



**DEFENSE CONTRACT AUDIT AGENCY**  
**DEPARTMENT OF DEFENSE**  
8725 JOHN J. KINGMAN ROAD, SUITE 2135  
FORT BELVOIR, VA 22060-6219

IN REPLY REFER TO

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MEMORANDUM FOR REGIONAL DIRECTORS, DCAA  
DIRECTOR, FIELD DETACHMENT, DCAA  
HEADS OF PRINCIPAL STAFF ELEMENTS, HQ, DCAA

SUBJECT: Audit Guidance on Performing Sufficient Testing

**SUMMARY**

The purpose of this memorandum is to provide guidance on the testing needed to obtain sufficient, appropriate evidence to provide a reasonable basis for the conclusions expressed in the audit report, as required by Generally Accepted Government Auditing Standards (GAGAS). Topics addressed in this guidance include:

- Audit Procedures
- Risk Assessment Procedures
- Tests of Controls and Substantive Procedures
- Sufficient, Appropriate Evidence
- Selecting Items for Testing
- Documentation Requirements

**BACKGROUND**

Some external reviews have found that DCAA did not perform sufficient testing in several audit areas (e.g., internal controls and incurred cost). As a result, the audit work performed was not sufficient to support the opinion rendered. For example, in the incurred cost audits reviewed, auditors traced claimed pool and base costs to the contractor's accounting books and records to determine their accuracy and allowability. However, auditors did not perform sufficient, detailed testing of support for claimed indirect and direct costs to identify any costs that were not adequately supported or that were unallowable and should have been questioned. In addition, auditors did not adequately document their judgments about audit risk or the sampling and test methodologies used. In its review of internal control audits, the GAO found that very few transactions (e.g., two, three, or sometimes five) were tested to support audit conclusions.

Auditors have received training on adequate testing, including what constitutes substantive testing, as a part of the Agency-wide training provided to all FAOs by the Quality Directorate. This guidance reinforces and expands on the material presented in the training to include a discussion on substantive procedures and tests of controls.

## GUIDANCE

GAGAS require the auditor to obtain sufficient, appropriate evidence to provide a reasonable basis for the conclusions expressed in the report. The objective of the majority of DCAA's audits is to determine compliance with applicable laws and regulations; therefore, AT Section 601 (Compliance Attestation) of the AICPA Statements on Standards for Attestation Engagements (SSAE) also applies since the SSAE are incorporated in GAGAS. Those standards require the auditor to apply audit procedures to provide reasonable assurance that material unallowable costs and other material noncompliances with applicable Government laws and regulations in the contractor's assertion or subject matter of audit are detected.

### Audit Procedures

There are three broad categories of audit procedures defined by the purpose for which they are performed.

- Risk assessment procedures are performed to obtain an understanding of the entity and its environment, including its internal controls, to assess the risk of material unallowable costs and other material noncompliances and to design audit procedures in response to the assessed risk.
- Tests of the operating effectiveness of relevant controls (test of controls) are performed when the auditor plans to rely on controls for a particular area. Tests of controls, in addition to substantive procedures, also may be required, in some cases, to obtain sufficient evidence.
- Substantive procedures are tests of specific cost elements or other areas within the contractor's assertion performed to detect material unallowable costs and other material noncompliances with the requirements relevant to that specific element/area.

Examples of specific types of audit procedures that may be applied throughout the audit include inspection of records or documents, observation (e.g., of a process or procedure being performed), inspection of assets, inquiry of knowledgeable persons, recalculation to check mathematical accuracy, confirmation from a third party, reperformance by independently executing procedures or controls, and analytical procedures (comparison to expectations). Auditors may use any one or a combination of these specific types of audit procedures to accomplish risk assessment procedures, tests of controls, or substantive procedures. The types of procedures selected should be based on the characteristics of the particular cost element or other audit area and the type of potential material noncompliances that could occur for that cost element/area. Some procedures will be more appropriate in a given circumstance than others.

