# CHAPTER 5

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# CHAPTER 5

## 5-000 Audit of Policies, Procedures, and Internal Controls Relative to Accounting and Management Systems

### 5-001 Scope of Chapter

This chapter provides audit guidance on implementing Government Auditing Standards---the second standard of fieldwork and SAS No. 55 as amended by SAS No. 78, Considerations of Internal Control in a Financial Statement Audit in performing audits of contractor accounting and management systems and related internal controls.

## 5-100 Section 1 --- Obtaining an Understanding of a Contractor's Internal Controls and Assessing Control Risk

### 5-101 Introduction

a. This section outlines the auditor's fundamental requirements and responsibilities for obtaining and documenting an understanding of a contractor's internal controls and for assessing control risk as a basis for planning related audits.

b. These fundamental requirements and responsibilities apply to each of the contractor's accounting and management systems (see 5-300 through 5-1200) that are used to propose, charge or bill significant costs to government contracts.

c. The audit guidance discussed in sections 5-102 to 5-110 applies primarily to major contractors. This guidance can also be adapted for use at non-major contractors who have controls over some of the systems listed in 5-102d below and where audit effort to evaluate those systems is expected to be offset by reduced audit effort on other related audits. The guidance for auditing internal controls at nonmajor contractors is discussed in 5-111.

### 5-102 Background Information

a. Government Auditing Standard 4.2.b and SAS No. 55 as amended by SAS No. 78 require the auditor to obtain a sufficient understanding of the contractor's internal controls and to assess control risk to plan the audit and to determine the nature, timing, and extent of tests to be performed. DCAA has chosen to incorporate the requirements of SAS 55 as amended by SAS 78 for financial related audits. The attestation standards (AT 1.45), under the planning standard, require the auditor to make preliminary judgments about attestation risk (control risk and inherent risk). (See 2-304)

b. It is important to remember that contractor management is responsible for establishing and maintaining adequate internal controls. In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of internal control activities. Internal control, as defined by SAS No. 78, is “a process effected by an entity’s board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: (a) reliability of financial reporting, (b) effectiveness and efficiency of operations, and (c) compliance with applicable laws and regulations.”

c. A contractor's internal controls consist of five interrelated components:

- Control environment -- sets the tone of an organization, influencing the control consciousness of its people
- Risk assessment-- the entity’s identification and analysis of relevant risks to achievement of its objectives, forming a basis for determining how the risks should be managed
- Control activities -- the policies and procedures that help ensure that management directives are carried out
- Information and communication -- the identification, capture, and exchange of information in a form and time frame that enable people to carry out their responsibilities

- Monitoring -- the process that assesses the quality of internal control performance over time

d. Elements of these components are designed into an entity's accounting and management systems to help ensure that management objectives are achieved as effectively and efficiently as possible. The relevant accounting and management systems in the contract audit environment and their respective CAM sections are listed below:

| | |
|---|---|
| Environmental and Overall Accounting Controls | 5-300 |
| General IT System | 5-400 |
| Budget and Planning System | 5-500 |
| Purchasing System | 5-600 |
| Material System | 5-700 |
| Compensation System | 5-800 |
| Labor System | 5-900 |
| Indirect and ODC System | 5-1000 |
| Billing System | 5-1100 |
| Estimating System | 5-1200 |

e. The auditor should consider the contractor's control environment and overall accounting controls when assessing control risk for individual accounting and management systems (see 5-300). In addition, the auditor should consider the adequacy of general IT System controls (see 5-400) as they affect the operational effectiveness of control activities in other significant systems.

f. The components of internal control and the relevant control objectives identified with the accounting and management systems listed above apply to every contractor and should be considered in the context of the following:

- the contractor's size
- the contractor's organization and ownership characteristics
- the nature of the contractor's business
- the diversity and complexity of the contractor's operations
- the contractor's methods of transmitting, processing, maintaining, and accessing information
- applicable legal and regulatory requirements

Nonmajor contractors may have less formal internal controls that accomplish these control objectives (see 5-101c).

g. With a sound understanding of the critical aspects of each system, the auditor can more effectively and efficiently develop the audit procedures necessary to audit compliance with laws and regulations in other related audits.

h. SAS 70, as amended by SAS 78 and SAS 88, has been incorporated into the Government Auditing Standards. SAS 70 requires that the auditor gain an understanding of a service organization's controls when:

(1) the service organization is part of the user organization's information system,

(2) the service organization's controls are significant to the user organization's internal controls (i.e., controls are relevant to user cost objectives and costs affected by the service organization's controls are material), and

(3) the degree of interaction between internal controls at the user organization and at the service organization is low (i.e., the service organization may initiate transactions or otherwise affect the user organization's accounting records without prior approval of the user organization).

This understanding is necessary in order to assess control risk to plan the audit and to determine the nature, timing, and extent of tests to be performed. If the auditor needs to obtain this understanding but is unable to, the auditor will have to qualify the report or disclaim an opinion due to a scope limitation.

## 5-103 General Audit Policy

a. It is DCAA's policy that each relevant accounting or management system that has a significant impact on government contract costs be audited on a cyclical basis, (i.e., every 2 - 4 years) based on a documented risk assessment. If past experience is favorable and current audit risk is considered to be low, an audit may be performed on a less frequent basis. If the audit risk is considered to be medium or high, the auditor should work with the ACO and the contractor to correct the defi-

ciencies. When the contractor changes the system, the auditor should give a high priority to the audit of the system change as a basis for relying on the system.

b. FAR establishes specific requirements for certain system audits---budget and planning, compensation, estimating, purchasing, and material management accounting systems. See the individual CAM Chapter 5 sections for guidance on the timing of these audits and the procedures for obtaining waivers if the system is considered low risk.

c. In determining the significance of a system, the auditor should carefully consider the relationship of the system to government contracts. For example, if a contractor incurs a significant amount of labor costs which are assigned to government contracts, the contractor's compensation and labor systems would be considered significant. Likewise, if a contractor does not purchase significant amounts of materials for government contracts, the contractor's purchasing and material systems would not be considered significant. (See 3-305.1)

d. The auditor’s evaluation of the contractor's internal controls and assessment of control risk is documented in the permanent files on the Internal Control Audit Planning Summary (ICAPS) working papers for each significant system (see 3-300). After preparing the initial ICAPS, individual ICAPS forms will be updated whenever subsequent audit work indicates that revisions are necessary (3-305). The scope paragraph of every audit report must comment on the internal control work performed and the assessment of control risk (see 10-210.3e). In addition, the adequacy opinion, assessment of risk, and the nature and extent of related audit effort that is summarized on the ICAPS form is described in the Contractor Organization and Systems section (see 10-210.7c) and integrated into the planning and reporting of other financial related audits (see 10-410).

e. When a contractor that participates in self-governance programs furnishes the FAO with an initial internal control evaluation and compliance test plan, the FAO should establish a current audit assignment to update the audit of related internal controls. The objective is not to complete an internal control audit, but rather to coordinate with the contractor on the relevant control activities and compliance testing described in the related internal control audit program.

f. Audits of internal control systems will be coordinated in writing with the ACO (see 4-103).

## 5-104 Audit Objectives

a. The purpose of each internal control audit is to gather sufficient evidence to express an opinion on the adequacy of the contractor's relevant accounting and management systems and the related internal controls for compliance with applicable laws and regulations and contract terms.

b. The objective in performing internal control audits is to assess control risk to determine the degree of reliance that can be placed on the contractor's internal controls in relevant accounting and management systems as a basis for planning the scope of other related audits.

c. In those cases where the auditor can rely on the contractor's system to record, process, summarize, and report in a manner consistent with government contract laws and regulations, control risk would be considered low. In these cases the auditor should be able to minimize substantive testing.

d. In those cases where the contractor's internal control system(s) are inadequate (in total or in part), expanded testing in other related audits is often needed. However, emphasis should be on strengthening the contractor's relevant accounting and management systems rather than expanded testing during individual financial related audits.

e. If a system has not been audited, control risk should be assessed as "high" and an audit of the system should be scheduled as soon as possible. In the interim, substantive testing should be increased in related audits to compensate for the inability to rely upon internal controls.

f. At those contractors with outstanding internal control deficiencies, the auditor

should work with the ACO and the contractor to correct the deficiencies rather than to continue performing expanded transaction testing in related audits. When the contractor corrects the deficiency or changes the system, the auditor should give a high priority to the audit of the system change as a basis for placing reliance on the system.

g. The auditor's assessment of audit risk required by SAS No. 47 and SAS No. 55 as amended by SAS Nos. 78 and 94 should be documented in the internal control audit working papers and the related ICAPS working papers for each relevant accounting and management system. The SAS No. 82 required assessment of the risk that financial statements are materially misstated due to fraud is part of the assessment of audit risk for the contractor's control environment and overall accounting controls (see 5-300).

h. While the discovery of fraud or other unlawful/improper activity is not the primary objective of any audit, the auditor should be attentive to any condition which suggests that such a situation may exist. If such activity is suspected, the circumstances should be reported in accordance with 4-700.

**5-105 Scope of Audit**

a. While the nature and extent of audit effort depends upon contractor size and the amount and type of government business (materiality and sensitivity), the scope of the internal control audit should include:

- gaining an understanding of the contractor's internal controls, including both manual and automated (IT) activities, which provide reasonable assurance that government contract costs are allowable, allocable, and reasonable in accordance with contract terms, and that material misstatements are prevented or detected and corrected in a timely manner;
- documenting the understanding of the contractor's internal controls in the working papers and permanent files;
- testing the operational effectiveness of the system's internal controls;
- assessing control risk as a basis for designing substantive tests for related audit effort;
- reporting on the understanding of the internal controls, the assessment of control risk, and the adequacy of the system for government contracts; and
- adjusting the audit scope of related audits based on the internal control strengths and/or weaknesses of the contractor accounting and management system audited.

b. In establishing the scope of audit effort, the auditor should carefully consider the nature and extent of documentation available from prior system audits, related audit effort, and permanent files. Once a comprehensive audit of a contractor's accounting or management system has been performed, it should serve as a baseline for establishing the scope of subsequent audits of that system. Subsequent audits should cover major system changes and other areas identified as high risk. They should also include tests of key internal controls over selected transactions to ensure that the controls are in place and operating effectively. The tests of the key controls need to be performed every two to four years irrespective of whether they were tested in the prior comprehensive audit of a contractor's accounting or management system.

c. The results of prior IT general internal control audits and applicable system audits should be evaluated for related system deficiencies. The following elements should be considered when auditing internal controls related to individual application systems (see the IS Auditing Knowledge Base available on DCAA's Intranet):

- The contractor's representation of the application system's internal controls should include a description of system operation and the identification of all related system policies, practices, and procedures.
- The number of employees having access to system data should be reasonable and based on need. Adequate security controls (logical and physical) should be incorporated to limit access to data input, review, and change authorizations. Authority to make changes to data, files,

and programs should be limited, logged, and closely monitored.

- Current system flowcharts should describe data input characteristics, internal control points, internal control tables, and output reports. System operation should be verified to the policies, practices, procedures and flowcharts.
- Tests of system internal controls should trace the flow of significant transactions from the original source documents through data entry, through their interim and final processing stages. Any differences must be resolved with the contractor. Consider using CAATs to expedite the process.

d. Contractor management has a responsibility to establish and maintain effective internal controls. As part of the preliminary audit effort, the contractor should be requested to explain how their system operates, what controls are in place to achieve the control objectives identified with the system (5-102b), and what methods are used to monitor and evaluate their continued operation. The auditor should rely to the maximum extent possible on the contractor's self-assessment, monitoring and testing efforts (see 4-1000, Reliance on the Work of Others).

e. The following paragraphs contain general guidance for evaluating contractor accounting and management systems. This guidance is intended to provide the auditor with a framework for performing an internal control examination. However, this framework is not a substitute for professional judgment. Consequently, the auditor should adapt the guidance to respond to unusual or unique situations encountered in their individual audit circumstances.

## 5-106 Obtaining an Understanding of the Contractor Accounting and Management Systems

a. The first step in evaluating the contractor's internal controls is to obtain an understanding of the accounting or management system being audited. This understanding will serve as the foundation for evaluating related internal controls and will allow the auditor to design more effective and efficient audit procedures.

- To acquire a basic understanding of the accounting or management system being audited, the auditor should:
- Review the control objectives and audit procedures listed in the appropriate section of Chapter 5, the respective audit program, and the internal control matrix (available on the DCAA Intranet, and the APPS) for the accounting and management system to be audited.
- Review the contractor's system explanation and related documentation; e.g., system policy and procedure manual.
- Review relevant working papers from the permanent files and prior audits.
- Make inquiries of appropriate contractor management, supervisory, and staff personnel.
- Inspect relevant documents.
- Observe actual contractor operations.

b. In addition, the auditor should request that the contractor explain selected aspects of the system to help confirm the auditor's understanding. The auditor should walk-through the system---tracing one or more transactions from initiation through the various processing steps to inclusion in related cost estimates, reports, or billings on government contracts. The auditor should observe actual processing activities and examine related documents to validate the understanding of the system. Selective transaction walk-through to confirm the auditor's understanding are an important part of the audit process and should be performed for significant aspects of the system. If the auditor already has a sufficient understanding of the system as a result of prior audit experience, this procedure may not be necessary.

c. The extent of audit effort expended in gaining an understanding of the contractor's accounting and management systems is a matter of auditor judgment. Characteristics that should be considered include:

- the size and complexity of the contractor;
- level of previous experience with the contractor;

- nature and extent of systems documentation;
- the significance of costs proposed, charged, or billed to the government by the system; and
- materiality judgments for specific accounts and transactions handled by the system.

d. Once the auditor has gained an adequate understanding of the contractor's accounting and management systems, that understanding should be documented in the audit working papers and related permanent files. This documentation will typically take the form of system flowcharts, narrative descriptions, and copies of relevant documents and reports. The method(s) used and extent of documentation required are a matter of professional judgment. However, the documentation should provide sufficient information to communicate the auditor's understanding in a clear and summarized manner.

## 5-107 Determining if Relevant Control Objectives and Related Control Activities Exist

a. The auditor should identify those control objectives which, if achieved, would provide reasonable assurance that material errors or misstatements would be prevented or detected in a timely manner. Control objectives can be classified into the three general areas:

(1) financial reporting control objectives which are concerned with ensuring the preparation of reliable financial statements,

(2) operational control objectives which are concerned with ensuring that the contractor's resources are being used effectively and efficiently, and

(3) compliance control objectives which are concerned with ensuring that the contractor complies with applicable laws and regulations.

While control objectives in each of these areas can have an impact on contract costs, DCAA auditors generally focus on operational and compliance controls.

b. Relevant control objectives for each contractor accounting and management system are discussed in this section, the specific section in Chapter 5 and the standard audit program for the individual system. The auditor should become familiar with all relevant control objectives for the accounting and management system to be reviewed prior to initiating the audit.

c. The auditor should also identify the control activities designed and implemented by the contractor to achieve each relevant control objective. Controls may be either manual or automated. In many instances, control activities will be integrated into the contractor's IT system. As needed, an IT audit specialist can assist the auditor in identifying and understanding IT related controls.

d. Once the auditor has obtained an adequate understanding of the contractor's system, a determination should be made as to whether relevant internal control activities exist and whether the effort to test and evaluate those controls would be justified by an equal or greater reduction in related substantive testing. For example, the auditor should expect that the costs to test and evaluate the contractor's labor accounting controls should be more than offset by the benefits of reduced labor substantive testing (e.g., floor checks).

e. If the auditor determines that relevant internal control activities do not exist or that the effort to perform tests of those controls is not justified, no control testing will be performed and control risk would be assessed at the maximum (High). This control risk assessment and its background rationale should be documented in the audit working papers.

f. If the auditor determines that relevant internal control activities can be identified and that the effort to perform tests of those controls is justified, the auditor should plan and perform appropriate tests of those controls.

## 5-108 Testing Controls

a. Testing controls involves selecting a limited sample of transactions and evaluating whether they were executed in accordance with established policies and procedures. GAAS and GAGAS require that tests of controls be performed to provide reasonable assurance that a contrac-

tor's internal control system is functioning as prescribed. The auditor also performs substantive tests to determine the validity and the propriety of accounting transactions and balances. SAS-55 (Consideration of Internal Control Structure in a Financial Statement Audit) provides that although the objectives of tests of controls and substantive tests are different, both objectives are often achieved simultaneously through the tests of details (substantive tests other than analytical review). The testing of details would be dual-purpose testing (AU319.64), because it not only relates to the specific transaction, but also covers the entire system. That is, the auditor may design a sample that will be used for dual purposes: assessing control risk and testing whether the recorded monetary amount of transactions is correct. Such tests determine if controls are adequately designed and operating effectively to prevent or detect material misstatements in a timely manner. The testing of the controls should be done at least every three years. The guidance in Sections 3 through 12 of Chapter 5 should be reviewed before determining what testing should be done. Tests of controls are necessary to support a control risk assessment other than high.

b. To obtain evidence of the effectiveness of particular internal control activities, the auditor should perform physical observations, inquiries of appropriate personnel, or inspection of relevant documents. No one specific test is always necessary, applicable, or equally effective in every circumstance. In fact, a combination of these types of tests is often required to provide the necessary level of assurance that controls are working effectively. Selected transactions must be tested, and audit evidence gathered to ascertain that there are no potential weaknesses. The type of audit procedures selected depends upon the nature of the control to be tested and the available evidence to review the control. Auditors should use the standard audit programs and the internal control matrixes available on the DCAA Intranet and the APPS and tailor their audit procedures to fit their individual circumstances.

c. The nature of the control influences the type of evidential matter that is available to review the control. For example, if the control provides documentary evidence, the auditor may decide to inspect the documentation. For other controls, such documentation may not be available or relevant. For example, segregation of duties controls generally do not provide documentary evidence. In such circumstances, the auditor may obtain evidential matter about the effectiveness of operation through observation or inquiry.

d. The timing of audit effort and the period covered by the audit should also be considered in selecting the appropriate audit procedures for testing controls. The evidential matter should relate to the audit period and, unless it is documentary evidence, should be obtained during the audit period when sufficient corroborative evidence is most likely to be available. When the evidence relates only to a specific point in time, such as evidence obtained from physical observation, the auditor should obtain additional evidence that the control was effective during the entire audit period. For example, the auditor may observe the control in operation during the audit period and use inquiry and inspection of procedures manuals to determine that the control was in operation during the entire period.

e. After determining the nature of audit procedures to be used to test controls, the auditor should determine the extent of testing to be performed. This determination is a matter of auditor judgment taking into consideration:

- the information gathered in developing an understanding of the internal control structure,
- the nature of the control to be tested,
- the nature and availability of evidential matter, and
- the contractor's monitoring and testing efforts.

The extent of testing is also significantly impacted by the FAO's total audit experience with the contractor. For instance, the extent of required testing of the estimating system is influenced by the current experience on forward pricing audits. In most instances, where there is significant pro-

posal activity, the auditors have gained a great deal of knowledge of the estimating system controls during proposal audits.

f. When identified control activities are accomplished as part of the contractor's IT operations, the auditor should consider the use of Computer Assisted Audit Techniques (CAATs), such as DATATRAK, SAS, and FOCUS when performing tests of controls. In some instances, the assistance of IT specialists may be required to perform tests of controls. In these cases, auditors should contact their regional offices to obtain the necessary expertise.

## 5-109 Assessing Control Risk

a. Control risk is the probability that the contractor's internal controls will not prevent or detect a material error, irregularity, or misstatement in a timely manner. In assessing control risk, the auditor considers the effectiveness of established control activities to accomplish stated control objectives. The more effective the control activities, the lower the control risk.

b. The auditor should assess control risk for each relevant control objective. If the auditor concludes that the relevant internal controls do not exist or that other related audits could be more efficiently performed by expanding substantive testing, then control risk should be assessed at the maximum (High). (see 5-111.2)

c. If the auditor has been able to identify relevant internal control policies and procedures and performed tests of those controls, the auditor should assess control risk as follows:

- High: The relevant control activities do not exist or they do exist but because of inadequate design or operation, they rarely accomplish the control objective.
- Moderate: The relevant control activities exist but, because of deficiencies, the control objective is not consistently accomplished.
- Low: The contractor's control activities consistently accomplish the control objective.

The assessment of control risk for each control objective is summarized on the system's ICAPS working paper (3-300) and translated to needed audit effort on other related audits.

d. When internal controls have been audited and tested, assessments of moderate or high risk should be tied to specific significant deficiencies. A deficiency is significant when the auditor believes that additional audit procedures are needed in related audits to protect the governments interest because the contractor's internal controls are unlikely to accomplish specific control objectives. The details would be described on the ICAPS working paper (see 3-305.4). The appropriate audit opinion for any system with a single significant deficiency is, at least, inadequate in part (see 10-408.2a).

e. Significant deficiencies should be discussed with the ACO and the contractor immediately---do not wait until the final exit conference or until the final report is issued to start the resolution process (see 5-110c and 10-400). When possible, significant deficiencies should also be linked to relevant historical data that are available or can be reasonably developed. For example, if the auditor can link estimating system deficiencies to questioned costs on proposal audits or positive findings on postaward audits, the importance of correcting the deficiency is more apparent.

f. Assessments of low risk for specific control objectives mean the auditor can rely on the contractor’s internal controls and can reduce testing in other related audits to analytical procedures or minimum transaction tests. The details would be described on the ICAPS working paper (3-305.4)

## 5-110 Internal Control Reporting

Reporting on internal controls relative to individual accounting and management systems and on compliance with laws and regulations must be made in all audit reports. This includes audit reports on functional areas as well as those related to specific proposals, claims, or other financial representations.

a. The internal control audit report for each relevant accounting and management system should follow the general guidance in 10-200 and 10-400. The following are

the major highlights of the reporting guidance.

(1) The Subject of Audit section should state that the objective for auditing the specific contractor system and its related internal controls is to determine the adequacy of the system and the contractor's compliance with the relevant internal controls (see 10-405b).

(2) The Executive Summary and the Results of Audit sections should present an overall opinion of the system (i.e., adequate, inadequate in part, or inadequate). The executive summary should briefly summarize the major deficiencies and their cost impact. When the audit opinion on a contractor's estimating and/or purchasing system is "inadequate in part" or inadequate", the executive summary should also include a recommendation for partial or total disapproval of the system (see 10-406). Detailed explanations in a condition/recommendation format will be included in the results of audit section. The results of audit section should also state the auditor's control risk assessment and describe the impact this assessment will have on the nature and extent of audit effort on other financial related audits, e.g., "As a result of control risk assessments, our audit effort in the following areas will be [increased/decreased]." Identify the affected audit areas and describe the additional audit effort required (see 10-408).

(3) The Scope of Audit section should explain that the internal control audit includes obtaining an understanding of the internal controls, determining if the controls are adequate and in operation, and assessing control risk to use as a basis for planning the testing necessary in other financial related audits. This section should also identify the system's control objectives covered by the audit and refer to the Contractor Organization and Systems section that describes the current status of the system along with any needed background information (see 10-407).

(4) If significant deficiencies are noted during the audit, they should be discussed with the contractor and the ACO during the course of the audit and corrective action should be underway before the final audit report is issued. The Statements of Condition and Recommendations in the audit report should comment on the contractor's efforts to correct the deficiencies (see 5-110c).

(5) If the audit identified deficiencies that are not considered to be significant, they should be reported in an appendix to the report entitled "Suggestions to Improve the System".

(6) The status of the contractor's corrective action on prior recommendations should be detailed in the Results of Audit section and summarized in the Contractor Organization and Systems section.

b. Reports for other financial related audits, (e.g., forward pricing proposals, progress payment requests, and annual incurred cost audits) should follow the general guidance in Chapter 10. The report should refer to the relevant accounting and management systems internal control report(s) used to plan the audit.

(1) At those contractors with defined internal controls, the Scope of Audit section should:

(a) list the system(s) that provide for compliance with laws and regulations for the specific audit area,

(b) describe how assessed system(s) control risk was considered in determining the scope of audit (It is not necessary to define the degree of risk as low, moderate or high but it may be used for emphasis.), and

(c) refer to the Contractor Organization and Systems section that describes the current status of the system(s).

(2) The Contractor Organization and Systems section should:

(a) reference the last internal control audit report and the current opinion on the overall system,

(b) show the current assessment of control risk, and

(c) list any outstanding internal control deficiencies and the current status of those deficiencies.

(3) At nonmajor contractors that do not have defined internal controls or those where it was not beneficial to audit the controls, the auditor would assess control risk as "high". The scope paragraph should state that the audit tests performed to provide a basis for opinion considered

the auditor's assessment of control risk. (It is not necessary to define the degree of risk as "high" in the scope paragraph. The "assumed degree of risk" for the sake of audit expediency is not a reportable condition.)

c. Significant internal control weaknesses identified during an audit require immediate action intended to expedite the resolution process and to protect the government.

(1) If a significant internal control deficiency is encountered during an internal control audit:

- Discuss the deficiency with the contractor, the cognizant ACO, and the CAC as soon as possible so as to expedite the resolution process. Do not wait until the final exit conference or the issuance of the audit report to convey such findings.
- The internal control audit report should describe the deficiency, its estimated cost impact, the contractor's efforts to correct the deficiency and increased audit effort in other related audits needed to mitigate the internal control weakness.

(2) If a significant or likely to be significant internal control deficiency is encountered during other related audits, a separate flash report should be issued (10-413). The flash report should whenever possible, include a general statement (and estimate when possible) on the cost impact of the internal control weakness.

(3) As soon as practical, the deficiency(ies) cited in the flash report should be followed-up in an appropriately-scoped systems audit in which an audit opinion (versus disclaimer) is given. It is expected that most follow-ups will be initiated within 90 days. If initiation of a follow-up requires additional time due to conditions beyond the control of the FAO, the FAO manager should document the need for additional time and establish a definite date for the follow-up audit to begin.

(4) The auditor should work with the ACO and the contractor to correct the deficiency rather than performing expanded testing in a particular audit area. When the contractor corrects the deficiency, the auditor should give high priority to the audit of the system change as a basis for placing reliance on the system.

(5) If the contractor does not take timely corrective action to resolve the deficiency, the auditor should take appropriate steps to protect the government's interest. The auditor should coordinate with the ACO and notify the contractor of the intent to suspend or disapprove costs related to the weakness. For example, reports on price proposals should question the related costs and contain an appropriate opinion and/or recommendation (see 9-200). If internal control deficiencies affect billings to the government, the auditor should suspend any appropriate costs on public vouchers (see 6-900) or recommend to the ACO reductions on progress payment requests (see 14-206). DFARS 242.7503 provides procedures which the ACO should take upon receipt of an audit report identifying significant internal control deficiencies.

(6) If the contractor has contracts requiring an approved Earned Value Management System (EVMS), provide an assessment of whether any deficiencies are likely to have a material effect on the reliability of the contractor's EVMS (10-1204.5b). The auditor should immediately evaluate the impact of deficiencies which may have a material effect on reports submitted for specific contracts requiring an approved EVMS and provide the details in EVMS surveillance reports (11-210).

d. At nonmajor contractors, the lack of formal internal controls is not, in itself, a significant deficiency. Contractor reactions to internal control recommendations should be considered, and may be paramount, in assessing control risk – absence of a sufficient level of control consciousness within the organization may be a separate reportable condition.

## 5-111 Auditing Internal Controls at Nonmajor Contractors

a. The process for obtaining an understanding of a contractor's internal controls and assessing control risk at most nonmajor contractors is accomplished by using the Survey of Contractor's Organization, Accounting System, and System of Inter-

nal Controls (ICQ) and the Internal Control Matrix, Contractor's Control Environment and Overall Accounting Controls (ICM-ACTG) which are available on the DCAA Intranet and the APPS. Nonmajor contractors may use less formal means to ensure that internal control objectives are achieved. However, if the nonmajor contractor has one or more of the accounting and management systems listed in 5-102d that generate significant costs, the auditor can use the CAM guidance in Chapter 5, the audit program related to the system, and the related ICAPS with the ICQ to audit the internal controls. When an accounting or management system audit is performed at a nonmajor contractor, the auditor should follow the guidance contained in 5-109 and 3-300 to assess control risk and to document the assessment of control risk on the ICAPS.

b. Smaller entities with active management involvement may not need extensive descriptions of accounting procedures, sophisticated accounting records, or written policies. Communications may be less formal and easier to achieve in a small or midsized company than in a larger enterprise due to the smaller organization's size and fewer levels as well as management's greater visibility and availability. However, when small or midsized entities are involved in complex transactions or are subject to the same legal and regulatory requirements as larger entities, more formal means of ensuring that internal control objectives are achieved may be necessary.

### 5-111.1 Understanding and Evaluating Internal Controls

a. The ICQ should be used to document the understanding of the internal controls at nonmajor contractors with auditable dollar volume (ADV) between $10 and $80 million. (MAAR#1). The ICM-ACTG should be considered with the annual risk assessments for financial capabilities and material misstatements due to fraud. The ICQ may also be used for contractors with ADV less than $10 million, or alternative procedures may be used provided they adequately document the required understanding of the internal controls. Alternative approaches for contractors with less than $10 million ADV include the use of a narrative format similar to the discussion on the contractor's accounting system (see 10-504.6b).

b. The control environment reflects management's overall attitude, awareness and actions concerning the importance of control and its emphasis in the company. To gain an understanding of the control environment, the auditor should consider the information in the ICQ, particularly Part A, or information from other identified alternative sources, and the ICM-ACTG.

c. The auditor should also obtain an understanding of the accounting system and specific control activities for each major cost element (i.e., labor, indirect costs, and purchased services and material). The auditor should consider the information contained in the ICQ, particularly Parts B and C for labor, Parts B and E for indirect costs and Parts B and D for purchased services and material

d. If the auditor concludes it would be inefficient to test the controls given the audit objectives and materiality of the assertions, control risk will be assessed at maximum (5-111.2). Planned audit procedures must achieve the audit objectives and be sufficient to reduce audit risk to an acceptable level. In such situations there is an additional documentation requirement where the assertions are significantly dependent upon computerized information systems. The work papers must document the basis of assessing control risk at the maximum level by addressing the ineffectiveness of the computerized system controls or the reasons why it would be inefficient to test the controls. In either case the work papers must also document how the planned procedures will reduce audit risk to an acceptable level (such as tracing transaction amounts in the computerized records to source documents or other forms of corroborating evidence, comparing computer record balances to previously prepared journal vouchers, trial balances, tax returns, or financial presentations prepared for other purposes). Materiality and risk specific to the data supporting the as-

sertion are important considerations in determining the scope of procedures necessary to reduce audit risk to an acceptable level. If the auditor is unable to reduce audit risk to an acceptable level , the report should be qualified with specific reference to the unreliability of computerized information systems (10-210.4j.).

e. Based on the information obtained in b., c., and d. above, the auditor should summarize the understanding of the control environment, accounting system and control activities. The summary may be in the form of a narrative explanation which includes an identification of significant internal controls or reasons for assessing control risk at the maximum. The form and extent of documentation is influenced by the level of control risk assessed, the company's size, the complexity of the internal structure, and the extent to which assertions are significantly dependent upon computerized information systems.

### 5-111.2 Assessment of Control Risk

a. The purpose of evaluating the internal controls is to assess the contractor's level of control risk for determining the nature, timing and extent of transaction tests in related audits. Frequently, the auditor assesses control risk at the maximum (high) at nonmajor contractors because it is more efficient to perform substantive tests for significant and sensitive accounts than to test the effectiveness of the contractor’s internal controls. Also, if the auditor determines that internal control systems do not exist because of the company's size or the internal control systems are so deficient that they cannot be relied on, the auditor would assess the control risk at the maximum (high).

b. If, on the other hand, the auditor determines that specific control activities exist and have been implemented, the auditor may decide to perform tests of the effectiveness of the specific controls in order to limit the amount of transaction testing in the areas or accounts impacted. The auditor may also rely on previous systems audits or other related audits if they adequately evaluated and tested the effectiveness of specific control activities that would affect the auditor's assessment of control risk.

c. An assessment of control risk at less than the maximum (high), which could result in reduced substantive testing, requires that control activities exist, have been tested, and are operating effectively. For government contract purposes control activities represent policies and procedures that management has established to provide assurance that contract costs are recorded, processed, summarized, and reported in a manner consistent with government laws and regulations. The testing of control activities is generally time sensitive and needs to be performed during the year the costs are incurred. If the control activities were not tested, control risk would be assessed at the maximum (high).

### 5-111.3 Reporting as Part of the Annual Incurred Audit

The auditor's reporting on the review and evaluation of internal controls at nonmajor contractors is usually included as part of the report on the annual incurred cost audit.

a. The Scope of Audit section should identify the internal controls and the assessment of control risk that the auditor considered in planning the audit. This section should also describe any significant accounting system deficiencies that have a material impact on the incurred cost submission and the audit.

b. The Contractors Organization and Systems section should describe the contractor's accounting system as well as the current status of any outstanding accounting system deficiencies and their cost impact (see 10-410).

### 5-111.4 Flash Reporting at Nonmajor Contractors

If a significant system deficiency is encountered at a nonmajor contractor (e.g., it does not segregate unallowable costs or routinely includes significant unallowable costs in its price proposals), issue a separate flash report when it is in the government's best interests to do so. Consider that flash reporting should typically (i) bring

the deficiency to the contracting officer's attention much sooner and clearer than first noting the deficiency in a related audit report (e.g., incurred cost audit report), and (ii) expedite the resolution of the deficiency and avoid its impact on other contractual actions (which may not be audited by DCAA). When a flash report is issued at a non-major contractor, follow-up audit steps should be performed (preferably within 90 days) to fully determine the systemic nature and impact of the deficiency. Depending on the significance of costs generated by the system, the follow-up audit steps may be performed as an appropriately-scoped systems audit or added to the incurred cost audit or other programmed audit (see 10-413).

## 5-200 Section 2 --- Preaward Surveys and Adequacy of Accounting Systems for Contractual Requirements

### 5-201 Introduction

This section provides guidance for performing preaward accounting system and financial capability surveys. A pro forma preaward survey audit program and accounting system survey for nonmajor contractors is on the Agency Intranet and the APPS under file name NMAPSYS.

### 5-202 Preaward Surveys

a. A preaward survey is an evaluation, usually made by the cognizant contract administration office, of a prospective contractor's ability to perform a proposed contract. Such surveys may cover technical, production, quality assurance, financial capability, accounting system and other considerations. DCAA's role in a preaward survey is normally limited to assessing a contractor's financial capability to perform a prospective contract (see 5-202.1) and/or the adequacy of a contractor's accounting system to accumulate cost information required by a contract (see 5-202.2).

b. Treat requests for DCAA assistance on preaward surveys as demand assignments. An untimely response to such requests could delay the award of a contract.

### 5-202.1 Preaward Financial Capability Survey

a. The objective of the survey is to determine if the prospective contractor has adequate financial resources, or access to them, to perform a contract. See 14-304, Risk Assessment Procedures for guidance to be used in conducting the survey.

b. When a request for a preaward survey is not specific as to the type of financial data to be evaluated, contact the requestor for clarification and coordination in accordance with 4-103. See 14-300 for additional guidance on procedures to follow in performing financial capability surveys.

### 5-202.2 Preaward Accounting System Survey

a. A preaward accounting system survey is made at the request of a contracting officer to determine the adequacy and suitability of a contractor's accounting system and practices for accumulating costs under a prospective government contract. It is usually requested as part of an overall preaward survey of a contractor conducted by a contract administration office under FAR/DFARS 9.106/209.106 (see 5-202). Audit scope under a preaward accounting system survey should normally be limited to those procedures essential to reach an informed opinion on information needed by the acquisition office to award and provide for administration of the contract. It is not normally necessary to conduct an in depth evaluation of the overall accounting system (see 9-302). Be responsive, however, to the request for audit. Standard Form 1408 "Preaward Survey of Prospective Contractor Accounting System" (see FAR 53.301-1408) should normally be used for these surveys. Acknowledge the request in accordance with 4-103.

b. If a prior accounting system survey has been performed and is relatively current, it should serve as the basis for the current survey. If complete and current data are not available, perform a survey of sufficient scope and depth to evaluate the suitability of the contractor's accounting system for costing and administering the contemplated contract. Place special emphasis on the ability of the accounting system to generate the specific cost information required under the anticipated contract and on inequities which might occur if the prospective contract were executed. Subsequent cost determination will be facilitated if there is a workable relationship between contract provisions and the contractor's system. This preaward examination should disclose the extent to which they are compatible. When appropriate, the survey should disclose whether the system will provide

reasonable data for projection of costs to complete a contract. The equity and consistency of direct charging as generally applied by the contractor and as it is intended to be applied to the proposed contract should be determined. If it is not clearly stated in the request as to the type of contract contemplated, the auditor should call the requestor for clarification. When a cost-type contract is contemplated, the auditor should give consideration to whether reimbursement of indirect costs should be provided on an actual or negotiated (e.g., ceiling rate) basis. Also comment on any particular or unusual items of cost which should be made the subject of advance agreements or special contract clauses (See FAR 31.109).

**5-202.3 Audit Reports**

Audit reports should be responsive to the specific needs identified by the audit request and in discussions with the requestor. The audit report scope paragraph should identify the specific procedures followed. Audit reports should also provide sufficient information (e.g., financial exhibits and schedules) to support audit conclusions. (See 10-400 for accounting system report format and 10-1200 for additional guidance on the financial capability format).

## 5-300 Section 3 --- Audit of Internal Controls -- Control Environment and Overall Accounting Controls

### 5-301 Introduction

a. This section provides specific guidance for auditing the contractor's control environment and overall accounting controls and assessing control risk. An understanding of the control environment will serve as a framework for evaluating the overall effectiveness of the internal controls in the contractor's other accounting and management systems (i.e., labor, material, purchasing, etc.). Overall accounting controls include the contractor's controls to assure it remains financially capable to perform on government contracts, and it maintains a current description of the accounting system, including a current, accurate, and complete disclosure statement (if CAS covered) and a current chart of accounts.

b. Refer to 5-101 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal controls and assessing control risk.

### 5-302 Background Information

a. The control environment has a pervasive influence on the way business activities are structured, objectives established, and risks assessed. It also influences control activities, information and communication systems, and monitoring activities. Control environment factors include:

- integrity and ethical values
- commitment to competence
- Board of Directors or audit committee participation
- management philosophy and operating style
- organizational structure
- assignment of authority and responsibility
- human resources policies and practices

The control environment sets the tone of an organization, influencing the control consciousness of its people. It is the foundation for all other components of internal control, providing discipline and structure.

b. Effectively controlled entities strive to have competent people, instill an enterprise-wide attitude of integrity and control consciousness, and implement upper management's commitment to ethical business practices and behavior. In evaluating the effectiveness of a contractor's control environment, the auditor should consider whether the following control objectives are met:

(1) Management conveys the message that integrity and ethical values cannot be compromised.

(2) The Board of Directors and Audit Committee are sufficiently independent from management to constructively challenge management decisions, act effectively on external audit communications and recommendations, and take an active role in ensuring that an appropriate "tone at the top" exists.

(3) The organizational structure provides an overall framework for planning, directing, and controlling operations.

(4) Management ensures that appropriate responsibility and delegation of authority is assigned to deal with goals and objectives.

(5) Management ensures that adequate financial resources exist to perform on government contracts.

(6) The accounting system(s) is/are well designed and operate(s) effectively to provide reliable accounting data and prevent misstatements that would otherwise occur.

(7) Management ensures that an item of cost or group of items of cost are assigned to one or more cost objectives in accordance with rules, regulations and standards for proper distribution of direct cost and allocation of indirect costs.

c. Accounting and management systems differ among companies according to organizational size and structure, type of product or service, personal preferences of corporate officials, and other variables. Most systems, regardless of complexity, contain elements of information technology (IT) for recording, processing, analyzing, and reporting related accounting data. However, in order to be effective, any system must be soundly organized and facilitate the proper

accumulation and allocation of contract costs. In evaluating the effectiveness of a contractor's accounting controls, the auditor should consider whether systems:

- are well designed, and reflect adequate consideration of automated controls.
- provide for the assignment of costs to cost objectives in accordance with applicable government contract rules and regulations.
- account for costs in accordance with Generally Accepted Accounting Principles.
- provide supporting documentation that is complete, accurate, and readily available for examination to support claimed/billed costs as allowable and allocable to government contracts.

## 5-303 General Audit Policy

a. Refer to 5-103 for DCAA's general audit policy for the audit of relevant contractor accounting and management systems and related internal controls.

b. If the audit risk assessment indicates that only certain parts of a contractor's environment and overall accounting controls are subject to moderate or high risk, only these risk areas would require a complete audit. For example, a major change in billing system software may require an audit of the internal audit department's participation in the development, modification and implementation of significant systems. Areas of little or no risk need not be audited so long as the low risk determination is adequately documented.

c. These environment and overall accounting control objectives apply to both major and non-major contractors. At non-major contractors, the auditor should consider the internal control matrix for the Evaluation of the Contractor’s Control Environment and Overall Accounting Controls (ICM-ACTG) and the Survey of Contractor's Organization, Accounting System, and System of Internal Controls (ICQ) to perform annual risk assessments for financial capabilities and material misstatements due to fraud. The ICM-ACTG and the ICQ are available on the DCAA Intranet and the APPS.

