costs. FAA acknowledged its system for recording asset cost was inadequate, significant asset costs had been expensed, and documents to support acquisition costs were not always retained. To overcome this, FAA developed an alternative approach and established a plan of action to determine personal property costs.

FAA's alternative approach was to use its Capital Investment Plan as a source to identify budgeted funds received for personal property. FAA analyzed its investment plan and identified projects that Congress appropriated funds for equipment purchases since 1982. FAA identified 123 capital projects with budget cost of \$11.4 billion and 24 fully depreciated projects for \$922 million that likely should have been recorded in the personal property account.

For the capital projects, FAA performed a detailed analysis of 44 projects with the highest budgeted amounts. FAA obtained and analyzed contract documents for each system. The analyses showed total contract costs incurred by system and location, with contract expenditures identified by equipment cost, common cost, spare equipment, real property, and expense. FAA then recorded these amounts in the accounting records.

Based on these analyses, FAA found 89 percent of total expenditures should be used as a basis for recording the personal property costs for the remaining 79 of the 123 capital projects. FAA determined \$6.7 billion should be recorded in the personal property account for the 123 projects. For the fully depreciated category, FAA documented that \$813 million should be included in the acquisition cost for personal property.

The detailed analyses and documentation process resulted in FAA supporting \$7.5 billion of the reported \$9.3 billion. The net effect of this effort showed FAA had understated the personal property account by about \$4 billion. By correcting its records to include supportable property amounts, FAA improved the accuracy of its financial information and is in a better position to calculate and defend cost-based user fees. Under the currently proposed fees, FAA would recover \$2 million more of annual depreciation costs for the personal property cost that was added to the books. If FAA fully implements user fees as envisioned in the President's budget, the annual recovery could increase to about \$200 million.

We examined the validity of FAA actions concerning the (1) number of projects requiring detailed review, (2) costs for each major project, (3) allocation of costs to expense, inventory and property, and (4) number of locations. We found documentation developed by FAA was adequate to support the \$7.5 billion.

The remaining \$1.8 billion of the reported \$9.3 billion for personal property included government-furnished property, contractor-acquired property, furniture and equipment, and current costs transferred from work-in-process to personal property. We examined documentation supporting the amount reported and did not identify any material deficiencies.

Based on our detailed testing work, in our opinion the \$9.3 billion reported by FAA for personal property is fair and reasonable as of September 30, 1999.

Accumulated Depreciation

In FY 1998, we reported FAA's accumulated depreciation expenses were understated because acquisition costs for real property could not be supported,

costs for personal property were understated, and a significant backlog of completed projects was still in the work-in-process account. For FY 1999, after FAA supported the cost for real and personal property, and eliminated the work-in-process backlog, it was able to calculate depreciation expenses.

FAA used information such as acquisition costs, acquisition dates, adjustments to property records, and estimated useful service life of assets to calculate its depreciation expenses. The information was entered into an electronic spreadsheet because FAA did not have an integrated property system to calculate depreciation.

We verified that FAA included appropriate real property assets in its depreciation calculations by comparing information from the electronic spreadsheet to the real property record. We selected 100 high-dollar real property facilities and calculated depreciation. We did not identify any material discrepancies with FAA's calculations.

Our analyses of depreciation for personal property showed that fully depreciated personal property had increased by about 1,000 facilities and more than \$900 million from FY 1998. We selected 106 of FAA's most costly facilities reported as fully depreciated and found FAA had used inaccurate acquisition dates for 85 sample items. As a result of our work, FAA examined all of its fully depreciated assets, identified correct acquisition dates, and then recomputed depreciation. We verified the FAA corrective actions.

Based on our detailed testing work, in our opinion the \$4.7 billion reported by FAA for accumulated depreciation is fair and reasonable as of September 30, 1999.

Internal Controls

Although FAA was able to support the cost of its property, plant, and equipment accounts by using alternative procedures and labor-intensive methods, the deficiencies in its existing property systems still represent a material internal control weakness. These manual and labor-intensive methods are expensive and are prone to errors, mistakes, and inaccuracies. The existing property systems were not designed as an integrated system to accurately account for costs that should be added to the property or expensed, to separately record personal property asset improvements, and to compute depreciation.

FAA cannot continue these extraordinary and expensive efforts. These piece-meal and labor-intensive processes require extensive manual intervention and verification to make computations that could be automated as part of a modern fixed asset system. FAA needs a better property management system that will

facilitate the accumulation of documentation to support costs and simplify the process for recording amounts on its Financial Statements. The U. S. Coast Guard already has developed a system that does this, and its new system will be compatible with the Department's new accounting system scheduled for implementation by June 30, 2001.

RECOMMENDATION

We recommend that the Federal Aviation Administrator acquire a commercial, off-the-shelf, integrated property management system that is compatible with the Department's new accounting system currently under development.