### Risk Assessment Procedures

The first step in obtaining sufficient, appropriate evidence is to perform and document an adequate risk assessment to identify specific areas requiring evaluation. Auditors should plan the audit to reduce audit risk to an appropriate level for the auditors to obtain reasonable assurance that the evidence is sufficient and appropriate to support the conclusions expressed in the audit

report. In performing the risk assessment procedures, auditors should consider materiality and other factors affecting audit risk such as prior audit experience, understanding of internal controls (see MRD 11-PAS-016(R), dated September 29, 2011), sensitivity, and audit leads. Other factors also may be considered depending on the audit objectives. For each material cost element or other area under audit, the auditor should consider the potential noncompliances (e.g., based on the specific FAR or CAS requirements related to that cost element/area), and the risk of material noncompliances occurring. Based on the risk assessment, the auditor should design and perform substantive procedures whose nature (type of procedures), timing (generally the period to which the evidence applies), and extent (number of items tested) are responsive to the assessed risk of material noncompliance in those areas selected for further review (e.g., accounts).

### Test of Controls and Substantive Procedures

Auditors may determine that performing a combination of tests of controls and substantive procedures is an efficient and effective audit approach for certain cost elements or other audit areas. Substantive procedures are tests of specific cost elements or other areas within the contractor's assertion performed to detect material unallowable costs and other material noncompliances with the requirements relevant to that specific element/area. Tests of controls to obtain evidence about their operating effectiveness are performed when the auditor plans to rely on controls for a particular area. Tests of controls, in addition to substantive procedures, also may be required, in some cases, to obtain sufficient evidence. Before testing the operating effectiveness of a control, the auditor should have determined, generally during the risk assessment, that the control is suitably designed to prevent or detect material noncompliances. Tests of the operating effectiveness of controls includes determining whether the control is operating as designed and whether the person performing the control possesses the necessary authority and competence to perform the control effectively. Procedures for testing the operating effectiveness of controls may include a mix of inquiry of appropriate personnel, observation of the application of the control, inspection of relevant documents, reports, or electronic files indicating operation of the control, recalculation and re-performance of the control. For example, interviewing employees and their supervisor regarding the approval of time charges to determine if they are complying with the contractor's established policies and procedures and inspecting the employee's completed timesheet to verify that it was approved by the appropriate supervisor are procedures for testing the operating effectiveness of the contractor's controls over timekeeping. Whether to perform only substantive procedures or a combination of tests of controls and substantive procedures for a specific area is generally a matter of auditor judgment based on the risk assessment. However, if the auditor plans to rely on the internal controls relevant to a specific area to reduce substantive procedures in that audit area, those controls must have been tested and found effective either in another audit or in the current audit. If the controls were tested in another audit, the current audit should reference that assignment and incorporate or reference working papers from that assignment to clearly document the specific procedures that provide sufficient evidence of the operating effectiveness of the controls.

Substantive procedures include analytical procedures (e.g., regression or trend analysis) and tests of details (e.g., inspecting supporting documentation that demonstrates that the claimed costs comply with applicable FAR requirements or verifying proposed costs to the basis of

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estimate and other supporting documentation such as vendor quotes). While determining the nature, timing, and extent of substantive procedures is a matter of auditor judgment based on the risk assessment, there should be a clear, documented link between the risk assessment and the audit procedures. Furthermore, for an examination-level engagement, auditing standards do not envision any circumstances where the assessed level of audit risk would be low enough to eliminate the need for substantive procedures. In addition, inquiry and/or analytical procedures alone are not sufficient to support the high level of assurance provided in examination engagements. Auditors should generally perform tests of details for all significant/sensitive accounts or other areas identified in the risk assessment for further evaluation. However, it may be appropriate, in limited cases, to perform only analytical procedures for a particular account identified for evaluation based on the risk assessment as long as some tests of details are performed on other accounts. In those cases, the auditor should clearly document the rationale for concluding that analytical procedures alone result in sufficient evidence for that particular account or other audit area. In any event, some tests of details must be performed in all examination engagements and testing must be sufficient and appropriate to provide a reasonable basis for the audit conclusions/opinion.