## 5-304 Audit Objectives

a. The purpose of this audit is to evaluate the adequacy of the system's control environment and overall accounting controls and the contractor’s compliance. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

b. The adequacy of the contractor's environment and overall accounting controls affects the adequacy of other accounting and management systems and related internal controls. As a result, the auditor needs to understand the environment and overall accounting controls in order to effectively audit the internal control policies and procedures in other relevant contractor systems.

c. A significant weakness in the contractor’s control environment and overall accounting controls should affect the scope of internal control audits for other related accounting and management systems.

## 5-305 Scope of Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. The pervasiveness of IT activities in most organizations requires that the auditor consider the impact these activities have on the contractor's control environment. The auditor should endeavor to eliminate any duplicate effort with respect to audits of IT internal controls in other areas (i.e. labor, MMAS, indirect/OH, etc.) However, if the auditor determines that it would be most effective to audit these controls as a part of the Control Environment and Overall Accounting Controls, then the guidance contained in 5-1400 should be considered. Consideration of this guidance is also appropriate for auditing IT internal controls at a non-major contractor.

c. The majority of non-labor expenses may flow through the accounts payable system. Therefore, the auditor should perform a risk assessment, and based on mate-

riality and sensitivity, consider performing an audit of the contractor's accounts payable system internal controls if they have not been previously audited. In addition the auditor should consider performing an audit of the IT internal controls over the contractor's General Ledger System. If either one of these audits are appropriate consider steps set forth in 5-1400.

d. The assessment of the risk of a material misstatement due to fraud required by SAS No. 82 is part of the assessment of audit risk for the contractor's control environment and overall accounting controls and is documented on the related ICAPS

e. The auditor has a responsibility to plan and perform the audit to obtain reasonable assurance that the contractor's submission and supporting data are free of material misstatement, whether caused by error or fraud. If fraud is suspected, the circumstances should be reported in accordance with 4-700.

f. The following paragraphs contain guidance for evaluating the critical control objectives relating to the contractor's environment and overall accounting controls. These objectives, if achieved, should provide a basis for reducing the scope of related contract audit activity. This guidance is intended to provide the auditor with a framework for evaluating the contractor's system. However, this framework is not a substitute for professional judgment. Consequently, the auditor should adapt the guidance to respond to unusual or unique situations encountered in varying audit environments.

## 5-306 Integrity and Ethical Values

Integrity and ethical values are the product of the entity's ethical and behavioral standards, how they are communicated and how they are reinforced in practice. Management should convey the message that integrity and ethical values cannot be compromised, and employees should receive and understand that message. Management should continually demonstrate, through words and actions, a commitment to high ethical standards.

### 5-306.1 Codes of Conduct

The contractor should establish and maintain a written code of conduct addressing ethical business practices, conflicts of interest, and expected standards of ethical and moral behavior. This code of conduct should cover dealings with customers, suppliers, employees, and other parties. In evaluating the adequacy of the contractor's code of conduct, consider whether:

- A written code of conduct exists. (If not, the management culture should emphasize the importance of integrity and ethical behavior by other means, such as: oral communication in staff meetings; one-on-one interface; or by example when dealing with day-to-day activities).
- Codes are comprehensive, addressing conflicts of interest, illegal or other improper payments, anticompetitive guidelines, insider trading, etc.
- Codes are periodically acknowledged by all employees.
- Employees understand what behavior is acceptable or unacceptable, and know what to do if they encounter improper behavior.

### 5-306.2 Management Intervention

Policies and procedures should provide guidance on the situations and frequency of management intervention in the collection, processing, and reporting of accounting data and transactions, and the types of approvals and documentation required. For example, consider whether:

- management has provided guidance on the situations and frequency with which intervention may be needed.
- management intervention is controlled, well documented, and explained appropriately.
- deviations from established policies are investigated and documented.

### 5-306.3 External Influences

External influences heighten management's consciousness of and attitude to-

wards the conduct and reporting of an entity's operations and may prompt management to establish specific internal control policies or procedures. The auditor should be alert for external factors which may have an influence on management's attention to internal controls. For example, consider whether:

- the contractor's internal controls are subject to external audits by organizations other than DCAA
- any access to records problems exist which may adversely impact the ability to assess the contractor's internal controls
- any DCAA Form 2000s have been issued or current investigative activity indicates weaknesses in established internal controls

### 5-306.4 Self-Governance

Management should place an emphasis on establishing and maintaining an effective system of internal controls and self-governance and should not condone signs of inappropriate practices. Management must continually communicate the importance of a strong internal control system. For example, consider whether management has established a formal self-governance program which:

- openly communicates the importance of internal controls and has provided for periodic audit of internal controls;
- takes appropriate remedial action in response to departures from approved policies and procedures or violations of established codes of conduct; and
- is committed to employee competence, including competence levels for particular jobs and how those levels translate into requisite skills and knowledge, and training that illustrate expected levels of performance and behavior

## 5-307 Board of Directors or Audit Committee

The Board of Directors and the Audit Committee should be sufficiently independent from management to challenge management's decisions, act effectively on external audit communications and recommendations, and take an active role to ensure an appropriate upper management's accountability for integrity and ethical behavior. An active and effective board, or committees thereof, provide an important oversight function and, because of management's ability to override system controls, the board plays an important role in ensuring effective internal control.

### 5-307.1 Independence

The Board of Directors and/or Audit Committee should be composed of independent members and be actively involved in significant decisions. For example, consider whether:

- the Board of Directors has a significant number of members who are not officers or employees of the contractor.
- shares are traded on NYSE, AMEX, or NASDEQ where listing requirements provide for a minimum of two “outside” directors.
- the board constructively challenges management's planned decisions, e.g., strategic initiatives and major transactions, and probes for explanations of past results (e.g., budget variations).
- board committees are used for matters requiring more in-depth or directed attention.
- a process exists for informing the board of significant issues.
- the compensation committee approves all management incentive plans.

### 5-307.2 Internal Audit Department

The internal audit department should be functionally and organizationally independent and sufficiently removed from political pressures to ensure that it can conduct its audits objectively and can report its findings, opinions, and conclusions without fear of repercussion. For example, consider whether:

- the internal audit department reports to an individual with sufficient authority to promote independence and to ensure broad audit coverage, adequate consideration of audit reports, and appropriate action relative to audit recommendations.

- the internal audit department has regular communications with the Board of Directors or Audit Committee.
- the internal audit department participates in the development, modification, and implementation of significant accounting systems.

### 5-307.3 External CPA Management Letter on Internal Controls

Management should effect prompt correction of deficiencies noted in the external CPA's management letter on internal controls. Responsiveness to external auditor notifications of internal control weaknesses can provide important insight to management's overall commitment to maintaining effective internal controls. For example:

- if the contractor's external auditors have reported any internal control weaknesses, the status of the contractor's corrective action is an indication of management's responsiveness. The auditor needs to obtain the management letter to make this determination.
- if there have been recent changes in external auditors, this may indicate a disagreement on accounting or internal control issues

## 5-308 Organizational Structure

a. The organizational structure provides the overall framework for planning, directing, and controlling operations. The organizational structure should not be so simple that it cannot adequately monitor the enterprise's activities nor so complex that it inhibits the necessary flow of information. Executives should fully understand their control responsibilities and possess the requisite experience and levels of knowledge commensurate with their positions.

b. The form and nature of the organization should be well defined, including the assignment of management functions, reporting relationships, and authority and responsibility. For example, consider whether:

- the contractor maintains formal organization charts which clearly define lines of authority and responsibility.
- responsibilities and expectations for the entity's business activities are communicated to the executives in charge of those activities.
- departments providing critical services (e.g., Information Services) report at a sufficiently high organizational level to reasonably preclude undue influence from other departments.

## 5-309 Assignment of Authority and Responsibility - Impact on Control Environment

a. The assignment of responsibility, delegation of authority, and establishment of related policies should provide a basis for accountability and control, and set forth individuals' respective roles.

b. Written policies and procedures should adequately address assignment of responsibility and delegation of authority to deal with organizational and departmental goals and objectives, regulatory requirements, and information systems and authorizations for changes to these systems. For example, consider whether:

- authority and responsibility are assigned to employees throughout the entity.
- responsibility for decisions is related to assignment of authority and responsibility.
- proper information is considered in determining the level of authority and scope of responsibility assigned to an individual.

## 5-310 Financial Capability

Management should periodically evaluate financial resource requirements to ensure that they are adequate to perform on government contracts. Contractors who fail to properly manage their financial resources subject the government to increased risk that contract performance will be adversely affected. Additionally, financial weakness can provide pressure or incentive to commit fraud. The audit of the contractor's financial capability is discussed in 14-300.

### 5-310.1 Policies and Procedures

Written policies and procedures should require regular evaluations of financial conditions in order to anticipate and avoid adverse conditions. Adverse financial conditions can have a significant impact on the contractor's ability to perform on government contracts. Therefore, the contractor should regularly assess its financial condition and take steps to avoid potential problems. The auditor's assessment of financial capability should include an evaluation of management's self-assessment (see 14-305).

### 5-310.2 Assessment of Accounts Receivable/Payable

The contractor should conduct periodic assessments of accounts payable and accounts receivable including analysis of accounts payable aging and the collectability of accounts receivable. Effective cash flow analysis is dependent upon the proper assessment of cash inflows (accounts receivable) and cash outflow (accounts payable). The contractor should prepare detailed assessment of both the debit and credit balances for each of these accounts on a regular basis to ensure that cash flow projections are based on sound financial information.

### 5-310.3 Debt Payment

The contractor should conduct periodic assessments to ensure that it is meeting debt payment schedules and is in compliance with other loan covenants. Failure to meet debt repayment schedules can have a negative impact on the contractor's ability to perform on government contracts. Therefore, it is important that the contractor periodically assess the status of its debt repayment efforts to ensure that they are adequate.

### 5-310.4 Cash Flow Projections

The contractor should regularly perform short and long term cash flow projections. The contractor should assess both current and future financial conditions in order to ensure that adequate financial resources are available to support the performance of government contracts. For example, the auditor should consider whether:

- the contractor prepares cash flow analyses for current and future periods to ensure that adequate resources are available to meet current and projected cash flow requirements.
- the contractor establishes formal plans to meet anticipated cash flow deficiencies.

## 5-311 Accounting System (Control Environment)

The contractor's accounting system consists of methods and records established to identify, assemble, analyze, classify, record, and report an entity's transactions and to maintain accountability for the related assets and liabilities. The accounting system should be well-designed to provide reliable accounting data and prevent misstatements that would otherwise occur.

### 5-311.1 System Description

The contractor should establish and maintain a written description of its accounting system which clearly identifies the methods and records established to identify, assemble, analyze, classify, record, and report an entity's transactions and to maintain accountability for the related assets and liabilities. For example, consider whether the contractor:

- maintains a current, accurate, and complete chart of accounts.
- has flow charts, narrative descriptions, or other explanations of how information is processed through the accounting system from initiation of transactions to reporting of the transactions in the financial records. This should include identification and purpose of all transactions, schedules, tables, files, overrides, and reports generated and processed by the system.
- has a system that is fully or partially automated. If automated, the description should include the IT aspects of the accounting system transaction

flow, including data input, data processing, and data output.

- has clearly identified personnel responsible for preparing, reviewing, modifying, and approving accounting transactions.

### 5-311.2 Disclosure of Cost Accounting Practices

The contractor should establish and maintain a current, accurate, and complete description of all cost accounting practices which impact government contracts. Normally contractors who have approved CAS disclosure statements have complied with this requirement. Contractors should establish policies and procedures to ensure that disclosed cost accounting practices are current, accurate, and complete. In addition, the contractor should have policies and procedures to ensure that all changes in cost accounting practices are properly disclosed to the government along with the related cost impact.

## 5-312 Overall Accounting Controls - Information Technology System Internal Controls

a. Where information technology is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls or IT application controls. Whether the control activities are classified by the auditor as general or applications controls, the objectives of control activities remain the same, to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are sufficiently reliable to permit the preparation of financial statements and cost representations.

b. The auditor should audit the IT general controls and the Accounting System application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are comprised of:

(1) organization and operational controls,

(2) systems development and documentation controls,

(3) hardware and systems software controls, and

(4) data and procedural controls.

(See 5-400 for a more detailed explanation of general internal controls.)

d. Accounting System application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as billing, purchasing, and in this instance, general accounting. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

## 5-313 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on compliance with laws and regulations and on internal controls relative to the contractor's accounting and management systems.

## 5-400 Section 4 --- Audit of Information Technology Systems General Internal Controls

### 5-401 Introduction

a. Refer to 5-101 for the auditor's fundamental requirements on obtaining and documenting an understanding of a contractor's internal control and assessing control risk.

b. This section provides guidance for auditing general IT internal controls applicable to centralized Information Technology (IT) operations, distributed processing environments, local/wide area networks (LAN/WAN), and client/server systems. The contractor's IT general internal controls establish the control environment within which all computerized accounting and management systems operate. See the IS Knowledge Base available on DCAA's Intranet for further guidance on auditing IT systems.

c. The guidance should be applied selectively, giving consideration to the unique aspects of the in-place data processing system and areas judged to be relatively high risk.

### 5-402 Background Information

a. IT general internal controls are comprised of the following elements:

(1) organization and operational controls

(2) systems development and documentation controls

(3) hardware and systems software controls

(4) access controls

(5) data and procedural controls

These controls help ensure that the contractor's transactions are valid, properly authorized, and completely and accurately processed.

b. Weaknesses in IT general internal controls often have pervasive effects on contractor overall accounting operations. When IT general internal controls are weak or absent, the auditor must consider the effect of these control deficiencies in the evaluation of IT application/functional controls. These types of internal controls apply to specific applications or functions such as the purchasing system or labor reporting systems. For example, internal controls should require proper authorization of source documents such as purchase orders or labor data recording prior to input to the IT system.

c. IT general internal controls could vary significantly between contractor locations. Size of the contractor is a major factor influencing the level of general internal controls the auditor may find installed. Larger contractors will generally have more extensive internal controls in operation than smaller contractors. The auditor must be prepared to assess the level of compensating controls at smaller contractor sites since it is expected that optimum control activities will not be in effect.

d. Larger contractors generally have most general internal controls in-place. However, large contractors having geographically dispersed locations may exhibit adequately documented internal controls, but may not consistently enforce the controls throughout the dispersed environment.

e. Contractors may not dedicate a data center to service the IT requirements of a single location. Sizable contractors may have a data center supporting a single location, or a centralized data center that services several geographically dispersed company locations. Some contractors may use an outside commercial data processing service instead of maintaining their own data center. The auditor must determine the extent of the contractor's IT resources when planning and defining the scope of the audit.

### 5-403 General Audit Policy

a. Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. IT general internal controls meet the definitions of "record" and "data" contained in FAR 52.215-2, Audit and Records - Negotiation, and FAR 52.214-26, Audit and Records - Sealed Bidding. The applicability of these FAR sections is agreed to by contractors when submitting price proposals and executing contracts with DoD components. These contract clauses give the auditor the right of access to contractor

records, including IT internal control data, after contract award. Refer to 1-504, Access to Records of Contractor, and 1-505, Other Access to Records Issues - Transfer of Records from Hard Copy to Computer Medium.

### 5-404 Audit Objectives

The purpose of this audit is to evaluate the adequacy of and the contractor's compliance with the IT system's internal controls. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

### 5-405 Scope of Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. The auditor should consider any IT related outstanding deficiencies identified in other accounting and management system audits. The nature of such deficiencies may affect the scope of the IT general control audit. For example, a labor reporting system deficiency involving application software changes to the labor system may affect the current audit of software modification procedures and controls.

c. The following sections contain general guidance for the evaluation of general IT controls. This guidance gives the auditor a framework for the audit. However, this guidance is not a substitute for professional judgment. The auditor should adapt this guidance to fit individual audit circumstances.

### 5-406 Information Technology Environments

The term Information Technology (IT) encompasses all forms of computer technology used to create, store, exchange, and use information in its various forms. With reference to computers, the term environment refers to the combination of hardware and software used in the information systems processing activity. Over the past two decades, there have been considerable changes in the IT environments not only in terms of hardware and software platforms, but also the methodologies employed to support the business activities of an organization. We have seen a gradual evolution from the centralized data processing operations to a widely dispersed distributed processing environment. These technological changes greatly impact the role of the auditor in evaluating the contractor's operations and the risks associated with the processing of contract cost data.

### 5-406.1 Centralized Data Processing Operations

"Centrally organized data processing" implies that most, if not all, aspects of an entity's data processing operation are geographically centralized. All of the organization's applications and user data resides on mainframe computer equipment housed in a centralized computer facility and maintained by a centralized support staff. Perhaps the primary advantage to this organizational structure from the auditor's perspective is the centralized control over the hardware and software as well as the data being processed.

### 5-406.2 Decentralized versus Distributed Operations

a. A decentralized information systems processing facility usually maintains a home office (control hub) computer, but disperses many data processing activities throughout the company. Remote locations in a decentralized facility possess independent processing capabilities through separate computing facilities. A distributed facility is a variation of a decentralized facility. The primary distinction between a decentralized and distributed operation is networking and data communications. In a decentralized system, each remote facility may periodically communicate with other sites. However, in a distributed network, each remote facility, while possessing autonomous processing capability, represents an integral part of an overall data communication and information network. Data communications among the sites is an

ongoing and essential element of the network rather than a periodic, ad hoc routine. A distributed data network is a tightly bound facility.

b. Centralized and distributed facilities are configured using central computers, local area networks (LANs), wide area networks (WANs), and stand-alone microcomputers. Decentralized or distributed operations, if applicable, are normally an organizational element of the IT Department and are subject to the same audit procedures applied to centralized data center systems. The auditor should evaluate policies, practices, and procedures addressing LAN and WAN operations, including data control, data security, and data communication. The auditor should also determine the distributed system's configuration and the hardware and software in service. Due to the many electronic devices involved, the transmission of information between distributed nodes (or sites) presents a greater risk to data security and integrity than is experienced in a centralized data center. Accordingly, the auditor should be particularly attentive to the distributed database and data communication operations. In some instances, the auditor may have to obtain regional technical assistance.

### 5-406.3 Client/Server Computing

a. Client/server architecture provides the benefits of centralized and distributed processing to the end user. The evolution of client/server technology was due in large part to the significant reduction in the cost of computing resources along with the need to be more responsive to changing customer requirements. This new technology facilitates the seamless integration of personal computers (PCs) with host systems. This permits organizations to be more responsive to their customers, but still maintain the security and integrity to manage their business effectively.

b. Client/server computing has two basic components, a client and a server. A client is comprised of a PC or a workstation, that is used to access network applications and resources. A server is a dedicated computer that is physically attached to a network that provides electronic access to databases, e-mail, printing, FAX's, communications, and other services. Clients are typically PCs, but a client can also be a midrange or a mainframe computer. Servers are typically midrange or mainframe computers; however, a server could be another PC attached to the network. Client/server networks allow specific computers to be identified as servers, and to provide one or more services to other computers within a network. Client/server networks can have designated computers for file serving, database serving, application serving, and communications serving. Each of these servers are dedicated devices that provide a specific service to all authorized users operating within a network. Servers can also direct that a portion of the data processing be accomplished on each user PC or on a centralized server.

c. The following are among the more significant advantages of processing data in a client/server environment:

(1) Allows access to data and resources.

(2) Increases organizational flexibility.

(3) Processing of data can be done either locally or at a central location.

(4) Provides faster access to information.

(5) Data can reside where best suited.

(6) Users can have a greater role in systems design and development.

d. Another way to describe the client/server architecture is to view it as a model for a relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request. Although the client/server model can be used by programs within a single computer, it is more commonly used in a network where computing function and data can more efficiently be distributed among many client and server programs at different network locations.

e. In evaluating the integrity, reliability and accuracy of data processed in a client/server environment, the auditor should view it from two different perspectives, (i) the environment audit (general internal controls) and (ii) the application approach. In an environment audit, pri-

mary audit consideration centers around key elements that make up the environment. These include the operating system, database management system, network components, program libraries, and change control. In the application approach, the auditor should evaluate the adequacy of critical control points associated with the user interface, user authentication process, menu level authority and file level access.

### 5-406.4 End-User Computing

a. The trend in IT has gradually evolved from performing all computerized data processing in a centralized environment to empowering users to perform much of their activity at their workstation or personal computer. End-user computing is where the end user develops, maintains, and processes computer-based information to meet their needs.

b. The primary audit objectives to be considered by the auditor in evaluating the personal computer (PC) or microcomputer environment include:

(1) Evaluating the adequacy and completeness of PC related policies and procedures.

(2) Determining whether physical security controls over PCs are adequate.

(3) Evaluating the adequacy and completeness of logical (system and data) security controls.

(4) Evaluating the adequacy and completeness of system and data integrity controls.

(5) Evaluating the adequacy and completeness of application system controls.

(6) Determining the adequacy of micro to host computer link controls.

### 5-406.5 Commercial-Off-The-Shelf (COTS) Software

a. COTS software are commercially developed IT systems applications that government contractors can acquire and adapt to their various enterprises. In evaluating COTS software internal controls, the primary audit objective should be to ensure the contractor's software acquisition procedures conform to accepted system development standards. As with in-house developed applications, the audit procedures should include evaluating the adequacy of system controls, audit trails, and security features incorporated within the COTS application system.

b. A common term used in the COTS environment is ERP (Enterprise Resource Planning). ERP is an industry identifier for the broad set of activities supported by multi-module application software that help an organization manage specific aspects of its business, including product planning, parts purchasing, maintaining inventories, interacting with suppliers, providing customer service, and tracking orders.

c. Audit considerations relative to various components/modules of the contractor's ERP environment are addressed in the respective application system audits.

### 5-406.6 Relational Database Management Systems (RDBMS)

a. An RDBMS is a program used to create, update, and administer a relational database. A relational database is a collection of data items organized as a part of formally described tables from which data can be accessed or reassembled in many different ways without having to reorganize the database tables. In addition to being relatively easy to create and access, a relational database has the important advantage of being easy to extend. After the original database is constructed, a new data category can be added to the database structure without requiring all existing applications be modified.

b. An RDBMS takes Structured Query Language (SQL) statements, either entered by a user or contained in a system application program, and creates, updates, or provides access to the database.

c. Audit considerations in the database management environment center around several facets of the organization, including; database administration functions, database access, database management system functions, data communications, and database applications.

### 5-406.7 Enterprise Resource Planning Systems

Enterprise Resource Planning (ERP) systems are Information Technology systems that include broad functionality and a high degree of functional integration. They integrate company-wide information that can cover virtually all functional areas (e.g., purchasing, manufacturing, inventory, sales, accounting, human resources, etc.). These systems are generally comprised of commercial off-the-shelf (COTS) multi-module application software, specifically designed to operate in client/server data processing environments. ERP systems are designed to share common databases and are usually accessible by many contractor employees performing a wide variety of tasks. ERP systems use best business practices that are designed into the software to organize businesses along process lines as opposed to functional lines. This process orientation allows the business to focus on streamlining and improving its processes (see also C-105.7).

a. Auditors should be actively involved in the ERP system implementation and determine how the audit mission will be affected by it. Accordingly, auditor actions before, during, or after ERP system implementation may include:

(1) Determine the overall scope and schedule of any ERP system implementations.

(2) Obtain an understanding of the differences between the contractor's current data processing environment and the data processing environment to which the contractor is converting.

(3) Identify the specific ERP software and its version or release the contractor intends to implement; e.g., SAP R/3, PeopleSoft, BaaN, or any of the several other available ERP systems. Generally, more recent releases and the implementation of aerospace and defense (A&D) specific products will more fully comply with government regulations. Auditors should determine whether the contractor is implementing the latest version of whatever vendor's product the contractor is using.

(4) Determine the impact the ERP system will have on the contractor's accounting and management systems' internal controls and how the contractor intends to ensure the adequacy of the new system's internal controls.

(5) Evaluate cost versus benefit analyses or business cases for ERP projects approved by management.

(6) Determine if costs and cost reductions have been identified and are incorporated into forward pricing rates. Potential cost reductions may include but are not limited to the following:

- reduction or elimination of legacy systems,
- reduction in labor costs,
- reduction in inventory levels, and
- improved reporting processes.

(7) Work with the contractor to determine what access to the system is required to perform the various audits most efficiently and effectively. Auditor read-only on-line user access to the new system is expected along with the ability to apply computer assisted audit techniques that extract data into external files for more complex analysis. This access is well-founded in regulatory requirements, which provide for auditor access to contractor books, records, documents, and other evidence and accounting procedures and practices, regardless of form (see 1-504.4). Auditors should also take advantage of any contractor-provided training for system end-users.

(8) Identify what additional hardware and software, if any, will be required to interface with the new ERP system.

(9) Determine if ERP implementation results in any cost accounting changes, disclosure statement changes, and/or cost impacts.

(10) Evaluate data conversion from the legacy system to the ERP system to ensure the integrity of the data entering the new system. Data conversion is generally a major project with the potential for significant errors. Contractors usually do not run their old non-ERP system in parallel with the new ERP system modules. However, an ERP system has many individual modules and each module may be implemented in a time-phased manner. For example, general ledger, cost ledger, and personnel modules could all be implemented at dif-

ferent times. Therefore, the auditor's early involvement in a single, or multi-phased, data conversion process is essential in order to ensure the integrity of the contractor's reconciliation of data between the old and new systems. The auditor should ensure that the contractor maintains ending legacy system balances in an electronic format reconcilable to beginning ERP system balances. The data must be reconcilable both to detail amount and to allocation to final cost objectives. It is also critical that the auditor ensures that the contractor maintains data conversion information at the necessary level of detail. For example, depending on the type of contract funding, data reconciliation at the contract level, CLIN level or some other lower level of detail, may be required to meet regulatory requirements and contract terms. Fourth generation software, such as SAS, can be employed to facilitate the auditor's review of the contractor's data conversion process.

b. The current functional, risk-based auditing approach inherent in DCAA's ten Internal Control System Reviews (ICSRs) is equally applicable to ERP systems. At contractors implementing ERP systems, the planning and timing of internal control audits should be concurrent with ERP system implementation. During ERP implementation, auditors should share with the contractor the control objectives that need to be satisfied as noted in CAM for each of the ICSR areas. It is generally more efficient to build-in internal controls initially, rather than to modify a system to add them later. If possible, the auditor should participate as a member of any IPT set up to audit internal controls during or after ERP implementation. These IPTs typically include members from DCAA, DCMA, contractor internal audit, external audit, and the ERP system vendor.

c. Treatment of ERP system costs. See 7-105, Accounting for Costs Related to ERP Systems.

## 5-407 Independent Management Reviews

a. Most organizations are subject to dynamic change, therefore, the internal controls should include the requirement for periodic independent management review. Typically, these reviews are performed by the internal audit function or external auditors engaged by the organization. Internal or external auditors should possess sufficient technical competence, independence, and authority to conduct objective audits of IT internal controls, and submit reports on findings and recommendations for improvement in all functional areas of the organization's information services environment. A consequence of these audits is the obvious requirement for follow-up and resolution of identified deficiencies. Refer to Chapter 4-1000, Relying upon the Work of Others, for additional guidance.

b. Many factors, including changes in computer center equipment, systems software, information systems personnel, user requirements, and the general business environment can weaken established internal controls. However, changes in the same elements can also strengthen internal controls and eliminate the necessity for some redundant controls and their associated cost. Periodic management reviews should be designed to identify any new requirements and to eliminate redundant controls. These reviews should be scheduled on a recurring basis.

c. In addition to independent management reviews, the quality of the services performed by a contractor's IT Department should be ensured by the establishment of a separate function within the department devoted to maintaining established standards of quality. Quality policies, practices, and procedures should be available and should clearly define the responsibilities of the quality function. Moreover, review plans, schedules, and measurements should be developed, standardized, and maintained by the quality function to establish criteria for the guidance of assigned personnel. Reports on the results of quality reviews should be prepared and submitted to user management and IT management.

## 5-408 Organization

The effectiveness of most internal control activities is dependent on the actions of personnel responsible for implementation of the controls. An organization's structure

is a significant control factor. A basic accounting internal control is the segregation of duties among those who:

(1) initiate and authorize transactions

(2) have custody of the asset acquired

(3) record accountability for the asset

Assigning different people the responsibilities of authorizing transactions, recording transactions, and maintaining custody of assets is intended to reduce the opportunities to allow any person to be in a position to both perpetrate and cancel errors or irregularities. This concept of segregation of duties is universal and must be maintained in order to achieve satisfactory internal control. The data processing function is subject to the same internal control criteria, both as an organizational element and as a functional department.

### 5-408.1 Independent Structure

a. Organizational and administrative controls are essential operational elements of most enterprises. The nature and extent of these controls depend on such factors as corporate culture, strategic importance of departments or divisions, legal requirements, assets employed, and a variety of other influences. Traditional organizational structures are based on the separation of functions by establishing independent departments reporting to senior officials or directors. For example, the finance department and the accounting department are typically independent, equal entities reporting to different officials. This organizational independence is viewed as a mechanism to prevent or minimize the opportunity for the perpetration and concealment of material irregularities and serves as a crosscheck to disclose potential errors. In this traditional organizational structure, each department usually accomplished its own clerical and data processing activities. However, with the advent of centralized data processing centers, many of the traditional departmental data processing activities were transferred to a separate centralized functional and organizational entity, the IT Department.

b. Centralization of data processing activities resulted in the concentration of many systems processing steps into one department. The concentration of traditional accounting data along with operating data is still a common practice in today's network computing environment. Such concentration is referred to as integration, in which related elements of different data processing activities are combined into common and coordinated procedures and a logical workflow. Integration assists in the preparation of desired managerial reports from a single record of each business transaction, and all transactions are processed in a unified system. The centralization of data processing into one department emphasizes the importance of proper control of the data processing center itself.

c. The IT Department should be positioned in the organizational structure to enable it to meet established overall objectives and to ensure operational independence from user departments. Therefore, the contractor should be able to demonstrate that the IT Department is not subjected to undue influence from other departments having the authority to initiate or authorize transactions. The IT function should be positioned within the organization at a level sufficiently high to ensure that its independence is not compromised. At small contractors, the IT Department might not report directly to senior management. In this situation, the contractor should be able to demonstrate that the level of management involved is sufficient to preclude the perpetration and concealment of material errors and misstatements.

d. The contractor should be able to show that the IT Department exercises adequate control over the data processed, and that they do not:

(1) initiate data for input

(2) have custody of or control non-IT assets

(3) have the authority to originate master file changes

The IT function should not correct errors unless the errors are generated as a result of information technology and they should also be prohibited from initiating or authorizing transactions.

e. Although the centralization of data processing activities still exists in current environments, many large and small enter-

prises are moving (distributing) their applications and data to where they can operate most efficiently in the enterprise, to some mix of desktop workstations, local area network servers, wide area network servers and Web servers. With each technological advance comes inherent organizational changes that may impact internal control within the enterprise. The auditor must give proper consideration to the network computing environment and the overall impact it has on assessment of internal controls over the processing of contract cost data.

### 5-408.2 Segregation of Duties

a. Just as there should be organizational independence between functions, there should also be independence or segregation of functions or duties within the IT Department. Management should provide for a segregation of incompatible duties within the IT Department. Examples of incompatible duties include:

(1) systems development and computer operations

(2) computer operations and data control

(3) database administration and systems development

b. Application development personnel having control over changes made to application systems and their eventual implementation, should not have access to the computer resources which process those systems. These type controls help prevent the introduction of unauthorized changes to the system. Likewise, computer center operations personnel who actually operate the computer system hardware should not have access to application systems libraries. This type control helps prevent unauthorized changes from being made to application software. Most large corporations employ some type of database management system (DBMS) directed by an administrator responsible for the control of database elements introduced into the system. Database administrators (DBA) should not have access to application systems that access and process the data in the system. Segregation of duties:

(1) provides an effective cross-check of the accuracy and propriety of changes introduced into the systems

(2) reduces the opportunity for computer operations personnel to implement revisions without prior approval and checking

(3) minimizes access to the equipment by non-operating personnel and other people who have knowledge of the system

(4) improves efficiency because the capabilities, training, and skills required in carrying out these activities differ greatly

c. The contractor should be able to show through IT Department organization charts and position descriptions that duties and responsibilities are adequately segregated. Small contractors may have organizational structures where some incompatible duties and responsibilities may occur. The contractor may be able to demonstrate the existence of compensating controls that mitigate these problems. For example, data processing functions might be under the cognizance of the finance department. Under these circumstances, the contractor should ensure that adequate controls are installed which will preclude undue influence on data processing operations.

### 5-409 Software Acquisition, Development and Modification

a. Information technology has substantially reduced the time available for reviewing transactions before the transactions are entered into an organization's records. Consequently, in poorly controlled systems, the opportunity for detecting transaction errors before they have an impact on operations may be reduced, especially in the case of real-time and database systems where records are subject to immediate update. To help provide reasonable assurance that software systems contain adequate controls and security, organizations should employ a standardized methodology when acquiring, developing, and modifying either systems software or applications software. The goal of this methodology should be to achieve:

(1) system effectiveness

(2) economy and efficiency

(3) data integrity

(4) resource safeguarding

(5) compliance with laws and regulations

b. The methodology to effect software acquisition and/or development can vary significantly among contractors and is influenced by many factors such as:

(1) size

(2) type of business

(3) organizational structure

(4) current business environment

Senior management should issue a written policy statement establishing a standard System Development Life Cycle (SDLC) methodology as a means for structuring and controlling the process of acquiring, developing, and maintaining systems and application software. The SDLC methodology should include the following controls:

(1) definition of requirement

(2) participation of appropriate personnel

(3) software documentation

(4) validation, verification and testing

(5) final management approval

c. Software development begins when the need for an automated solution to a problem is identified and validated. Definition of requirements produces the functional requirements and begins the detailed planning for the development of an operable system. It is critical that internal control and specific security requirements be identified during this process. Requirements definition should include:

(1) internal audit plan

(2) project plan

(3) functional requirements document

(4) functional security and internal control requirements document

(5) data requirements document

(6) description of sensitive and critical data

d. It is good practice to require participation of cognizant personnel in the development process to provide reasonable assurance that internal controls, security, user, and organizational requirements are addressed. Participants should include:

(1) IT management

(2) systems security officer

(3) internal auditors

(4) users

(5) quality assurance personnel.

e. The development methodology should incorporate standards for systems, program, and user documentation. Good documentation policies and procedures facilitate program modifications, staff training, and establish a starting point for a review of control activities. System documentation should include a description of the system, information flow, various programs required, interrelationship with other systems, computing resources required, and operating environment. In addition to narrative, the documentation should include flowcharts depicting system operation. Program documentation should include a detailed narrative explaining the objective of the program. It should contain detailed narratives and flowcharts of the processes incorporated into the program to accomplish data processing objectives.

f. An effective validation, verification, and test plan is an essential part of any development and program change methodology. It helps maintain the integrity of the applications by assuring that only authorized modifications, revisions, or changes are made. The plan must provide for the testing of software, including detailed program specifications, data set descriptions, internal controls, security specifications, and procedures for all tests, as well as data reduction and evaluation criteria. Results of the test should be well documented and reflect any corrective actions taken as a result of the test. The decision to implement a system without exercising a well-designed test plan presents serious risks to system integrity, reliability, and organizational operations.

g. Signed approvals should be obtained from the requestor, users, quality function, and IT management, prior to putting into production new or modified system software or applications software. This procedure establishes accountability for system results and provides an incentive to properly test and validate a system prior to implementation.

h. The contractor should be able to explain whether SDLC methodologies are employed for software acquisition, development, or modification and should also provide policies and procedures that gov-

ern SDLC implementation. Reviewing at least one completed or in-process project processed under the SDLC methodology may test the adequacy of SDLC implementation and compliance.

### 5-409.1 In-House Software Development

a. "In-house software development" refers to those programming applications that are developed, supported, and maintained by the applications programming staff of an IT organization.

b. When evaluating in-house developed applications, an important audit procedure is the review of an organization's systems development life cycle procedures to determine adherence to generally accepted system development standards. The primary goal of the contractor's IT organization should be to develop a usable, securable, auditable, maintainable, and controllable application system that produces consistent results to satisfy user requirements.

### 5-409.2 Software Modifications

Software modification activity should be adequately controlled to ensure that modifications, revisions, or changes to operational application systems are made only as authorized, within a controlled and secured environment. At a minimum, the following guidelines should be in place to ensure adherence to management's stated objectives:

(1) A standard maintenance policy should be established regarding application software modifications.

(2) Users should actively participate in software change or modification activities.

(3) Each system/software revision or change should be supported by a 'Request for Change' form with proper management and user approvals.

(4) Adequate systems analysis and detailed design and/or written software specifications should exist to support each system/software revision or change.

(5) There should be evidence of adequate testing and updating of applicable documentation to support each system/software revision or change.

(6) A clearly identifiable and traceable audit trail should be available for each software change or modification.

(7) There should be evidence of user sign-off or other written approvals before software changes are moved into production status. The approvals should be performed by an individual that is independent but yet knowledgeable of the process.

## 5-410 IT Computer Operations

Computer operations should provide reasonable assurance of the integrity of all activities impacting the physical operation of the computer and all peripheral components. Such activities may include system initiation, operator interaction, help desk assistance, print operations, and identification and correction of hardware and system software problems. As a minimum, controls should be established over:

(1) system documentation
(2) recording of transactions
(3) hardware and software changes
(4) hardware and software maintenance
(5) operational procedures
(6) telecommunications

### 5-410.1 System Documentation

a. Each major application system should be documented in a unique operations and maintenance manual. The manual should be available for use in all software testing and accessible by all appropriate operations personnel. To help provide reasonable assurance of the proper processing of the relevant application system, the manual should include:

(1) software function and hardware requirements

(2) interactive system operation, database involvement

(3) explanation of console messages, user screens queries, and related responses

(4) proper identification of output file labels for removable media, such as magnetic tape

(5) appropriate restart or notification procedures for error or failure conditions

(6) checkpoint controls for proper run-to-run control of program operation

(7) list of all reports generated by various run options for the system

b. The contractor should be asked to demonstrate that documentation on all system software is current and accessible only to appropriate system software personnel assigned to install and maintain the operating system and other system level software. Contractor data centers may be using on-line operations documentation in lieu of hard copy user manuals. Policies and procedures governing the creation and use of on-line operations documentation should be available.

### 5-410.2 Recording of Transactions

Manual and/or automated recording and reporting of systems processing activities are essential for safeguarding the integrity of the data processed. These reports, or system logs, provide audit trails for several functions, including system security, data backup/recovery, and general problem resolution. Examples of where system log entries provide operational assistance include:

(1) update and recovery of databases and data files

(2) system accesses

(3) computer performance

(4) hardware/software failures

(5) corrective actions

System logs are extremely important and should be implemented at any data center, regardless of the size of the data center.

a. Access Logs may consist of records of physical access to data processing areas and equipment, or records identifying a system user's logical access to some application or communication network. The contractor should demonstrate that access logs are retained for a reasonable period and that they are periodically reviewed for compliance with established policies and procedures.

(1) Physical access logs are normally contractor maintained manual records that record visitor access to the data center or employee access at times other than normal working hours. Physical access logs can be automated depending on the type of access control system employed. For example, encoded identification badges could be electronically scanned and matched to a listing of authorized entrants. The authorized badge holder would be allowed entry and the badge number would be recorded.