MANAGEMENT RESPONSE

FAA Comments

A draft of this report was provided to the FAA Administrator on February 25, 2000. FAA agreed with the recommendation and provided an incremental implementation plan. FAA stated:

For Fiscal Year 2000, FAA has already initiated action to implement the Oracle Fixed Asset Module, a commercial off-the-shelf software. FAA will use the Fixed Asset module to consolidate all its property assets, to compute depreciation, and to maintain a record of changes to the financial information on our assets. The Fixed Asset module will feed the depreciation records directly to DAFIS.

For Fiscal Year 2001 and beyond, FAA has initiated actions that will provide an integrated solution to its financial and property management accountability. This commercial off-the-shelf software solution includes a combination of DELPHI and an Asset Supply Chain Management program (ASCM) that is compatible/fully integrated with DELPHI, the Department's new accounting system currently under development.

DOT Comments

The DOT Chief Financial Officer also agreed and stated:

Now that the FAA has successfully completed PP&E (property, plant, and equipment) verifications and validations as of September 30, 1999, we believe that it is critical for the FAA to continue to maintain proper PP&E accountability so that all of the Department's efforts in this regard will not have been in vain. To accomplish this in a less costly and labor-intensive manner,

we concur with your report's recommendation that the FAA adopt or use an existing commercial off-the-shelf (COTS) property management system that is integrated with the Departmental core accounting system.

The complete texts of FAA and DOT comments are Appendices 1 and 2 to this report.

OFFICE OF INSPECTOR GENERAL COMMENTS

Actions taken and planned by FAA are reasonable. No further response to this report is necessary.

We appreciate the courtesies and cooperation of FAA and DOT representatives. If you have questions, please call Harry Fitzkee at (410) 962-3612, or me at (202) 366-1496.

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AUDIT SCOPE AND METHODOLOGY

FAA reported \$10.8 billion as the net book cost for property, plant, and equipment as of September 30, 1999. This amount is computed by subtracting accumulated depreciation of \$4.7 billion from acquisition costs of \$15.5 billion.

FAA's real property records included about 13,700 line items with an acquisition cost of about \$3.1 billion. Of this amount, \$825 million was supported by cost estimating techniques and \$2.3 billion was supported by actual documentation. For the \$825 million, we selected and examined 209 high-dollar items totaling \$395 million. We examined high-dollar items such as air traffic control towers and enroute centers. We validated specific data elements, including square footage or linear feet, by examining engineering drawings. Acquisition dates were verified from joint inspection reports and other official property documents. We also verified the mathematical accuracy of cost calculated by the cost estimating model.

For the \$2.3 billion of real property supported by cost documentation, we selected high-dollar items primarily with a unit price of more than \$250,000. We examined 709 items totaling \$847 million. We examined invoices, contracts, delivery orders, and property deeds. We also tested the supporting documentation for property transferred from the work-in-process account to the real and personal property accounts.

We examined the \$2.4 billion reported by FAA for its construction-in-progress. This amount included \$1.2 billion for common costs, contractor support, equipment not yet in use, equipment retained by manufacturers, and FAA's work-in-process consisting of 7,596 regional job orders totaling \$1.2 billion. For the first group of accounts, we examined \$1.16 billion out of \$1.2 billion. For work-in-process, we statistically selected 107 items for \$637 million. We examined supporting documentation including invoices, contracts, receiving reports, credit card purchases, and purchase orders.

We performed extensive detailed testing work on the \$9.3 billion reported by FAA for personal property. We verified FAA's analysis of each capital project to make sure appropriate costs were included, costs were allocated to the proper asset, and expended amounts were appropriate.

For accumulated depreciation reported at \$4.7 billion, we verified FAA's depreciation calculation using the acquisition date, established asset service life, and acquisition cost. We also verified the depreciation calculations for 100 high-dollar real property items and 106 personal property facilities with accumulated depreciation of \$1.5 billion.

We also examined internal controls over property, plant, and equipment. We performed tests to determine whether internal controls were effective to ensure costs are properly recorded in the property asset accounts, the work-in-process account includes only costs that should be added to the personal or real property accounts, and personal property improvements are separately identified and depreciated.

We performed our audit from April through December 1999 at FAA Headquarters in Washington, D.C. and at the nine FAA regional offices located in Anchorage, Alaska; Kansas City, Missouri; Jamaica, New York; Des Plaines, Illinois; Burlington, Massachusetts; Renton, Washington; Atlanta, Georgia; Fort Worth, Texas; and Los Angeles, California. We also performed work at the William Hughes Technical Center, Atlantic City, New Jersey, and the Mike Monroney Aeronautical Center, Oklahoma City, Oklahoma. The audit was conducted in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States.