#### Sufficient, Appropriate Evidence

Auditors should determine the amount and type of evidence needed to obtain sufficient, appropriate evidence to address the audit objectives and adequately plan the audit work. Auditors should keep in mind that each type of evidence has its own strengths and weaknesses. For example, evidence obtained from direct examination or observation is generally more reliable than evidence obtained indirectly. The goal is to design procedures that result in evidence that collectively is appropriate and sufficient to provide a reasonable basis for the conclusions/opinion expressed in the report. Appropriateness is the measure of the quality of the evidence. Evidence is appropriate if it is relevant (has a logical relationship to the issue being addressed), valid (based on sound reasoning), and reliable (verifiable or supported). Sufficiency is a measure of the quantity of the evidence. The quantity of evidence needed is affected by the risk of material noncompliance (the greater the risk, the greater the quantity of audit evidence required), and, also, the quality of the evidence (stronger evidence may allow less evidence to be used). However, having a large volume of evidence does not compensate for a lack of relevance, validity, or reliability. In other words, in determining the overall sufficiency of the evidence, auditors must consider both the quality and quantity of the evidence. A large volume of low quality evidence may not be sufficient.

In assessing the overall sufficiency and appropriateness of the collective evidence obtained, the auditor should evaluate the significance of evidence to the audit objectives, findings and conclusions; available corroborating evidence; and the level of audit risk. In addition, in order for the auditor to provide a reasonable basis for the conclusion expressed in the report, auditors must perform sufficient testing of data relevant to the period covered by the audit. For example, in audits of business systems, auditors should generally perform testing of data generated by the system throughout the period covered by the audit, not just a single point in time.

### Selecting Items for Testing

Once the appropriate accounts or other areas are selected for further review, specific items must be selected for testing. In some circumstances, a 100 percent review of these items may be warranted. Other times, based on audit risk, it may be appropriate for the auditor to make judgmental selections of specific items to be tested. Unlike sampling, the results of procedures applied to a judgmental selection apply only to the selected items. If substantive analytical or other substantive procedures are not planned for the remaining items, the auditor should document how the judgmental selection results in adequate coverage of the universe (e.g., the basis for concluding that there is a low risk of material noncompliance in the untested items). Statistical sampling provides a great benefit when selecting items for tests of details when the population being evaluated is relatively large and homogeneous. Statistical sampling is objective, defensible, and measures the risk of substantial (or material) sampling error. In addition, statistical sampling helps auditors to design efficient samples, select the appropriate sample size, measure the sufficiency of the audit evidence obtained, and evaluate the sample results. In all cases, no matter what testing technique is used, auditors must obtain sufficient, appropriate evidence to provide a reasonable basis for the conclusions expressed in the report. See MRD 10-OTS-069(R), Guidance on Attribute Sampling Policy, dated October 20, 2010, and MRD 11-OTS-001(R), Guidance on Variable Sampling Policy, dated January 3, 2011, for detailed guidance on sampling.

### Documentation Requirements

GAGAS require auditors to prepare attest documentation in sufficient detail to enable an experienced auditor, having no previous connection to the engagement, to understand the work performed and the evidence obtained, including evidence that supports significant judgments and conclusions. Some of the most significant judgments made during the audit process relate to how to collect evidence and how much evidence to collect. Therefore, auditors must clearly document, in the working papers, their rationale and evidence supporting judgments about the nature, timing, and extent of audit procedures performed, including a clear link between the risk assessment and the audit procedures. That documentation also should include the rationale for the method used for selecting the items for tests of details (e.g., 100 percent review, judgmental selection, or sampling techniques) and for determining the number of items selected. CAM 4-403g(4) provides general documentation requirements when selecting items for tests of details. CAM Appendix B-203 provides additional documentation requirements for items selected based on statistical sampling.

The auditor makes decisions throughout the risk assessment and planning process that impact their rationale and judgments about the nature, timing, and extent of audit procedures to be performed to gather sufficient, appropriate evidence. Therefore, auditors should summarize the totality of their significant judgments in a write-up on the lead working paper.