(2) System access (logical) logs record, by User ID, all accesses to computer resources or to the data communications network. System logs help in the detection of unauthorized attempts to access computer resources and data.

b. Transaction Logs are the audit trail of all changes made to data elements contained in applications systems, including batch and interactive systems. These logs are normally automated and are critical to data center backup and recovery operations. Transaction logs should record:

(1) all additions, deletions, and changes to the application data elements

(2) the user making the changes

(3) the day/time the transaction was made

The logs provide the primary source of data recovery if a system failure should occur. The contractor should be able to show that application system documentation provides for these audit trails and that the logs are fully operational. Documentation on system testing prior to implementation should contain information on the operational test of these logs for backup/recovery and identification of inadvertent transaction errors. The auditor should request that data center personnel demonstrate the existence of these logs and provide documentation of their use during backup and recovery.

c. System Activity Logs record actual utilization of the hardware resources within the data center. These logs would normally identify:

(1) the level of central processing unit (CPU) utilization

(2) direct access storage device (DASD) activity and utilization

(3) number of system users

(4) job activity

(5) other processing measurements needed to manage the performance and capacity of the hardware resources

The logs are a primary means of identifying processing problems created by in-

adequate or failing components. The contractor should be asked whether systems activity logs are being generated, since most operating systems provide an option to either not collect any data or to collect only a limited amount. The auditor should also verify the retention period for these logs. Normally, two to three months of systems activity data should be stored on DASD for on-line access, with an additional twelve to eighteen months of data stored on magnetic tape.

d. Maintenance Logs record all scheduled/preventive maintenance (PM) and corrective/remedial maintenance (RM) performed on the hardware components installed in the data center. PM provides reasonable assurance that required checks and procedures designed to minimize hardware failures are accomplished. RM is performed when hardware failures occur. RM logs are helpful in resolving recurring problems and identifying components requiring replacements. The auditor should determine whether the contractor maintains the PM and RM logs on a timely basis. The logs may be manually maintained or automated. The PM log should reflect the hardware manufacturer's basic requirements for periodic maintenance.

e. Problem Logs are maintained by the data center to identify system and application problems and to track the problems until corrected. The logs may be manually maintained or automated. The contractor should be able to show that the log is in use and that all recorded problems have been acted upon. At many contractors, problem logs are the responsibility of the Help Desk function. Information systems (IS) problems or questions are directed to the Help Desk from throughout the organization. Help Desk personnel are responsible for logging the call, identifying the problem, resolving the problem, and documenting the series of events. The Help Desk may transfer the issue to another resolution source. The functions of the Help Desk should be documented in a standard procedure approved by IT management and distributed to all IS users.

f. Software Change Logs provide a record of all installations of system level software and applicable changes. They are an important part of change management and should be well documented in the policies and procedures governing change control. The changes may be vendor supplied or in-house changes required to customize the software to the contractor's special needs. The types of software involved would be operating systems, utilities, compilers, database management systems (DBMS), and other non-application software products. The logs may be manual or automated. The auditor should determine whether this type record is maintained, and that it:

(1) contains all changes made to non-application software

(2) is accurate

(3) is current

There should be few in-house changes to operating system, utility, and computer software. The auditor should obtain copies of the contractor's work orders to the systems software developers to incorporate in-house changes in the next release of the system software.

### 5-410.3 Operational Procedures

a. Most computer hardware has the capability to detect and record hardware failures, although some systems are not designed to take advantage of available controls. Failure to utilize available hardware controls could result in significant processing errors. A number of undetected minor errors can have a cumulative effect that could result in a major system or subsystem failure.

b. Active preventive maintenance (PM) and remedial maintenance (RM) programs are necessary to keep data center equipment operational. The data center should maintain a current schedule of all PM to be performed as required by the equipment manufacturer and should ensure that the PM is completed as scheduled. Contracts should be negotiated with equipment manufacturers or related equipment maintenance providers to provide timely RM in the event of hardware failure. For example, response time for making repair to hardware components that are critical to the continuity of operations, should, on average, approximate no more than four hours.

c. The auditor should determine whether the contractor has installed all vendor supplied failure detection software and that operations personnel monitor the output on a routine basis. The auditor should evaluate the PM schedules and obtain contractor verification that PM has been performed as scheduled. The contracts for RM should be evaluated on a selective basis to ensure that maintenance responses are appropriate for critical hardware components.

**5-410.4 Telecommunications**

a. Over the years, contractors have steadily migrated from the traditional batch processing environment to an on-line access and processing environment. Although batch processing remains an important element of most data center activity, an even greater number of jobs are being submitted through on-line access procedures. The current environment also supports significant database activity as a replacement to storage and retrieval of data from conventional sequential type data files. Database activity includes centralized database operations having many users accessing the same centralized database. It also may include distributed operations where users are accessing only their portion of the entire database which may reside at the mainframe data center or at a local node (connection point) on the network. A network is a series of points or nodes interconnected by communication paths. Networks can interconnect with other networks and contain sub-networks.

b. During an audit, the auditor may encounter various network configurations in use within the contractor's telecommunications network. Common network technologies currently employed are the Internet, Intranet, Extranet, and Ethernet:

(1) The Internet is a cooperative public network of shared information that uses a subset of the total resources of all the currently existing public telecommunications networks. It is a worldwide "network of networks" that uses the TCP/IP (Transmission Control Protocol/Internet Protocol) which is the universal protocol suite for Internet communications. TCP manages the packaging of data into packets that get routed on different paths over the Internet and reassembled at their destination. IP manages the address of each data packet so that it is routed to the right destination.

(2) An Intranet is a network that is contained within an organization and services it exclusively. It may consist of many interlinked LANs and may also be linked to other functional elements of the organization via a WAN (wide-area network). Some Intranets, depending on their configuration, may be connected to the Internet through one or more gateways.

(3) An Extranet is a collaborative network that uses Internet technology to link enterprises with their suppliers, customers, or other businesses that share common goals. An Extranet can be viewed either as an element of a firm's Intranet that is made accessible to other companies or as a collaborative Internet connection with other groups.

(4) Ethernet is the most widely installed LAN technology. It is normally comprised of a network of interconnected workstations that are sharing resources.

c. The on-line or distributed users may access mainframe and peripheral hardware located in the data center through the contractor's or a commercially available telecommunication network. The telecommunications network may be a direct connection between the users and the data center or through other communication circuits, including landlines, microwave transmitters, or dial-up connections. In general, telecommunications circuits are vulnerable to access by unauthorized users; consequently, the effectiveness of the contractor's controls and management of the network should be closely scrutinized.

d. In evaluating the various aspects of a telecommunications network, the auditor's attention should be directed at the internal controls over the financial data being passed through the network rather than at the technical aspects of how the processes take place. If necessary, technical assistance should be requested to

supplement the auditor's knowledge and experience level. To adequately address the internal control issues relative to the telecommunications network, the following audit objectives should be considered:

(1) Evaluating controls over data communication messages and data communications software.

(2) Reviewing administrative procedures and the effectiveness of the configuration management and network security functions.

(3) Evaluating controls over system security software.

(4) Evaluating the adequacy of policies, procedures, and controls over electronic-mail system.

(5) Determining the adequacy of security and integrity controls over local area networks (LANs).

(6) Assessing the adequacy of network change procedures and controls.

e. The contractor should be asked to demonstrate that a network management or other designated group has the responsibility to manage and control telecommunications resources. Standards for operation of the network should be published and distributed to all designated network users. The auditor should verify with network management personnel that all sensitive data in the network have been identified and that adequate precautions have been implemented to protect this data. The network hardware and software should be secured to minimize the possibility of unauthorized access to the telecommunication network. See 5- 411 for additional information on auditing the physical and logical security requirements for protection of hardware, software, and data.

### 5-410.5 Uninterruptable Power Supply (UPS)

Larger contractor data centers will have UPS units installed to furnish auxiliary electrical power in the event the normal power supply is disrupted. UPS configurations can vary between a simple battery backup to facilitate orderly power down of the system, to elaborate battery and motor-generator units that provide sufficient electrical power for the system to continue full operation. The contractor should have documentation regarding UPS operation and should demonstrate that the UPS is tested on a periodic basis.

## 5-411 Data Processing Security

a. Information is one of the most valuable resources an organization possesses. Access to the computing resources that process this information should be limited to users having a documented and authorized need for such access. Layers of physical and logical access controls should be provided to protect the organization's computing resources against damage, loss, or unauthorized use or modification.

b. Responsibility for assuring both the logical and physical security of the IT Department assets and processed data should be assigned to a security administration function that reports to senior management. The security administrator designee should have no conflicting job responsibilities or other incompatible duties assigned which would reduce the effectiveness of the position. For example, he or she should not perform systems or applications programming functions, operate the mainframe, or perform data entry duties. Where Security Administration is a part-time function, those duties should be performed under an exclusive User ID and all activities under this User ID should be logged and regularly reviewed by an appropriate person in the IT Department. The auditor should determine whether the security administrator position has been established, is currently filled, and that effective controls are in operation.

### 5-411.1 Physical Security

a. Physical access controls help protect computer center resources from unauthorized modification, theft, and/or destruction. Data centers should employ these controls to limit physical access to computing resources to only individuals who have been authorized to have such access. The auditor should request a demonstration by the contractor of all physical controls to verify

that established policies and procedures have been effected.

b. Facility Security - Physical access to computer resources should be restricted to personnel having an authorized need for the access. Access control can be obtained by minimizing the number of entrances and exits at the site and by installing security devices requiring keys, badges, cipher codes, or other means to impede and control entry into the installation. Personnel access devices such as badges, cipher lock codes, and keys should be changed or recoded periodically, especially when employees who have had access to the computer center are terminated. Positioning the computer center in a relatively inaccessible area helps provide physical security. External identification of the facility should be limited to avoid bringing unwanted attention to the data processing department. IT personnel should not be authorized access to all areas of the data center. For example, computer operators should be restricted from data entry areas and systems programmers should be restricted from accessing the operations area. The auditor should verify that physical security has been provided for all computing resources including CPUs, peripherals, and telecommunications hardware.

c. Personnel Authorization - A current list of personnel authorized physical access to the installation should be maintained by the security administrator. Procedures should require the notification of the IT Department when an employee is no longer authorized access to the computer facility or other related resources. These procedures should also require that authorized visitors to the computer facility be escorted while in the restricted areas. The auditor should verify that a current list of personnel authorized entry into the data center is available. Also, a list of recently terminated or transferred employees could be obtained and compared with the latest authorization list to ascertain the timeliness of the data center access revocation procedure.

d. Inventory - A current inventory of IT Department computer hardware and software should be maintained outside the facility. The inventory could help facilitate the replacement of computer processing equipment following a disaster in which the data center was damaged or destroyed.

e. Alternate Storage Facilities - Offsite storage facilities should be used to store backup copies of critical data and program files. The contractor should ensure that procedures are in effect for the identification of critical data, system, and application files, and that there is a requirement for the routine backup and transportation of these files to an offsite storage facility.

f. Environmental Protection - In addition to the usual fire and safety precautions normally installed to protect computer hardware facilities, other special equipment, devices, or methods may be employed to further help protect sensitive computer hardware. For example, fire suppression devices that use dry chemicals or gas, such as Halon, may be installed. The auditor should obtain a description of the environmental safeguards available at the site, and evaluate the applicable policies and procedures in effect to monitor their operation.

g. Monitoring - In addition to controlling physical access to the computer facility and computing resources, continuous monitoring of personnel accessing the facility and resources should be effected. A log of all visitors to the data center should be required. Contractors may have automated security systems that require the use of magnetically encoded badges to unlock doors and automatically log personnel entries and exits to the facility.

### 5-411.2 Logical Security

Logical controls are encoded or embedded into systems and application software with the objective of restricting or permitting access only to users who have been properly authorized such access. Examples of logical controls are User IDs, and uniquely created systems passwords.

a. Systems Software - System logical security is accomplished through the use of the security features of the operating system or through the use of commercially acquired security software. In smaller data centers, the operating system security features may be the only software security

package in service. The security administrator should control access to the computer system through the assignment of unique user identification codes. The effectiveness of the policies and procedures which address the assignment of User IDs should be reviewed. The security administrator should not assign user IDs unless specifically authorized by the appropriate management. Systems users should be required to periodically change their passwords. Procedures should require that employees, who are terminated for any reason, have their access to system resources immediately revoked. All User IDs should be recertified on a periodic basis and system access revoked for current employees whose job duties no longer require access to system resources. The auditor should review IT policies and procedures to determine whether logical security options are identified and in use. The auditor should verify that:

(1) system access cannot be effected without a valid User ID and password

(2) password input is masked

(3) passwords contain at least six characters

(4) passwords are changed periodically

b. Application Software - User access should be restricted to those applications required to accomplish assigned duties. Application restriction is effected through operating system security or commercial security packages. Commercial security software normally invokes automated rules that restrict system users' access to certain applications or database elements. These rules are usually established for certain classes of users. For example, personnel involved in material inventory would not be permitted access to financial data or programs used by payroll personnel, and vice versa. Security system rules may be further profiled to restrict access to certain users within a class. For example, a payroll clerk may not have the same user rights as the payroll supervisor. Moreover, read only, write only, and read/write authorizations over selected datasets are possible.

c. The auditor should coordinate regional technical assistance, as necessary, to verify that contractor acquired security software have been placed in operation and that appropriate security rules have been invoked to protect all systems/application access/software processed by the data center. Contractors have been found to install expensive logical security packages and then not use the full security capabilities of the system. The overall security administration function should be evaluated for adequacy, especially at the user level where access authorization for the various application is usually effected. Where database management systems are used, a database administrator may be the authorizing agent for assigning access levels to users. The auditor should verify that security personnel who authorize/assign user access to systems, promptly revoke access when the user transfers to a function not needing the level of access authorized or is terminated.

d. Dial-Up Security - Computer systems having communications capabilities can be accessed over common communication lines. This means that the physical security that protected the computer may no longer be effective. Where the computer can be accessed through a dial-up network (the CPU has a phone number), any telephone can theoretically access the system. Once the computer is accessed from a remote location, logical security should prevent unauthorized entry. Several dial-up security techniques are used. Some dial-up security systems call a subscriber back at a predetermined number; other techniques involve synchronous and/or encrypted methodologies. The auditor should review contractor procedures involving data center dial-up activity and determine whether dial-up is properly controlled and monitored.

e. The security software in operation (i.e., commercial security software or the operating system security software) should log all system access attempts. This access logging information should be used to generate violation and security activity reports which should be monitored by the contractor to identify and resolve incidents involving unauthorized activity. The auditor should review the contractor's procedures for monitoring and resolving reports of security violations and associated activities

and verify that these procedures are being followed. The auditor should also determine that the contractor's records of security violations are protected from inadvertent or intentional destruction. Repeated failed access attempts should be identified, reported by the security system, and investigated by security personnel to determine the cause. This could be an indication that someone is randomly entering User IDs or passwords in attempting to gain unauthorized access to the system. The auditor should verify that User IDs that have not had activity for a reasonable period are deleted and determine whether terminated employee User IDs are revoked in a timely manner.

f. The contractor should provide employee training in logical access to computer resources. Unambiguous logical access procedures should be developed and provided to all employees accessing computer resources. The auditor should verify that the contractor is providing adequate staff training in this area.

g. Modern data centers often consist of several computer platforms (mainframes, local area networks, workstations, and individual PCs) and a variety of security software and application software. Generally, each software system has its own inherent security that must be considered in order to assess the overall security level in effect within the data center. Users can pass through several computer platforms and security software systems, and possibly access more than one data center, during a single session. It is therefore important for the auditor to determine that security controls are in place over all operating environments. Logical security systems should be in use for the mainframe and its resources. The security software should also protect the communications network. Security software should also be in use for interactive processing systems and for database management systems. The auditor should identify the security systems in use at a data center, and the interaction among them, in order to verify that the contractor's data is being adequately protected from unauthorized access.

h. Application systems that are developed by the contractor or acquired commercially should follow a sequence of migrations as part of the implementation strategy. Data are first placed in a test environment. When testing is completed, the data are migrated to an acceptance/training environment, and finally, to a production environment. Generally, there will be a separate set of users and data for each environment. For example, in a database management systems (DBMS) environment there would normally be separate operating copies of the software and data for each environment. The security should be more restrictive as the application migrates from the testing to the production environments. The auditor should determine whether the contractor has a software migration strategy which is being used, and that security access levels for each environment have been granted based on a demonstrated need.

i. In a telecommunications network environment, firewalls play an important role in ensuring that an access control policy between two networks is enforced. A firewall is a program that protects the resources of one network from users from other networks. For example, an enterprise with an Intranet that allows its employees access to the outside Internet, will want a firewall to prevent outsiders from gaining access to the enterprise’s private data resources.

## 5-412 Data Processing Contingency Planning

Contractor policies and procedures should contain provisions for the continuation of IT operations in the event of a disaster or failure that renders the IT center inoperable. Contingency (disaster recovery) plans should be in place for the backup and recovery of IT department services in the event of unanticipated interruptions to IT operations. Contingency planning can be critical to the resumption of operations in the event of a major hardware or software failure for whatever reason. The plan should include:

(1) identification of critical processes and data

(2) provision for an alternate-processing site

(3) offsite storage of critical application programs and data

(4) provisions for periodic testing of the plan.

The auditor should review the contractor's IT Disaster Recovery Plan to determine whether the plan reasonably addresses the actions to be taken in the event of a disaster and identifies personnel and their responsibilities in restoring data processing operations.

### 5-412.1 Critical Processes and Data

Contingency planning should provide for priorities in the establishment of the processing of specific critical or sensitive application programs. Critical data processing applications, operating systems, and data files need to be identified and placed on a list of priorities for the establishment of services based on the nature and extent of a likely disaster. Priority on the list should be minimally based on a reasonable expectation of elapsed time before normal data processing operations are restored, and the potential loss to the organization if the processing of the application is not restored in a timely manner.

### 5-412.2 Alternate Processing Site

Contingency plans should contain provisions for an alternate processing site and appropriate data processing hardware needed to restore data processing operations after a disaster occurs. The contractor should have a written agreement or contract with the alternate site specifying the procedures each party will follow in the event of a disaster. Criteria for selection of the alternate site should include:

(1) compatible computer hardware

(2) sufficient time and processing capacity

(3) periodic tests of alternate site computer hardware

The auditor should review the contractor's alternate site plans to determine whether they are current and address equipment, capacity, and timing requirements. The auditor should review contract provisions the contractor has made with alternate-site vendors and equipment providers to determine whether an adequate site and essential computing hardware will be operational within the time limits prescribed in the contingency plan.

### 5-412.3 Offsite Storage

Normal systems operations should include routine back up of data files, application programs, and system software. The auditor should review the contractor's procedures for storage of these files at a location that should not be affected in the event of computer center disruption and would be available for use in data processing recovery at the alternate site. The auditor should also review the contractor's procedures and actual practices for storing files offsite.

### 5-412.4 Contingency Plan Testing

Contingency plans should be tested periodically to determine their effectiveness. Results of the tests should be documented. Deficiencies noted during the test should be resolved in a timely manner. The auditor should review the results of the test plan to determine whether all elements were tested and that deficiencies noted during the test were satisfactorily resolved.

## 5-413 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on internal controls relative to the contractor's accounting and management systems.

# 5-500 Section 5 --- Audit of Contractor Budget and Planning System Internal Controls

## 5-501 Introduction

Refer to 5-101 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal controls and assessing control risk.

## 5-502 Budgeting and Planning Concepts

a. Plans and budgets are key managerial tools used to plan and control operations. A plan or budget identifies expected revenues to be received and resources to be expended in achieving an organization's goals during a specified future period. Plans and budgets provide a control to measure performance. In general, a plan or a budget:

(1) is stated in monetary terms

(2) covers a specific period of time (generally one year for the master budget and several years for long-range plans)

(3) implies commitment (i.e., managers agree to accept responsibility for attaining budgeted objectives), and serves as a motivational tool for individuals to strive to achieve stated goals

(4) is reviewed and approved by a management level higher than the unit preparing the budget

(5) can only be changed under specified conditions

(6) is compared to actual performance, with variances being analyzed and explained

b. Planning and budgetary systems vary among companies according to organizational size and structure, type of product or service, accounting system, personal preferences of corporate officials, and other influences. Planning and budgeting systems can be manual or automated. However, in larger companies IT systems are used more extensively to collect and analyze data and prepare plans and budgets. Plans and budgets may be prepared on either a functional or organizational basis. Generally, a contractor's planning and budgetary system should have:

(1) A functional organization with defined organizational responsibilities, a written description of the workflow in the planning and budgeting process, and policies and procedures for effectively controlling the process.

(2) A strategic and long-range planning process to develop the long-term goals and objectives critical to the operation of the company.

(3) Effective techniques for preparing budgets.

(4) Procedures for comparing actual performance to the budget, identifying and analyzing variances as work is accomplished, studying the impact on remaining effort, and initiating necessary corrective action. Procedures should provide for promptly revising estimates to complete and notifying the government of projected overruns or underruns.

(5) A replanning capability to react to significant changes in assumptions, such as a major fluctuation in the forecast volume.

### 5-502.1 Access to Budgets

a. Plans, budgets, and forecasts meet the definitions of "records" and "data" contained in FAR 52.215-2, "Audit and Records - Negotiation," and 52.214-26, "Audit and Records -Sealed Bidding." The applicability of these FAR sections are agreed to by contractors when submitting price proposals and executing contracts with DoD components. These contract clauses give the auditor the right of access to a contractor's planning and budgetary data after contract award. (Also see 1-504, Access to Contractor Records.)

b. Recognizing that planning and budgetary data is generally considered proprietary and sensitive by contractors, sound judgment must be exercised in determining which records and data are needed. (For example, data such as pricing formulas for commercial products may not concern the government.) In requesting budgetary data, informal arrangements acceptable to the auditor concerning the timing and frequency of access may be established, but see 1-504.1f.

c. Planning and budgetary information generally required during the performance of the internal control audit includes:

(1) identification of all budget documents and reports;

(2) policies and procedures concerning the preparation, authorization, and approval of budgets; and

(3) all current operating plans, budgets and performance and variance analysis reports for use in testing system effectiveness.

d. When the contractor denies access to such records, follow the procedures outlined in 1-504.

**5-503 General Audit Policy**

a. Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. It is DCAA's policy that contractor planning and budgetary system internal control audits be performed at least every three years at large business contractors which in their preceding fiscal year received DoD prime contracts or subcontracts of at least $50 million which required cost or pricing data. These audits are oftentimes conducted in conjunction with the estimating system audit (5-1207.3). These audits may be waived or modified if past experience and a current assessment (see 3-300) indicate low risk. This determination of low risk must be fully documented in the planning document supporting the program plan. If the audit risk is considered to be high, budgetary system audits should be performed more frequently. These audits should also be considered at smaller contractor locations where there are indications of significant budgetary system problems.

c. If the audit risk assessment indicates that only certain parts of a contractor's budgetary system are subject to high risk, only the high risk areas would require a complete audit. Areas of little or no risk need not be audited so long as the low risk determination is adequately documented.

d. FAOs with audit cognizance over corporate and/or group offices allocating substantial costs to other segments for ultimate allocation to government contracts are responsible for performing budget audits at these offices and providing the results of the audit to the segment auditors. Auditors at segments receiving these allocations are to request such audits as needed.

**5-504 Audit Objectives**

a. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

b. The primary audit objective in auditing contractor budgetary systems and data is to establish that a sound budgetary system is operating for company planning and cost control purposes. A secondary objective is to obtain a comprehensive overview of the contractor's financial planning process. Related objectives are to determine whether:

(1) Costs estimated and/or incurred for government work are developed, recorded, and controlled on a basis consistent with management's latest, "most probable" plans.

(2) Direct and indirect efforts for government contracts are estimated and performed efficiently and economically.

(3) Significant changes in plans and circumstances are reflected promptly through controlled and documented revisions to budgets and estimates to complete.

(4) Reports to the government on major contracts and weapon systems are consistent with the contractor's latest budgetary data. These latter objectives should be considered for in-depth coverage during audits of forward pricing proposals and indirect rate forecasts (Chapter 9), audits of contractor compliance with the Earned Value Management System (EVMS) criteria (11-200), and postaward audits (14-100). To ensure adequate evaluation of the system and related output, and to preclude any duplication of effort, programmed surveillance should be coordinated with the CAO EVMS monitor (11-204d).

**5-505 Scope of Audit**

While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105. In general, the audit scope should include:

(1) obtaining an understanding of the contractor's planning and budgeting system and related internal controls;

(2) documenting the understanding of the planning and budgeting system internal controls;

(3) testing the operational effectiveness of planning and budgeting system internal controls;

(4) assessing control risk as a basis to identify factors relevant to the design of substantive tests; and

(5) reporting on the understanding of the internal controls, assessment of control risk, and adequacy of the system for government contracts.

## 5-506 Budgeting and Planning - Functional Organization

a. The planning and budgeting function may be organized differently by individual contractors because of differences in their products or services, industry practices, size and type of organization, degree of departmentalization, management attitudes, personnel capabilities, and other factors. Responsibility for developing plans and budgets may be centralized in a planning or budgeting group or delegated to the various participating departments. However, the planning and budgeting function should be soundly organized on the basis of a definitive flow of authority and standard policies and procedures established at a top or upper management level.

b. The contractor should establish clear responsibility for preparation, review, and approval of plans and budgets, to include establishing and maintaining:

(1) Written documentation of current organizational responsibilities and the duties of budgeting personnel.

(2) A system description of the work flow in the budgeting process from the development of strategic objectives to budget execution and revision.

(3) Written policies and procedures.

### 5-506.1 Organization

Evaluation of a contractor's planning and budgeting organization requires analysis of the relationship of the organizational segments participating in the planning and budgeting process. When evaluating the organization of the contractor's planning and budgeting process, the auditor should consider whether:

(1) Preparation of required plans and budgets is effectively controlled either on a centralized or decentralized basis.

(2) Lines of authority, duties, and responsibilities are clearly defined, including responsibilities for preparing, reviewing, and approving plans and budgets.

(3) The planning and budgeting process is properly coordinated among segments of the organization responsible for developing related parts of plans and budgets.

(4) The department responsible for overall compilation of the plans and budgets has authority to review and question the reasonableness or accuracy of feeder information received from other departments.

### 5-506.2 System Description

a. The contractor should maintain a written description of the work flow in the planning and budgeting process from the development of strategic objectives to budget execution and revision. This description should contain sufficient detail to allow the auditor to obtain a thorough understanding of how the planning and budgeting system operates. The description should include references to written policies, procedures, and operations manuals. Information should be provided for each process or function within the system as well as existing internal controls.

b. The contractor's system description should identify the duties of personnel responsible for preparing, reviewing, and approving plans and budgets, and the various functions contributing to the planning and budgeting process.

c. If the contractor’s system is fully or partially automated, the description should include the IT aspects of the Budget and Planning system transaction flow, including data input, data processing, and data output.

### 5-506.3 Policies and Procedures

a. Written policies and procedures help ensure that:

(1) delegated duties and responsibilities are formally documented and communicated to employees

(2) specific planning and budgeting controls operate consistently from period to period

(3) established plans and budgets are consistent with management's goals and objectives. A formal written statement of policies and procedures rather than an informal one based on established customs of the organization should exist at all contractor locations with substantial government business.

b. Planning and budgeting policies and procedures represent the means by which goals and objectives established by management are translated into detailed guidance and direction to personnel engaged in the planning and budgeting process. Policies and procedures should cover all aspects of the planning and budgeting system, be approved by an appropriate level of management, communicated to appropriate personnel, and periodically reviewed to ensure that they are consistent with management's intentions. When evaluating the contractor's policies and procedures, the auditor should consider whether they:

(1) Address all major duties and responsibilities in the planning and budgeting system. The auditor should be alert for aspects of the planning and budgeting process which are not covered by policies and procedures. Additionally, the auditor should note any instances where actual practices are inconsistent with established policies and procedures. In these instances, the auditor should consider the underlying cause for these inconsistencies (i.e., failure to adequately communicate changes in established policies and procedures).

(2) Are approved by an appropriate level of management to signify the delegation of authority and to effectively convey management's commitment to following established policies and procedures. The auditor should carefully assess the level of management approval to determine if it is appropriate given the nature of the duties and responsibilities being assigned. While not inherently indicative of poor policies and procedures, failure to involve an appropriate level of management in the approval process can result in a perceived lack of importance and ultimately a lack of compliance.

(3) Were communicated to those individuals within the organization who are responsible for executing them. This communication involves not only making sure that appropriate employees are aware of established policies and procedures but providing the necessary training to ensure that they understand how to execute them.

(4) Have been subject to periodic reviews to ensure that they are consistent with current management intentions and actual planning and budgeting practices. Failure to keep established policies and procedures current is indicative of a poor internal control environment and typically leads to ineffective internal controls over the planning and budgeting process. For this reason, management should have a systematic process in place to periodically review and update the planning and budgeting policies and procedures, including applicable IT policies and procedures. The required frequency and depth of these audits depends on the nature of the contractor's business. If the contractor is undergoing significant organizational changes or major restructuring of its business operations, the planning and budgeting system should be closely monitored to ensure that it continues to produce plans and budgets which are consistent with management's goals and objectives.

### 5-507 Budgeting and Planning - Strategic or Long-Range Goals

a. Strategic or long-range planning refers to the process of developing general goals and objectives for a business unit, and the broad strategies to be used to attain them. It provides general direction covering a three- to ten-year period and forms the basis from which a more detailed plan, encompassing a shorter period and generally known as the master budget, is developed.

b. The strategic plan is generally a narrative document. It affects the physical,

financial, and organizational structure in which operations are carried out and addresses the direction of the company regarding new markets, market share, profit objectives, sources of new capital, and the acquisition or elimination of segments, facilities, or product lines. Based on these considerations, a plan for future operations which provides for alternative courses of action under various conditions that may arise is developed. Contractors should review these plans periodically and revise them when new information yields different conclusions.

c. Long-range plans may include forecasted financial statements, cash flow projections, and various other data. This data is sometimes in graphic form and similar to that contained in short-range budgets. A typical long-range plan contains information on predicted sales and profit trends by major product line, backlog, potential awards, new product lines, diversification plans, planned plant facilities, staffing requirements, and independent research and development plans.

d. Strategic or long-range plans of major defense contractors generally include information which significantly affects proposals and contracts for long-term government work. They may reflect contemplated substantial increases or decreases in future work load affecting plant population (payroll costs), plant expansion (depreciation or lease costs), physical moves (relocation costs), idle or excess facilities, and bases for determining overhead rates. In addition, they may reflect possible future financial problems in periods beyond those reflected in master budgets.

e. An adequate strategic and long-range planning process will ensure that important information related to the physical, financial, and organizational structure of the organization are available for the development of effective budgets. The development of a strategic or long-range plan is the first step towards identifying and documenting how management intends to accomplish the goals and objectives of the organization. Strategic and long-range plans, while broad in nature, set the foundation for more detailed planning and budgeting decisions. When evaluating the effectiveness of the contractor's strategic and long-range planning process, the auditor should consider whether these plans:

(1) Cover all areas which impact the overall operation of the company.

(2) Are documented in sufficient detail to enable assessment of the reasonableness of the underlying assumptions.

(3) Are communicated to personnel responsible for preparing long-range plans and related budgets.

### 5-507.1 Scope of Planning Activities

Strategic and long-range plans should cover all areas which have an impact on government contract pricing, costing, billing, or related reporting requirements. These areas may include such things as projected business volume, planned reorganizations, anticipated plant expansions/retirements, etc. Contractor strategic and long-range plans should cover, at a minimum, the length of current and forecasted government contract activity to ensure that sufficient information exists to prepare related contract reporting requirements (i.e., estimates at completion) and proposals for anticipated contract awards.

### 5-507.2 Documentation of Plans

Strategic and long-range plans should contain sufficient documentation for the auditor to assess the reasonableness of underlying assumptions and to facilitate the communication of key information to personnel responsible for preparing related budgets. For example, contractor plans regarding future sales volume should contain sufficient detail and documentation to assess the reasonableness of the assumptions used to arrive at firm and projected government and commercial business. While contractors are not expected to develop infallible estimates, they should be able to present evidence in support of the reasonableness of such estimates in cases where those estimates will impact the pricing, costing, billing, or related reporting on government contracts.

### 5-507.3 Communication of Planning Information

Key financial and related information contained in the strategic and long-range plans should be communicated to personnel responsible for preparing related budgets. While most contractors will not routinely release their strategic or long-range plans to the general work force, they should have in place a process for releasing key information to those individuals who are responsible for preparing budgets. This communication is essential to ensuring that budgeted amounts accurately reflect management's current business plans and forecasts.

### 5-508 Budgeting and Planning Preparation

Budgets are detailed and comprehensive plans for the immediate budget period, normally covering one year. They are developed through the coordinated planning of all functions and activities within an organization and consist of two major elements, the operating budget and the financial budget. The entire master budget is usually distributed only to executives and top-level managers. Lower level managers usually receive only those sections for which they are responsible.

a. Operating budget. An operating budget is a forecasted net income statement consisting of several sub-budgets (e.g. sales, cost of goods sold, direct and indirect expenses) and summarizing the individual budgets of each department or function within an organization.

(1) Sales budget. The sales budget is the starting point for the entire master budget. From the sales budget, resource requirements are developed for work already under contract, new work expected during the budget period, administrative functions, and independent research and development efforts. Required resources include total staffing needs, space, capital expenditures, utility requirements, direct and indirect material needs, employee fringe benefit costs, and others.

(2) Program or production budgets. A program or production budget is part of the operating budget. It is a summary type document used to project direct and indirect resource requirements needed to meet forecasted sales volume. It typically includes a series of sub-budgets. These sub-budgets are generally for direct labor, direct material, other direct costs, and overhead. It may also include quantity and scheduling information on parts, major assemblies, and deliverable hardware. Once quantity requirements are defined, each of the various sub-budgets is developed based upon those requirements. Program budgets are generally prepared for each accounting period by contract, program, or product line. The level of detail in a program budget varies, based on program size and contractual requirements. The estimated effort in the program budget should reconcile to similar data in the operating budget, and the overall management controls imposed by the operating budget also apply to individual program or contract costs. Automated systems used in the process should include controls which identify and report reconciliation errors. Some small tolerances may be built into the system; for example, insignificant dollar amounts or percentages. However, these should be clearly identified with controls in place to prevent changes without proper authorization.

(3) Staffing budget. The staffing budget shows staffing requirements for both direct and indirect employees.

b. Financial budget. The financial budget is a forecasted balance sheet consisting of sub-budgets, typically the capital expenditure plan and cash flow projections. A capital budget shows total planned capital asset acquisitions, each designed to contribute to the productive facilities required to support planned volume. It formalizes capital expenditure funding and is typically approved by a special appropriations committee. (See 14-600.)

c. Motivational budgeting. Some companies use a budgeting philosophy known as motivational budgeting whereby management establishes extremely tight goals and targets as a means of motivating better performance and cost reductions. When such techniques are used, they are usually reflected in the budgets of lower level managers from whom resources expected to be available are held back. Sometimes these resources are ultimately

distributed. On the other hand, top management may never intend to allocate these resources to the operating managers but instead use them as a control device against which to offset unfavorable variances. By using this technique, top management establishes different goals or levels of expected performance for selected segments of its organization. Accordingly, the auditor must determine that staffing level forecasts and supporting expense projections in operating level budgets reconcile with the higher level master budget. If significant differences are found, the auditor should obtain an explanation, and assess the reasonableness of any management reserves.

d. An adequate budgeting process will ensure that budgeted amounts reflect the reasonable cost of work to be performed. The preparation of effective budgets is an essential part of any contractor cost control effort. It not only serves as a baseline for evaluating performance but also helps identify areas requiring special attention. When evaluating the effectiveness of the contractor's budget preparation process, the auditor should consider whether controls are in place to ensure that budgets are:

(1) prepared for appropriate time periods and in all areas which impact government contracts;

(2) prepared in a timely manner;

(3) consistent with strategic and long-range plans;

(4) aggressive but attainable;

(5) approved by an appropriate level of management; and

(6) communicated to appropriate individuals within the organization.

### 5-508.1 Scope of Budgets

Budgets should be prepared for all major aspects of the contractor's operations which have an impact on government contracts. The auditor should be alert for areas of the contractor's operations in which budgets are not prepared or prepared in insufficient detail to serve as a baseline for controlling costs. In addition, budgets should cover a sufficient period of time to allow for the effective management of the operations being budgeted. For example, budgets for overhead or general and administrative expenses typically cover a single operating period while program budgets or capital expenditure budgets may cover several years. The auditor must exercise considerable care in evaluating the scope of the contractor's budgeting activities and the effect that it has on other contract audit effort, particularly contract pricing.

### 5-508.2 Timeliness of Budgets

Budgets should be prepared and finalized early enough in the budget cycle to maximize the amount of time individual managers have to meet the budget objectives. Failure to develop budgets early in the budget cycle can result in ineffective control over cost incurred prior to implementation of the budget. This can often create additional pressure for managers to redirect costs in an effort to meet the budget objectives. The auditor should consider whether or not the contractor establishes a formal timetable for the budget preparation process and controls the process to identified milestones.

### 5-508.3 Consistency with Strategic and Long-Range Plans

Budgeted amounts should reflect the goals and objectives contained in the contractor's strategic and long-range plans. Since a major purpose of budgets is to help achieve the strategic and long-range goals of the company, it is important that those objectives be considered in the budget preparation process. For example, the auditor should consider whether:

(1) strategic and long-range planning information is communicated to budgeting personnel at the beginning of the budget preparation process;

(2) budget objective guidance is prepared and distributed by individuals who are familiar with strategic and long-range goals; and

(3) budgets are reviewed for consistency with strategic and long-range objectives prior to final approval.

### 5-508.4 Development of Budget Amounts

Budgets that are not sufficiently aggressive may not maximize the contractor's opportunity to achieve strategic or long-range objectives. Conversely, budgets that are too aggressive increase the risk that individual managers will misallocate resources in an attempt to meet budgets, or not attempt to meet budgets they perceive as unattainable. For example, the auditor should consider whether:

(1) guidelines are established for the use of scientific/technical studies (e.g., work measurement standards), historical performance, cost/benefit analysis, accepted economic indices, and/or other objective techniques;

(2) budgets are coordinated with appropriate personnel, particularly individual managers responsible for performing within budgets, by soliciting their input, and obtaining their concurrence before finalizing budgets; and

(3) supporting data and rationale is required to be documented for use in the preparation of future budgets.

### 5-508.5 Management Approval

Final budgets should be reviewed and approved by an appropriate level of management. Formal requirements for management approval help ensure that management is aware of specific budgetary objectives, and evidence of management approval increases the authority of budgets by demonstrating management support for budgetary objectives. For example, the auditor should consider whether:

(1) Budgetary documents require management approval.

(2) The level of management approval for different budgets has been identified.

(3) Managers are allowed sufficient time to effectively review budgets prior to approval.

(4) Documentation standards exist for management review, adjustments, and approval to ensure that individual managers are aware of management's support for budget objectives.

### 5-508.6 Communication of Budget Information

Budget information should be distributed to individual managers responsible for meeting budgetary objectives and to personnel responsible for monitoring budget performance. For budgets to be effective, these individuals must have the specific information they need to perform their duties. For example, the auditor should consider whether budget formats are formalized to ensure that relevant information is distributed to the individual managers and monitoring personnel; and, a distribution list is maintained showing the appropriate budget formats and/or relevant budget information to be distributed to individual managers and monitoring personnel.

## 5-509 Budget Performance and Measurement

Actual performance should be periodically compared to budgeted amounts to allow for the prompt identification of variances and implementation of necessary corrective actions. Budgets are designed to serve as a baseline for comparing actual performance with established strategic or long-range goals. To effectively accomplish this, contractors should have a formal system for monitoring actual budget performance. A budgetary reporting system may provide adequate report, but the reports may not be analyzed and acted upon. Accordingly, in evaluating the effectiveness of the contractor's monitoring, the auditor should consider whether actual performance is periodically compared to budgeted amounts and that variances are identified and reported; and, necessary corrective actions are identified and implemented in a timely manner.

### 5-509.1 Comparison of Actual and Budgeted Amounts

Periodic comparison of actual performance and budgeted amounts increases the likelihood that budgetary objectives will be met by providing individual managers with the opportunity to take corrective actions to control potentially signifi-

cant variances. To accomplish this, the contractor should have a formal system which identifies:

(1) variance analysis reporting thresholds or other criteria to define what management considers to be a reportable variance

(2) variance computation guidelines to help identify potentially significant variances

(3) standard variance report formats to facilitate monitoring of significant variances by providing consistency and comparability between reporting periods

(4) formal variance analysis reporting periods

(5) distribution of detailed variance analysis reports to individual managers subject to budgetary control

(6) distribution of summary variance analysis reports to upper management so they can monitor budget performance in relation to strategic and long-range objectives to determine if revisions to strategic or long-range plans are needed.

## 5-510 Budget Performance - Revisions

Budget revisions, when necessary, should be controlled to ensure that they are justified, documented, approved, and processed in a timely manner. While budget revisions are inevitable, contractors should have a formal system for submitting, reviewing and approving requests for such revisions. Failure to establish such a system can result in excessive or unnecessary budget revisions and undermine the integrity of the entire budgeting process. In evaluating the effectiveness of the contractor's budget revision process, the auditor should consider whether procedures are in place to ensure that budget revisions are justified and necessary budget revisions are made in a timely manner.

### 5-510.1 Justification for Budget Revisions

Requests for budget revisions should be carefully screened to ensure that a valid reason exists for adjusting the budgeted amounts. Failure to meet budget objectives should not be considered a valid reason for making adjustments. The contractor should establish a formal decision making process to review, document, and approve all requests for budget revisions. This process should include:

(1) A formal management policy on budget revisions to ensure that corrective actions or other measures are attempted before revising budgets.

(2) Criteria for evaluating requested revisions to ensure approvals are consistent with management policy.

(3) Thresholds established to minimize requests for immaterial revisions.

(4) Provisions for upper management to initiate budget revisions based on changes in strategic or long-range plans.

(5) Criteria for reviewing and approving requests for budget revisions that maintain the same level of control as those established for preparation of initial budgets.

### 5-510.2 Timely Implementation of Budget Revisions

Timely review and approval of budget revisions increases the likelihood that revised budgetary objectives will be met by maintaining the integrity (reasonableness/attainability) of the budget and by providing individual managers as much time as possible to achieve the revised objectives. For example, the auditor should consider whether:

(1) corrective actions are monitored to identify when budget revisions may be necessary.