PRIOR AUDIT COVERAGE

- On March 8, 1999, we issued Report FE-1999-070 on FAA's FY 1998 Financial Statements. We were unable to obtain sufficient evidence to support the acquisition costs of real property reported at \$2.5 billion. Improvements were needed in the accuracy and reliability of real property records. The real property records system included errors and property costs that were not supported. The reported \$4.1 billion acquisition cost for personal property was materially understated. The understatement was the result of years of expensing contract costs associated with bringing personal property into operational status that should have been added to the cost of property.

FAA also was unable to provide documentation to support the \$2.1 billion recorded in its work-in-process account. FAA had an estimated backlog of completed projects totaling \$1.3 billion in its work-in-process account. FAA agreed with our recommendations and developed plans to correct the real property, personal property, and work-in-process weaknesses by September 30, 1999.

- On August 4, 1999, we issued Report FE-1999-119 on Labor Costs for Facilities and Equipment Projects. Our audit objective was to determine whether labor costs were accurately reported and adequately supported, and to assess the labor system design to ensure accurate recording of labor hours and supportable estimates of labor costs for use in financial statements. We found the FAA labor system for facilities and equipment projects provided adequate support for accumulating estimates of labor costs for financial statement reporting purposes.

We examined \$9 million of labor costs recorded on 36 projects from \$425 million in the work-in-process account, and found a net understatement of about \$55,000. Although the understatement was insignificant, we recommended that FAA ensure its managers, supervisors, and employees are aware of their responsibilities and properly use the labor system. FAA agreed and took immediate corrective action.



U.S. Department
of Transportation
**Federal Aviation
Administration**

APPENDIX 1
(2 pages)

Memorandum

Subject: **INFORMATION:** Response to Draft Report on
Property, Plant, and Equipment.
Project Number: 00F3006F000

Date: FEB 28 2000

From: Associate Administrator for Financial
Services/CFO

Reply to
Attn. of:

To: Director of Information Technology, Financial
and Secretarial Audits, JA-20

We thank you for the opportunity to review and comment on the draft report on your audit of our property, plant and equipment for Fiscal Year 1999. We concur with the cited recommendation that the FAA "...acquire a commercial off-the-shelf integrated property system that is compatible with the Department's new accounting system..." We have already taken the following steps to implement that recommendation:

- * For Fiscal Year 2000, FAA has already initiated action to implement the Oracle Fixed Asset Module, a commercial off-the-shelf software. FAA will use the Fixed Asset module to consolidate all its property assets, to compute depreciation, and to maintain a record of changes to the financial information on our assets. The Fixed Asset module will feed the depreciation records directly to DAFIS.
- * For Fiscal Year 2001 and beyond, FAA has initiated actions that will provide an integrated solution to its financial and property management accountability. This commercial off-the-shelf software solution includes a combination of DELPHI and an Asset Supply Chain Management program (ASCM) that is compatible/fully integrated with DELPHI, the Department's new accounting system currently under development.

We were asked to comment on the validity of the statement that the FAA would recover \$200 million annual depreciation if full user fees were established. The \$200 million depreciation amount would be the maximum recoverable, if the FAA were 100 percent user fee funded. It is more likely, in accordance with the President's Fiscal Year 2001 budget, that the additional depreciation recoverable from user fees would be no greater than \$20 million based upon current projections.

We appreciate this opportunity to provide our comments and to have our comments reflected in the final report. We remain committed to working closely with your office.


Donna McLean



U.S. Department of
Transportation
Office of the Secretary
of Transportation

Assistant Secretary
for Budget and Programs

APPENDIX 2
(1 page)

400 Seventh St., S.W.
Washington, D.C. 20590

MEMORANDUM TO:

Kenneth M. Mead
Inspector General

FROM:

Peter J. Basso 
Chief Financial Officer

SUBJECT:

Draft Report on Property, Plant, and Equipment
Federal Aviation Administration (FAA)

We have reviewed your Draft Report on Property, Plant, and Equipment (PP&E) for the FAA and generally concur with its findings and recommendations. We are gratified that the years of FAA efforts to properly value and fairly present its PP&E in financial statements are yielding benefits. We appreciate the fact that this multi-year effort has been a tremendous undertaking on the part of both FAA headquarters offices and field facilities—an effort which we would not wish to repeat.

Now that the FAA has successfully completed PP&E verifications and validations as of September 30, 1999, we believe that it is critical for the FAA to *continue* to maintain proper PP&E accountability so that all of the Department's efforts in this regard will not have been in vain. To accomplish this in a less costly and labor-intensive manner, we concur with your report's recommendation that the FAA adopt or use an existing commercial off-the-shelf (COTS) property management system that is integrated with the Departmental core accounting system.

We appreciate the efforts of you and your staff in continuing to assist the FAA in resolving their PP&E deficiencies and helping to bring the Department a major step closer to earning an unqualified audit opinion. My office will continue to work with the FAA to assure that their PP&E is accurately valued and fairly presented through their acquisition of a system or services to facilitate required property management documentation, accumulation, and reporting.