## CONCLUDING REMARKS

Enclosure 1 provides example scenarios on sufficient testing and Enclosure 2 includes audit procedures for auditing historical costs when the contractor's estimates or the auditor's audit approach is based on historical costs and annual incurred cost audits have not been completed for several years of the applicable years.

FAO personnel should direct questions to their regional offices, and regional personnel should direct any questions to Auditing Standards Division, at (703) 767-3274 or e-mail [DCAA-PAS@dcaa.mil](mailto:DCAA-PAS@dcaa.mil).

/Signed/

Kenneth J. Saccoccia  
Assistant Director  
Policy and Plans

### Enclosures:

1. Sufficient Testing Example Scenarios
2. Audit Procedures for Historical Data

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## **SUFFICIENT TESTING EXAMPLE SCENARIOS**

### Proposed Direct Cost Example

During a proposal audit, the auditor determines, based on the risk assessment, that the proposed material costs warrant performance of substantive audit procedures. The auditor should evaluate the contractor's basis of estimate for the proposed material costs. Generally, this includes evaluating the reasonableness of the contractor's assumptions and rationale in estimating the kinds and quantities of material items, the contractor's method for pricing the proposed material requirements (e.g., competitive vendor quotes), and analyzing and assessing any additive and other pertinent factors used by the contractor to estimate various types of material. Based on the auditor's understanding of the contractor's proposed basis of estimate, the auditor should perform procedures to sufficiently test the contractor's estimate. For example, the auditor should select a sufficient number and types of material items from the Bill of Material (BOM) and inspect supporting documentation (e.g., vendor quotations, engineering drawings) to determine the validity of the estimated quantity and prices, that the estimated material cost is in compliance with applicable FAR and CAS requirements (e.g., that it reflects available trade discounts per FAR 31.205-26 and that it represents a fair and reasonable price). In determining the method for selecting items (e.g., 100 percent review, judgmental selection, sampling) and the sufficient number of material transactions to select for testing, the auditor should consider factors such as the materiality of the proposed costs, the type of contract (e.g., fixed, cost reimbursable), and the number and types of material items included in the universe. Based on the auditor's assessment of those risk factors and others, the auditor would determine the method and extent of testing to be performed, keeping in mind that the greater the risk associated with estimating material cost, the greater the quantity and quality of evidence required. In addition to selecting a sufficient number of material items, the material items to be tested should be selected in such a way that they are representative of the entire BOM universe or otherwise result in adequate coverage to provide reasonable assurance that the contractor's estimated material cost is in compliance with applicable FAR and CAS requirements. The auditor must document all of these significant judgments in the working papers.

### Proposed Indirect Rate Example

When evaluating indirect rates, the auditor should review and test the contractor's basis of estimate for indirect pool and base amounts. There are several methods and techniques the contractor can use to estimate its indirect pool and base costs (e.g., historical data, regression analysis, actual and estimated sales data). The auditor should assess whether the methodology used is an acceptable basis for estimating the future indirect costs in the given circumstances. Based on the auditor's understanding of the contractor's proposed basis of estimate, the auditor should perform procedures to sufficiently test the contractor's estimate. When the estimate is based on history, the auditor would identify the historical data used to develop the pool and base estimates, ascertain the reliability and accuracy of the data, and evaluate the data to ensure that it provides a reasonable basis for estimating future costs. For example, if the proposed pool costs are based on history and the annual incurred cost audits for several of the applicable years have not been completed, the auditor should trace the underlying historical costs to the contractor's accounting records and perform other procedures to ensure that the proposed costs reasonably comply with applicable FAR and CAS. (See Enclosure 2 for audit procedures for historical data.)