(2) there is periodic communication between the budget department (or other organizational element responsible for reviewing and approving budget revisions) and individual managers to identify the need for budget revisions as soon as possible.

(3) standardized request formats and procedures are used to expedite processing of requests for budget revisions.

## 5-511 Budgeting and Planning System - Information Technology System Internal Controls

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by

classifying them into two types, IT general controls or IT application controls. Whether the control activities are classified by the auditor as general or applications controls, the objectives of control activities remain the same:

(1) to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition, and

(2) that financial and cost records are sufficiently reliable to permit the preparation of financial statements and cost representations.

b. The auditor should audit the IT general controls and the Budgeting System application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are comprised of:

(1) organization and operational controls,

(2) systems development and documentation controls,

(3) hardware and systems software controls, and

(4) data and procedural controls.

(See 5-400 for a more detailed explanation of general internal controls.)

d. Budget System application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as labor, compensation, and in this instance, budgeting. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

**5-512 Reporting Audit Results**

a. The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on compliance with laws and regulations and on internal controls relative to the contractor's accounting and management systems.

b. Conduct an exit conference in accordance with 4-304. Include the contractor's reactions in the working papers and the report.

c. If deficiencies have been disclosed and/or recommendations are presented in the report, schedule a follow-up audit to be performed within a reasonable period of time.

## 5-600 Section 6 --- Audit of Purchasing System Internal Controls

### 5-601 Introduction

a. Refer to 5-101 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal controls and assessing control risk.

b. This section presents guidance for auditing a contractor's internal controls of both a manual and automated nature over purchasing and subcontracting. The guidelines relate to the assessment of control risk based on an audit of the contractor's policies, procedures, and internal controls. Guidance on audits of other components affecting incurred material cost is in 5-700.

### 5-602 Background Information

a. The purchasing and subcontracting function includes make or buy decisions, the selection of vendors, analysis of quoted prices, negotiation of prices with vendors, placing and administering of orders, and expediting delivery of materials.

b. Purchasing systems vary among companies according to organizational size and structure, IT capabilities, accounting system, personal preferences of corporate officials, and other influences. In general, the critical control objectives a contractor's purchasing system should have include:

(1) Internal audits or management audits, training, and policies and procedures for the purchasing department to ensure the integrity of the purchasing system.

(2) Policies and procedures to assure purchase orders and subcontracts contain all flow down clauses, including terms and conditions required by the prime contract, as well as any clauses needed to carry out the requirements of the prime contract.

(3) An organizational and administrative structure that ensures effective and efficient procurement of required quality materials and parts at the most economical cost from responsible/reliable sources.

(4) Selection processes to ensure the most responsive and responsible sources for furnishing required quality parts and materials and to promote competitive sourcing among dependable suppliers so that purchases are reasonably priced and from sources that meet contractor quality requirements.

(5) Price or cost analysis performed with every purchasing action.

(6) Procedures to ensure that proper types of subcontracts are selected and that there are controls including oversight and surveillance of subcontracted effort.

### 5-603 General Audit Policy

a. Refer to 5-103 for DCAA's general audit policy for the evaluation of contractor accounting and management systems and related internal controls.

b. The administrative contracting officer (ACO) is responsible for reviewing the contractor's purchasing systems. In accordance with FAR 44.3, the need for a contractor purchasing system review (CPSR) shall be determined at least every three years for each contractor whose sales to the government (excluding competitively awarded FFP contracts, competitively awarded fixed price contracts with economic price adjustment, and sales of commercial items pursuant to FAR Part 12) are expected to exceed $25 million during the next 12 months. In accordance with DFARS 244.301, members of other organizations such as audit or program management activities should not conduct separate reviews for these contractors, but may participate in a review conducted for the ACO by the DLA CPSR team. These organizations may, if they suspect a problem, recommend that the ACO initiate a special review.

c. DCAA's audit objective is the adequacy of the internal controls over the system and the contractor's monitoring of compliance with its controls. The DLA CPSR team normally covers many DCAA concerns regarding internal control objectives but not always all of them. Therefore, it is extremely important that prior to commencing any audit of the contractor's purchasing system, the auditor coordinate with the contracting officer (see 5-1300 and FAR Part 44 for discussion of

DCAA's participation on joint CPSR reviews). If a CPSR is planned, the DCAA auditor should be a member of the CPSR team and the scope of the review should be discussed. There should be mutual agreement in the planning stage on what additional audit steps will be necessary to address any DCAA concerns. During the CPSR, it is not the auditor's responsibility to review the quality of the CPSR team's work. However, the auditor should understand the scope of the work being performed in order to assess whether additional steps are required to satisfy any DCAA concerns. The auditor will make maximum use of the work performed and the conclusions reached during these reviews in establishing the extent of any separate coverage and audit tests to be undertaken in this area (see Appendix D-300).

d. If there is no CPSR scheduled within the normal DCAA cycle for accounting or management system audits (see 5-103) the auditor should perform a purchasing system internal control audit in accordance with guidance set forth in the following paragraphs.

e. Purchasing system audits should also be considered at smaller contractor locations where there are indications of significant purchasing system problems. Such audits may be performed in conjunction with estimating system surveys (see 5-1200).

## 5-604 Audit Objectives

a. The purpose of this audit is to evaluate the adequacy of and the contractor's compliance with the purchasing system's internal controls. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

b. The primary objective in auditing a contractor's purchasing system is to obtain a sufficient understanding to plan related contract audit effort. This requires that the auditor assess the adequacy of the contractor's purchasing policies and procedures, whether they have been implemented, and if they are working effectively.

## 5-605 Audit Scope - Purchasing Controls

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. The extent of audit effort should be influenced by:

(1) reviews by other agencies (CPSRs);

(2) the types of government contracts and their materiality;

(3) the adequacy of the contractor's policies, procedures, and internal structure on other major systems;

(4) the results of prior reviews,

(5) deficiencies noted in ongoing audits (audit leads);

(6) the extent and results of contractor self assessment reviews;

(7) the extent of automation; and

(8) contract provisions.

General information regarding these scope areas is provided in 3-104 and additional considerations specific to the purchasing system are discussed below. Working papers will include a risk assessment documenting the impact of the above eight areas on audit scope.

c. The majority of non-labor expenses may flow through the accounts payable system. Therefore, the auditor should perform a risk assessment and based on materiality and sensitivity, consider performing an audit of the contractor’s accounts payable system internal controls as a subsystem of the purchasing system. If this audit is performed, consider steps set forth in 5-612.

## 5-606 Compliance Audits, Training, and Policies and Procedures

The contractor should have policies and procedures for monitoring its purchasing systems, training its employees, and ensuring the integrity of the purchasing system.

### 5-606.1 Compliance Audits

Systems with weak or nonexistent internal control structures only increase the risk of cost mischarging or misallocation.

The existence of strong self-controls increases the reliance that can be placed on the cost representations from that system. Therefore, the contractor should conduct regular internal compliance audits. These compliance audits should address the following areas: the adequacy of written procedures, employee knowledge and compliance with policies and procedures, consistency with which the policies and procedures are applied and by whom, and timely follow-up action on deficiencies.

a. Types of Audits. The contractor may perform internal compliance audits using auditors or nonauditors, rely on monitoring in the form of physical observation, rely on system audits or exception reports, request external audits, or use a combination of techniques.

The contractor may have several functions performing the audits. The contractor may also have various performance criteria and reporting requirements to upper management which relate to the timeliness and effectiveness of the purchasing function. For example, excessive number of days to process requisitions, work stoppages resulting from delays in receiving material, how many orders are issued per day per buyer, etc.

b. Adequacy of Procedures. Whatever the form of the audits, there should be procedures which identify the intervals of performance of the reviews, the personnel responsible for performance of the review, the areas to be covered during the reviews, documentary evidence that the review has been performed, and the requirements for follow-up action. The procedures should address coverage of the following areas: review of the adequacy and consistency of application of the written procedures by buyers, IT interface with the purchasing system, employee knowledge and compliance with these written procedures, and responsiveness to required corrective actions. Policies and procedures should assure that purchasing personnel are complying with applicable public laws and implementing government regulations, (e.g. Truth in Negotiations).

c. Adequacy of Reviews. The adequacy of the reviews should be assessed in accordance with the criteria in 4-1000. The reviews should be performed in accordance with written procedures and by personnel possessing a level of competence, independence, and objectivity required of a reviewer. The scope and depth of audit should be consistent with the contractor's risk assessment level and sufficient to identify outdated written procedures, inconsistent application of the procedures, lack of employee knowledge or compliance with the written procedures, the adequacy of the contractor's ethics program, and untimely follow-up actions.

d. Policies and procedures should support a system that provides for tracking responses to and resolution of required corrective actions in a timely manner. The auditor should determine whether the corrective actions are:

(1) communicated to the management level responsible for action,

(2) monitored for timely resolution, and

(3) documented and verified.

### 5-606.2 Training

Training of Employees. A well trained staff results in current, accurate, effective, and efficient purchases. Contractor personnel need to be specially trained in government purchasing regulations, contract clauses, and contractor procedures. Additionally, purchasing department personnel should have sufficient supplier and technical knowledge to make it unnecessary to depend wholly on engineers and other technicians to dictate the source of supply or price. Therefore, the contractor should have standards for the qualification, training, and experience of its purchasing personnel.

a. Types of Training. The contractor may require that personnel responsible for various types of procurement have special qualifications prior to their being hired. The contractor may provide opportunities for personnel to take outside educational courses or provide internal courses. The contractor may also provide detailed on-the-job training and/or detailed desk procedures.

b. Adequacy of Training Procedures. Procedures should identify the minimum required course topics, the frequency of the

training, and the criteria for documentation of completion. If specific procedures are not available, the auditor should have the contractor identify its practice in the above areas for later verification with employees. The procedures should require the training program be updated to cover current government rules and regulations and adjusted to comply with revisions to the contractor's system. These areas may be covered under more than one training class and some may be covered by memorandums, bulletins, or pamphlets.

c. Adequacy of Training Topics. Training programs may include:

(1) an overview of the contractor's accounting system;

(2) an overview of written purchasing policies and procedures;

(3) purchasing file requirements and standard forms;

(4) instructions on required contract clauses (such as those in 5-607);

(5) ethics procedures (conflict of interest, gifts, gratuities and anti-kickbacks);

(6) a description on the review and approval process; and

(7) information on penalties associated with the statutes on false claims and false statements.

### 5-606.3 Policies and Procedures

Written policies and procedures that encompass the purchasing operation help ensure that;

(1) delegated duties and responsibilities are formally documented and communicated to employees,

(2) specific controls operate consistently from period to period,

(3) established purchasing practices are consistent with management's goals and objectives, and

(4) are based on authorized requirements.

A formal written statement of policies and procedures rather than an informal one based on established customs of the organization should exist at all contractor locations with substantial government business. When evaluating the contractor's policies and procedures, the auditor should consider whether they:

a. Address all major duties and responsibilities in the purchasing system. They should be comprehensive and easily understood in order to minimize the risk of errors arising from causes such as misunderstood instructions, and mistakes in judgment. The auditor should be alert for aspects of the purchasing system process which are not covered by policies and procedures. Additionally, the auditor should note any instances where actual practices are inconsistent with established policies and procedures. In these instances, the auditor should consider the underlying cause for these inconsistencies (e.g., failure to adequately communicate changes in established policies and procedures).

b. Are approved by an appropriate level of management to signify the delegation of authority and to effectively convey management's commitment to adhering to established policies and procedures, and complying with FAR and other applicable regulations. The auditor should carefully assess the level of management approval to determine if it is appropriate given the nature of the duties and responsibilities being assigned. While not inherently indicative of poor policies and procedures, failure to involve an appropriate level of management in the approval process can result in a perceived lack of importance and ultimately a lack of compliance.

c. Were communicated to those individuals within the organization who are responsible for executing them. This communication involves not only making sure that appropriate employees are aware of established policies and procedures, but also providing the necessary training to ensure that they understand how to interpret and execute them.

### 5-607 Purchasing System -- Contract Clause Flow Down

The contractor should have policies and procedures to ensure that all applicable purchase orders and subcontracts contain all flow down clauses, including terms and conditions and any other clauses needed to carry out the require-

ments of the prime contract. Purchasing personnel must be aware of the distinction between general or standard contract provisions, and those which are special (used only when warranted). Manual or computerized forms may be used with desk procedures or help menus that explain the criteria used to designate which clauses are special. A legal specialist may assist the CPSR team in performing the clause review.

## 5-608 Purchasing Management and Administration (Make or Buy)

The contractor should organize and administer the purchasing department to ensure the effective and efficient procurement of required quality materials and parts at the most economical cost from responsible/reliable sources.

### 5-608.1 Organizational Independence

The purchasing department should have an organizational plan which establishes clear lines of authority and responsibility. Items to consider include:

a. The purchasing department is independent of other departments and is responsible for procuring all materials, supplies, services, and equipment.

b. The receiving function is performed by personnel independent of the buying function (6-311).

c. All purchasing department personnel should understand their assigned responsibilities, authority, and limitations.

d. There should be procedures delegating who has the authority to make commitments and to question quality and quantity of material requisitioned or received.

### 5-608.2 Administrative Controls

In addition to controls related to Source Selection (5-609), Pricing/Cost Analysis and Negotiation (5-610), and Subcontract Award and Administration (5-611), management should have the following controls in place over placement and administration of purchase orders:

a. Purchase orders are based on authorized requisitions (6-308). The requisitions should indicate the specific contract, project, department, or account (i.e., cost objective) to which the materials or services will be charged.

b. Effective numerical document controls or status registers are maintained to record the receipt of purchase requisitions and the actions taken to accomplish the purchase.

c. The purchasing department notifies originators of purchase requisitions and other personnel concerned with the receipt of requisitions, the result of purchase actions, and other pertinent matters affecting the purchase.

d. The purchasing department has adequate controls to prevent the unauthorized use of canceled or voided purchase requisitions.

e. Purchase orders are prenumbered and all numbers are accounted for.

f. Purchase orders are specific and complete as to nomenclature, specification, delivery dates, freight, discounts, price, and clauses of any type required by the terms of the prime contract.

g. Copies of purchase orders are furnished when issued to the receiving and accounts payable functions and when appropriate to the expediting department.

h. Procedures preclude issuing numerous purchase orders for small amounts.

i. The purchasing department maintains specifications for all materials and services used by the contractor.

j. Procedures require complete history files for items purchased frequently and for all major procurements.

k. The contractor develops alternate sources when possible.

l. The purchasing department maintains and uses, as a means of effecting economies, price history data and a current copy of a priced bill of materials to ensure that:

(1) Material specifications recorded on the requisitions and purchase orders match the specifications on the bill of materials;

(2) Possible economies for ordering required material, recognizing the total needs as reflected in the bill of materials and the stock level requirements, are considered (6-308);

(3) Nonrecurring tooling/setup, and similar type charges are not paid twice; and

(4) The price agreed to at the time of purchase is comparable to the price projected in the bill of materials, or that price increases (see 5-610) are fully explained.

m. The contractor has written policies explaining what types of activity are prohibited by purchasing agents (e.g., acceptance of kickbacks).

### 5-608.3 Purchasing File Data

Purchasing and subcontracting files must be adequately documented so as to provide a complete and accurate history of purchase transactions to support the vendor selected and the price paid. If documentation is not available (i.e., certificate of current cost or pricing data), request an explanation.

Case Files. The contractor should maintain a case file of all pertinent actions affecting each contract and subcontract. In evaluating the adequacy of purchasing files, determine whether the files include:

a. Copies of the purchase order and requisition, invitations to bid (or requests for proposal), responses to solicitations, resulting subcontracts, and any subcontract changes.

b. Bid tabulations that summarize and compare vendor quotations.

c. Vendor surveys of production and financial capabilities.

d. Certificates for the rent/rent-free use of government facilities.

e. As applicable, price and cost analysis to assess reasonableness of the proposed price. A certificate of Current Cost or Pricing Data (FAR 15.406-2) when required in FAR 52.215-12.

f. Evidence of evaluation and actions taken by the contractor to ensure (1) that the subcontractor has complied with the requirements to submit accurate, complete, and current cost or pricing data as required by FAR 52.215-12; and (2) that where prices are based on "adequate price competition" or "catalog or market prices," these terms are verified to have meaning as defined by FAR 15.403-1.

g. Records of any negotiations conducted, including justification for the selection of the successful bidder, basis for selection of contract type, and evidence that the contractor used the results of its examination of the subcontractor's proposal in the negotiations.

h. Copies of technical data.

i. Price redetermination or termination data.

j. Correspondence between the purchasing department and the bidders.

k. Evidence of Small and Disadvantaged Business enterprise considerations.

l. Information concerning the use of special terms and conditions and approval thereof.

m. Written approvals or determinations of the contractor's reviewing authorities.

n. Administrative Contracting Officer approval of purchase orders when required.

### 5-608.4 Make or Buy Program

a. The contractor should have make or buy policies and procedures. The contractor's make or buy decisions determine which components, assemblies, subassemblies, or parts are to be manufactured and which are to be purchased. The contractor's decision to manufacture in lieu of purchase may be in the best interests of the company, but not in the best interests of the government. When a contractor decides to manufacture a part or component not normally within its experience or production capabilities or which had been purchased in the past, the basis for that decision and the resulting cost impact should be reviewed. For example, the contractor may desire to gain experience in a particular manufacturing or fabricating process. Another consideration which may influence a contractor's make or buy decisions involves the extent of available idle facilities. FAR 15.407-2 requires contractors to develop make or buy programs for certain contracts based on a dollar threshold.

b. As a minimum, consider internal controls related to the following when evaluating make or buy policies and procedures:

(1) Determine whether the contractor has a formal make or buy committee, organization, or function.

(2) If a function has been established, ascertain the basis for assigning personnel to the function. Usually, the function is composed of representatives from various departments, including purchasing.

(3) Evaluate the contractor's established make or buy policies and procedures for propriety and acceptability. If the contractor deviates from the established policies and procedures for individual actions, evaluate the basis for deviation.

(4) Evaluate the basis for specific make or buy decisions to determine whether the contractor's policies and procedures are reasonable and effectively implemented.

(5) Determine whether procedures are in effect which provide for the prompt notification to the contracting officer of changes in make or buy decisions.

(6) The guidance in 14-600 for capital investments is equally applicable in the evaluation of make or buy determinations.

### 5-608.5 System Reporting

There should be a system of reports and controls that reflects performance and provides the means through which the purchasing organization reports its performance to company management. For example, the contractor may have a status report reflecting the number of days to furnish supplier quotes and negotiated price data for use in proposal preparation, aging of requisitions, number of purchase orders issued per buyer, on time deliveries, etc.

## 5-609 Purchasing Source Selections

There should be procedures to provide for the selection of the most responsible and reliable sources for furnishing required quality parts and materials. These procedures should also promote competitive sourcing among dependable suppliers in order to obtain the most reasonable prices from sources that meet contractor quality requirements.

### 5-609.1 Competitive Sourcing

In order to ensure acquisition of the least expensive material consistent with contract specifications, the contractor's procedures should provide for bid solicitations from a sufficient number of prospective sources to promote effective competition commensurate with the nature and dollar value of the purchase action. The contractor should use competition to the maximum extent practical.

a. Management should promote competitive sourcing by:

(1) requiring regular reports on competitive buying which in addition to identifying the number of competitive bids would also identify suspect situations where the lowest bidder may always be the same and always slightly under the next lowest;

(2) providing historical part number and vendor data bases; and

(3) performing marketing surveys to determine alternative sources.

b. Bidders Lists. The purchasing department should maintain bidders lists or other appropriate reference files of potential vendors who may be solicited for the various items of supply and service required for company operations. These lists aid in locating supply sources and in soliciting competitive bids. The contractor's files should reflect the financial responsibility, technical capability, and history of past performance of suppliers, particularly those from which the contractor has purchased items on a noncompetitive basis. An evaluation of this area should determine if bidders lists are maintained on a current basis to ensure maximum usefulness.

c. Purchasing Bid Procedures. The auditor's review of purchasing procedures should determine whether:

(1) Bid solicitation procedures provide that:

(a) all quotations for major procurements are in writing;

(b) each prospective supplier is furnished complete sets of specifications for the item or service to be procured, and sufficient lead time is allowed for the preparation of the proposal;

(c) the purchasing office establishes case files reflecting a ready record of all actions; and

(d) all government directives are reviewed for special considerations concerning small business and labor surplus areas.

(2) Procedures provide for sufficient justification for awarding intracompany purchases or work orders. Files are reviewed independently within the company for any evidence of "bid-matching" on orders issued to affiliates, subsidiaries, or other divisions. In "bid-matching" the buyer waits until outside bidders respond and then informs the "inside" company of the low bid (see 6-313).

(3) Procedures provide for justification when the low bidder is not selected.

(4) Procedures ensure that debarred or suspended contractors are excluded from receiving contracts, unless the acquiring agency's head or a designee determines that there is a compelling reason for such action, as explained in FAR 9.405-2, 9.406-1(c), and 9.407-1(d). An important criterion in determining the propriety and allowability of payments for material purchases or subcontracts is the "consent" requirement of specific contracts. FAR 52.244-1 through 52.244-5 are the pertinent solicitation provisions and contract clauses which, if included in a contract, delineate the "consent" requirements by types and categories of contracts. If by the terms of the contract, prior consent is required of the ACO in subcontracting/purchasing, the ACO is prohibited from consenting to award to a debarred contractor. "Consent" here means to consent to contract with a particular entity or person; not consent to make a purchase. If prior consent is not required or if it is required for approval to make purchases only, a prime contractor is free to solicit from any sources available, including debarred, suspended, or ineligible contractors.

### 5-609.2 Vendor Performance Evaluation

The contractor should use a vendor evaluation system when selecting sources. The system should provide for the review of price, quality, delivery, technical capabilities, financial capabilities, and service. The contractor should document vendor evaluations on each buy or have a vendor rating system. If the contractor has a rating system, the system should allow for consistency of comparisons among competing subcontractors, protect rating information, provide documentation for each element rated, allow opportunity for new subcontractors to compete, provide for evaluation by functional areas and be kept current and accurate.

### 5-609.3 Sole/Single Source

Contractor policies should view each single or sole-source purchase as an exception. The policies and procedures should require justification, cost/price analysis, if applicable, and approval by a responsible company official. Factors to be considered when evaluating purchases involving noncompetitive items, which could affect the evaluation of the purchasing procedures, are whether (a) the vendor was designated by the contracting officer who awarded the prime contract and (b) the purchase, if made from a sole source supplier, was approved by a responsible company official.

## 5-610 Pricing/Cost Analysis and Negotiated Purchases

The contractor ensures that some form of price or cost analysis is performed in connection with every purchasing action.

### 5-610.1 Cost/Price Analysis and Technical Evaluation

a. The contractor should perform cost/price analysis and technical evaluation of its subcontractor's and supplier's proposals/quotations. The scope and conclusions of the analysis should be documented and included in the purchase order file. The contractor should obtain a certificate of current cost and pricing data when applicable.

b. Buyers should document the purchase order file to explain price increases (over previous buys or over bill of material estimates) and lack of decreases in price when circumstances indicate that the price should

be lower (when quantity is increased over a previous buy or vendor quote, or when learning or other factors indicate lesser costs than in a previous buy).

### 5-610.2 Negotiation

The auditor's review of purchasing procedures should determine whether:

a. Buyers are required to negotiate separate price breakdowns for significant elements of the purchase (such as for facilities, tooling, engineering, setup, testing, and special packaging) to allow separate cost control of these significant elements.

b. Prices are established at the time the order is placed for goods manufactured to order, rather than on an "advise price" basis.

c. Procedures require sufficient evidence of negotiation when it is necessary to establish a reasonable price because the item is nonstandard or an insufficient number of bids have been received.

d. Awards have been made to other than the low bidder on the basis of delivery. If so, the purchase order should provide for a downward price adjustment if delivery schedules are not met.

e. The contractor's procedures provide for the timely implementation of repricing clauses included in subcontracts or purchase orders. The contractor's repricing procedures should require that the:

(1) revised contract prices are negotiated or arrived at as provided by contractual requirements;

(2) cost or pricing data which was used as the basis for repricing is current, accurate, and complete; and

(3) results of the repricing action are in the best interests of the government.

### 5-610.3 Purchase Discounts, Quantity and Payment

The contractor is responsible for having a system in place for seeking and taking advantage of cash discounts, trade discounts, quantity discounts, rebates, and freight allowances. The contractor should combine requirements where appropriate. Usually this is part of the requirements system (6-308) at larger contractors. Additionally, contractors may have a corporate purchasing system to provide volume discount advantages for the whole company. The contractor should have a methodology for handling high volume, low value orders, such as subcontracting with distributors, competing long term blanket orders (FAR 13.2) or opened ended subcontracts.

## 5-611 Subcontract Award and Administration

The contractor ensures the proper types of contracts are selected and that there are controls including oversight and surveillance of subcontracted effort.

### 5-611.1 Types of Contracts

a. The contractor should have policies and procedures in place for determining the types of subcontracts to be awarded and under what circumstances they are to be awarded. FAR 16.1 can be used as a guideline when evaluating the contractor's policies and procedures.

b. Unallowable Procurement. Determine whether the contractor's procedures prohibit the issuance of cost-plus-a-percentage-of-cost subcontracts (FAR 44.203(b)(2). Under this type of procurement, the subcontractor would receive payment for, and the prime contractor would pass on to the government as cost of its contract, the costs incurred in performing the contract, plus a specified percentage of such costs as a profit or fee. Thus, the fee would increase in direct proportion to any increase in cost.

### 5-611.2 Subcontract Surveillance

Administration of Subcontracts. Advantages gained by prudent and capable efforts in planning and negotiating subcontracts can be dissipated through the failure of upper-tier contractors to administer subcontracts properly. Upper-tier contractors must be aware of the progress of the subcontracts to ensure timely delivery of an acceptable product. When the subcontract is other than firm-fixed-price, the upper-

tier contractor must also maintain surveillance over subcontract costs to keep current with the financial aspects of the upper-tier contract. The cognizant auditor should review and evaluate the upper-tier contractor's policies and practices pertaining to the administrative and technical controls exercised over delivery schedules, change orders, modification notices, and overall costs. The contractor should have a policy and procedures for alerting the government on award of all auditable subcontracts (those requiring interim and final audits) and a method for notifying the government of potential significant sub contract problems that may impact delivery, quality, or price.

a. In evaluating the upper-tier contractor's procedures for controlling delivery schedules, determine whether:

(1) some form of register or control is maintained to "flag" delivery due dates;

(2) procedures are in effect to expedite delivery of subcontract material, particularly when it is apparent that the supplier will not meet the established delivery date, or is in fact delinquent; and

(3) corrective action is taken when the supplier is delinquent in delivery schedules including, where appropriate, adjustment of the purchase price.

b. In evaluating the upper-tier contractor's procedures for controlling change orders and modification notices, determine:

(1) if the upper-tier contractor evaluates the delivery schedules when engineering changes have been introduced;

(2) the timeliness of notification from the upper-tier contractor to subcontractors when modifications are introduced into production; and

(3) the adequacy of the action taken by upper-tier contractors when change orders or modification notices affect cost.

c. The evaluation of the upper-tier contractor's procedures relative to cost controls should be directed to the:

(1) production and financial controls, with emphasis on those controls which ensure that physical progress of production is commensurate with reimbursement;

(2) timeliness and adequacy of the repricing action when production is performed under redeterminable subcontracts (including a determination of the timeliness of recoveries resulting from downward repricing actions);

(3) propriety of the costs generated by the subcontractor, particularly when the upper-tier contractor is also a subcontractor to the same or a lower-tier subcontractor; and,

(4) audit of progress payments (refer to 5-1107.7 billing system audit of subcontractor progress payments).

d. In evaluating the upper-tier contractor's procedures for adequate documentation, determine whether contractor representatives are required to prepare trip reports covering each visit to a subcontractor. Procedures should require timely reporting of significant and relevant issues including additional funding actions and status of physical progress in relation to costs incurred. Subcontractor financial reports should be adequately supported by trip report documentation.

e. Subcontract Changes. Procedures should be in place to document and justify the reasons for subcontract changes which affect cost or price. The government is at risk when the cost of the subcontract, before the change, has exceeded or is expected to exceed original estimates. Lack of adequate procedures could result in changes which have been overpriced to avoid an overall loss or to provide total profit or fee in accordance with original contract estimates.

f. Audit of Subcontracts. Timely consideration of redeterminable, incentive, and cost-type subcontracts is essential to the audit of upper-tier contracts. The government's interest in these types of subcontracts is similar to its interests in costs of variable-price prime contracts when the subcontract awards are made in a chain unbroken by a firm-fixed-price subcontract. When the upper-tier contractor proposes to audit records of a subcontractor, evaluate:

(1) the procedures which address the extent of coordination between the contractor's purchasing and audit function;

(2) criteria established by the contractor for waiving audits;

(3) established procedures for ensuring that the government is notified when access

to subcontractor records is denied the upper-tier contractor (6-800);

(4) independence and qualifications of the contractor's auditors; and

(5) adequacy of their audit programs and working papers (see also 4-1000). Procedures should ensure that adequate controls are maintained for early identification of auditable subcontracts (see 6-802).

## 5-612 Purchasing System - Information Technology System Internal Controls

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls and IT application controls. Whether the control activities are classified by the auditor as general or applications controls, the objectives of control activities remain the same: to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should review the IT general controls and the Purchasing System application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are composed of (i) organization and operation controls, (ii) systems development and documentation controls, (iii) hardware and systems software controls, and (iv) data and procedural controls. (See 5-400 for a more detailed explanation of general internal controls.)

d. Purchasing system application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as labor distribution, inventory control, and in this instance, purchasing. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

## 5-613 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on compliance with laws and regulations and on internal controls relative to the contractor's accounting and management systems.

## 5-700 Section 7 --- Audit of Material Management and Accounting System (MMAS) Internal Controls -- Standards 1 Through 10

### 5-701 Introduction

a. Refer to 5-101 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal controls and assessing control risk.

b. This section provides audit guidance for evaluating the contractor's internal controls for material accounting (5-100) and compliance with DFARS 252.242-7004, Contractor Material Management and Accounting Systems (MMAS). If a contractor does not have contracts that include DFARS 252.242-7004, this audit guidance can be used to determine if the contractor's MMAS meets CAS and FAR requirements.

### 5-702 Background Information

MMAS can range from highly automated to manual systems. The requirements of DFARS 242.72 apply equally to automated or manual systems. MMAS are normally comprised of a material requirements planning (MRP) system and material accounting systems. For background information, MRP systems are briefly discussed, as follows:

a. Many contractors have an automated system for determining requirements. A material requirements planning (MRP) system is a system for identifying requirements, initiating procurement, and maintaining current and future materials necessary to support production operations. Hence, MRP is a method of inventory control, not inventory costing. However, an MRP system does initiate inventory transactions and provides information used for costing those transactions. It takes into account the specific timing of material requirements, with the objective of minimizing inventory investment consistent with meeting a given production plan. An effective MRP system will result in having the optimum amount of material available for planned production. Consequently, a contractor's investment in inventories is minimized.

b. MRP system configurations can vary depending upon needs. However, the following features are common to all designs:

(1) Highly Automated Systems. Extensive use of information technology (IT) enables MRP systems to react instantly to changed conditions.

(2) Balance of Requirements (often referred to as RQ) and Replenishments (often referred to as RP). MRP systems maintain a balance between all the requirements for a part and all the replenishments for the part. Replenishments generate the need for procurement actions or releases to production for the needed parts. The replenishments can be in various stages of completion or can be available from stock. A requirement may be a record for a deliverable item (independent RQ) or a record for a requirement to be consumed in a next assembly (dependent RQ). Key data ingredients in each requirement record are the required quantity, need or schedule date, and requirement origin (i.e., contract spare item, shipping date).

(3) Netting Process. The netting process involves comparing requirements with replenishments to determine the need for parts. It begins with the total bill of material for the requirement for each specific part being netted. If the requirement is for an assembly, each part incorporated into the assembly must be separately netted. The system nets requirements against the replenishments for that part. The most basic form of the netting formula is:

STATUS OF A PART = Replenishments less Requirements

- If status is zero, replenishment and requirements are in balance.
- If status is negative, then replenishments are needed.
- If status is positive, then excess replenishments (parts) exist.

(4) Dynamic Rescheduling. Dynamic rescheduling of all items in the production process can result from a timing change or an introduction or deletion of items in the production process. Depending on location, the rescheduling may be automatic or may require a manual "go/no go" deci-

sion. Changes in schedule may result in different numbers of requirements, replenishments, or both. The timing difference will change the status of the netting formula.

**5-702.1 DFARS 242.72**

a. In December 2000, the Director of Defense Procurement (DDP) issued a final rule revising DFARS 242.72 and the related material management and accounting system (MMAS) contract clause (DFARS 252.242-7004). The revised rule was effective on and applicable to contracts awarded on or after December 13, 2000. Subsequently, the DDP, in a policy memorandum dated August 3, 2001, directed contracting officers to retroactively apply the revised rule to the maximum extent possible to contracts awarded prior to December 13, 2000. The revised DFARS rule specifically eliminated the requirement for the contractor to demonstrate compliance with MMAS policies, procedures and operating instructions. In lieu of the demonstration requirement, the contractor is required to accurately describe its MMAS policies, procedures and practices and provide sufficient detail for the government to reasonably make an informed judgement regarding the adequacy of the MMAS. Contractors are also required to provide the government, upon request, the results of internal reviews conducted to ensure compliance with established MMAS policies, procedures and operating instructions. Accordingly, the government continues to have the same access to contractor records it had prior to the issuance of the final rule. DFARS 242.72 and the related MMAS contract clause (DFARS 252.242-7004) continue to prescribe policies, procedures, and standards for use in the evaluation of a contractor's MMAS. DFARS requires applicable contractors to assess their MMAS and take reasonable action to comply with MMAS standards. Considering applicability requirements, some contractors may also be required to disclose their compliance with MMAS standards. The cognizant auditor should advise and assist the ACO in evaluating both the contractor's MMAS and the contractor's correction of any deficiencies. “Contractor” means a business unit as defined in section 31.001 of the FAR.

b. DFARS 242.72 ordinarily requires the contractor to conform to MMAS standards on all prime contracts that (i) exceed the simplified acquisition threshold and (ii) are cost–reimbursement contracts or fixed-price contracts that provide for progress payments based on costs. Contracts awarded to small businesses, educational institutions, or nonprofit organizations are exempted. Additional requirements are as follows:

(1) The government may review any large business contractor’s MMAS when the contractor has received qualifying sales of DoD prime contracts or subcontracts totaling $40 million or more in its preceding fiscal year and the ACO, with advice from the auditor, determines that an MMAS review is needed based on a risk assessment of the contractor’s past experience and current vulnerability. Qualifying sales are sales for which cost or pricing data were required under 10 U.S.C. 2306a, as implemented in FAR 15.403, or that are contracts priced on other than a firm-fixed-priced or fixed price with economic price adjustment basis.

(2) The cognizant contract administration office and the auditor must jointly establish and manage programs for evaluating the MMAS systems of contractors and must annually establish a schedule of contractors to be reviewed. The MMAS reviews must be a team effort. The auditor participates as a team member or serves as team leader and is required to issue an audit report to be incorporated into the team MMAS report. The MMAS review must be tailored to take full advantage of the day-to-day work done by the contract administration office and the auditor.

c. DoD policy stipulates that all contractors must have an MMAS that reasonably forecasts material requirements, assures proper charging and allocation of purchased and fabricated material (based on valid time-phased requirements), and maintains a consistent, equitable, and unbiased logic for costing of material transactions. The MMAS contract clause (DFARS 252.242-7004(e)) specifies that MMAS

must have adequate internal accounting and administrative controls to assure system and data integrity and must comply with ten specific MMAS standards.

d. For contractors required to disclose and maintain compliance of their MMAS, DFARS 252.242-7004(c) provides system disclosure and maintenance requirements.

(1) MMAS disclosure is adequate when the contractor has provided the cognizant ACO documentation which accurately describes MMAS policies, procedures, and practices in sufficient detail for the government to reasonably make an informed judgment regarding the adequacy of the contractor's MMAS currently being used. The contractor is also required to provide the ACO, upon request, the results of internal reviews that it has conducted to ensure compliance with established MMAS policies, procedures and operating instructions. Anticipated changes to the existing system would be subject to future audits after implementation. Significant changes to the MMAS must be disclosed to the cognizant ACO at least 30 days prior to their implementation per DFARS 252.242-7004(c)(3).

(2) If the contractor receives a report from the ACO that identifies any deficiencies in its MMAS and the contractor agrees with the report findings and recommendations, the contractor shall, within 30 days (or such other time period as may be mutually agreed to by the ACO and the contractor), state its agreement in writing. After submitting its agreement in writing, the contractor has 60 days (or such other time period as may be mutually agreed to by the ACO and the contractor), to correct the deficiencies or submit a corrective action plan showing milestones and actions to eliminate the deficiencies. If the contractor disagrees with the report findings and recommendations, the contractor has 30 days (or such other time period as may be mutually agreed to by the ACO and the contractor), to state its rationale for each area of disagreement.

(3) The ACO is required to evaluate the contractor’s response and notify the contractor in writing of the determination concerning any remaining deficiencies, adequacy of any proposed or completed corrective action plan; and the need for any new or revised corrective action plan.

(4) If the ACO determines the MMAS deficiencies have a material impact on Government contract costs, the ACO must reduce progress payments by an appropriate percentage based on affected costs (in accordance with FAR 32.503-6) and/or disallow vouchered costs on vouchers (in accordance with FAR 42.803) until the ACO determines that the deficiencies are corrected or the amount of the impact is immaterial.

**5-703 General Audit Policy**

a. Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. It is DCAA's policy to assist the ACO in evaluating the contractor's MMAS. When appropriate, DCAA should provide the ACO with an assessment of the significance of contractor deficiencies and an estimate of the resulting adverse material impact to the government. Also, DCAA should assist the ACO in evaluating the contractor's correction of deficiencies.

c. DFARS 242.7203(c) requires that cognizant contract administration and audit activities will jointly establish and manage programs for evaluating the MMAS of contractors subject to disclosure and maintenance requirements and will annually establish a schedule of contractors to be reviewed (see 5-702.1b). MMAS audits should be accomplished as a team effort with a team leader appointed by the ACO. These audits should be conducted where the ACO (in consultation with the auditor) determines that the government is subject to high risk.

d. The guidance contained in the following paragraphs can be applied to contractors who are not subject to the disclosure and maintenance requirements. However, prior to initiating any such audit, the auditor should coordinate with the regional audit manager and cognizant ACO.

## 5-704 Audit Objectives

a. The purpose of the audit is to express an opinion on the adequacy of the contractor's MMAS internal controls and determine the cost impact, if any, resulting from any system noncompliance.

Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems. The MMAS standards are stated in DFARS 252.242-7004(e).

b. The contractor is responsible for providing sufficient evidence that its policies, procedures, operating instructions and related internal reviews ensure compliance with the 10 MMAS standards outlined in the contract clause at DFARS 252.242-7004(e), specifically MMAS standard number 1. This standard requires the contractor to have an adequate system description including policies, procedures, and operating instructions that comply with the FAR and Defense FAR Supplement. Further, DFARS 242.7203(c)(2) requires the auditor take full advantage of the day to day work done by the contract administration office. Accordingly, the auditor should determine the level of reliance that can be placed on the work of others (4-1000).

c. The auditor should scope the audit to meet the objective of determining compliance with MMAS standards. If the contractor refuses to provide sufficient documentation that its policies, procedures and operating instructions comply with the MMAS standards, the auditor (after a reasonable period of time) should notify the ACO for assistance in obtaining the required documentation. Actions which could be considered by the ACO would include reductions or suspension of progress payments under FAR 32.503-6, disallowing vouchered costs under FAR 42.803, disapproval of the contractor's cost accounting system and/or cost estimating system, and/or recommendations concerning award of future contracts. The auditor should implement audit steps to identify the potential harm to the government as the basis for any recommended ACO withholding. The FAO and ACO must coordinate with the contractor as early as possible, preferably at the time of requirements planning. This early coordination should assure an understanding of government expectations, audit timing, and methods for system disclosure and maintenance.

d. For contractors that do not have contracts containing DFARS 252.242-7004, MMAS audits will be conducted when material costs are significant and a vulnerability assessment projects the need. The objective of the audit is to determine whether the contractor's MMAS adequately conforms to CAS and FAR requirements as amplified by MMAS standards. In these circumstances, the auditor should conduct an audit to determine the degree of compliance with MMAS standards. For any noncompliance disclosed, the report will identify appropriate FAR/CAS citations and pertinent contract clauses.

## 5-705 Scope of Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business and audit risk (materiality and sensitivity), the scope should be consistent with the guidance in 5-105. DFARS 242.7203 states that reviews of the contractor's MMAS will be done as a contract administration office and contract audit team effort; therefore, the scope of audit must be coordinated closely with the ACO. The evaluation will be based on the disclosures provided by the contractor, transaction testing and other testing as necessary.

(1) Where the contractor meets the criteria in DFARS 242.7203(a), the auditor should request that the contractor provide the results of any system testing which has been done (see 5-715).

(2) In determining the scope of audit, the auditor should consider how much reliance can be placed on the contractor's transaction testing and disclosure of internal controls, and day to day work done by the contract administration office (see 4-1000).

b. The auditor should also review completed audits related to MMAS, including, as a minimum:

(1) Billing system audits

(2) IT audits (general and application controls) of MMAS

(3) Estimating system audits
(4) MMAS operations audits
(5) Material incurred cost audits
(6) Defective pricing audits
(7) Contractor purchasing system audits

c. The auditor should coordinate with DCAA auditors at other contractor divisions/segments, the ACO, and the contractor. To ensure positions and interpretations are consistent, the auditor should contact the CAC, CHOA, or other segment auditors to determine similarities of systems among segments, deficiencies found at other divisions, and interpretations of compliance/noncompliance to specific standards. Coordinate the audit with the ACO to assure full understanding of the overall scope and areas of responsibilities. Since the review deals primarily with financial and accounting issues, the ACO should be encouraged to assign DCAA as the team leader. Further, the auditor should coordinate closely with other responsible government representatives such as government property specialists and engineering and other technical representatives. Team tasks must be clearly defined to take advantage of the available government expertise and mission requirements of all members. Most important, the team must make every effort to avoid duplication of effort. Early discussions with the contractor should be established to assure adequate disclosures in a reasonable period. Be sure that the contractor and ACO have a good understanding of what is expected in terms of the format and timing of the disclosures and the expected level of detail (including sufficient evidence).

### 5-705.1 Inadequate Disclosure and Maintenance

a. DFARS 252.242-7004(c) requires contractors to have policies, procedures and operating instructions that adequately describe their MMAS and to provide to the ACO, upon request, the results of internal reviews that have been conducted to ensure compliance with established MMAS policies, procedures and operating instructions. The DFARS also requires contractors to disclose to the ACO significant changes to their MMAS at least 30 days prior to implementation. Audit considerations related to each of the 10 MMAS standards are discussed in the following paragraphs.

b. If the contractor does not adequately describe its MMAS or fails to provide the ACO with the results of internal reviews, and the auditor has identified potential harm relative to premature or excess billings, calculate any estimated harm to the government and recommend that the ACO implement a withhold to protect the government's financial interests. The following steps can be used to help determine the potential harm relative to premature or excess billings.

(1) Review current inventory to identify materials that are in excess of known requirements by comparing the contractor's listing of contract requirements (parts lists, etc.) to the on hand inventory.

(2) Review the material months on hand, e.g., date received to the date of usage, to determine if materials appear to be unreasonably time phased.

(3) Review contractor inventory cycle count data if available or sample inventory to determine the level of record accuracy.

(4) Sample material transfer activity to determine if transfers of costs or loan payback procedures resulted in noncompliance with MMAS Standard 7 and increased or duplicated costs to the government.

(5) Tailor other steps that would identify potential harm to the government based on leads or information available to the FAO.

(6) Notify the ACO of the disclosure and maintenance problems and identify deficiencies found in the above steps.

(7) Recommend that the ACO withhold the amount of the potential impact to the government (the effect of the identified procedural and/or control deficiencies) identified through the above steps until the contractor adequately describes its MMAS and/or provide the requested results of internal reviews. See 5-717 for guidance on computing cost impacts.

### 5-706 System Description (MMAS Standard 1)

MMAS Standard 1 (DFARS 252.242-7004(e)(1)). This standard requires the

contractor to provide an adequate system description including policies, procedures, and operating instructions compliant with FAR and DFARS. While the contractor is required to provide a broad range of documents, the auditor should focus attention on the adequacy of the policies, procedures, and operating instructions related to MMAS Standards 2 through 10.

a. The contractor should establish and maintain descriptions of the major manual and automated systems that comprise the MMAS. These descriptions should cover all integrated component systems and include:

(1) narrative descriptions of each of the component IT systems and the interaction with one another,

(2) detailed flowcharts for each of the component IT systems,

(3) identification and purpose of all MMAS related transactions, tables, schedules, files, and reports for each component IT system,

(4) descriptions of available historical data files, retention periods, and storage format, and

(5) identification of the programming languages used to implement, process, and query the system.

b. The contractor should provide a written description of its MMAS in enough detail to allow the auditor to get a thorough understanding of how the MMAS operates. The contractor's write-up should include references to written policies, procedures, and operations manuals. Information should be provided for each process or function within the system as well as existing internal controls.

c. The system write-up should identify the generation of material requirements, bills of material, and development of lead times. The contractor should provide information on how this information is used to purchase material. All data input (whether manual or automated) should be identified. This should include a description of how the material is:

(1) ordered and tracked once a purchase order is issued;

(2) tracked once it arrives at the contractor's warehouse or plant;

(3) handled and accounted for in storage locations;

(4) issued to a task;

(5) billed to the government;

(6) accounted for when it is moved among tasks or inventories and incorporated into the end item; and

(7) disposed of during contract performance and at contract completion.

## 5-707 Material Requirements (MMAS Standard 2)

MMAS Standard 2 (DFARS 252.242.7004(e)(2)). MMAS Standard 2 requires contractors to assure that purchased and fabricated material charged to contracts are based on "valid time-phased requirements." Costing practices are valid and time-phased when material is purchased and/or fabricated for a specific production plan and the cost is charged and billed within a reasonable time related to production process needs.

a. There is no standard number of days (months) that constitute adequate time phasing. Time phasing is the product of good material management and internal controls. Reasonable time phasing ensures all material management processes are justified and followed. In turn, material management processes should ensure that materials are received as close to manufacturing need dates as possible under existing circumstances.

b. The auditor's primary goal is to determine that sufficient procedures and controls are established to assure contracts are charged based on valid time-phased requirements. The standard specifies accuracy goals as a validity measure to assure that the bill of material (BOM) or master production schedule (MPS) reflects the most accurate, complete, and current information. The auditor should review IT related policies and procedures that address the system's automated operations. Current flowcharts of the material time-phasing process and the processes used to determine BOM and MPS accuracies should be reviewed, analyzed, and a conclusion made regarding the adequacy of the automated process. Internal controls over access to component IT systems should be reviewed to determine that only users needing access to perform their duties are allowed onto the

system (see 5-1406.1). Data entry sources and related material system transactions should be identified and their applicable security system authorization tables examined to determine that transaction authorities (e.g., read, update, delete) are adequately controlled (see 5-1406.2).

c. Auditors must be alert for situations where the contractor's current systems are accurate (the BOM system is generating valid requirements and the MPS system is identifying accurate material need dates) but contracts include invalid or unreasonably time-phased materials. However, this should be the exception---an accurate system should generate valid time-phased material costs. Even though the current system is functioning accurately, prior deficiencies or other circumstances may have allowed invalid or unreasonably time-phased materials to be charged to the contracts. This would be noncompliant with the objective of the standard if controls were not instituted to relieve the government of the impact of this unallowable practice.

d. The auditor should verify contractor use of the BOM and MPS as a basis for material costing and review measures of performance that assure charges or allocations are based on valid time-phased requirements. Standard 2 states that a 98 percent BOM accuracy and a 95 percent MPS accuracy (see 5-707.1d. and 5-707.2b. respectively, for discussions on the accuracy calculations) are desirable goals to assure that requirements are valid and time-phased. If the system accuracy is lower, the contractor must provide adequate evidence that there is no material harm to the government and that the cost to meet the accuracy goals is excessive in relation to impact on the government. Reviews of the BOM and MPS require close coordination with government technical representatives.

e. As the auditor evaluates contractor compliance with the 10 MMAS standards, observations in other areas may provide indicators of problems with the MPS and BOM. A large number of material expediters, substantial excess inventory, and frequent inventory shortages can all be strong indicators that formal MPS and BOM systems are not providing accurate information or that established policies and procedures are not being followed. These circumstances can also be indicators that the contractor is operating under an informal system and ignoring problems reported by formal MPS and BOM systems. This can lead to problems with excess inventory and financing of material far in advance of need.

### 5-707.1 Bill of Material Accuracy

a. Requirements are considered valid when material is purchased or fabricated to provide quantities necessary to complete specific production units. The bill of material (BOM) identifies materials and quantities required to manufacture the assembly. An accurate BOM represents contractually required materials. By combining the requirements for the various assemblies, the contractor can determine total contract requirements. Total requirements can then be compared with material charges to the contract. This process can identify the existence of costs that:

(1) are not based on requirements

(2) exceed contract requirements

(3) represent requirements for which no costs have been incurred

b. The contractor should have BOM policies and procedures addressing:

(1) BOMs for assemblies and fabricated parts that generate requirements

(2) the development of original material requirements and subsequent changes

(3) approval authority for releasing and maintaining bills of material

(4) material requirement adjustments for engineering changes

(5) controls for converting engineering BOMs to manufacturing BOMs

(6) materials used on an "as required" basis (no specified quantity requirement)

(7) substitute material to include controls that prevent requirements from being input for both primary and substitute materials

(8) how and when bills of material records are maintained and purged

(9) a reasonable basis for measuring the accuracy of the bill of material

c. The contractor's system should provide for systematic testing of the bills of material for accuracy, appropriate corrective measures as warranted, and a record of the results of such tests.

d. The techniques for calculating the accuracy percentage for BOMs will vary from contractor to contractor. The technique used is dependent on BOM preparation methods and the production process. BOM accuracy indicates whether the BOM represents the actual material required to produce the product. Using traditional methods, material requirements on an "as-built" basis is the best measure of accuracy. However, the BOMs which are loaded into the system and drive purchase and fabrication orders are the ones affecting billing and costing. These BOMs are the most appropriate for measuring to assure they reflect the most current, accurate, and complete information. The contractor should have procedures and internal controls for ensuring accurate BOMs and a reasonable method for calculating BOM accuracy. An example of one formula follows:

BOM Accuracy =

e. Each level of production (i.e., fabricated parts, subassemblies, assemblies, and line replaceable units) has BOMs that may be tested for accuracy. BOMs can be inaccurate at any level. In order for the auditor to assess BOM accuracy, selected BOMs must be compared to appropriate data (e.g., engineering BOM, part drawings, engineering changes) to ensure that 98 percent of the BOMs driving procurement are accurate. Necessary adjustments for the actual calculation of the BOM accuracy must be made as circumstances warrant.

### 5-707.2 Master Production Schedule Accuracy

a. The contractor should have a document(s) that represents the master production schedule (MPS). The MPS details what and how much material, labor, and capacity is required and when these resources are needed. The contractor should have MPS policies that address:

(1) level of approval and identification of approving official

(2) whether or not past due effort is allowed (past due effort is unplanned effort and should be rescheduled)

(3) methods for evaluating reasonableness of capacity constraints

(4) definition of planning horizon and identification of planning time increments.

(5) techniques for systematic testing for accuracy and appropriate corrective measures, as warranted

(6) procedures and identification of authorities for changing policies

(7) methods for periodically verifying the reasonableness of lead and flow times

(8) timely processing of changes

(9) product changes being planned and implemented to minimize disruption to the master schedule, scrap, rework, and obsolete material

b. An accurate MPS and related policies and procedures should provide time phasing of production materials. The techniques for calculating the accuracy percentage for MPS will vary, depending on the method used to prepare the MPS and the nature of the production process. Although there are some common methods used for measuring MPS, no specific method is required. Each contractor should assess its own system and then identify the most appropriate method to provide evidence that the system generates realistic need dates for material. Traditional MPS accuracy measures consider historical performance by comparing end item deliveries accomplished versus end item deliveries planned for a given time period, determined as follows:

PERFORMANCE =

c. The accuracy measure must be supported by adequate evidence of the reliability of the schedules being measured. The

contractor should provide documentation identifying the various lead times and process flows and show the justification for times used. This includes documentation showing that the data used in the MPS is consistent actual shop floor practice. The documentation should include all processes that contribute to timely scheduling of material receipts and end item completion at the point that the measure is taken. The contractor is expected to establish a reasonable basis for accuracy measurements, and a program for on-going measurement and improvement of accuracy levels to reach desired accuracy goals.

d. Another example of a measure of MPS accuracy is:

In this example, the contractor will determine the universe of contractual end items and their applicable delivery dates. Once the universe is identified, a determination is made as to whether these contractual end items are included in the schedule and that the schedule reflects contractual due dates. When basing the measurement on prospective contractual end item delivery dates as shown in the above example, be aware that contracts may allow a "window" in which to deliver or allow early delivery of contractual end items.

e. The auditor should ensure that these types of measures are not misleading. The critical points are the accuracy of the lead and process times used in the schedules being measured. Before these types of measures can be of value, the contractor must demonstrate the accuracy of the data within the schedules and its consistency with practice.

f. The auditor should evaluate the reasonableness of whatever measure the contractor chooses to employ and render a judgment on whether that measurement appropriately depicts the schedule accuracy and assures that materials required in the manufacturing process will be reasonably time-phased to need in the manufacturing process. In addition, the contractor and auditor should evaluate the reasons for identified variances to determine the causes of inaccuracies.

g. To assure that contract costing or billings are time-phased, the contractor should provide an analysis of inventory turnover and/or "months-on-hand" of current inventory. The documentation will vary from contractor to contractor. The auditor should evaluate the reasonableness of whatever approach the contractor chooses to employ and render a judgment on whether or not the contractor has adequately justified materials carried for long periods of time. In addition, the contractor and auditor should evaluate the reasons for premature costing or billings to determine the cause and any potential harm to the government.

### 5-707.3 Justification of Exceptions

a. Even though the contractor's system achieves the desired BOM and MPS accuracy levels, it is possible for invalid or unreasonably time-phased material to get into contract costs and current billings. These situations can be caused by prior system deficiencies that have not been corrected, minimum buy requirements, or other circumstances. Therefore, it is important that the contractor have policies and procedures in place to identify when such situations may exist, investigate the causes, and take necessary corrective actions to ensure that the government is not over billed.

b. The contractor should have controls in place to identify situations where materials in excess of contract requirements or significantly before production need dates are charged to government contracts. While these conditions are not necessarily unreasonable, it is important that they be identified and investigated to ensure that the MMAS is continuing to operate effectively. In addition, the contractor should ensure that the government is not billed for unreasonable material costs.

c. For example, because of minimum buy and/or economic order quantity restrictions for some items of material, material quantities greater than valid time-

phased requirements may be purchased or fabricated and charged to a cost objective. In these instances, the contractor should demonstrate that its method reduces overall costs of purchases and fabrication and that receipt and costing of the materials is done as close to the need date as possible to take advantage of available price reductions. Normally, the contractor should not charge contracts for materials when a requirement does not exist. However, consideration must be given when minimum buy or other necessary circumstances are imposed on the contractor to buy greater quantities than immediately needed.

### 5-708 System Monitoring (MMAS Standard 3)

MMAS Standard 3 (DFARS 252.242-7004(e)(3). Standard 3 requires the contractor to provide a mechanism to identify, report, and resolve system control weaknesses and manual overrides. As with any system, sufficient internal controls should exist so any significant irregularity will be identified through normal system operation. The MMAS system should include policies and procedures that describe how and when operational exceptions are to be identified, reported, and resolved. Operational exceptions are irregular situations that result from system logic (analysis and correction of errors and irregularities) or system overrides.

a. The standard specifically cites excess inventory as one area that needs control mechanisms. The system should identify excess inventory as soon as known. MRP activity can mask any excess by constantly causing it to be moved because of new requirements or changed priorities.

b. Experience has shown that inappropriate costing can result from contractor use of excess inventory on spares contracts. Excess parts are sometimes used on spares contracts at no cost (i.e., never transferring the cost or the replacement part), understating actual recorded contract costs on the gaining contract and overstating cost on the losing contract. Further, nondisclosure of such activity (i.e., proposing purchase or fabrication costs when the parts will be used at no cost) at spares contract price negotiation could result in defective pricing.

c. While reporting mechanisms for excess/residual inventory are critical ones, they are not the only exceptions or problems the auditor should be concerned with. The auditor should look at the contractor's entire exception reporting system to verify the existence, and adequacy, of major controls in all areas that need to be identified. These areas include, but are not limited to:

(1) unauthorized changes to BOMs,

(2) materials charged to contracts in excess of requirements;

(3) materials charged to contracts prior to its production need date (time-phasing);

(4) monitoring of attrition, rework, scrap, and lost/found material;

(5) transfers and loan/paybacks; and

(6) manual overrides (i.e., material adjustments).

d. The most common method used by contractors to facilitate the identification of system irregularities, or problems, is the "exception report." The auditor should obtain a listing of all exception reports and their usage. If there are a significant number of exception reports that are either no longer in existence or not currently used, this should be brought to management's attention.

e. The contractor's policies and procedures should address the resolution of reported exceptions. To be fully compliant with the intent of this standard, the contractor should do whatever is necessary to prevent exceptions, where feasible, or at least minimize their recurrence.

### 5-709 Audit Trail (MMAS Standard 4)

MMAS Standard 4 (DFARS 252.242.7004(e)(4). This standard requires adequate MMAS audit trails and necessary records to evaluate system logic and to verify through transaction testing that the system is operating as desired. The auditor should determine that (a) all original entries and subsequent transactions are recorded in the system, (b) there is an appropriate audit trail, and (c) sufficient evidential matter exists to allow the expression of an audit opinion.

a. All transactions, both original and subsequent entries, should be recorded in the system to enable verification of system performance. The auditor should be alert for situations where entries, especially adjustments, can be entered into the system without evidence of the entry being recorded. The contractor should identify each type of transaction covered by the MMAS and the controls for ensuring that these transactions are properly recorded in the system.

b. An audit trail refers to the ability to trace transactions from their authorization through any intermediate books and records to the books and records of final entry, and vice versa. The contractor should be able to show how both purchased and fabricated parts flow through its system from beginning to end. At a minimum, the auditor should trace a few transactions through each significant aspect of the contractor's system. If this effort was accomplished to support the auditor's basic understanding of the system it need not be duplicated here.

c. The contractor must be able to provide sufficient evidence, through transaction testing, that its MMAS system is reliable. To fully comply with this standard, the contractor's system should provide for periodic transaction testing to ensure that the system is continuing to operate as designed. This testing may be included as part of Standard 10.

d. The auditor should carefully assess the adequacy and sufficiency of the contractor's transaction testing and revise the scope of audit accordingly (see 4-1000). In addition, the contractor's transaction testing may fulfill some or all of the required substantive testing necessary to issue an opinion on the allowability of incurred material costs. Therefore, the nature and results of the contractor's testing efforts should be considered in scoping the extent of our annual evaluation of incurred material costs (see 6-300).

## 5-710 Physical Inventories (MMAS Standard 5)

MMAS Standard 5 (DFARS 252.242-7004(e)(5)). The main objective of this standard is the requirement to maintain accurate recorded inventory validated through periodic reconciliation of recorded to physical inventory quantities. This will help to ensure that purchases do not exceed requirements, progress payments are based on valid inventory records, and physical inventory information is accurate for estimating and pricing purposes. The standard specifies 95 percent accuracy as a desirable goal. If this accuracy goal is not achieved, the contractor must provide adequate evidence that there is no harm to the government and that costs to meet the goal are excessive (considering the potential harm to the government). See 6-306 for additional guidance on physical inventories.

### 5-710.1 Receipt and Inspection of Material

a. The contractor should establish and maintain policies and procedures for receipt and inspection of material. The receiving activity is responsible for the receipt and inspection of incoming materials and the movement of these materials to the areas where the storage and usage functions are carried out. Common responsibilities include:

(1) unloading, unpacking, identifying, sorting, and verifying that the quantity and quality of materials received agree with purchase order requirements

(2) noting shortages, damage, and defects

(3) reporting receipts and discrepancies

(4) moving materials to storage or other appropriate activities

(5) providing appropriate transaction inputs to the inventory requirements and accounting systems

b. In evaluating internal controls, as a minimum determine the following conditions and procedures are used as a means of controlling the activities of the receiving and inspection department:

(1) The receiving function is independent of the purchasing, invoice processing, and shipping functions.

(2) Incoming material is centrally controlled.

(3) Receiving reports, signed by an authorized representative, are prepared for all material received, and a copy is furnished to the accounting department.

(4) The receiving department is advised, by copy of the purchase order, of the type of material purchased.

(5) Quantities of materials received are verified by actual count, weight, or measurement by the receiving department.

(6) Quality inspection is evidenced by inspection reports, notations on receiving reports, or other acceptable records.

(7) Procedures are in effect which control defective and damaged material, overshipments, returned material, material received but not ordered, and claims against carriers and vendors, with related responsibilities for the issuance of debit memorandums.

(8) Where the contractor accepts and reworks defective vendor-furnished material instead of rejecting and returning it, government contracts are not charged with the cost of rework, unless this is clearly justified in the circumstances.

(9) Material returns are routed to the shipping department and are controlled by authorized shipping advises or material releases.

(10) Procedures are in effect for controlling the distribution of material from the receiving area to stores or to production areas.

(11) The flow of accounting documentation is controlled by use of prenumbered forms, batch transmittals and/or other appropriate means.

c. The pervasiveness of modern IT systems requires the auditor to obtain reasonable assurance that the authority of data origination, accuracy of data input, integrity of processing, and verification and distribution of output within the receiving and inspection functions are adequately controlled (see 5-716). The results of the most recent IT System General Internal Control audit and other related systems audits should be reviewed for reported deficiencies which could adversely impact internal control of the receiving and inspections functions. The following elements should be considered when reviewing internal controls related to automated material receiving and inspection systems:

(1) The contractor's representation of receiving and inspection systems internal controls. This representation should include identification of system transactions and related security, material processing and exception reporting, inspection processing, adjustments, etc. System operation and the identification of all related system policies, practices, and procedures.

(2) The number of employees having access to material and inspection system data should be reasonable and based on need. Adequate security controls (logical and physical) should be incorporated to control access to the system (see 5-1406.1) and to control specific material transaction capabilities. Authority to make changes to receiving and inspection data should be limited, logged, and closely monitored (see 5-1406.2).

(3) Current receiving and inspection system/subsystem flowcharts showing data input characteristics, internal control points, internal control tables, and output reports. System operation should be verified to the policies, practices, procedures, and flowchart.

(4) Test system internal controls by tracking selected receipt transactions to their source purchasing documents. Verify the results of the test to the related bills of material or contract. Any differences must be resolved with the contractor. Consider using CAATs to expedite the process.

### 5-710.2 Storage and Issuance of Material

a. The storing and issuing function is responsible for:

(1) Protecting and preserving material in storage, including appropriate safeguards for items of a sensitive nature and items subject to deterioration by the elements.

(2) Accessing fast moving items.

(3) Examining material requisitions for the appropriate stock number, nomenclature, and authorized usage.

(4) Substituting, if appropriate, another item when a requisitioned item is not available.

(5) Issuing material timely when presented with an authorized requisition.

(6) Initiating purchase requisitions when stock levels reach the reorder point or when authorized requisitions cannot be filled, duly noting due-ins and due-outs.

(7) Reviewing stock for slow moving items and items in long supply and initiating appropriate action for consumption or disposal.

(8) Providing appropriate transaction inputs to the inventory requirements and accounting systems.

b. In evaluating the internal controls in this area, determine the extent to which the contractor employs the procedures listed below:

(1) separate accountability is maintained for contractor-owned and government-owned materials for each class of material

(2) material received is delivered directly to the warehouse, storeroom, or production area, via an inspection area if appropriate

(3) when material received is delivered directly to a production area, procedures insure that proper documentary and accounting control is maintained

(4) excess stock is not permitted to accumulate in production areas

(5) stores records are maintained by employees functionally independent of storekeepers

(6) there are adequate controls to prevent theft or diversion of material. Unauthorized persons are denied access to storerooms. There are special safeguards for high dollar value material and material susceptible to personal use or sale

(7) materials are stored to facilitate locating, withdrawing, handling, and counting

(8) procedures provide for the timely reporting of slow moving, obsolete, and overstocked material, such as electronic, automotive and truck parts, or copper, brass, or other high value metals or components

(9) procedures provide for the release of materials only upon the receipt of a properly approved requisition

(10) requisitions applicable to government-owned materials are distinguishable from requisitions for contractor-owned materials

(11) controls provide for proper charges and credits when material is transferred between/among contracts

(12) procedures provide that appropriate credits are issued when unused material is returned to stock, or where material is diverted to other work

(13) procedures are in effect to control the collection, segregation, and disposition of scrap and the issuance of appropriate credits (see 6-308)

(14) procedures are in effect which control and account for returnable items such as reels, containers, skids, boxes, and barrels

(15) procedures provide for issuing materials subject to spoilage or shrinkage on a first in first out basis

(16) the flow of accounting documentation is controlled by use of prenumbered forms, batch transmittals and/or other appropriate means

### 5-710.3 Inventory Accuracy

a. The contractor should have established procedures that prescribe how inventory record accuracy is verified as to quantity and location. Prior audits have found accuracy rates to be far below the recommended 95 percent level. A large number of material expediters, substantial excess inventory, and frequent shortages of material to satisfy production needs can all be strong indicators that the formal system is not providing accurate information. Specific attention should be accorded the policies, practices, and procedures governing the classification, location, requisition, and responsibilities for contract inventory. Although not normally part of the testing of inventory accuracy, the MMAS procedures should include requirements for shop floor accountability of materials in the production process.

b. For MMAS purposes, accuracy should not be determined based on the dollar value of an aggregate inventory. This technique is not representative of the physical accuracy of the inventory because the netting process and material planners rely on the accuracy of recorded

inventory quantities when deciding to fill requirements and generate orders. A highly accurate inventory is necessary for the netting process to function reliably.

c. Inventory record accuracy attests to the accuracy of the on hand inventory as opposed to the physical (recorded count) inventory. Inventory record accuracy should be at or above 95 percent within preestablished tolerances (see 5-710.3e.). Inventory records used by the contractor to make decisions regarding the purchasing or fabrication of materials should be used when counting the on-hand inventory. An example of a formula for calculating inventory accuracy is:

INVENTORY ACCURACY =

d. An inventory classification system may be used by a contractor to focus available resources on controlling those materials posing the greatest risk. An example of this is the ABC inventory method. This system classifies inventory items in a decreasing order of annual dollar volume or other criteria. This array is then split into classes A, B, and C. Class A contains items with the highest annual dollar volume and receives the most attention. The medium class B receives less attention while class C, which contains low dollar items, has minimum controls. The principle behind the ABC method is that effort will be saved through relaxed controls on low value items that do not pose a significant risk. Effort can then be applied to reduce inventories and maintain stricter accountability of high value items.

e. The precision or degree of accuracy (tolerance) will vary by types of inventory. In the ABC inventory method, the acceptable tolerance for an item count of a particular part within a preestablished range will vary depending on its A, B, or C classification. Tolerance is very similar in nature to precision as used in statistical sampling (i.e., +/- 5 percent). If a variable falls within a preestablished range, then results are considered acceptable. For inventory accuracy, the difference between recorded and physical inventory is computed and compared to the preestablished acceptable tolerance. The more expensive items or items crucial to maintaining production have tighter tolerance ranges.

f. The following table depicts the test results for 10 parts within a particular classification.

| Part No. | On-Hand Per Records | On-Hand Per Physical Count | Difference | Tolerance* | Accurate? |
|---|---|---|---|---|---|
| 1 | 100 | 100 | 0 | 5 | Yes |
| 2 | 80 | 78 | 2 | 4 | Yes |
| 3 | 100 | 95 | 5 | 5 | Yes |
| 4 | 200 | 206 | 6 | 10 | Yes |
| 5 | 120 | 130 | 10 | 6 | No |
| 6 | 80 | 80 | 0 | 4 | Yes |
| 7 | 100 | 90 | 10 | 5 | No |
| 8 | 150 | 145 | 5 | 8 | Yes |
| 9 | 100 | 100 | 0 | 5 | Yes |
| 10 | 80 | 80 | 0 | 4 | Yes |

| | | |
|---|---|---|
| Number of parts accurate | = | 8 |
| Number of parts counted | = | 10 |
| Accuracy of this class | = | 80% (8/10) |

* Assume acceptable class tolerance of 5 percent

g. Accuracy is based on counts within established tolerances. In the example above, the class tested has a preestablished tolerance of 5 percent. This means that for a recorded quantity of 100, units physically counted during a cycle count must fall between 95 and 105 to be recorded as accurate. The following is an example of summarizing tests for inventory accuracy:

| Class | (1) Parts Sampled | (2) Part Counts in Tolerance | Count Accuracy by Class* |
|---|---|---|---|
| A | 50 | 50 | 100% |
| B | 500 | 400 | 80% |
| C | 1,000 | 950 | 95% |
| | 1,550 | 1,400 | 90.3% |

*Col (2)/Col (1)

h. Audit steps must include observations of contractor count procedures. Count procedures should ensure integrity of the process and include "blind counts."

### 5-710.4 Inventory Adjustments

The contractor should have established policies and procedures for making adjustments for the difference between booked and physical inventory counts, including the costing of such adjustments in the accounting records, if appropriate. The government has an interest in whether the contractor makes an adequate investigation of inventory adjustments and whether losses are acceptable as a reasonable cost on government contracts. Adjustments of losses and overrates and deterioration of inventory items may indicate inadequate inventory control and storage procedures. Adjustments of items that are surplus or obsolete may indicate the contractor is purchasing excessive quantities. The auditor should evaluate the contractor's policies and procedures to ensure that they provide for the proper investigation of inventory adjustments and follow-up to help reduce the need for future adjustments.

## 5-711 Material Transfers (MMAS Standard 6)

MMAS Standard 6 (DFARS 252.242-7004(e)(6)). Standard 6 was established to assure that physical transfers of parts are based on valid reasons. Under normal circumstances, contractors are required to account for costs by contract. This standard recognizes that there may be times when it makes good business sense to transfer material from one contract to another with a more immediate need. However, prior audits have disclosed that in many instances transfers (physical, financial, or both) may occur with no apparent necessity. This standard requires the contractor to provide the government and users of the system descriptive reasons for transfer activity. In addition, the contractor should have controls in place to ensure that material transfers which are inconsistent with these reasons are identified, reported, and resolved on a timely basis.

## 5-712 Costing of Material Transactions (MMAS Standard 7)

MMAS Standard 7 (DFARS 252.242-7004(e)(7)). This standard requires consistency in the methods used for costing material transactions. The costing methodology may be standard cost, actual cost, or any inventory costing method discussed in CAS 411-50(b). Consistency must be maintained across all contract and customer types and accounting periods. The contractor must maintain and disclose written policies describing transfer methodology and the loan payback technique.

### 5-712.1 Costing Methodology

The contractor's system should clearly describe the methodology to be used in

the costing of material transactions. The contractor may use standard or actual costs or any of the inventory costing methods in CAS 411-50(b). The audit of the contractor's compliance with CAS 407 or CAS 411 should satisfy the requirements related to this area.

### 5-712.2 Sensitive Areas of Cost

The contractor's system should clearly describe how sensitive material transactions are to be costed. Sensitive transactions may be any material transactions identified by the government and contractor including areas such as interorganizational transfers (see 6-313); government furnished material/equipment (see 9-604.2); or special tooling and special test equipment (see 9-605.2). The auditor should identify all sensitive areas of material cost applicable to the contractor and related costing methodologies.

### 5-712.3 Costing of Transferred Parts

a. The MMAS system should transfer parts and associated costs within the same billing period. The billing period implied is a monthly accounting period.

b. For initial and subsequent transfer charging methods, the standard does not require contractors to use the same method for costing both an initial charge and a transfer charge. For any specific item, the value used for the transfer transaction may be different than the value(s) previously used to charge the item to inventory or to the contract from which it is being transferred. Transfers from one contract to another may be based on any CAS 411 valuation method. Selected valuation procedures must be documented, disclosed, and consistently applied to all subject transfers regardless of the nature of the final cost (government or commercial) or type of contract (cost reimbursable or fixed price).

c. When it is not appropriate to transfer parts and costs within the same period, a loan payback technique may be used if approved by the ACO. A loan payback occurs when parts purchased or fabricated for one or more cost objectives are assigned or used on another cost objective without a corresponding transfer of cost. The need for a loan payback is typically caused by the borrowing contract's need for a particular part earlier than the loaning contract, which still has a need for the part. When this technique is used, the auditor should verify that controls are in place to ensure that parts are paid back expeditiously, corrections are made for any overbillings, the borrowing contract and loan date are identified, and the cost of the replacement part is charged to the borrowing contract.

d. Prior audits have disclosed conditions where:

(1) borrowed parts may not be paid back on a timely basis or are never paid back;

(2) progress and/or final payments may be received by the contractor for the same parts on more than one cost objective resulting in over recovery of cost;

(3) no audit trail exists providing visibility of the lending or borrowing contract or when the parts were borrowed and/or paid back; and

(4) the borrowing contract may not be charged for the cost of the replacement parts.

e. The contractor should disclose written policies describing the transfer methodology used for manufactured parts. This would include parts that may be transferred at a sub-level, for which actual cost data is not accumulated. If the method provides a reasonable estimation of actual cost, it complies with the requirements of Standard 7.

### 5-713 Inventory Allocations (MMAS Standard 8)

MMAS Standard 8 (DFARS 252.242-7004(e)(8)). When allocations from common inventory accounts are used, controls are needed in addition to the requirements of MMAS Standards 2 and 7. These controls will ensure that reallocations and any credit due are processed no less frequently than the routine billing cycle, inventories retained for requirements which are not under contract are not allocated to contracts, and algorithms are maintained based on valid and current data.

a. Common inventory represents those parts in inventory that are required for use on

more than one cost objective. Prior audits have disclosed that allocations have not been based on valid time-phased requirements, or were not costed using consistent, equitable, or unbiased methodologies.

b. This standard addresses allocations of common inventory but requires that the contractor's system handle allocations in such a manner as to preclude improper costing.

c. Evaluate the contractor's submission to determine the magnitude of contractor cost allocations from common inventories. If allocations are immaterial, further effort may not be required.

d. The auditor should determine that the classifications are appropriate for types of materials costed as common inventory. Common materials allocated must benefit contracts charged (when requirements exist). Allocations should not be too far in advance of required production dates without sufficient justification, such as availability of quantity discounts, economic order quantities, and known or expected vendor problems.

e. Assess the contractor's analysis of the common inventory being allocated to determine that the pool of common inventory allocated is accurate.

f. Evaluate the contractor's analysis and any tests that assure billings show common inventory costs were properly calculated (automated or manually) and costed on a current basis. Where common inventory is reallocated on a periodic basis, evaluate the contractor's analysis performed to determine the reasonableness of the basis and method for reallocation. Evaluate the contractor's evidence that shows the total adjustments (debits/credits) of reallocations are accurately reflected in billings.

## 5-714 Commingled Inventories (MMAS Standard 9)

MMAS Standard 9 (DFARS 252.242-7004(e)(9)). This standard specifies that MMAS Standards 1 through 8 apply to commingled materials for which costs are charged or allocated to fixed price, cost-reimbursement, and commercial contracts. A contractor authorized to use a multi-contract cost and material control system under FAR 45.505-3(f) is not exempted from meeting the requirements of MMAS Standards 1 through 8.

## 5-715 Internal Audits (MMAS Standard 10)

a. MMAS Standard 10 (DFARS 252.242-7004(e)(10)). The MMAS system must be subjected to periodic internal audits to ensure compliance with established policies and procedures. This standard recognizes the contractor's commitment to self-governance and its contractual responsibility for systems and accounting internal controls. The contractor should be conducting on-going, self-initiated reviews of various aspects of its MMAS in a timely manner. Contractors may comply with this standard using in-house staff efforts or through the services of outside consultants.

b. Our interpretation of "internal audits" for purposes of compliance with this standard includes reviews performed by functional units as well as the internal audit staff. The auditor should be aware of the requirements of 4-1000, Relying on the Work of Others. The level of objectivity and competence of personnel performing the reviews will have a significant impact on the reliability of the reviews. This should be clearly communicated to the contractor. Both the auditor and the contractor should be aware that the objective is to ensure that adequate MMAS procedures and controls are in place and being followed, and that system adequacy is maintained on a real-time basis.

c. The auditor should ensure that the system is subjected to periodic internal audit. Although this standard does not create additional access requirements beyond those identified in FAR 52.215-2 and 1-504, the contract clause at DFARS 252.242-7004(c)(2) (Disclosure and Maintenance Requirements) specifically requires the contractor to provide the ACO, upon request, the results of internal reviews that it has conducted to ensure compliance with established MMAS policies, practices and operating instructions. Consideration should be given to both the contractor's internal audit schedule of completed audits and audits performed by functional units

that meet the objective of Standard 10. If the contractor contends that such reviews have been performed but is unwilling to make them available to DCAA in any form, the auditor may be unable to determine if the contractor has complied with the standard. The auditor should evaluate the need for such access. If the auditor determines that access to internal reviews is required, the auditor should immediately contact the ACO and advise the ACO to request that the contractor provide access to its internal reviews. If the contractor refuses to provide the requested information, the auditor should advise the ACO to cite the contractor for noncompliance with the Disclosure and Maintenance Requirements of the contract clause. The auditor should also determine whether the denial of access to records has a material impact on the government contract costs. If so, the auditor should advise the ACO to reduce requested progress payments and interim voucher amounts by an appropriate percentage until the denial of access issue is resolved. Continued denial of access to relevant data should be escalated in accordance with 1-504.

d. If a contractor is not performing periodic reviews of its MMAS, then it should be cited for noncompliance with standard 10. This should be cited as a serious internal control weakness in light of the complexity of MMAS and the risk of inaccurate costs being charged to contracts and included in billings. This control weakness should also be tied to cost impacts found during the audit and to FAR 32.503-6, Suspension or reduction of payments.

## 5-716 MMAS - Information Technology System Internal Controls

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls and IT application controls. Whether the control activities are classified by the auditor as general or applications controls, the objectives of control activities remain the same, to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should evaluate the IT general controls and the MMAS application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are composed of (1) organization and operation controls, (2) systems development and documentation controls, (3) hardware and systems software controls, and (4) data and procedural controls. (See 5-400 for a more detailed explanation of general internal controls.)

d. MMAS application control activities are applied to the input, processing, and output phases of this IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as estimating, purchasing, and in this instance, the comprehensive MMAS. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

## 5-717 Reporting on the Results of Audit

a. The auditor should follow the guidance in 5-110, 10-200, and 10-400 for reporting on compliance with laws and regulations and on internal controls relative to the contractor's accounting and management systems.

b. The auditor should formulate an opinion as to the contractor's compliance with the ten MMAS standards. Where deficiencies are disclosed, the auditor should quantify the impact. If the impact is considered significant, the auditor should recommend withholding appropriate amounts to protect the government's interest pending contractor corrective action.

c. The team leader should inform the contractor and the ACO of significant find-

ings during the conduct of the evaluation. Although DCAA is a team member, observation and recommendations will be forwarded via a separate internal control audit report (10-400) for incorporation in the team evaluation report. If the audit discloses significant deficiencies, the report will provide an estimate of the adverse impact on the government (the effect of deficiencies in procedures and/or controls). The report will also include a recommendation about the acceptability of the contractor's corrective action plan to the extent it is included in the contractor's response to our draft statements of conditions and recommendations. Until significant deficiencies are corrected, all field pricing reports for that contractor will contain a recommendation about proposed cost and pricing data adjustments necessary to protect the government's interest. Contract audit follow-up procedures under DoD 7640.2 (Section 15-600) apply to these reports. MMAS deficiencies should be identified as material accounting system deficiencies which are recorded in the permanent file Internal Control Audit Planning Summary (ICAPS) form (see 3-300) and the status of corrective action should be reported in the Contractor's Organization and Systems section of field pricing reports (10-306).

**5-718 Disposition and Audit Follow-Up**

a. On receipt of the MMAS report, the ACO will provide a copy to the contractor and allow 30 days, or a reasonable extension, for a written response. If no significant deficiencies are identified, the ACO will notify the contractor in a timely manner.

b. When the ACO determines there is a significant MMAS deficiency, the ACO will act in accordance with FAR 32.503-6 to suspend an appropriate percentage of affected costs on progress payment claims and public vouchers. After acceptance of the corrective action plan, but before complete implementation, the ACO will reduce the suspension, as appropriate, to reflect the contractor's progress. However, total amounts of affected costs will not be approved for progress payments or public vouchers until the contractor's system is determined to be acceptable for government contracting or the amount of impact is determined to be immaterial.

c. The specific procedures for computing a cost impact will vary significantly based on the contractor's operations, conditions of the deficiencies, and compensating controls. The auditor should make every effort to quantify the effect of the specific deficiencies found during the audit. The auditor should:

(1) develop an independent quantification of the identified deficiency

(2) ensure that the methodology is representative of the specific conditions

(3) ensure it provides a reasonable estimate of the harm to the government at the specific location.