## SUFFICIENT TESTING EXAMPLE SCENARIOS

If the annual incurred cost audits have not been completed for several of the applicable years, this should be noted in the audit report, which should be qualified. If the contractor's proposed base amounts are based on future sales data, the auditor should trace the contractor's estimate to the contractor's supporting documentation (e.g., minutes of board of directors' meetings, long-range capital plans, briefings on independent research and development projects, etc.) and test the underlying assumptions for these estimates. The auditor also may perform analytical procedures (regression or trend analysis) to validate or assess the contractor's basis of estimate. The auditor must document all of these significant judgments in the working papers.

### Business System Example

One of the key processes that auditors test during an audit of the contractor's billing procedures is the contractor's process for briefing contracts. To test that process, the auditor should select a sufficient number of the contractor's briefing documents to determine that the briefs reflect relevant contract provisions (e.g., those related to allowable costs and billings) and that all applicable contract modifications are reflected. In determining the sufficient extent of testing, the auditor would take into consideration the fact that the contractor's billings are based on the information included in the briefs. Therefore, the risk of overcharging the Government is high when briefs are improperly prepared. Some of the other risk factors that the auditor would consider include the number, types, and value of contracts included in the universe (e.g., T&M, fixed price, and cost reimbursable). In addition, a change in key personnel who prepare the briefs or monitor the process would increase the risk of errors. Based on the auditor's assessment of those risk factors and others, the auditor would determine the extent of testing to be performed (i.e., the number of briefing documents to review), keeping in mind that the greater the risk associated with the control, the greater the quantity and quality of evidence required. In addition to selecting a sufficient number of contract briefs, the contract briefs for testing should be selected in such a way that the items selected are representative of the entire contract universe and include briefs prepared throughout the fiscal year, or otherwise result in adequate coverage. The auditor must document all of these significant judgments in the working papers.



## AUDIT PROCEDURES FOR HISTORICAL DATA

When the contractor's estimates or the auditor's approach are based on historical costs and annual incurred cost audits have not been completed for several of the applicable years, auditors should perform procedures to test the underlying historical data (or identify in a previous proposal or other audits where sufficient procedures were performed to test the applicable historical data). The first step is to identify the historical costs underlying the cost estimates being evaluated. Then, audit procedures should be designed to ensure that the proposed cost and rates for those areas reasonably comply with the applicable FAR and CAS requirements (but not a full incurred-cost audit).

- Procedures generally should include (if applicable):
  - ✓ Reconcile historical costs to books and records (both direct and indirect).
  - ✓ Identify any significant variations/outliers in the historical cost and data by:
    - Reviewing trend data, including historical and projected amounts to identify any significant variations/outliers.
    - Performing a comparative analysis of historical costs/accounts and budgetary data to identify any significant variations/outliers (e.g., similar to MAAR 15 analysis).
  - ✓ Based on the analysis above, design and perform additional procedures to review/test any significant transfers, variations, or outliers (e.g., if the value of a significant account doubled compared to prior years, it should be evaluated).
  - ✓ Determine the percentage of findings in prior year incurred costs audits and consider decrementing future year projections to adjust for potential unallowable costs.
  - ✓ Review and document the performance of real-time audit procedures performed on historical data supporting projected future costs (i.e., real-time material testing; indirect allocation bases). For real-time audit procedures to be sufficient as a basis for reliance, they must:
    - Have been performed in the applicable fiscal year(s).
    - Include tracing the hours charged from collection (e.g., timecard) to the labor distribution.
    - Include tracing material cost from origination to the final cost objective.
    - Provide for adequate coverage of labor/material charged to Government contracts (of all types) and other significant final objectives (e.g., IR&D projects) that impact Government contracts.
    - Document the follow up and resolution of employees/material not located at the time the procedures are performed.
- Audit report should be qualified when annual incurred cost audits have not been completed for several of the applicable years or when incurred cost audits are not performed (e.g., contractors with only fixed-price contracts).
- The results of these audit procedures will provide:
  - ✓ Documentation of the basis for the auditor's judgment to place reliance on contractor historical data and any necessary qualification related to the audit procedures not performed.
  - ✓ Support for the use of actual cost/hour data points in statistical applications (e.g., regression and improvement curves).