## 5-800 Section 8 --- Compensation System Reviews (CSR) and Audit of Internal Control

### 5-801 Introduction

Refer to 5-100 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal controls and assessing control risk. This section provides guidance for:

(1) evaluating contractor compensation systems and related internal controls, and

(2) determining whether compensation costs resulting from the system are allowable and reasonable in accordance with the requirements of the FAR.

The audit guidance described in the following paragraphs applies primarily to major contractors, but can also be adapted for use at non-major contractors where audit risk warrants a detailed audit of the contractor's compensation system.

### 5-802 Background Information

a. Compensation for personal services is one of the largest components of cost incurred under government contracts. It includes all remuneration paid currently or accrued, in whatever form, and whether paid immediately or deferred, for services rendered by employees to contractors during contract performance. The objective of a compensation system is to provide the level of pay and benefits necessary to attract, retain, and motivate employees to direct their efforts toward achieving the goals of the organization. To be considered adequate, a contractor's compensation system must be reliable, be subject to applicable management control objectives and activities, and result in allowable, allocable and reasonable compensation costs charged to government contracts in accordance with FAR provisions.

b. The regulatory foundation for audits of contractor compensation systems resides in FAR 42.302, FAR 31.201-3 and FAR 31.205-6. FAR 42.302(a)(1) provides that the contract administration office will review a contractor's compensation structure. FAR 31.201-3, "Determining reasonableness," provides general criteria for determining whether a cost is reasonable in its nature and amount, and FAR 31.205-6, "Compensation for personal services," provides both general criteria and additional requirements for evaluating the allowability, allocability and reasonableness of the different elements of compensation.

c. As provided in FAR 31.205-6(a), to be allowable, compensation costs in total:

(1) must be for work performed by the employee in the current year and must not represent a retroactive adjustment of prior years' salaries or wages,

(2) must be reasonable for the work performed, and

(3) must be based upon and conform to the terms and conditions of the contractor's established compensation plan or practice followed so consistently as to imply, in effect, an agreement to make the payment.

d. As provided in FAR 31.205-6(b), compensation costs for non-bargaining unit employees are considered reasonable if each of the allowable elements making up the employee's compensation package is reasonable. The reasonableness of compensation is directly influenced by the compensation practices of other firms and by the supply and demand for a job as measured in the labor market for the job being evaluated. Factors to consider when evaluating the reasonableness of compensation paid by a contractor for a particular job include those factors determined to be relevant by the contracting officer as well as those factors identified at subparagraph (b)(1) of the cost principle. These include:

- The compensation practices of other firms of the same size,
- The compensation practices of other firms in the same industry,
- The compensation practices of firms in the same geographic area,
- The compensation practices of firms engaged in predominantly non-Government work, and
- The cost of comparable services obtainable from outside sources.

e. Certain elements of compensation are made expressly unallowable by FAR 31.205-6. These include compensation based upon changes in the prices of corporate securities (31.205-6(i)) and compensa-

tion in excess of specific limitations on the allowability of compensation for certain contractor personnel (31.205-6(p)).

f. As provided in FAR 31.205-6(c) Labor Management Agreements, special provisions exist for determining the reasonableness of compensation amounts established under "arms-length" labor-management agreements. Refer to the guidance at 6-413.1 for evaluating compensation costs set by the provisions of a labor-management agreement.

g. As provided in FAR 31.205-6(b)(2), compensation costs under certain conditions give rise to the need for special consideration. Included is compensation paid to owners, executives, and other employees who pose a higher risk of unreasonable compensation. Refer to 6-414 for guidance on evaluating the reasonableness and allowability of compensation costs paid to owners, executives, and other employees who pose a higher risk of unreasonable compensation.

### 5-802.1 Description of a Compensation System

a. An adequate compensation system is considered an inherent part of establishing reasonable compensation. A system includes the organizational structure; established lines of authority, duties, and responsibilities; internal controls and managerial reviews; and internal and external consistency, pay structures, budgeting, merit and incentive pay programs, and benefits program. A contractor may establish one compensation system to administer the compensation programs for hourly, administrative, technical, professional, and executive employees or establish separate systems for each group. The guidance provided is generally applicable to each situation, but should be adapted to the circumstances of the audit.

b. When auditing a contractor's compensation system, consideration should be given to the presence of characteristics that are generally indicative of an adequate system. An adequate compensation system:

(1) Requires periodic internal reviews of policy compliance, administrative process measures, adequacy of documentation, and reports to management on the results of reviews and recommendations for improvements; and requires corrective action plans to be developed, implemented, and tested.

(2) Is organized based on a definitive flow of authority.

(3) Includes written policies and procedures that specifically: (a) set forth the contractor's compensation package including cash and fringe benefit items, jobs, job families and career levels, pay grade assignments and changes to the pay structure, job analysis and job description requirements, external equity and market comparison process, performance management system, and employee benefits programs, and (b) ensure that compensation paid to employees for services rendered under government contracts complies with FAR 31.205-6.

(4) Provides for sufficient training, experience, and skills to perform pay administration tasks in accordance with the contractor's established policies and procedures and current compensation theory.

### 5-802.2 System Deficiencies

Refer to 5-109 for guidance on determining whether an internal control system deficiency is significant. Significant compensation system deficiencies mean shortcomings in the compensation system internal control that (1) result in a determination that additional audit procedures must be performed in related audits to protect the government's interest or (2) may directly result in or cause unreasonable compensation costs for the employee services rendered.

### 5-803 General Audit Policy for Compensation System Review(s) (CSR)

a. Refer to 5-103 for general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. It is DCAA's policy that Compensation System Reviews (CSRs) need only be routinely planned and performed for major

contractors. However, if the field audit office has sufficiently documented that the compensation system for a particular non-major contractor presents a significant audit risk, then a CSR should be planned and performed for that contractor. Audits at major contractors may be waived or modified if past experience has been favorable and current audit risk is considered to be low. This determination of low risk must be fully documented in the planning documents supporting the program plan. If audit risk is considered to be high, CSRs should be performed more frequently. Most compensation audits will be performed as separate assignments. At smaller contractor locations, selected compensation audit steps may be added to existing incurred cost or forward pricing audit programs.

### 5-803.1 Audit of Executive Compensation

a. The contractor's executive compensation system should be evaluated separately, even if the contractor does not have a separate pay structure for executives. FAR 31.205-6(b)(1) provides for the audit of the reasonableness of any individual element or the sum of the individual elements of compensation paid or accrued to particular employees. Policies and procedures for administering the compensation of executives should be evaluated using the guidance in 5-808 as appropriate to the circumstances. Some executives are also owners or in some other manner may directly influence their own compensation levels. See 6-414 for criteria to use in evaluating compensation under those circumstances.

b. The contractor's organizational structure should identify the contractor's executive positions. Generally, the list of contractor executives would include anyone with the title of vice president or above, and normally includes all individuals responsible for managing these primary functional areas:

(1) executive office,
(2) controller-accounting,
(3) legal counsel,
(4) engineering,
(5) manufacturing,
(6) purchasing,
(7) contracts, and
(8) individuals responsible for major programs or product lines.

c. Top executive positions are unique and must be audited individually. Position descriptions emphasize rank, function, responsibility areas, goals to be attained, impact of decisions, and number of employees directed. Divisional executives can be distinguished from corporate home office executives by their reporting level. Executives are not a class of employees. Overpayment of one cannot normally be offset against underpayment of another. However, in large organizations there may be a class of vice-presidents who have similar rank, function, and responsibility. In these cases, offsets may be appropriate.

d. Executives may be rewarded not only for their contribution to the organization, but also on the profitability of their functional unit as well as the overall profitability of the company. Pay packages include short- and long-term incentive pay as well as base pay, benefits, perquisites, and services. For publicly traded companies, the board of directors normally sets executive pay packages based on the compensation committee's recommendations. Details of the compensation committee's meetings and research are available in the proxy statement.

e. An audit of the contractor's executive compensation system should include:

(1) Evaluation of the compensation system as appropriate in 5-806 to 5-811.

(2) Determination that the policies and procedures provide a description for how executive compensation levels are established and who approves these levels; and eligibility criteria and basis for determination of how base salary, cash bonuses, long-term perquisites, benefits, services, and incentive pay bonuses are established.

(3) Supplemental Benefits. In many cases executives have available to them enhanced or supplemental benefits which are not available to the majority of the workforce. These supplemental benefits or executive benefits should be evaluated on a case by case basis. The supplemental plans should be evaluated in accordance with the

applicable subparts of FAR 31.205-6 and CAS. These benefits should be evaluated for reasonableness based on market surveys or any other available data. The prevalence of such plans should also be considered in determining reasonableness. For example, if a survey states that the average Long-Term Incentive (LTI) Payment for a contractor is 10% of base salary, a 10% LTI plan would not necessarily be reasonable. The reasonable amount could be significantly different, or the payment could be unreasonable altogether if only a small percentage of the participating companies have LTI plans. A few of the supplemental or enhanced executive benefits that should be audited in detail are described below:

(a) Supplement Executive Retirement Plans (SERPs). These plans are designed to provide the executive with earned benefits in excess of amounts payable under qualified retirement plans. These plans are often referred to as ERISA Excess Plans. These plans should be evaluated in accordance with FAR 31.205-6(j) and CAS 412. It is the contractor's responsibility to demonstrate the reasonableness of a SERP by providing the auditor with comparable market data. If the contractor is unable to provide measurable market data for comparison purposes, the auditor should attempt to determine a reasonable amount or reasonable percentage of base salary for total pension expenses based on surveys or other sources. If the auditor is unable to obtain comparable market data to demonstrate the reasonableness of material SERP costs, the auditor should challenge the costs and report this as a significant deficiency.

(b) Deferred Compensation. Deferred compensation is an award given by an employer as compensation to an employee in a future cost accounting period or periods for services rendered in one or more cost accounting periods before the date of receipt by the employee. The cost of deferred awards shall be measured, allocated, and accounted for in compliance with CAS 415 in order to be allowable. There are many forms of deferred compensation such as Split-Dollar Life Insurance and "rabbi trust." Split Dollar Life Insurance is a plan that gives both the employer and employee an interest in a cash value life insurance policy on the employee's life. A rabbi trust is used to accumulate deferred compensation, usually to fund a SERP. The amount of the award should also be evaluated for reasonableness if the contractor's award is determined to have been made in accordance with CAS 415.

(c) Long-Term Incentive plans. LTI plans are compensation plans that have an award period of two or more years. These payments are typically based on achievement of long-term business goals or as a method of retaining key executive talent. The most common LTI plans are based on stock options that are unallowable per FAR 31.205-6(i). Long Term Incentive payments should be evaluated on a case-by-case basis, including prevalence of such plans, in order to determine reasonableness.

(d) Executive Severance. Severance payments should be evaluated in accordance with FAR 31.205-6(g). Most severance policies are based on a formula that relies on length of service/employment as the determining criterion in the calculation of the severance amount. In many cases executives are awarded severance in excess of the normal or established policy. Contractors often argue that severance payments are based on executive employment contracts. However, the fact that a severance payment is based on an executive employment contract does not necessarily support the amount as reasonable. This amount should be evaluated based on severance policies of comparable executive positions in accordance with FAR 31.205-6(b). Refer to 7-2107 for additional guidance on severance payments.

(4) The costs of " golden parachute" benefits were made expressly unallowable in FAR 31.205-6(l)(1) effective April 4, 1988. Refer to 7-2107.8 for additional guidance on the evaluation of "golden parachute" benefits.

(5) A comparison of executive pay (salaries, bonuses, and deferred compensation) for the current year to several past years for the purpose of establishing trends. The auditor should obtain the contractor's explanation and justification for significant

increases. Also, consider the company's financial performance trends relative to the trends in executive compensation. (See 6-414)

f. When evaluating the contractor's market comparisons of top executive pay (see 5-808.8), the executive compensation components being evaluated should be consistent with that shown in executive compensation survey data. Survey data most frequently includes base pay and cash bonuses combined and long-term incentive pay as a percentage of base pay.

g. Often contractors will propose that their executives should be paid more than 110 percent of the reasonable compensation based on the average compensation paid by comparable firms for executives with similar duties. For an executive with responsibility for overall management of a segment or firm, such a proposal may be justified by clearly superior performance as documented by financial performance that exceeds the particular industry's average.

(1) Examples of such financial performance measurements may include the following:

- Revenue Growth
- Net Income
- Return on Shareholder's Equity
- Return on Assets
- Return on Sales
- Earnings per Share
- Return on Capital
- Cost Savings
- Market Share

(2) The contractor must show that the measure chosen is representative of the executive's performance. Consideration should be given to the competitive environment in which the contractor operates. There should be no extra compensation awarded because of high performance measured by a standard which is not affected by the executive's performance and certainly there should be no extra compensation due to performance which results primarily from the contractor being a government contractor.

(3) Use of a particular criterion to justify higher than average compensation should be applied consistently over a period of years, with both increases and decreases in the performance measure reflected in the changes to compensation claimed as reasonable.

h. If the audit of the contractor's executive compensation system determines that significant system deficiencies exist or the contractor has established pay policies or procedures that appear to promote unreasonable compensation levels, conduct specific testing of the reasonableness of the executive compensation under FAR 31.205-6(b) as outlined in 6-414.

### 5-803.2 CAC/CHOA Network Coordination

a. The CAC/CHOA should consider coordinating compensation audits at all major network components. The amount of coordination will depend on the degree of centralization of the contractor's compensation system and the location of the contractor component responsible for the administration and control of each significant element of the compensation package. For instance, a large multi-segmented government contractor may administer and control both the executive compensation plan and the fringe benefit packages for non-bargaining unit employees from the corporate office, the incentive compensation plan for mid-management personnel out of a group office, and salary administration for the personnel providing services in the performance of government contracts at the division level. Consideration must be given to such factors when programming and performing a CSR at a large multi-segmented contractor. When control over executive compensation or some other component of compensation is at another location or another corporate level, do not complete a segment/division CSR without obtaining input from the auditor at the other location or level on the compensation component administered at that location or level.

b. For compensation audits to be effective and completed on a timely basis, early and adequate CAC/CHOA coordination, planning, and audit initiation is required. Lack of coordination and planning can cause increased audit effort and inconsistency among network components. A CAC/CHOA network planning meeting

may be necessary for this purpose. (See 15-200 for guidance on DCAA's CAC program.)

c. Establish each segment/division CSR within a CAC/CHOA network as a separate assignment. Follow this procedure even for network segments/divisions located within the same region regardless of the degree of centralization of the contractor's compensation system. Issue a separate audit report for each segment/division CSR performed and forward a copy to the CAC/CHOA. The CAC/CHOA may consolidate these reports into one overall report if all CSR issues from all segments/divisions are to be addressed at the corporate level by the corporate ACO (CACO).

### 5-803.3 ACO and PCO Coordination

a. FAR 31.205-6(b) provides the contracting officer with the authority for determining whether compensation paid or accrued for services rendered on government contracts is reasonable. The authority includes the determination of the factors to be considered relevant when evaluating the reasonableness of compensation, and the consideration to be afforded offsetting compensation elements introduced by the contractor. It is important that the auditor seek a mutual understanding with the contracting officer at the start of the audit regarding the (1) factors to be considered relevant when evaluating the contractor's level of pay in relation to the labor market, (2) approach for evaluating compensation by particular employee, job classes of employees and/or by job grade, and (3) treatment of contractor offsets.

b. Before the scheduled starting date of a CSR, meet with the ACO to discuss the scope and audit objectives of the CSR. Advise the ACO regarding DCAA audit policy for determining and evaluating the contractor's use of the relevant factors identified in FAR 31.205-6(b)(1) and request the ACO to provide the auditor with any other factors the ACO may consider relevant under the circumstances. Also advise the ACO regarding the planned audit approach for testing reasonableness by particular employee for contractor executives and by job classes of employees and job grade for non-executive/non-bargaining unit employees. Request comments on any problems or special areas of interest relating to the contractor's compensation policies, procedures, and practices for consideration in the CSR.

c. Coordination with the ACO is essential throughout a compensation audit. Actively solicit ACO participation at the entrance and exit conferences, and keep the ACO informed of all significant audit developments. After completion of the field work but before the draft report is released to the contractor, review all significant findings and recommendations with the ACO (see 5-811). Report disagreements with the ACO that cannot be resolved locally to the regional office.

### 5-803.4 Coordination with the Contractor

Inform the contractor of the upcoming CSR by sending a letter to the management executive responsible for the organizational unit to be audited. Describe the purpose and general scope of the audit, indicate the tentative starting date, identify the auditor in charge, and request the name of a contractor representative with whom audit matters can be coordinated. Identify specific data needed at the start of the audit (e.g., a list of all individuals who develop the compensation policy) and state the proposed date for an entrance conference. Also suggest the contractor present an orientation briefing on its compensation system, policies (including the process used to develop them), procedures, and other relevant data. Provide an information copy of this letter to the ACO.

## 5-804 Audit Objectives

The audit of a contractor's compensation system has two objectives. The first objective is to assess control risk to determine the degree of reliance that can be placed on the contractor's internal controls as a basis for planning the scope of other related audits. The second objective is to perform sufficient audit procedures to demonstrate that a contractor's compensation system results in

allowable and reasonable compensation on government contracts. Refer to 5-104 for guidance relating to the primary objectives for auditing the contractor's accounting and management internal control systems. Refer to 5-108 for guidance on the auditor's tests of controls. Testing controls involves selecting a limited sample of transactions and evaluating whether they were executed in accordance with established policies and procedures. They provide the auditor with evidential matter to support a determination that internal controls are designed and operating effectively to prevent or detect material misstatements in a timely manner. Tests of controls are necessary to support a control risk assessment below the maximum.

## 5-805 Scope of the Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. In establishing the scope of audit effort, the auditor should carefully consider the nature and extent of documentation available from prior system audits, related audit effort, permanent files, and the results of contractor's self assessment efforts and internal audits (see 4-1000, Reliance on the Work of Others). Reliance on this information allows the auditor to better focus current audit efforts on areas of greatest risk.

c. Additionally, contractor management has the responsibility to establish and maintain effective internal control over the compensation system. This includes the control activities established to provide reasonable assurance that compensation paid or accrued to employees for services rendered on government contracts complies with the requirements of the FAR, including FAR 31.205-6. As part of the preliminary audit effort, the contractor should be requested to disclose its compensation system, how the control objectives outlined below are accomplished, and what efforts management has made to evaluate the continued effectiveness of control procedures.

d. The determination that the contractor has established and maintained an adequate compensation system and has demonstrated that it is compliant with the requirements of FAR 31.205-6 as set forth in the guidance will negate the necessity to perform independent tests of reasonableness. Only in the specific circumstance identified at 5-808.9b(1) will the auditor perform an independent test of reasonableness as provided for in 6-413.2.

e. The evaluation of a compensation system that governs compensation established in accordance with an arm's-length negotiated labor-management (union) agreement and the reasonableness of compensation costs resulting from such agreements will be limited to the guidance in 6-413.1.

f. The Service Contract Act of 1965 requires contractors to pay minimum wages and fringe benefits in accordance with Department of Labor (DOL) wage determinations to employees performing on service contracts with the government. Covered employees do not include those employees in an executive, administrative, or professional capacity. If contractors subject to the Act are compensating employees in accordance with DOL determinations on prevailing wages in the area, no determination of the reasonableness of compensation should be made for these employees. Therefore, audit guidance contained in 6-413.2 is not applicable.

g. Other wage laws that require payment of prevailing wages as determined by DOL are the Davis-Bacon Act of 1931 and the Walsh-Healy Public Contracts Act of 1936. Accordingly, audit guidance contained in 6-413.2 does not apply to employees' wages covered by these laws.

h. Cost principles for educational institutions are contained in OMB Circular A-21. Refer to 13-210, 13-406 and OMB Circular A-21 for the general audit approach for the audit of a compensation system at an educational institution.

## 5-806 Management Reviews of the Compensation System

a. Company management should monitor its compensation programs to ensure that they are properly administered and

maintained and result in compensation costs paid for services rendered on government contracts that comply with the requirements of FAR. Monitoring is one of the five interrelated components of internal control. It is the process that assesses the quality of internal control performance over time (refer to 5-102).

b. Periodic monitoring should serve to assess the effectiveness of the pay administration system and the company policies to achieve specified pay objectives. A contractor's monitoring system should be designed to provide reasonable assurance that financial related transactions resulting from the compensation system are recorded properly to permit the preparation of government contract cost representations in accordance with applicable laws and regulations. In addition, the results of the contractor's monitoring efforts should provide feedback to management by identifying problem areas for directing future development and design efforts.

c. The contractor should have policies and procedures relating to its monitoring of the compensation system. These policies and procedures should outline who will perform the monitoring function, what will be reviewed and under what circumstances the review will be performed. The policies and procedures should specify the role that the contractor's internal audit department will have in monitoring the compensation system.

d. A team or committee should be formed with experience in compensation to perform the periodic internal reviews. At the conclusion of its review, this committee should provide management a detailed report of its review along with any recommendations. Management should review the results and recommendations, prioritize the improvements that are required, allocate the necessary resources, and follow up to ensure that the work is completed.

e. Evaluate the contractor's system of monitoring to determine that:

(1) Contractor management has established policies and procedures for periodically monitoring the compensation program to ensure that resulting costs comply with the requirements of FAR.

(2) The contractor has qualified personnel performing the monitoring function that receive specific training relating to the field of compensation or whose work experience is relevant.

(3) Reviews are performed and the frequency of the reviews (such as semi-annual, annual, two-year cycle) is adequate.

(4) Recommendations from the review are implemented or other alternatives assessed within a reasonable period. Reasons for not implementing recommendations are documented.

f. The scope of the audit to be performed on the contractor's compensation system should be adjusted to consider the extent that the contractor's internal review of the system can be relied upon. Refer to 4-1000, Relying on the Work of Others.

## 5-807 Evaluation of Organization and Assignment of Responsibility

a. The compensation function may be organized differently by individual contractors because of the nature of their products and services, size and type of organization, degree of decentralization, management attitudes, capabilities of personnel, and other factors. Decentralization of the compensation function refers to a management strategy of giving separate organizational units the responsibility to design and administer their own systems. In contrast, a centralized system locates the design and administration responsibilities in a single corporate unit. Determine early in the audit the degree of centralization of the compensation function in order to adequately plan the audit scope when an organization with multiple operating units is involved. Refer to the guidance on CAC coordination on multiple unit audits in 5-803.2.

b. Another structure variation sets up the corporate compensation function as if it were an internal consultant with pay professionals required to market their pay programs and services to operating units. Normally, certain compensation plans such as health and medical plans, pensions, and corporate-wide profit sharing

plans remain under the control of the corporate group. However, the responsibilities for other compensation functions, such as job analysis, evaluation, surveys, and pay structure design, are delegated to the operating units.

c. The compensation function should be organized on the basis of a definitive flow of authority and standard policies and procedures established at a top or upper management level. Each contractor should maintain a written description of the organization and duties of the personnel responsible for the design and administration of the compensation function.

d. Evaluation of the contractor's organization requires an analysis of the relationship of the organizational segments participating in the compensation function. For this purpose, the contractor should provide:

(1) organization charts,

(2) written procedures or directives describing the organizational structure and responsibilities of the compensation design and administration group(s) and contributing departments, and

(3) flow charts showing the work flow of the compensation system design and administration.

e. The evaluation should disclose whether:

(1) The total compensation function is effectively controlled, either on a centralized or decentralized basis.

(2) Lines of authority, duties, and responsibilities are clearly defined, including responsibilities for establishing, reviewing, and approving changes to the cash and non-cash compensation plans.

(3) The organization structure clearly identifies the unit responsible for ensuring that the value of the total compensation package (cash plus other benefits) offered employees for services rendered in the performance of government contracts is allowable and reasonable in accordance with the FAR.

(4) The organization structure clearly identifies the unit responsible for ensuring the contractor complies with FAR 31.205-6(a)(4) by coordinating major revisions to its existing plan or new plans with the cognizant ACO.

## 5-808 Evaluation of Policies and Procedures for Non-Bargaining Unit Employee Compensation

a. Contractor management is responsible for establishing and maintaining adequate internal control. As defined by SAS No. 78, internal control is “a process effected by an entity’s board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories:

(1) reliability of financial reporting,

(2) effectiveness and efficiency of operations, and

(3) compliance with applicable laws and regulations.”

Control activities, one of the five interrelated components of internal control, are the policies and procedures that help ensure that management directives are carried out (refer to 5-102). The compensation system of a company is of sufficient importance that direction and guidance for the implementation of the company's compensation objectives must be in a form that ensures understanding and avoids misinterpretation. As an internal control measure, a formal statement of policies and procedures, rather than an informal one based on established customs of the company, is expected to exist at all contractor locations with substantial government business.

b. Policies are management's statements of principles for accomplishing the contractor's compensation objectives. These include:

(1) basic policies used by proprietor(s) or board(s) of directors to guide the course of business and to make the most effective use of resources including employee services,

(2) supplemental and broad policies by top management to explain and carry out the board's basic compensation decisions, and

(3) operational policies issued at lower management levels expanding the company's broad compensation policies as they apply to subordinate organizational elements.

c. Policies and procedures should cover such areas as the contractor’s:

(1) total compensation package including cash and fringe benefit items,

(2) jobs, job families and career levels,

(3) pay grade assignments and changes to the pay structure,

(4) job analysis and job descriptions,

(5) job evaluation processes,

(6) external equity and market comparison processes,

(7) employee benefits programs, and

(8) compliance with government laws and regulations including FAR 31.205-6.

d. Determine whether the contractor's compensation policies are:

(1) adequately documented,

(2) consistent with prudent business practices,

(3) adequate to provide sufficient control and accomplish management goals,

(4) consistent with FAR, promulgated cost accounting standards, government laws and regulations, and contractual requirements,

(5) periodically reviewed and updated, and

(6) effectively implemented by adequate procedures.

### 5-808.1 Evaluation of the Total Compensation Package

a. Contractor management is responsible for designing a total compensation package that takes into consideration the mix of cash and benefits needed to attract, retain and motivate the kinds of personnel needed to accomplish the entity's mission. Cash compensation is any type of cash payments made to employees in exchange for their contributions to the entity. It includes wages and salaries, cost of living allowances, bonuses, incentives, and merit adjustments. Benefits include all forms of non-cash compensation made to employees including health coverage, life insurance, pension plans, FICA/FUTA payments, and paid time off. Additionally, payment of some elements of the compensation package may be deferred to later accounting periods. The total compensation package design and any proposed changes to it should take into consideration budgetary constraints, employee expectations, the needs of the company and management, as well as cost/benefit analyses.

b. Evaluate and test the contractor's control activity over the compensation function to determine that policies and procedures exist for:

(1) Identifying and communicating to employees the specific elements of the total compensation package.

(2) Ensuring that each element of the total compensation package complies with the allowability and allocability requirements of FAR 31.205-6, and that the compensation by individual element and in total is reasonable in accordance with FAR 31.205-6(b). Refer to 6-413.2 for guidance regarding evaluation of reasonableness on Non-Bargaining Unit Compensation in accordance with FAR 31.205.6(b). Also refer to 6-413.4a for guidance regarding auditor use of the 10 percent range of reasonableness when evaluating compensation costs.

(3) Providing that, where necessary, offsets are available to shelter an unreasonable element of the compensation package as provided by FAR 31.205-6(b)(1). Refer to 6-413.7 for guidance regarding offsets.

### 5-808.2 Evaluation of Jobs, Job Families and Career Levels

a. A job is a cluster of work tasks, the completion of which serves an enduring purpose for the organization. At FAR 31.001, definitions are provided for each of the following terms: job, job class of employees, and labor markets. These terms are central to the regulatory provisions for determining reasonableness found in FAR 31.205-6(b). The cost principle provides that the reasonableness of compensation costs shall be tested by individual employee or job class of employees. In compensation practice, jobs are categorized into job families, which include jobs involving work of the same nature, but requiring different skill and responsibility levels. The FAR definitions for job and job class of employees match the concept of a job family as used in the field of compensation. A job family represents the career level progression for a job. For instance, the job family of engineers would include the job of junior engi-

neer, intermediate engineer, senior engineer, and lead engineer (skill/responsibility level). The career level represents the progressive degrees of accountability, complexity, leadership, knowledge and experience within a job family. The career levels established by a contractor typically reflect the career levels in the labor market for the same job family.

b. Evaluate and test the contractor's control activity over the compensation function to determine that:

(1) The compensation department's market comparison process tests the reasonableness of wages and salaries by job class or grade level to demonstrate reasonableness in accordance with FAR 31.205-6(b)(1) (See section 5-808.8).

(2) Management takes corrective action to bring into line the pay levels for those job classes or grades found to have unreasonable levels of compensation. Unreasonable levels of compensation can occur when the contractor's actual weighted average rate of pay for a job class or grade exceeds by ten percent the market weighted average rate reported in the pay survey. Refer to 6-413.4a for DCAA policy regarding auditor use of the 10 percent range of reasonableness when evaluating compensation costs.

### 5-808.3 Evaluation of Pay Grade Assignments and Changes to the Pay Structure

a. A pay or salary grade is defined as one of the levels or groups into which jobs of the same or similar value are grouped for compensation purposes. A pay grade will include all jobs having the same relative value to the entity. Jobs are assigned to grades based upon market value and job content. Job family progressions, supervisor/subordinate relationships, and administrative considerations influence the number of job grades. For control purposes, each pay grade will have a pay range maximum, minimum, and midpoint.

b. A pay structure is a hierarchy of job grades and pay ranges. It is an administrative tool designed to be internally fair, externally competitive, and cost effective. A pay structure provides management with a means to effect administrative and financial controls. An entity may have more than one pay structure depending upon the diversity of jobs in the organization. A pay structure can provide a consistent basis for controlling and promoting the equity between external and internal factors.

c. Broadbanding is an approach to pay structure design that uses fewer pay grades. The characteristics of a broadband pay structure include:

(1) the use of bands in lieu of pay grades,

(2) each band containing a wide variety of jobs,

(3) salary ranges that are very wide, typically exceeding 100 percent,

(4) vertical advancement from band to band that is de-emphasized in favor of career level progressions within the band,

(5) band midpoints that are de-emphasized due to the wide level of labor market data associated with each band, and

(6) market pay survey data as the primary means of managing cash compensation.

d. Periodically, management should review the pay structure for needed adjustments. The adjustments are made to reflect assumptions about inflation, the impact of changes in the labor market, and the effect of changes to base pay. Changes can include general pay increases, market adjustments, cost of living adjustments, and merit increases. Also, new jobs may be added to the pay structure and existing jobs may be re-slotted into different pay grades.

e. Evaluate and test the contractor's control activity over the administration of its pay grade assignments and changes to its pay structure(s) to determine that:

(1) The assignment of a new job(s) into a pay structure is based upon, and supported by, a job analysis (5-808.6a.) and job evaluation techniques (5-808.7).

(2) The reassignment of an existing job from one pay grade into another is based upon, and supported by, the results of job analysis and job evaluation techniques.

(3) The compensation department tests the impact of the annual adjustment to salaries and wages to determine that the

resulting levels of compensation by job class and grade remain reasonable in accordance with FAR 31.205-6. Refer to 6-413.4a for DCAA policy regarding the use by the auditor of the 10 percent range of reasonableness when evaluating compensation costs.

(4) Management takes corrective action to bring into line the pay levels for those jobs in a pay grade found to have unreasonable levels of compensation.

### 5-808.4 Market Based Pay Systems

a. Market based pay systems are pay systems where labor market data takes priority over internal considerations when valuing a job. Market based pay systems have become the predominant method used by contractors today to establish salary levels for jobs and to design pay structures. Characteristics of market based pay systems include: ease of administration; ease of comprehension; responsiveness to market changes; and a requirement for market data. In a market based pay system, the contractor's primary means for valuing a job is through the use of pay surveys. Pay survey data indicates what an entity's product and labor market competitors are paying for a job. In a market based pay system, a high percentage of the total number of jobs are valued using pay survey data. A market based pay system is a system based upon external equity.

b. Market based pay systems place limited emphasis on internal equity as a means of valuing jobs. Elaborate systems of job evaluation such as the point factor method and the factor comparison method, which use internally generated data to assess the value of each job in comparison to all other jobs in an organization, are de-emphasized in favor of the slotting method (5-808.7(3)) However, a market based pay system still requires the maintenance of adequate job descriptions for use in matching contractor jobs to pay survey job descriptions.

### 5-808.5 Evaluation of Internal Equity or Consistency

a. Internal equity refers to the pay relationships among jobs or skill levels within an organization. It involves establishing and maintaining equal pay for jobs of equal worth and acceptable pay differentials for jobs of unequal worth. This is accomplished primarily through job analysis, job descriptions, job evaluations, and pay structure design.

b. When establishing pay structures, organizations may place primary emphasis on internal or external considerations or a blend of the two, depending on the needs of the organization. Refer to 5-808.4 for a discussion of a market based pay system.

### 5-808.6 Evaluation of Job Analysis and Job Descriptions

a. Job Analysis. Job analysis is a systematic and formal process for obtaining relevant information and data about a job. The information and data collected usually falls into two categories. The first category relates to the nature of the work and focuses on the duties and responsibilities of the job. The second category relates to the level of work and focuses on the skill, effort, accountability and working conditions of the job. Some of the common methods of collecting data for job analysis include questionnaires, checklists, diaries, interviews, and direct observation. The basic premise underlying job analysis is that jobs are more likely to be described, differentiated, and valued fairly if accurate information about them is available. Job analysis procedures may be used to evaluate changing jobs and to establish new jobs.

b. Job Descriptions. The information and data gathered about a job through the performance of a job analysis becomes the basis for the job description. Job descriptions identify, define and describe the most important features of the job as it is performed. These include the duties and responsibilities of the job as well as the level of skills, effort, accountability and working conditions of the work performed. Job descriptions have a variety of uses that include market comparison, salary survey exchanges, job evaluation, performance appraisal, recruiting and third party defensibility. Job descriptions

play a key role in a contractor's market comparison process. The accuracy of a contractor's match of their job to the job described in a pay survey depends upon how well their job description describes the job actually being performed.

c. Evaluate and test the contractor's control activity over the compensation function to determine that:

(1) There are qualified personnel possessing training and experience to perform job analysis and write job descriptions,

(2) All job descriptions are reviewed on a cyclical basis to determine that they remain current, and accurately depict the duties and responsibilities of the job being performed,

(3) Job analysis is performed on new and changing jobs, and

(4) Job descriptions are revised based upon the results of the job analysis.

### 5-808.7 Evaluation of the Job Evaluation Process

Job evaluation is a formal process by which management determines the relative value to be placed on jobs within the organization. It involves the systematic evaluation of the job descriptions that result from job analysis. The job evaluation process compares jobs within an organization, and assembles these jobs in a hierarchy based on their worth. This hierarchy is called a pay structure. There are an almost limitless variety of evaluation methods emphasizing job content, but virtually all of them are modifications or derivations of the five major job evaluation methods listed below.

(1) Ranking. Ranking is the fastest and simplest of the classic methods of job evaluation. Evaluators rank jobs in order of their overall worth or value to the organization. The job that the evaluators believe to be most valuable is placed first, the one that they perceive as being worth least is ranked last and so on. Minimal job specifications are needed to use this method. These include the educational and knowledge or other qualities required to meet the demands of the job.

(2) Classification. A number of grades or levels are specified beforehand, and broad descriptions are written to delineate the characteristics of the jobs to be placed in each of the grades. Each job is then evaluated by comparing the job documentation to the grade description, and the job is assigned to the grade that most closely describes the job characteristics.

(3) Slotting. Slotting is similar to the classification procedure. The evaluator compares new job descriptions with jobs already in the structure, and slots each job into the grade assigned to jobs of similar overall worth. A matrix is often used, with grades on the vertical axis and departments or job families on the horizontal axis, to facilitate comparisons across organizational lines.

(4) Factor Comparison. In factor comparison, key (benchmarked) jobs are identified. A series of distinct factors such as skill, effort, responsibility, working conditions, or subfactors thereof are selected and set forth in an evaluation manual. Each key job is ranked within each factor listed in the manual. A monetary or point value scale then is assigned to each factor and apportioned to every job ranked within a factor. Nonbenchmarked jobs, or new jobs, are added to the system by finding the most appropriate monetary or point value within each factor. Totaling the points from each of the factors produces the final job rate. Job description specifications are derived from the job factors that are contained in the evaluation manuals.

(5) Point Factor. The point factor method is an evaluation technique used for exempt jobs. A number of factors are selected, such as those mentioned in factor comparison. These factors are weighted and a scale of point values is assigned to each to reflect this weighting. These factors are often set forth in an evaluation manual. Each job is compared to descriptions of the various levels or degrees within each factor. When the appropriate degree is selected for each factor, the assigned points are combined to produce a total score for each job. Job description specifications are derived from the factors that are contained in the evaluation manuals.

### 5-808.8 Evaluation of External Equity and the Market Comparison Process

a. External equity or competitiveness refers to the relationship of the contractor's pay levels relative to that of its labor and product market competitors. The process is referred to as the market comparison process and focuses on the cash element of the total compensation package. It is accomplished by comparing the actual wage and salary pay levels for jobs within an entity to wage and salary pay levels established in the labor market for the same job. Data regarding pay levels existing in the relevant labor market is obtained from pay surveys. The specific jobs that are included in the market comparison process are referred to as benchmark jobs.

b. FAR 31.205-6(b)(1) provides five factors to be considered when evaluating the reasonableness of compensation costs (refer to 5-802d.). It also provides that the appropriate factors for evaluating the reasonableness of each element of compensation depend upon the degree to which these factors are representative of the labor market for the job being evaluated. Other factors having a direct impact on the labor market for a job include (1) the supply and demand for sought after skills and abilities, and (2) the extent of competition in product and service markets. Additionally, a contractor must consider internal factors such as its ability to pay, business strategies, productivity, and the skills and abilities of its work force when evaluating particular labor markets.

c. In administering its market comparison process, the contractor must establish control activities relating to the relevant market and the source of pay survey data.

(1) Relevant Market. The contractor's selected benchmark jobs are the basis for defining its relevant labor markets. The primary relevant labor market for a job generally includes companies that the contractor competes with for similarly skilled employees or the source of supply. This market consists of the geographic area(s) within which it would ordinarily expect to recruit all potential employees for a job and the geographic area(s) to which it would ordinarily expect to lose employees in that job. These geographic areas may be identical but need not be. This market can be defined within a geographic area, which consists of all or similar companies in the local, regional, national, or international market. Typically, the contractor would evaluate where it loses and finds employees to establish the initial basis of its relevant labor market.

(a) The relevant market will vary among each contractor and job family depending on pay objectives and the skills being evaluated. The relevant labor market will change depending on the job family being evaluated. For example, exempt jobs (administrative, professional, and managerial) tend to compete on a regional or national basis, while nonexempt (clerical) and hourly (production) jobs are most likely to compete in local and regional markets. However, generalizations of labor markets are not always correct. In large cities and metropolitan areas, high concentrations of engineers will translate into a regional labor market instead of a national market.

(b) Wages and benefits tend to vary according to the size of an organization. Accordingly, firms similar in size to the contractor should be included in the relevant market. The factor of size is most relevant in influencing pay for executives and to a lesser degree exempt and nonexempt.

(c) The factor of industry in defining the relevant market of a job relates to the company's competition in its product/service markets. This is important because of cost control and ability to pay considerations. Where possible, companies of the same industry, within the relevant geographic areas, should be included in the relevant market data for the job being evaluated. The factor of industry is most influential on the pay levels of exempt jobs. Where jobs are tied to a specific industry, as aerospace engineers are to the aerospace industry, the market for those jobs should be defined on an industry basis.

(2) External Pay Surveys. External pay surveys provide detailed data regarding market pay levels for specific jobs and are

the primary tools used by the contractor to ensure compliance with its external equity pay policy and demonstrate compliance with FAR 31.205-6(b). The pay survey data identifies rate ranges and a central tendency figure such as a mean, median, or mode salary/wage level for each job. Pay surveys also provide a standard job description for each job along with career level progression charts that identify the knowledge, education, level of supervision required and work experience for each job within a particular job family.

(a) Three sources of pay surveys are available to a contractor making market comparisons:

- Published surveys that are available for the general public to purchase regardless of participation in the survey.
- Private surveys based upon data from survey company clientele and which only participants may purchase.
- Contractor self-conducted surveys.

(b) Contractors generally use private surveys and self-conducted surveys. The contractor can tailor these surveys to represent its relevant market by including specific companies representing its perceived product and labor market competitors.

(c) In most cases, no one survey is sufficient to determine the market rate of pay for all jobs. Most companies use several surveys. A primary survey may be selected with secondary surveys used to corroborate the results of the primary survey.

(d) Consider the basis for the contractor's reliance on a source of pay survey data, including internal sources. Minimal information should include:

- The company name, society, or group that collected the data.
- The expertise in job evaluation and job analysis possessed by the individuals collecting the data.
- The names of the companies contributing data and the geographical location of the source data. The relation to and influence of these companies in the contractor's labor markets.
- The size of the sample of companies reporting data and the size of the companies reporting data for each job.
- The extent that the data is based on job titles and job descriptions.
- The number of years that the survey has existed.

(e) If the contractor uses internally developed pay surveys, determine if the contractor independently ensures that they are unbiased and reliable.

(f) Evaluation of the contractor's selected pay surveys should consider if:

- The survey provides specific job classifications with corresponding job content survey descriptions that identify duties, responsibilities, and experience. An acceptable alternative would be a maturity-curve survey because of difficulties encountered in evaluating professional, scientific, or engineering jobs.
- Well-defined written policies and procedures are established detailing what criteria are used to select the pay surveys in evaluating its wages (i.e., geographical location, company size, and type of industry).
- The pay surveys provide the weighted average rates (going market rate or mean) by job. Also, the survey should provide sufficient range values, minimum and maximum rates, and/or percentile and quartile data to validate the average rate and changes to pay structures.

(g) Deficiencies in the contractor's selection and use of pay surveys include:

- Lack of job descriptions in pay surveys that cause the contractor to benchmark jobs based on position titles only. The use of job titles only in benchmarking does not ensure proper comparability of jobs.
- Lack of weighted average rate in the pay survey. Pay surveys may provide only the minimum, midpoint, and maximum pay ranges for each job classification. The midpoint of the range would not be reflective of the market rate because survey participants actually pay employees under the minimum and over the maximum.
- The contractor is unable to rationally support its basis for relying on the

survey data used to make market comparisons.

- The pay survey the contractor uses is not representative of its labor market and there is no supporting data for the selection criteria.
- The contractor's compensation data were not excluded from the pay survey weighted average.

d. Management is responsible for determining the extent to which external market considerations are used to monitor and influence its pay levels for the purposes of:

(1) ensuring that pay rates are sufficient to attract and retain employees

(2) controlling labor costs so that the organization's product and service prices are competitive, and

(3) ensuring that compensation paid for services rendered on government contracts is reasonable in accordance with FAR 31.205-6(b).

e. Evaluate and test the contractor's control activity over the market comparison process to determine that:

(1) A valid match is obtained when comparing the job descriptions and career levels for the contractor's job(s) included in the market comparison process and the job descriptions and career levels for the job(s) included in the market pay survey(s).

(2) The relevant labor market selected for those jobs included in the market comparison process takes into consideration the factors identified in FAR 31.205-6(b)(1) that are representative of the labor market for the job being evaluated.

(3) The actual wages and salaries paid by the contractor to its employees for services rendered in the performance of government contracts remains reasonable in accordance with FAR 31.205-6(b)(1) for particular employees, job classes of employees, and/or between the compensation packages of employees in jobs included in the same pay grade.

(4) Corrective action is taken when necessary to bring into line the actual wages and salaries for those jobs found to have unreasonable levels of compensation. Unreasonable levels of compensation occur when the contractor's actual average rate of pay for a job class or grade exceeds by 10 percent the weighted average market rate reported in the pay survey. See 6-413.4a for a discussion of DCAA policy regarding the use of the 10 percent range of reasonableness when evaluating compensation costs.

### 5-808.9 Performance of Audit Procedures to Determine the Reasonableness of Wages and Salaries for Non-Bargaining Unit Employees

a. The second objective of a compensation system audit is to determine whether compensation costs resulting from the contractor's compensation system are allowable and reasonable in accordance with FAR 31.205-6. An adequate compensation system will provide the auditor with sufficient evidence to determine and demonstrate in the audit working papers the reasonableness of the contractor's wages and salaries in accordance with the requirements of FAR 31.205-6(b).

b. Where the auditor has determined that, due to the existence of significant internal control deficiencies, a contractor's compensation system does not sufficiently demonstrate that wages and salaries are reasonable in accordance with FAR 31.205-6(b), the auditor must perform additional audit procedures. The scope and direction of the additional audit procedures will depend on the nature of the significant deficiencies. The determining factor is whether the system deficiencies are such that they prevent a demonstration of reasonableness. System deficiencies related to the following control activities may prevent a demonstration of reasonableness:

- Classification of jobs, job families and career levels,
- Pay grade assignments and pay structure design,
- Job analysis and job descriptions, and
- External equity and market comparison processes.

For example, if the contractor lacks job descriptions for a significant number of its jobs, this would prevent the demonstration of reasonableness of compensation, either by the contractor's compensation personnel, or by the auditor.

(1) When system deficiencies are such that they do not prevent a demonstration of reasonableness, the auditor will follow the guidance at 6-413.2 and perform an independent assessment for reasonableness. The auditor will also follow the guidance at 5-811.3 and report, as a significant system deficiency, the specific defect in the contractor's control activity that is causing the compensation costs to be unreasonable and in noncompliance with FAR 31.205-6.

(2) When system deficiencies are such that they prevent a determination of the reasonableness of wages and salaries, the auditor should not follow the guidance at 6-413.2 and should not perform an independent assessment of reasonableness. Under these circumstances, the auditor should follow the guidance at 5-811.3 and report the condition as a significant system deficiency. The contractor will be given time to correct the deficiencies and then will be asked to demonstrate to the government that the compensation system results in reasonable wages and salaries. The auditor should request that contractor management provide in writing the amount of time required before they will be able to demonstrate the reasonableness of its employee wages and salaries. This could be addressed in the contractor's written response to the draft audit report. When the contractor indicates the amount of time needed, the auditor should coordinate with the ACO to determine if the government should take any other actions (e.g., contract billing withhold) to protect the government from being billed for potentially unreasonable compensation costs in the interim.

### 5-808.10 Evaluation of Employee Benefits Programs

a. Employee benefits consist of compensation other than pay for time worked. Common benefits include health and life insurance, pensions, worker's compensation, pay for time not worked, etc. The contractor's benefit structure should complement its wage and salary structure(s). Benefits tend to be provided by an organization rather than by job, except for executive perquisites and certain deferred income programs.

b. Although organizations compete over wage and salary levels more than benefit packages, it is still necessary for the contractor to consider the competitive labor market when establishing benefit levels. As an essential control measure for benefit costs, the contractor's policies should require the comparison of its absolute level of benefits to those of its labor and product competitors. The contractor may decide to lead, lag, or stay competitive. This requires the use of benefit survey data.

c. Benefit costs are allowable to the extent that they are reasonable and required by law, employer-employee agreement, or an established policy of the contractor under FAR 31.205-6(m).

d. The contractor's benefit policies should establish:

(1) the contractor's competitive objective in the overall value of the benefits package compared to that of other firms,

(2) eligibility requirements for various benefits and the rationale for different probationary periods with different benefits,

(3) the flexibility in plan coverage offered to employees ("cafeteria-style" plans or average employee plans),

(4) the method of financing the benefit plans by either noncontributory, contributory, or employee financing.

e. As a means to control costs, the contractor should establish procedures to periodically conduct cost-benefit analyses of the company's benefit plans in total and of forecasts of future years' costs. These may be performed as adjuncts to the yearly budgeting process. The analyses should include determinations of the cost commitments for existing benefits programs and the costs of alternate or new benefits. If projected cost commitments are prohibitive, then alternative financing such as employee contribution may be necessary.

f. Evaluate and test the contractor's control activities over the employee benefit package to determine that:

(1) Each element of the employee benefit package complies with the allowability

and allocability requirements of FAR 31.205-6(m).

(2) The total compensation package (cash compensation plus fringe benefits) is reasonable in accordance with FAR 31.205-6(b).

### 5-808.11 Evaluation of Employee Merit Pay Programs

As a means of increasing organizational productivity and controlling compensation costs, the contractor may adopt pay for performance programs in place of, or supplemental to, general wage increases, cost of living allowances (COLA), and seniority increases. Pay for performance programs include incentive and awards directly linked to desired employee behavior, contributions, or results achieved. Merit pay programs measure and rate employee performance through the performance appraisal system.

### 5-808.12 Performance Appraisal System

a. The performance appraisal system provides the mechanism by which the job holder's contribution and work performance during a specific time period are identified and documented. A formal appraisal process promotes desired organizational goal attainment. Without a formal appraisal process, employees' achievements may not be directed to desired goals and the controls and feedback to the organization are unlikely. The performance appraisal system provides an organization with information used for:

(1) human resource planning,

(2) identification of employee development and training needs,

(3) compensation administration, and

(4) validation of promotional selection procedures.

b. Determine the adequacy of the contractor's methods and procedures for evaluating employee performance and the pay rewards given for acceptable achievement of prescribed goals.

c. An adequate performance appraisal system should include:

(1) Policies that outline the kinds, format, and sufficiency of documentation required for each employee performance appraisal.

(2) Established evaluation periods and dates for completion of appraisal forms.

(3) Standardized appraisal formats for each system or type of appraisal system.

(4) Performance dimensions of a job to facilitate accurate and objective measurement of performance.

(5) An established rating scale with performance intervals such as unacceptable, acceptable, good, and superior performance and performance standards for each interval of performance.

(6) Required periodic training for all raters in the policies and procedures of the organization's appraisal system and in rating skills.

(7) Provisions for periodic program maintenance.

(8) Monitoring of performance appraisal ratings in appropriate groupings to evaluate training needs, provide feedback to managers and reports to senior management on the adequacy of the system and/or what needs improvement.

d. Performance-based pay plans include short- and long-term incentive pay plans and gain-sharing plans. Incentive pay plans establish a standard of accomplishment to which worker performance is compared to determine the level of increases. It can be a group or organizational goal. Incentive and gain-sharing plans involve three forms of payment: base pay, commission, and bonus. Review 6-414 for applicable guidance regarding compensation for employees who pose a higher risk pursuant to FAR 31.205-6(b)(2). An adequate performance-based pay plan should include:

(1) Documented policies and procedures.

(2) Established methods of rate determination or standard performance measures and guidelines on the relationship between the performance and the amount of award or incentive pay.

(3) The rules for eligibility for participation.

(4) An incentive fund based on a documented formula.

(5) Documentation requirements for the basis for the awards.

(6) Established timing of the evaluation and payment of award.

**5-809 Training**

a. Compensation administration employees should receive adequate training on those aspects of the compensation system which impact their respective duties and responsibilities. Adequate training is an important factor in the effective implementation of any system. When determining the adequacy of the training, the following factors should be considered: source of the training (e.g., American Compensation Association, university, etc.), method of training (e.g., formal course/seminar, self-study course, etc.), and the amount of training received over a period of time (e.g., the last year). When reviewing the contractor's training activities, the auditor should evaluate whether or not the contractor has a formal plan for ensuring that pay administration employees are kept apprised of developments within the pay administration profession as well as changes in the contractor's compensation system.

b. Evaluate the contractor's training system to determine that:

(1) Adequate training is provided in the application of government procurement laws and regulations for employees involved in compensation administration.

(2) Compensation professionals receive adequate on-going training and continuing education in the field of compensation, in the use of advanced pay structure design, and in maintenance and administration techniques including appropriate documentation procedures.

(3) Employee training modules are periodically reviewed and updated.

**5-810 Compensation System – Information Technology System Internal Controls**

a. Where information technology (IT) is used in significant financial applications, control procedures are sometimes defined by classifying them into two types, IT general controls or IT application controls. Whether the control procedures are classified by the auditor as general or applications controls, the objectives of control procedures remain the same: to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should evaluate the IT general controls and the compensation system application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that control procedures are operating effectively to provide reliability of and security over the data processed.

c. General controls are comprised of:

(1) organization and operation controls,

(2) systems development and documentation controls,

(3) hardware and systems software controls, and

(4) data and procedural controls. (See 5-400 for a more detailed explanation of general internal controls.)

d. Compensation system application control procedures are applied to the input, processing, and output phases of this single IT application. In contrast, general controls affect all applications and operational elements of all IT systems. Separate control procedures are developed for each unique application system, such as billing, MMAS, and in this instance, compensation. Although some application control procedures affect only one or just a few control objectives, most of the control procedures are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

**5-811 Compensation System Review and Audit Results**

**5-811.1 Preliminary Findings**

Discuss audit findings with the contractor during the audit to confirm factual accuracy. At the completion of the field work, summarize all tentative findings and

conclusions and coordinate with the ACO. If the ACO does not support the audit position, immediately inform the regional office.

### 5-811.2 Exit Conference

a. After resolving any differences with the ACO, hold an exit conference in accordance with 4-304 to discuss the findings with the contractor. Include the contractor's reactions in the working papers and the report.

b. During these discussions, address the total variance between the cost of the compensation element challenged and that of the comparison point of the comparative survey data used to establish the unreasonable elements. However, challenge costs only to the extent they exceed the 10 percent range of reasonableness (see 6-413.4).

### 5-811.3 Corrective Action Plans

a. If the contractor concurs with the findings, request that it submit a specific time-phased corrective action plan for reducing compensation costs to reasonable levels and correcting related system deficiencies. If the contractor disagrees with the findings, request that it provide documentation justifying the reasonableness of the compensation elements challenged. Send the contractor a letter summarizing the conference discussions and request either the time-phased corrective action plan or the justification documentation. Send the ACO an information copy of the letter.

b. Contractor management is responsible for establishing and implementing corrective action plans to resolve system deficiencies and unreasonable compensation levels. The contractor is in the best position to evaluate and implement action plans. Action plans are expected to correct system deficiencies and eliminate trends of unreasonable compensation within a reasonable period of time. However, contractors are expected to initiate corrective action as quickly as practicable. A contractor is normally expected to reduce starting salaries and delay within-grade increases almost immediately and to make major strides to bring compensation costs under control within 12 months. Auditors are expected to advise ACOs of the adequacy and timeliness of contractor action plans to resolve system deficiencies and the resulting unreasonable compensation.

### 5-811.4 Major Compensation Plan Revisions

Challenge increased compensation costs resulting from major revisions to existing compensation plans introduced by the contractor if the contractor:

(1) has not notified the cognizant ACO of the changes either before their implementation or within a reasonable period after their implementation and

(2) has not provided the government, either before implementation or within a reasonable period after it, an opportunity to evaluate the reasonableness of the changes.

See FAR 31.205-6(a)(4) and 31.205-6(b)(2)(ii).

### 5-811.5 Major Redeterminable Contracts

For major re-determinable contracts, consider recommending in price proposal reports that a ceiling be placed on labor escalation and fringe benefit costs. Another approach is for the ACO to enter into an advance agreement with a contractor limiting labor escalation and fringe benefit costs on all contracts.

## 5-812 Compensation System Review and Audit Report

### 5-812.1 General Reporting Considerations

a. After each compensation audit, issue an audit report to the ACO following the general guidance set forth in 5-100 and 10-400, as amplified below. If related audits or reviews by any other organization have recently taken place, incorporate the results into the compensation audit report, if feasible. Auditors should follow the guidance in 4-1000 when relying upon the work of others.

b. Because FAR 31.205-6 addresses some compensation elements only in general terms of their reasonableness and others in specific terms of allowability along with general reasonableness, the specific subsections referenced in the opinion paragraph should relate to the scope of the audit.

c. The purpose paragraph should accurately describe the systems audited. If the contractor has more than one compensation system or pay structure, the purpose paragraph should identify which systems or structures are the subject of the audit. All subsequent paragraphs should address each of the systems audited. If one system has a deficiency not shared by others, that deficiency should be separately identified to the particular system or pay structure.

d. Each CSR serves as the starting point for the next CSR for the same compensation system or pay structure, and establishes the basis for converting the findings of the next CSR to a monetary equivalent. It is therefore critical for system control deficiencies to be reported even if the current CSR does not disclose that those control weaknesses are causing unreasonable costs.

e. For compensation paid to top executives, owners, and other high risk employees (see 6-414), it may be appropriate to issue a separate report with the scope and reporting of results restricted solely to the reasonableness of compensation paid or proposed for those individuals. Such an audit report would specifically exclude an opinion on the adequacy of any systems in relation to the high-risk compensation if there is not adequate control within the system to assure that it is consistently applied to such employees.

### 5-812.2 Reporting on CSR Results of Audit

a. If the contractor's compensation system is determined generally adequate, the following statement would be appropriate in the results of audit:

> "In our opinion, the contractor's compensation system is adequate to consistently provide reasonable employee compensation costs to government contracts in accordance with FAR 31.205-6 (a) and (b)."

This paragraph should be appropriately modified if some compensation subsystems or pay structures are not subject to adequate control to ensure that the compensation produced will continue to be reasonable in the future.

b. If the CSR determines that:

(1) Some systems or pay structures within the contractor's compensation system are deficient, or

(2) Some positions or individuals have inadequate internal controls over their compensation to assure consistently reasonable compensation, the control deficiencies will be reported even if the CSR does not find unreasonable costs caused by those deficiencies. This reporting will establish that the government has noted the potential problem and reserves the option to question any unreasonable costs caused by those deficiencies in the future.

c. If unreasonable compensation is found, the results of audit section of the audit report may state:

> "In our opinion, under the contractor's current compensation system, cost avoidance in the amount of $1.6 million, of which $1 million is allocable to government programs, was determined for pay grades identified in [applicable appendix or audit report section]. These costs were determined to be unreasonable under FAR 31.205-6(b)."

d. This statement should be followed by briefly describing the condition(s) or system deficiencies that resulted in the unreasonable findings and how the correction of the deficiencies could result in cost avoidance per 10-400.

e. When unreasonable costs are identified in the audit report, the following should be included:

(1) A listing of the contractor's jobs for which compensation levels are unreasonable.

(2) An estimate of the unreasonable compensation costs for each job.

(3) The methodology used and basis for determining that compensation costs are unreasonable and how all of the relevant factors were considered.

(4) A description of the surveys used for making the FAR comparison tests.

(5) The contractor's response to the audit findings (and, if appropriate, the auditor's rebuttal).

(6) A copy of the contractor's proposed corrective action plan along with auditor comments on its adequacy and timeliness.

(7) A recommendation that the ACO put the contractor on notice of the government's intent to disallow unreasonable compensation costs if the contractor fails to take timely corrective action. Such a notice by the ACO should identify the first period during which it would be feasible for the contractor to make significant changes to its system. This “period of corrective action” should be determined on a case-by-case basis but should generally be the first full 12 months after the audit report is issued. The notice should also state that starting after the period of corrective action unreasonable compensation costs, both actual and projected, will be questioned. If the ACO issues a notice of intent, we will question all unreasonable compensation costs, actually incurred or proposed, for periods after the period of corrective action.

f. Audit reports issued on price proposals and rate agreements will question all unreasonable compensation costs proposed for periods after the period of corrective action.

### 5-812.3 CSR Reporting Considerations for Employee Fringe Benefits

All audit reports will contain the following qualifications relating to fringe benefits:

a. Scope: Modify this paragraph to refer to the "Qualifications" paragraph below.

b. Qualifications: Include within this paragraph a statement to the effect that the results of audit expressed in this report are qualified to the extent that subsequent audits by DCAA, the contract administration office, or others, of insurance, pension, and other fringe benefits may supplement the findings of this audit. When aware that specific audits are already in process or planned, state this information and identify the specific areas to be covered. In addition, determine if a recent DCAA or DCMA insurance and pension audit or review has taken place. If so, incorporate the results, if feasible, into the compensation system audit report. If incorporated, state this fact and reference the specific DCAA or DCMA report number and date. (See 5-1303 for guidance on insurance/pension reviews.)

c. Results of Audit: Always qualify this paragraph by referring to the “Qualifications” paragraph.

d. If, after giving consideration to offsets, fringe benefits in total and by individual element are within the range of reasonableness, include the following statement in the "Results of Audit" paragraph:
"Our audit disclosed no employee benefit costs considered unreasonable under FAR 31.205-6 (a) and (b)."

e. If a contractor cannot justify employee benefit costs that significantly exceed the average of the comparison data by more than 10 percent (after giving consideration to appropriate offsets), include the following information in the report:

(1) A statement in the results of audit paragraph that our audit disclosed that compensation costs for employee benefits are unreasonable under FAR 31.205-6 (a) and (b).

(2) A recommendation (in the results of audit paragraph) that the ACO issue the contractor a written notice of the government's intent to disallow future unreasonable benefit costs.

(3) A listing of each unreasonable employee benefit element, identifying the unreasonable costs for each, and a listing of unreasonable incurred employee benefit costs questioned per FAR 31.205-6(a)(4) and 31.205-6(b)(2)(ii).

(4) A summary or copy of the supporting documentation or action plan provided by the contractor.

### 5-812.4 Dispositioning CSR Report Findings

a. Except as noted in d. below, unreasonable compensation is not questioned for

periods prior to completion of the "period of corrective action" [Refer to 5-812.2e.(7)] when unreasonable compensation costs are found during a compensation system audit and a prior CSR:

(1) Audited the compensation system as it is currently,

(2) Determined that the compensation system audited was acceptable at the time of the prior audit; and,

(3) Determined that the costs produced by that system were acceptable at the time of the previous CSR.

However, cost avoidance estimated for a 12 month period after the period of corrective action is recorded. Forward pricing rates for periods after the period of corrective action should also be adjusted. [Refer to 9-308, Incorporating Cost Avoidance Recommendations Into Price Proposal Audits, and 9-1200, Forward Pricing Agreements, for further guidance.]

b. If prior CSRs identified unreasonable compensation and the Contracting Officer (CO) issued a Notice of Intent to Disallow Costs (FAR 42.801), then all compensation costs that are unreasonable after the allowed period of corrective action should be questioned in forward pricing audits, proposals, and incurred cost audits. If the CO has not made a final determination on the unreasonable costs in a CSR, continue to question any unreasonable compensation for periods after the period of corrective action until a final determination is made. If a CSR report discloses unreasonable compensation and the CO dispositions the audit report without supporting the unreasonable compensation, subsequent unreasonable compensation should not be questioned based on that audit.

c. Costs should be questioned for all periods of incurred costs and forward pricing if unreasonable costs are produced by:

(1) Failure to adhere to the previously audited system;

(2) Changes to compensation systems previously audited if the changes have not been audited; or,

(3) Pay structures or portions of systems previously audited which were found to be unacceptable or lacking controls at the time of the previous CSR.

d. Some contractors will have some pay structures, usually for executives or owners, which should be questioned for all periods if the compensation is found to be unreasonable. See 6-414 for additional information on special considerations of executives and owners.

## 5-900 Section 9 --- Audit of Labor System Internal Controls

### 5-901 Introduction

a. This section provides guidance for auditing contractor labor internal controls to evaluate the adequacy of the contractor's labor system and assess control risk related to the allowability and allocability of labor costs charged to government contracts. The reasonableness of labor costs is addressed in 5-800 (Compensation System Reviews), 6-412 (Evaluation of Quantitative and Qualitative Utilization of Labor) and 6-413 (Reasonableness of Compensation Costs).

b. Refer to 5-101 for the auditor's fundamental requirements on obtaining and documenting an understanding of a contractor's internal control and assessing control risk.

### 5-902 Background Information

a. Labor costs are usually the most significant costs charged to government contracts, and usually comprise the base, or the largest element in the base, used for allocating indirect costs. Historical labor costs are often used to estimate labor for follow-on or similar item government contracts. Unlike other cost items, labor is not supported by third party documentation such as an invoice, purchase order, or receipt. Contractor personnel have complete control over the documents or devices of original entry, whether they consist of timecards, electronic media, or some other means. Responsibility for accuracy is diffused throughout the contractor's organization. Consequently, the risks associated with the accurate recording, distribution, and payment of labor are almost always significant.

b. To assess control risk on the labor system as low and reduce substantive testing, the contractor's system should have:

(1) An effective method to monitor the overall integrity of the Labor/Timekeeping System.

(2) An effective employee awareness training program to reasonably assure that all employees are aware of the importance of proper time charging.

(3) Effective procedures for labor authorizations/approvals to facilitate the proper accumulation and recording of labor costs to cost objectives.

(4) Effective procedures for timekeeping to reasonably assure that labor hours are accurately recorded and that corrections to timekeeping records are documented, authorized, and approved.

(5) Effective procedures for labor distribution to reasonably assure the proper recording of labor costs to cost objectives.

(6) Effective procedures for labor cost accounting to reasonably assure that labor charges to the government are in compliance with promulgated Cost Accounting Standards, generally accepted accounting principles, and contract terms/clauses.

(7) Effective procedures for payroll preparation and payment to reasonably assure independent preparation of the payroll, and that pay rates are appropriately authorized and accurate.

(8) Effective procedures for labor transfers and adjustments to reasonably assure that they are documented and approved.

### 5-903 General Audit Policy

Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

### 5-904 Audit Objectives

a. The purpose of the audit is to evaluate the adequacy of and the contractor's compliance with the labor system's internal controls. The objective is to assess control risk for the allowability and allocability of labor costs charged and billed to government contracts.

b. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

### 5-905 Scope of the Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit

scope should be consistent with the guidance in 5-105.

b. Controls for interrelated audit concerns regarding the adequacy of the contractor's other major systems (e.g., IT General Internal Controls, Estimating, etc.) will be audited under separate assignments. While the controls for these areas are not part of this audit, the results of all audits of these interrelated controls must be considered in forming an overall audit conclusion on the labor system internal control and also commented on in the related audit report.

c. In many instances, control activities may be embedded in the contractor's IT system. In these cases, the auditor should adequately document and test the automated portions of the system and give proper consideration to the use of Computer Assisted Audit Techniques (CAATs) (see 5-108f).

d. The extent of audit effort should also be influenced by:

(1) the types of government contracts and their materiality

(2) sensitive audit issues

(3) deficiencies noted in ongoing audits (audit leads)

(4) input from the contracting officer

(5) contract provisions

These areas are discussed in 3-104 and the auditor should document the impact of these considerations on the scope of this audit in the working papers.

e. The following paragraphs describe specific control activities considered significant for an adequate labor system.

## 5-906 Labor System Management Compliance Audits

a. The existence of strong self-controls increases the reliance that can be placed on the cost representations from that system. Therefore, the contractor should have policies and procedures for monitoring its labor system, including regular compliance audits, to ensure the timely and accurate recording, distribution, and payment of labor costs. These policies and procedures should be well defined, reasonable in concept, and effectively implemented by contractor personnel.

b. As a minimum the contractor should conduct regular internal control compliance reviews. These compliance reviews should address the following areas: the adequacy of written procedures, employee knowledge and compliance with policies and procedures, consistency with which the policies and procedures are applied and by whom, and timely follow-up action on deficiencies.

(1) Types of Reviews. The contractor may perform internal compliance audits by monitoring in the form of physical observation ( floor checks ), by testing labor charges for accuracy, by reviews of performance or exception reports, by requesting external audits, or by using a combination of techniques.

(2) Adequacy of Compliance Review Procedures. Whatever the form of the compliance reviews, there should be procedures which identify the intervals of performance of the reviews, the personnel responsible for performance of the reviews, the areas to be covered during the reviews, the specific steps to be performed in the reviews, the documentation needed to demonstrate the procedures have been performed, and the requirements for follow-up action.

(3) Overall Adequacy of Compliance Reviews. The adequacy of the compliance reviews should be assessed in accordance with the criteria in 4-1000. The reviews should be performed in accordance with written procedures and by personnel possessing the level of competence, independence, and objectivity required of a reviewer. The scope and depth of audit should be consistent with the contractor's risk assessment level and sufficient to identify outdated written procedures, inconsistent application of the procedures, lack of employee knowledge or compliance with the written procedures, or untimely follow-up actions.

## 5-907 Review of Employee Awareness Training

a. Policies and Procedures. The contractor should have policies and procedures for training employees to reasonably assure that all employees are aware of the impor-

tance of proper time charging. The training should cover indoctrination for new hires, management's responsibility for accuracy of labor accounting, refresher courses for existing employees, explanations of penalties for mischarging, and the importance of segregation of duties. When evaluating contractor policies and procedures for employee awareness training, the auditor should consider whether there is formal company-wide timekeeping and labor charging training, and whether there is documentation to verify that the training has occurred (e.g., presentation and handout material, sign-in logs, and memoranda of attendance.).

b. New Hire Training. New hires should be trained on proper time keeping shortly after being hired. The training should include proper timekeeping procedures and the penalties associated with the statutes on false claims and false statements (see 5-907.d). Further, those employees with contractual responsibilities should be made aware of the FAR, DFARS, CAS, and contract provisions. Specific responsibility should be placed on an individual or group to perform the training.

c. Management's Responsibility. It is critical to labor charging internal control systems that management continues to emphasize the employees independent responsibility for accurately recording time charges. The contractor should have training programs stressing management's responsibility to provide for the accurate recording of labor hours.

d. Refresher Courses. The contractor should have periodic refresher courses on proper timekeeping and labor charging practices, as shown in 5-907.a. above, especially for employees found not to be complying with company labor charging procedures.

e. Penalties for Mischarging. Individual employees must be constantly, although unobtrusively, made aware of controls that act as an effective deterrent against violations. There should be an explanation of the penalties for knowingly mischarging time. This would include penalties imposed by the company and those by the government (i.e., False Claims Act). Many businesses accomplish this by emphasizing the importance of timecard preparation in staff meetings, employee orientation, and through posting of signs throughout the workplace, which remind employees of the importance of accurate and current timecards.

f. Segregation of Duties. The contractor should have training programs that stress the importance of maintaining a segregation of duties for labor-related activities to prevent the appearance of and opportunities for improprieties. For example, the responsibility for timekeeping and payroll accounting should be separated. In addition, supervisors who are accountable for meeting contract budgets should not have the opportunity to initiate or change employee time charges.

## 5-908 Labor System Authorization/Approvals

The contractor should have procedures to facilitate the accumulation and recording of labor costs to cost objectives for the purpose of determining proper cost reimbursement on government contracts. These procedures should address the control and issuance of work authorizations, as well as the detail descriptions required for labor documentation. When evaluating the contractor's policies for labor authorizations/approvals, the auditor should consider whether the policies and organizational structure provide for adequate control over work authorizations to assure the integrity of labor recording.

### 5-908.1 Control and Issuance of Work Authorizations

The contractor should have procedures to ensure the segregation of duties for work authorizations and/or job assignments, to the extent practical. The work authorizations/job assignments should be controlled and issued by individuals independent of those responsible for performing the work. A critical control is the procedure used to open and close work authorizations. These controls decrease the potential for circumventing cost targets or ceilings.

### 5-908.2 Work Descriptions

The contractor should have procedures for the preparation of labor documentation/work descriptions that require clear identification of the nature of the work performed. The work descriptions should provide enough detail to be trackable to the intermediate or final cost objective, and describe if the effort is allowable or unallowable/direct or indirect. Work descriptions should be sufficiently detailed to determine the allocability of the labor charges to government contracts.

## 5-909 Evaluation of Timekeeping

The contractor should have procedures to assure that labor hours are accurately recorded and that any corrections to timekeeping records are documented, including appropriate authorizations and approvals. When evaluating the contractor's timekeeping procedures, the auditor should consider whether the procedures are adequate to maintain the integrity of the Timekeeping System.

### 5-909.1 Manual Timekeeping Systems

Procedures for manual Timekeeping Systems should provide for the accurate and complete recording of labor hours, as well as appropriate controls to ensure corrections to labor records are accurate and authorized. Generally, they may be categorized as procedures that pertain to:

a. Supervisory observation of employee arrival and departure to prevent improper clock-in/clock-out.

b. Employee possession of timecard/timesheet.

c. Employees prepare their timecards in ink, as work is performed.

d. Only one card/sheet is prepared per employee per period; cards/sheets are preprinted with employee name and identification number; and cards/sheets are turned in to the designated timekeeping office or collected by an authorized person.

e. Precoded data is printed on the job cards for identification purposes.

f. Direct labor employees record their time no less often than daily. Sufficient formal subsidiary records are maintained, if necessary, to assure accurate time recording and allocating of labor costs to intermediate and final cost objectives when multiple jobs are worked in a day.

g. Corrections are made in ink, initialed by the employee, properly authorized, and provide a sufficient and relevant explanation for the correction.

h. Employees and supervisors sign the timecards/timesheets in accordance with procedures, verifying the accuracy of the recorded effort.

### 5-909.2 Automated Timekeeping Systems

Procedures for automated Timekeeping Systems should provide for the accurate and current recording of labor hours by authorized employees, as well as appropriate controls to ensure corrections to labor charges are accurate and authorized. Generally, they may be categorized as procedures that pertain to:

a. Only the employee uses their labor charging instrument to access the labor system.

b. Employee badge issuance is sufficiently controlled so that no number is duplicated and badges are not issued to unauthorized persons.

c. Procedures are in place which require the employee to report lost badges promptly.

d. Changes are initialed, authorized, and dated by the employee and supervisor and include a description of the reason for the change. This may be done electronically.

e. A verifiable audit trail process is in place that collects all initial entries and subsequent changes.

## 5-910 Evaluation of Labor Distribution

The contractor should have policies to reasonably assure the proper recording of labor costs to cost objectives. These policies should address the reconciliation of labor hours between labor distribution summaries and Timekeeping/Payroll Systems, recording of both compensated and uncompensated hours worked, and maintenance of an audit trail.

### 5-910.1 Reconciliations

The contractor should have procedures which require that the total labor hours reflected in labor distribution summaries agrees with the total labor charges as entered into the Timekeeping and Payroll Systems. This reconciliation attests that the labor charges to contracts represent actual paid or accrued costs and that such costs are appropriately recorded in the accounting records. Each employee's time charge should be distributed as recorded.

### 5-910.2 Recording Hours Worked

The contractor should have procedures to ensure that all hours worked are recorded, whether they are paid or not, to assure the proper distribution of labor costs. This is necessary because labor rates and labor overhead costs can be affected by total hours worked, not just paid hours worked (also see 6-410).

### 5-910.3 Audit Trail

The contractor should have procedures that require the generation of an audit trail which documents distribution of direct and indirect labor charges to the appropriate cost objectives (e.g., a labor distribution report.). When evaluating the contractor's procedures, the auditor should consider whether direct and indirect labor charges are supported by sufficient evidential matter to verify the allocability to final cost objectives, and that they are traceable to time cards and approved work authorizations.

## 5-911 Audit of Labor Cost Accounting

The contractor should have procedures to reasonably assure that labor costs charged to the government are in compliance with promulgated Cost Accounting Standards, generally accepted accounting principles, and contract terms/clauses. The procedures should address concerns such as: sensitive labor accounts, briefing of contract terms, directly associated unallowable labor costs, lump-sum wages, overtime authorization, uncompensated overtime, and records retention.

### 5-911.1 Sensitive Labor Accounts

The contractor should have procedures to audit significant increases and decreases in sensitive labor accounts for reasonableness and allocability. These procedures should also address changes in labor charging practices to assure consistency with CAS and FAR. Audit effort in this area may help satisfy MAAR 7 (changes in direct/indirect charging) and MAAR 8 (comparative analysis-sensitive labor accounts).

### 5-911.2 Briefing of Contract Terms

The contractor should have policies and procedures which address briefing of special contract terms and advance agreements relative to allowability and allocability of labor costs (See 3-200). The contractor should identify all contract terms with government costing implications such as military standards, overtime, and skill mix requirements, to ensure compliance with those terms.

### 5-911.3 Directly Associated Unallowable Labor Costs

The contractor should have procedures that require that direct and indirect labor costs directly associated with unallowable costs be identified and segregated. When evaluating the contractor's procedures for unallowable labor costs, the auditor should consider whether the chart of accounts and the contractor's disclosure statement adequately identify and describe the treatment of these costs.

### 5-911.4 Lump-Sum Wages

The contractor should have procedures to ensure that lump-sum wages resulting from union contracts are accounted for in accordance with EITFIS 88-23 (see 7-2119). The matching concept requires that lump-sum payments benefiting future periods should be deferred and amortized over

the period benefited (i.e., the period covered by the union contract).

### 5-911.5 Overtime Authorizations

The contractor should have procedures that address overtime authorization requirements prescribed by FAR 22.103. Such procedures, if applicable, ensure that:

(1) overtime is necessary to meet delivery requirements,

(2) overtime is necessary to meet performance requirements, or

(3) overtime is necessary to make up for delays beyond the control or without the fault or negligence of the contractor (see 6-409 and 6-410).

### 5-911.6 Records Retention

The contractor should have policies and procedures that address retention of labor records to comply with current FAR requirements. These procedures should address the retention of labor records such as payroll records, labor distribution records, work authorizations, and timecards.

## 5-912 Review of Payroll Preparation and Payment

The contractor should have procedures to provide reasonable assurance that payrolls are prepared by persons independent of those responsible for the timekeeping operation and actual payroll payment, and pay rates and labor hours are appropriately authorized and accurate. (See 6-407).

### 5-912.1 Segregation of Duties

The contractor should have procedures to ensure that there is a segregation of responsibilities between timekeeping and payroll. These procedures are necessary to reduce the opportunity for any person to be in a position to both perpetrate and conceal errors or irregularities such as fictitious employees, improper time charges, etc.

### 5-912.2 Accuracy of Labor Costs

The contractor should have policies and procedures that address the accuracy of the labor costs, particularly that pay rates in effect are supported by written authorization from the personnel department or other authorized source. When evaluating the contractor's policies, the auditor should also consider whether cross-checks are required (either manual or automated) for verifying the accuracy of names, rates of pay, hours worked, extensions, and accounting distributions. Labor hours used in the payroll process should be based on the labor distribution records.

## 5-913 Review of Labor Distribution, Transfers, and Adjustments

The contractor should have procedures to provide reasonable assurance that labor transfers or adjustments of the labor distribution are documented and approved. These procedures should address management review and approval of labor transfers, labor distribution edit errors, and review and correction of labor errors. Particular attention should be given to IT assisted "on-line" adjustments. In these cases, controls should be in place to ensure that unauthorized or undocumented adjustments are prevented or detected in a timely manner.

### 5-913.1 Review and Approval of Labor Transfers

The contractor should have procedures that provide for a system of documenting, approving, and reviewing the transfer of labor costs from one cost objective to another by proper management officials. Written justification should be required for any such transfer, to ensure the proper allocation of labor costs to final cost objectives. Audit effort in this area may help satisfy MAAR 10 regarding labor adjusting entries/exception reports.

### 5-913.2 Labor Distribution Edit Errors

The contractor should have procedures to ensure that labor distribution edit errors are processed into a suspense account and billed to customers only after correction.

### 5-913.3 Evaluation and Correction of Labor Errors

The contractor should have procedures to ensure that reports of suspense labor and edit errors are generated and provided to the appropriate personnel for review and corrective action. These corrections should be adequately explained, and endorsed by both the employee and supervisor.

## 5-914 Labor System - Information Technology System Internal Controls

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls or IT application controls. Whether the control activities are classified by the auditor as general or application controls, the objectives of control activities remain the same, to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should evaluate the IT general and labor system application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are comprised of:

(1) organization and operation controls,

(2) systems development and documentation controls,

(3) hardware and systems software controls, and

(4) data and procedural controls. (See 5-400 for a more detailed explanation of general internal controls.)

d. Labor system application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as billing, MMAS, and in this instance, labor. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

## 5-915 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200, and 10-400 for reporting on internal controls relative to the contractor's accounting and management systems.

# 5-1000 Section 10 --- Audit of Indirect and Other Direct Cost System Internal Controls

## 5-1001 Introduction

a. Refer to 5-101 for the auditor's fundamental requirements on obtaining and documenting an understanding of a contractor's internal controls and assessing control risk.

b. This section presents guidance for auditing a contractor's internal controls of both a manual and automated nature over indirect/other direct cost. The guidelines relate to the assessment of control risk based on an audit of the contractor's policies, procedures, and internal controls.

## 5-1002 Background Information

a. An indirect cost is any cost which is not directly identified with a single final cost objective, but is identified with two or more final cost objectives or an intermediate cost objective (FAR 31.203(a)). Indirect costs are to be accumulated by logical groups and distributed on the basis of benefits accruing to the several cost objectives. The number and composition of cost groupings should be governed by practical considerations.

b. Other direct costs are costs which are in addition to direct labor and material and can be readily identified with a specific job. Examples are:

(1) special tooling, dies, jigs, and fixtures;
(2) plant rearrangement;
(3) packaging and packing;
(4) consultant's fees;
(5) outbound freight;
(6) expediting;
(7) royalties;
(8) travel; and
(9) computer center and other service center costs.

Costs of this nature may be charged direct to jobs, allocated on some representative basis, or charged partially direct and partially by allocation.

c. Generally, a contractor's indirect/other direct cost system should have:

(1) Contractor compliance audits to provide reasonable assurance that the policies and procedures relating to indirect/other direct cost submissions are established, currently in practice, understood, and effectively implemented by contractor employees.

(2) Policies and procedures established and maintained to charge/allocate, directly or indirectly, allowable costs in billings, claims, or proposals applicable to U.S. government contracts in accordance with FAR 31.2 and CAS.

(3) Policies and procedures to ensure indirect/other direct costs are properly classified as allowable or unallowable in accordance with FAR and contract terms, including directly associated costs, and unallowable costs are identified and excluded from proposals, billings, and claims submitted to the government.

(4) Policies and procedures to ensure indirect/other direct costs are properly charged/allocated to cost objectives in accordance with FAR and CAS.

## 5-1003 General Audit Policy - Indirect and Other Direct Costs

a. Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. In the absence of indicators of widespread risk as documented by a current audit risk assessment, the need for a comprehensive audit of a contractor's indirect/other direct cost system would normally be limited to certain situations. Such situations might include:

(1) Contractor locations with significant government business where a detailed indirect/other direct cost system audit has never been performed or has not been recently performed and where the auditor's knowledge of the indirect/other direct cost system is limited.

(2) New government contractor locations where anticipated or actual government business is significant.

c. FAOs with audit cognizance over corporate and/or group offices allocating substantial costs to other segments for ultimate allocation to government contracts are responsible for performing indirect/other

direct cost audits at these offices and providing the results to the segment auditor. Segment auditors are responsible for requesting such audits as needed.

## 5-1004 Audit Objectives

The purpose of this audit is to evaluate the adequacy of and the contractor's compliance with the indirect and other direct cost system's internal controls. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems. The objectives of auditing the indirect/other direct cost system are to:

a. Gain an understanding of the contractor's indirect/other direct cost system and related internal control to provide reasonable assurance that indirect/other direct cost in billings, claims, or proposals applicable to U.S. government contracts are properly classified as allowable, allocable and reasonable in accordance with FAR 31.2 and CAS.

b. Document the understanding of the indirect/other direct cost system internal control in working papers and permanent files (see 5-100).

c. Test the operational effectiveness of indirect/other direct cost system internal controls. Refer to 5-108 for additional detail on the testing of internal controls.

d. Assess control risk as a basis to identify factors relevant to the design of substantive tests.

e. Report on the understanding of the internal controls, assessment of control risk and adequacy of the system for government contracts.

f. Document in the working papers evidence of the performance of the assessment of risk of material misstatement due to fraud. The discovery of fraud or other unlawful/improper activity is not the primary audit objective, but the auditor must be attentive to any condition which suggests that such a situation may exist. If such activity is suspected, the circumstances should be reported in accordance with 4-700.

## 5-1005 Scope of Audit

a. The nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk. In general, the audit scope should be consistent with the guidance in 5-105.

b. In many instances, control activities will be embedded in the contractor's IT system. In these cases, the auditor should adequately document and test the automated portions of the system, and give proper consideration to the use of Computer Assisted Audit Techniques (CAATs).

c. The extent of audit effort should also be influenced by:

(1) the types of government contracts and their materiality,

(2) deficiencies noted in ongoing audits (audit leads),

(3) input from the contracting officer,

(4) contract provisions, and

(5) the degree of system automation, especially where new or existing IT systems have been revised to better identify, extract, and record indirect and other direct costs.

General information regarding these scope areas is provided in 3-104 and additional considerations specific to the indirect/other direct cost system are discussed below. A risk assessment documenting conclusions reached regarding the impact of the above areas on the scope of this audit should be documented in the working papers.

d. The scope of audit should include both indirect and other direct costs (ODCs), unless ODCs are not considered material. The audit should provide assurance that when items ordinarily chargeable as indirect costs are charged to government work as direct costs, the costs of like items applicable to other work of the contractor are treated in the same manner.

e. If the contractor uses the same process for both indirect and ODCs, and the ODCs are considered material, the auditor should include test transactions related to both indirect and ODC in determining whether the internal controls are operating effectively. If the contractor uses different processes for indirect and ODCs, and the ODCs are considered material, the auditor should evaluate the internal controls for indirect cost and ODC separately, and determine whether the controls related to each are in place and operating effectively.

f. As noted in 5-1004c, one of the objectives is to test the operational effective-

ness of the indirect/other direct cost system internal controls. Transaction testing performed as part of the incurred cost audit should periodically include a trace of selected transactions through the system to fully test and evaluate the controls (see 5-108). Alternatively, controls may be separately tested as part of the internal control audit of the indirect/other direct cost system.

g. The contractor's indirect and ODC system may be comprised of numerous processes and/or subsystems (i.e., travel, accounts payable, etc.). The auditor should identify those processes and/or subsystems that comprise the indirect and ODC system and consider the materiality and risk, in terms of both indirect costs and ODCs, of the processes and/or subsystems in establishing the scope of audit.

h. The majority of the non-labor expenses may flow through the accounts payable system. Therefore, the auditor should perform a risk assessment. Based on materiality and sensitivity, consider performing an audit of the contractor's accounts payable system internal controls as a subsystem of the indirect/ODC system if it has not been previously examined in another internal control audit. If an audit is performed, consider steps set forth in 5-1400.

## 5-1006 Compliance Reviews

Contractor compliance reviews should provide reasonable assurance that policies and procedures relating to indirect/other direct cost claims, billings, and proposals applicable to U.S. government contracts are established, currently in practice, understood, and effectively implemented by contractor employees. The existence of strong internal controls increases the reliance that can be placed on the cost representations from that system. Therefore, the contractor should have written policies and procedures for monitoring its indirect/other direct cost systems, including regular compliance reviews.

### 5-1006.1 Internal Audit Function

The auditor should ascertain the effectiveness of the internal audit staff and consider the manner in which the internal audit function is utilized by management. Occasionally contractors use management teams in lieu of internal auditors to perform compliance reviews. The auditor should evaluate the competence, independence, and objectivity of the management teams. (Refer to 4-1000).

### 5-1006.2 Scope of Compliance Reviews

a. Adequacy of Procedures. The contractor's policies and procedures should provide for regular internal compliance reviews. These compliance audits should address the following areas:

(1) adequacy of written policies, procedures, and controls for indirect and other direct costs;

(2) employee knowledge and compliance with policies and procedures;

(3) composition of indirect cost pools and the bases over which they are allocated;

(4) periodic sampling of expense accounts to ascertain if unallowable costs are properly identified and segregated;

(5) periodic sampling to determine that when items ordinarily chargeable as indirect costs are charged to government work as direct costs, the costs of like items applicable to other work of the contractor are treated in the same manner;

(6) consistency with which the policies and procedures are applied; and

(7) treatment of miscellaneous income, credits, rebates, and discounts.

b. Adequacy of Reviews. The adequacy of the reviews should be assessed in accordance with the criteria in 4-1000. The reviews should be performed in accordance with the written procedures and by personnel possessing a level of competence, independence, and objectivity required of a reviewer. The scope and depth of audit should be consistent with the contractor's risk assessment level and sufficient to identify outdated written procedures, inconsistent application of the procedures, and lack of employees' knowledge or compliance with the written procedures. The auditor should consider and rely on, if appropriate, contractor internal audit control tests already performed. The auditor should:

(1) identify and evaluate the documentary evidence and the frequency of the internal and external reviews to determine whether the scope of such reviews are appropriate, the conclusions are sound, and appropriate follow-up actions recommended, and

(2) determine if the methodology used to select sensitive accounts to be reviewed is consistent with the risk assessment level as documented by the contractor.

### 5-1006.3 Follow-up Procedures

There should be policies and procedures for tracking responses to, and resolution of, required corrective actions. The policies and procedures should provide that corrective actions are communicated to management responsible for action, and that corrective actions are documented and verified.

## 5-1007 Trained Employees

A well trained staff results in accurate submissions to the government. Contractor personnel should be aware of the certification requirements and potential penalties associated with submissions; therefore, they require special training in the preparation and submittal of billings, claims, and proposals.

a. Types of training. The contractor may provide internal courses or opportunities for personnel to take outside education courses. The contractor may also provide detailed on-the-job training and/or detailed desk procedures. In some instances, the contractor may require that personnel assigned to the preparation, approval and/or review process have special qualifications prior to their being hired.

b. Adequacy of Procedures. Procedures should identify the minimum required course topics, the frequency of the training (periodic training should be given as needed, e.g. issuance of new and revised regulations, evidence of internal control weaknesses, etc.), and the criteria for documentation of completion. If specific procedures are not available, have the contractor identify its practice in the above areas for later verification with employees. The procedures should require that the training program be updated to cover current government rules and regulations, and adjusted to comply with revisions to the contractor's systems. These areas may be covered under more than one class, and some may be covered by memorandums, bulletins, or pamphlets.

c. Adequacy of Training Topics. The contractor should have policies and procedures requiring an employee awareness training program which informs employees of the special requirements that apply when a business contracts with the government. The training should include procedures for reporting and identifying false claims and the penalties associated with the statutes on false claims and false statements. Further, those employees with contractual responsibilities related to costs should be made aware of the FAR, DFARS, CAS, and applicable contract provisions. The contractor's procedures should provide instruction in claim preparation that provides for compliance with the following clauses: (1) FAR 52.216.7, Allowable Cost and Payment clause, which requires that the contractor submit a final indirect cost rate proposal reflecting actual cost experience during the covered period, together with supporting data (see DCAAP 7641.90 section on Incurred Cost Proposals for sample illustration of what is considered an adequate submission); and (2) FAR 42.703-2 which requires that the submissions include a signed "Certificate of Final Indirect Costs." Policies and procedures should also require that employees be trained in contract briefing, reconciliations of claims to accounting records, year-end adjustments of direct and indirect costs, and other related procedures.

d. The auditor should evaluate the adequacy of the training policies and procedures to determine if they cover the appropriate topics, contain interpretation of the government rules and regulations on the allowability of indirect/other direct costs, and that there are provisions to assure course materials are adjusted to comply with revisions to government rules and regulations. The contractor may have training records or attendance sheets that document employee training. If the con-

tractor does not provide formal training, evaluate alternative procedures that ensure that employees and management involved in the approval process and/or preparation of indirect/direct costs submissions have the required knowledge. The auditor may consider making inquiries of employees who performed a procedure and inspecting documents and reports to ensure that employees are knowledgeable.

## 5-1008 Indirect and Other Direct Costs Preparation and Submissions

a. The contractor should establish and maintain written policies and procedures for preparing submissions (billings, claims, or proposals), applicable to U.S. government contracts that include only allowable costs in accordance with FAR 31.2 and CAS.

b. The contractor's policies and procedures should require that claimed indirect/other direct costs be reconciled with actual costs as recorded in the books and records. Claimed costs may often be different from actual costs incurred; however, there should be a clear identification of all adjustments and an explanation that describes why such adjustments are necessary.

c. In addition, the contractor should have sufficient documentation for the auditor to assess the reasonableness of the contractor's interpretations of allowability. This documentation can be in the form of policies and procedures, desk instructions, preprinted forms, etc., and should provide enough detail for employees to determine the allowability of costs. Documentation supporting the allowability of costs per advance agreements should also be provided. There should be documentation supporting the segregation and control of data rejections, corrections, and adjustments, e.g., year-end accruals, variances, and suspense accounts.

## 5-1009 Unallowable Costs Screening and Segregation

Policies and procedures should provide for the identification and exclusion of unallowable costs from government contract costs as required by FAR 31.201-6 and CAS 405.

a. Certain costs are rendered unallowable by provisions of pertinent laws and regulations. Examples of costs declared expressly unallowable by federal statute or regulations are:

(1) costs for contingencies (FAR 31.205-7),

(2) entertainment expenses (FAR 31.205-14),

(3) fines and penalties (FAR 31.205-15),

(4) costs of organizing or reorganizing a business enterprise (FAR 31.205-27),

(5) contributions (31.205-8),

(6) interest (FAR 31.205-20),

(7) losses on other contracts (FAR 31.205-23),

(8) certain types of advertising and business meetings (FAR 31.205-1),

(9) bad debts (FAR 31.205-3), and

(10) federal income taxes (FAR 31.205-41). A description of these and other items and the criteria for a determination of allowability are provided in FAR Part 31 (see Appendix A) and Chapter 7.

b. Other costs may be specifically identified in the contract as being unallowable. In these instances, the contract terms may also provide specific criteria that must be met before a cost is considered allowable, or there may be ceiling limitations on certain types of costs. For example, the contract may state that subcontracts or travel must be approved by the contracting officer prior to incurring the cost, or it may state that overtime is unallowable over a specific dollar amount. Contract briefs should be prepared to identify these clauses.

c. Still other costs or portions of cost may be identified as unallowable based on advance agreements negotiated by the ACO, such as IR&D and B&P Advance Agreements.

d. In addition, all costs which are directly associated with unallowable costs are also considered to be unallowable. For example, travel costs associated with an unallowable business activity (e.g., business reorganization) are also considered to be unallowable.

### 5-1009.1 Screening of Unallowable Costs

a. General Policies and Procedures. The contractor's accounting procedures should be in writing and should provide that indirect/other direct costs are properly classified as allowable or unallowable, including directly associated costs, and unallowable costs are identified and segregated for U.S. government contract costing, billing, and pricing purposes as required by FAR 31.201-6 and/or CAS 405, if applicable. When evaluating the contractor's policies and procedures, the auditor should consider whether they:

(1) Address all major duties and responsibilities in the indirect/other direct cost system. The procedures should be comprehensive and easily understood in order to minimize the risk of errors arising from causes such as misunderstood instructions, and mistakes in judgment. The procedures should require management/supervisory review and approval at appropriate control levels. Management review should be evidenced by the proper approval signature on the documentation and records in accordance with the contractor's policy. Electronic signature procedures should be implemented for automated cost records. There should be separation of key duties such as authorizing, processing, recording, and reviewing; and accountability over access to and use of assets and records. The auditor should be alert for aspects of the indirect/other direct cost system process which are not covered by policies and procedures. Additionally, the auditor should note any instances where actual practices are inconsistent with established policies and procedures. In these instances, the auditor should consider the underlying cause for these inconsistencies (e.g., failure to adequately communicate changes in established policies and procedures). When testing the critical control points outlined in the procedures, the auditor should review evidence on adjustments as well as on regular transactions. If applicable, the auditor should compare relevant parts of the contractor's CAS disclosure statement to the policies and procedures.

(2) Are approved by an appropriate level of management to signify the delegation of authority and to effectively convey management's commitment to adhering to established policies and procedures, and complying with FAR 31.2 and CAS.

(3) Provide for the design and use of adequate documents and records. Records should be kept on all aspects of a procedure to ensure the proper recording of transactions. Records should also be classified in a way that permits easy access for audit trail (e.g., chart of accounts could be imbedded in the applicable systems internal edit schedules which segregates and identifies unallowable accounts at point of origin). Supporting documentation should be complete (i.e., include purpose), accurate (e.g. include credits if applicable), and readily available for examination. Various FAR clauses require specific documentation in order for allowability to be established. FAR 31.201-2(d) states that contractors are responsible for accounting for costs appropriately and for maintaining records to support claimed costs. This rule permits contracting officers to disallow any inadequately supported cost. The contractor's procedures should provide for documentation that contracts have been briefed and expressly/mutually agreed to be unallowable costs, and directly associated costs have been identified and excluded.

(4) Were communicated to those individuals within the organization who are responsible for executing them. This communication involves not only making sure that appropriate employees are aware of established policies and procedures but providing the necessary training to ensure that they understand how to interpret and execute them. If the training for employees who approve, process, and screen costs is separate from that provided to employees who prepare cost submissions, follow the guidance in 5-1006.2.

b. Controls for Selected Sensitive Accounts. The following are examples of sensitive costs that warrant special consideration to comply with the regulations (refer to FAR 31.2 for complete list of sensitive areas and their requirements):

(1) Entertainment costs. Procedures and controls should be established that

distinguish entertainment costs, as defined in FAR 31.205-14, from allowable costs, such as public relations cost; travel cost; employee morale, health and welfare cost; and trade, business, technical and professional activity cost.

(2) Independent Research and Development (IR&D) and Bid and Proposal (B&P) cost. Procedures and controls should be established which provide that IR&D and B&P are classified and allocated to U.S. government contracts in accordance with FAR 31.205-18 and CAS 420. Specifically, procedures should require that:

(a) Each IR&D and B&P project should be separately identified if material in amount. When not material in amount, these costs may be accumulated in one or more project(s) within each of these two types of effort.

(b) The B&P projects should be described and identified, as appropriate, with a specific procurement objective and/or applicable request for proposal (RFP), request for quotation (RFQ), or invitation for bid (IFB).

(c) Effort such as production engineering, productivity improvement, etc. should not be confused with IR&D and/or B&P effort. Effort of this type and the related cost accounts should be described in sufficient detail and specificity that distinguishes it from IR&D and B&P effort so as to preclude misclassification of these costs.

(3) Legislative lobbying costs. Procedures and controls should be established to provide that all allowable and unallowable costs under FAR 31.205-22 are properly classified and documented.

(4) Professional and consultant service costs should be supported as prescribed in FAR 31.205-33.

(5) Relocation costs. Procedures and controls should be established to require that:

(a) Payments be in accordance with an established policy or practice that is consistently followed.

(b) Amounts claimed as allowable costs under government contracts be in accordance with the requirements stated in FAR 31.205-35.

(6) Selling costs. Procedures and controls should be established which provide that selling costs are classified in accordance with FAR 31.205-38 and that:

(a) Allowable direct selling and market planning costs should be separately identified from unallowable costs.

(b) Allowable selling costs should be distinguished from B&P costs with respect to government business.

(c) The method selected and analysis used to allocate selling and marketing costs should be documented and in compliance with FAR and CAS, as appropriate.

(d) Direct selling and market planning costs should be segregated by class of customer (i.e., U.S. government, FMS/foreign sales of military products, and commercial). The method of segregation should be verifiable through documentation.

(7) Travel costs. Procedures and controls should be established which provide that:

(a) Allowable and unallowable travel costs in accordance with FAR 31.205-46 are appropriately classified at some point between incurrence of the cost and the time when claimed as a contract cost.

(b) Routines are in place to identify material amounts of unallowable labor activity based on the purpose of the travel.

(c) Records required to substantiate and justify contractor-owned, leased, or chartered aircraft costs are maintained in accordance with FAR 31.205-46.

(8) Trade, business, technical, and professional activity costs. Procedures and controls should be established which provide that an adequate description of the business purpose of meetings and conferences is either contained in or referenced in the reimbursement voucher.

c. Screening. Point of entry screening is inherently more effective than after-the-fact screening/scrubbing for the identification and segregation of unallowable costs. As a point of entry control, the contractor can use its chart of accounts to identify and segregate allowable and unallowable accounts (refer to the accounting system internal control). The contractor's failure to establish point of entry controls places an added risk on after-the-fact screening (refer to compliance reviews in 5-1006). Con-

tractor follow-up on unclear or questionable costs can become ineffective with the passage of time. This added risk would translate into higher required confidence levels and precision than would otherwise be required, thereby impacting the nature and extent of audit effort. As a result of the required certification process, some contractors have incurred extraordinary costs for screening overhead costs prior to certifying their proposal. This extraordinary effort is often the result of the contractor's earlier negligence in establishing, maintaining, and/or implementing an adequate system of internal control, and may not be subject to reimbursement (see 7-2109.2). Deficiencies should be reported in accordance with 8-302.7 if they are noncompliances with CAS 405, or in accordance with FAR 31.201-6 if they are not CAS-related.

d. Self-governance. When a contractor that participates in self-governance programs furnishes the FAO with its initial internal control evaluation and compliance testing plans on its screening procedures for unallowable costs, the FAO should establish a current assignment to update its audit of related internal controls. The objective is not to complete an overhead audit, but rather to provide the contractor with feedback on its control activities and its compliance approach.

e. Directly Associated Costs. All costs which are directly associated with unallowable costs are also unallowable and should be screened to preclude charging such costs to government contracts. In auditing the adequacy of contractor procedures for screening directly associated costs, the auditor should also consider materiality of the costs (FAR 31.201-6(e)(1). A directly associated cost is any cost which is generated solely as a result of incurring another cost, and which would not have been incurred had the other cost not been incurred. The following are examples of directly associated unallowable costs:

(1) Bad debts. Actual or estimated losses arising from uncollectible accounts receivable due from customers and other claims and any directly associated costs i.e., collection fees and/or legal costs associated with collection efforts are unallowable (see FAR 31.205.3).

(2) Entertainment costs. FAR 31.205-14 states that cost of amusement, diversion, social activities, and any directly associated costs such as tickets to shows or sports events, meals, lodging, rentals, transportation, and gratuities are unallowable.

(3) Lobbying costs. Pursuant to FAR 31.205-22, costs incurred in attempting to improperly influence (see FAR 3.401), either directly or indirectly, an employee or officer of the executive branch of the Federal Government to give consideration or to act regarding a regulatory or contract matter are unallowable. Employee(s) travel and/or administrative support costs directly associated with unallowable lobbying effort are also unallowable .

## 5-1010 Allocability Policies, Procedures, and Controls

Policies and procedures should assure that indirect and other direct costs are properly charged/allocated to cost objectives in accordance with FAR and CAS as appropriate.

a. The contractor's accounting procedures should ensure that items of the same nature as those charged as direct costs are not included in the indirect cost pools. The auditor should be alert to the possibility of inconsistencies in the treatment of direct and indirect costs, especially between cost reimbursable and other contracts or between government and other contracts. Such inconsistencies may result in inequitable charges to the government. For example, the auditor should ensure that costs charged to government work as direct costs are to be treated in the same manner on the contractor's other work, as required by FAR 31.202, FAR 31.203, and/or CAS 402. Therefore, the contractor should have policies and procedures for adequately describing and classifying costs as direct or indirect.

b. For CAS-covered contractors, such policies and procedures are a requirement of CAS 418.40(a). They should include provisions for justification and approval of changes in the direct or indirect classification of costs. Effective procedures will

minimize the amount of testing needed. The extent of required testing may be further reduced by evidence of thorough contractor internal audit coverage of this area.

c. The contractor should have accounting policies and procedures which provide that all items of other direct costs are readily identifiable with the contract to which they have been charged. When an item is purchased, documents such as the purchase requisition, purchase order, receiving report, and inspection report should identify the contract for which the cost was incurred. When the contractor manufactures components or parts, the work orders and all documents serving as a basis for charges to the work order, such as requisitions and job tickets, should be identified with the contract.

d. Procedures should provide that indirect costs be accumulated by logical (homogeneous) cost groupings (pools), with due consideration of the reasons for incurring such costs, and allocated to cost objectives in reasonable proportion to the beneficial or causal relationship of the pool costs to the final cost objective (FAR 31.203(b)). To satisfy MAAR No. 18, the auditor should determine that the allocation bases used by the contractor for the allocation of indirect costs are equitable and consistent with any applicable CAS requirements, generally accepted accounting principles, and applicable provisions of the contract.

(1) Procedures and controls should be established to provide that all costs (allowable and unallowable) properly included in an indirect cost allocation base bear a pro rata share of indirect costs irrespective of their acceptance as government contract costs in accordance with FAR 31.203(c).

(2) Procedures and controls should be established to provide that expressly unallowable costs and costs mutually agreed to be unallowable are excluded from any indirect cost pool which is allocated to U.S. government cost objectives. Directly associated costs should be handled in the same manner, unless the cost with which it is associated is included in the base over which the indirect cost pool is allocated. In such instances, the directly associated cost should remain in the indirect cost pool.

e. The auditor should determine if the contractor's policies and procedures require a thorough study of the indirect cost activity, including the activity bases used for allocation and the costs to be allocated, to determine whether the activity base chosen is appropriate for cost allocation and results in a reasonable measure of the activity. The base should: (1) be a reasonable measure of the activity, (2) be measurable without undue expense, and (3) except for the residual G&A expense, fluctuate concurrently with the activity which is the source of the costs.

f. Part IV of the contractor's disclosure statement provides information on the contractor's bases and pools, including a functional or departmental breakdown of indirect expenses. An audit of the disclosure statement (or equivalent data from non-CAS-covered contractors) will frequently assist in determining whether cost allocations described in the policies and procedures are equitable. Any differences or inadequacies should be identified and reported to the cognizant Federal agency official (CFAO) in accordance with 8-200.

## 5-1011 Indirect/ODC System - Information Technology System Internal Controls

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls and IT application controls. Whether the control activities are classified by the auditor as general or applications controls, the objectives of control activities remain the same: to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should audit the IT general and indirect/ODC application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operat-

ing effectively to provide reliability of and security over the data processed.

c. General controls are composed of (i) organization and operation controls, (ii) systems development and documentation controls, (iii) hardware and systems software controls, and (iv) data and procedural controls. (See 5-400 for a more detailed explanation of general internal controls.)

d. Indirect/ODC application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all systems applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as labor, billing, and in this instance, indirect/ODC. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

## 5-1012 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200, and 10-400 for reporting on internal controls relative to the contractor's accounting and management systems.

## 5-1100 Section 11 --- Audit of Billing System Internal Controls

### 5-1101 Introduction

a. This section provides guidance for auditing contractor billing systems and related internal controls of both a manual and automated nature. Refer to 5-101 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal control and assessing control risk.

b. Audits of contractor billing systems addressed in this guidance relate to incurred cost evaluations of interim and final public vouchers (6-1000), progress payments (14-200) and other incurred cost presentations (Terminations 12-000, FPI closings, interim cost evaluations).

### 5-1102 Background Information

Billings on public vouchers, requests for progress payments, contract closing proposals, and related cost statements submitted by contractors do not normally reflect contract costs as recorded in the basic accounting records. Normal reconciling items include both timing differences and permanent differences and special controls and processes must be established to assure that these differences are properly removed from billings on public vouchers and progress payments. The contractor's billing system should include processes for:

a. Segregating and excluding unallowable costs as required by FAR, DFARS and/or contract terms.

b. Segregating incurred costs that are nonbillable because the costs do not meet specified criteria for inclusion in voucher and progress payment requests (e.g., accrued material costs that ordinarily will not be paid prior to submission of the contractor’s next progress payment request to the government).

c. Withholding costs that are appropriate adjustments to the submission or request (e.g., costs in excess of ceilings, or liquidated progress payments).

d. Adjusting submissions for final rates or indirect billing rates that differ from the contractor’s currently applied rates.

e. Identifying costs that require specific contracting officer approval (special purchases, overtime authorizations, etc.).

f. Identifying contract overpayments, making refunds due the government in a timely manner, and offsetting significant contract overpayments against contract underpayments based on contracting officer and/or paying office instructions.

### 5-1103 General Audit Policy

a. Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. The auditor should be alert to changes in the contractor's IT environment or changes in application software that may affect the billing system. A partial list of such changes includes:

(1) automation of a manual billing system

(2) automation of any billing system activities that were previously performed manually

(3) changes in other systems (e.g., labor, material, indirect and ODC, etc.) that may affect the data files used by the billing system.

c. When performing billing system internal control audits, auditors should ensure that contractors who have contracts requiring registration in the Central Contractor Registration (CCR) database (i.e., contracts that contain the clauses at FAR 52.232-33, DFARS 252.204-7004, or NASA FAR Supplement 1804.7402) have adequate controls to ensure the contractor maintains its registration in the CCR database on an annual basis. When the contractor is required by the contract to register in the CCR database and the audit discloses the contractor has not complied with that requirement (e.g. the contractor is not registered or the registration status is “Inactive”), the auditor should note this in the audit report. To verify if a contractor is registered in CCR, the FAO should inquire through the CCR website as follows:

(1) Use Internet Explorer and navigate to the CCR website by entering the address www.ccr.gov.

(2) Once at the website, click “Search CCR” at the left portion of the screen. This will link to the search page.

(3) On the search page, input data to search for a contractor. You can use the DUNS Number, CAGE Code or Legal Business Name. You can also use a partial name to get a list of companies. Click on the Search button.

(4) A record (or list of records if you input a partial name) will appear. Click on the Info/Detail Tab to view the rest of the registration.

(5) The registration status and expiration date for the valid registration is listed at the top of the screen. The registration status will be identified as Registered/Active, Pending (registration is in the process of being validated), or Inactive (registration has been cancelled or expired).

**5-1104 Audit Objectives**

a. The purpose of this audit is to evaluate the adequacy of and the contractor's compliance with the billing system's internal controls. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

b. The contractor’s billing system should provide reasonable assurance that billings applicable to government contracts are prepared in accordance with applicable laws and regulations, and contract terms; and that material misstatements are prevented, or detected and corrected in a timely manner.

**5-1105 Scope of Audit**

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk(materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. The auditor should evaluate the contract mix to determine the materiality and sensitivity of certain aspects of the contractor's billing system (see 6-10S1)

(1) Identify those contract types which are sufficiently immaterial to justify substantive testing only and delete steps covering their unique billing controls. T&M and labor hours contracts generally require a unique set of billing controls because it is quite common for the contract to specify labor categories which do not coincide with the contractor established labor classifications. Similarly, due to security requirements, classified contracts may have a unique set of billing controls.

(2) Areas of emphasis may be determined by contract type. Cost reimbursement type contracts generally contain many more special contract provisions than FFP and FPI contracts; therefore more risk may be associated with the contract briefing systems when this type of contract is in the majority. The contractor may also use the billing system to provide incurred cost data for forward pricing proposals, FPI closings, and terminations. The other uses of the system may affect materiality considerations.

(3) Sensitive audit issues can have a significant impact on audit scope. For example, congressional interest in contractor overbillings would necessitate increased emphasis on contractor procedures to prevent overbilling on public vouchers or progress payments. The auditor should be alert to recognize and take appropriate action on matters of a sensitive nature.

(4) Other Related Systems---Billings are generally prepared from accounting records either manually or by computer applications. The major critical controls and system considerations related to the billing system are:

(a) Management's Philosophy and Operating Style. Analyze and briefly summarize the overall management philosophy and operating style based on information in the permanent file regarding the control environment. Determine whether management endorses the philosophy of written policies and procedures including the currentness and frequency of updates, advocates employee training and awareness, funds needed equipment and computer programming, encourages internal and external audits and develops performance controls.

(b) Accounting System and CAS Compliance Audits (5-300 and 8-000). The contractor should have adequate con-

trols to ensure costs recorded in the official cost accounting records used to bill costs are allowable, allocable and reasonable under FAR 31.2. (and CAS as appropriate)

(c) General IT Systems (5-400). IT systems should provide reliable data and the data should be properly secured.

(d) Budget and Planning System (5-500). Estimates of cost to complete contracts used for progress payment purposes should be current, accurate, complete, realistic, reasonable, and consider all relevant information.

(e) Material and ODC Systems (5-700 and 5-1000).

(i) Charges from material issued from contractor inventory for use on contracts should be identifiable on the billing record and supported by journal vouchers recording issuance of contractor-owned material; individual items of material should be traceable to the issue document; and, item pricing should conform to an acceptable practice and contractor established policy.

(ii) Billed material should be issued for current use on the contract and not merely issued to an intermediate holding area for the purpose of obtaining reimbursement. The contractor should not be purchasing material and charging it to common inventory (when it should be charged directly to the contract) to circumvent the actual payment requirement.

(f) Labor and ODC Systems (5-900 and 5-1000). Weekly and/or biweekly direct labor entries in the billing record should be based on the source documents for the journal vouchers distributing salaries and wages for the accounting period. Any labor adjustments appearing in the billing record should be supported by correction or reclassification journal vouchers. For T&M or labor hour contracts in the contractor labor distribution system, incurred labor hours should be input by contract category to the billing system, and the controls preventing misclassification of employees should be evaluated as a part of the labor controls.

(g) Indirect and ODC Systems (5-1000). The contractor should have controls to provide for developing, approving, and applying proper indirect expense rates in the billings (see 6-700).

(h) Financial Capability. The contractor should have controls to assess on a periodic basis if it has sufficient financial resources to complete its contracts.

(5) The auditor should consider the following possible audit leads in determining scope of the billing system audit:

(a) billing system audit leads

(b) outstanding internal control deficiencies in other relevant accounting systems

(c) material misstatements found in incurred cost audits, i.e., public vouchers, progress payment requests, contract closing statements or other incurred cost evaluations.

(6) Contractor's Organization---contract billings or portions of the billing information may be the responsibility of different sections of the contractor organization. For instance, because of their unique nature T&M or labor hour billings may have an entirely different process flow than cost type billings. The number of processes to be evaluated and the consistency of the processes will influence the scope of the audit.

c. Assessing control risk---To assess control risk on the billing system as low and reduce substantive testing, the auditor should determine if the internal control policies and procedures in contractor's billing system accomplish the following control objectives by providing:

(1) Effective methods of monitoring the billing system and performing management compliance reviews to assure that the company’s policies and procedures are adequate and current, are disseminated to all appropriate personnel, and are implemented in a timely and consistent manner.

(2) Adequate written billing system policies and procedures which address employee training, how to determine billing requirements, billing approvals, reconciliations of billed cost to the cost accounting records, adjustments of direct and indirect costs to year-end actual allowable rates, exclusions of unpaid cost, that is not eligible for reimbursement until paid, estimates of costs attributed to items

delivered/invoiced, adjustments of billings on potential loss contracts, title to assets whose costs are billed, and the development of estimates at completion.

(3) Adequate and effective implementation plan for the billing system to assure that policies and procedures are executed including dissemination of policies and procedures to employees, training of employees and management review of billings.

(4) Effective general IT controls over data center operations and adequate physical and logical security over relevant systems like labor, material, and indirect and ODC.

d. The following paragraphs contain general guidance for the audit and evaluation of the contractor's billing system. This guidance gives the auditor a framework for the audit, but it is not a substitute for professional judgment. The auditor should adapt this guidance to fit their individual circumstances.

## 5-1106 Management Compliance Reviews

Systems that rely on external controls only increase the risk of cost mischarging or misallocation. The existence of strong self-controls increases the reliance that can be placed on the cost representations from that system. Therefore, the contractor should have policies and procedures for monitoring its billing system, including regular compliance reviews. These compliance reviews should address the following areas: the adequacy of written procedures, employee knowledge and compliance with policies and procedures, consistency with which the policies and procedures are applied and by whom, and timely corrective action on deficiencies.

a. Types of Reviews. The contractor may perform internal compliance audits using auditors or nonauditors, physical observation, reviews of performance that involve exception reports, external audits, or use a combination of techniques. Because billing is generally performed in the accounts receivable area and this function is consistently audited by both internal and external auditors, some or all of the compliance reviews may be performed by them. The contractor may also have various performance criteria and reporting requirements to upper management which relate to incurred cost billings. For example, excessive numbers of vouchers returned by paying offices or excessive number of days to process vouchers, may indicate noncompliance with control activities.

b. Adequacy of Procedures. Whatever the form of the reviews, there should be procedures which identify the intervals of performance of the reviews, the personnel responsible for performance of the reviews, the areas to be covered during the reviews, the documentation required to evidence the reviews have been performed and the requirements for follow-up action. The procedures should address coverage of the following areas:

(1) review of the adequacy and consistency of application of the written procedures for the billing personnel

(2) employee knowledge and compliance with these written procedures

(3) responsiveness to required corrective actions.

In addition, procedures for inputting billing related data and procedures for the correction of erroneously entered data should be available.

c. Adequacy of Reviews. The adequacy of the reviews should be assessed in accordance with the criteria in 4-1000. The reviews should be performed in accordance with written procedures and by personnel possessing the level of competence, independence and objectivity required of a reviewer. The scope and depth of audit should be consistent with the contractor risk assessment level and sufficient to identify outdated written procedures, inconsistent application of the procedures, lack of employee knowledge or compliance with the written procedures, or untimely corrective actions.

## 5-1107 Billing System Policies and Procedures

A formal written statement of policies and procedures rather than an informal one based on established customs of the or-

ganization should exist at all contractor locations with substantial government business. Therefore, the contractor should have adequate written policies and procedures, and training on the preparation and submission of billing requests in accordance with applicable regulations and contract provisions. Written policies and procedures help ensure that:

(1) directions for performing both automated and manual tasks are clearly defined

(2) delegated duties and responsibilities are formally documented and communicated to employees

(3) processes are performed consistently from billing to billing.

### 5-1107.1 Training of Employees

A well trained staff results in current and accurate billings to the government. Because of the unique requirements associated with government contracts, certain contractor certifications, and potential penalties associated with billings, contractor personnel need to be specially trained to prepare and submit government billing requests. Therefore, the contractor should assure that all appropriate personnel have training in the preparation and submission of billing requests.

a. Types of Training. The contractor may require that personnel assigned to the processing of government billings have special qualifications prior to their being hired. The contractor may provide opportunities for personnel to take outside educational courses or provide internal courses. The contractor may also provide detailed on-the-job training and/or detailed desk procedures.

b. Adequacy of Procedures. Procedures should identify the minimum required course topics, the frequency of the training and the criteria for documentation of completion. If specific procedures are not available, have the contractor identify its practice in the above areas for later verification with employees. The procedures should require the training program be updated to cover current government rules and regulations and adjusted to comply with revisions to the contractor's system. These areas may be covered under more than one class and some may be covered by memorandums, bulletins, or pamphlets.

c. Adequacy of Training Topics. Training programs may include:

(1) an overview of the contractor's accounting system

(2) information on specific billing procedures (automated or manual)

(3) an overview of written policies and procedures

(4) instructions on briefing contracts

(5) a description on the review and approval process

(6) information on penalties associated with the statutes on false claims and false statements acts

(7) guidance on applicable FAR, DFARS, CAS and contract clauses

(8) information on the contract closeout process.

IT workstation procedures relative to billing system transaction activity should be covered as well as procedures for correcting erroneously entered billing data.

### 5-1107.2 Contract Briefings

Government contracts sometime have unique documentation requirements, withhold criteria and cost exclusions associated with interim and final payment approvals. An effective billing system identifies these requirements and includes them in the process. Therefore, procedures and controls should be established to ensure that contracts are reviewed to identify all billing requirements and that these requirements are documented either in a contract brief and/or directly input into an automated system. Policies and procedures should address the following:

a. Identifying Requirements. Procedures should clearly identify the types of information required on the brief (see 3-200 for examples of requirements).

b. Compiling Data. Procedures should identify the process for briefing contracts. The contractor may have a form (automated or manual) with blanks for various types of contractual requirements, or check marks to indicate the inclusion of FAR, DFARS and other regulatory mandatory clauses. Training manuals may also pro-

vide a handy reference for briefing personnel.

c. Frequency of Briefs. Procedures should identify the frequency criteria for briefing contracts. As a minimum, briefs should be updated as soon as modifications are received or prior to the start of the next billing interval.

d. Responsibility for Briefing. Procedures should identify those responsible for briefing contracts. Briefs are most often prepared by billing personnel but may be prepared by contracts or other personnel as long as there is appropriate segregation of duties and the personnel are trained.

e. Manner of Updating. To facilitate updating, verification, and review, the contractor may include the latest modification number on the billing. If an automated system is used, exception reports may identify contracts not briefed, or ones that have not been updated in excess of certain specified intervals. The billing system may not allow processing unless the briefing has been completed or approved. Manual systems may require attachment of the brief or modification to document auditor and/or supervisor review.

f. Method of Inputting. If applicable, the procedures should identify how the briefed requirements will be included in the billing.

### 5-1107.3 Management Review and Approval

The contractor should have procedures which require supervisory or management review and approval of billings prior to submission. Formal requirements for management approval help ensure compliance with specific contract provisions. Progress payment requests in fact require some management certifications. When evaluating the adequacy of the contractor policies and procedures for management reviews of billings, the auditor should consider whether:

(1) contract briefings require management review and approval

(2) managers review billings prior to submission

(3) items or elements are identified for specific review

(4) established thresholds and management approval levels are appropriate

(5) managers have sufficient time to effectively review billings prior to approval.

### 5-1107.4 Reconciliation of Recorded and Billed Cost

a. The contractor should be able to demonstrate that billing requests are prepared directly from the cost accounting records or from other records which are reconciled to the cost accounting records. Billings prepared from subsidiary ledgers and/or memorandum reports must be reconciled to the general ledger by element of cost.

b. The contractor may identify normal reconciling differences and require any other differences to be subject to management review. Contractor-identified differences other than those identified in 5-1102 above should be subject to additional consideration. The contractor procedures and/or flowcharts should identify appropriate sources of inputs, internal control points, ancillary IT applications, related transactions, and any documentation requirements. In manual systems, the contractor may require the attachment of a copy of the job cost ledger or verification to the billing as a condition to the presubmission approval process. In modern automated billing systems, the billing data may be simultaneously posted to the cost and billing ledger or posted at specified intervals. However, the system should have the capability to input such things as billing ceilings and withholding requirements, or to automatically code items which are not billable and then identify such cost suspensions or reconciling differences on the face of the voucher or in a separate attachment (see also 5-1107.6, Exclusion of Nonbillable Costs).

c. Periodic reconciliations of contract costs, as identified by the accounting system, to costs billed provides management necessary contract status information (e.g., cash flow, profit/loss, etc.), and allows the contractor to prepare timely final vouchers which detail allowable costs by contract by year.

### 5-1107.5 Adjustment of Cost and Rates

Interim billings of cost often involve several contractor years. The status of incurred cost audits changes as time passes, particularly with regard to indirect rates. Initially, billings may be based on projected rates for the year, which may change during the year as projections change; these rates should be monitored (FAR 52.216-7(e) and FAR 42.704) throughout the year and if significant deviations between billing rates and incurred rates occur during the year, or at year end, adjustments to the billing should be requested from the contracting officer. This process ensures that at year end the amount of indirect costs reimbursed is as close to the certified amount as possible. Similarly, direct costs may be subject to adjustments based on year-end procedures, audits and negotiations. Incurred cost billings are cumulative, and therefore, should reflect the impact of any of these adjustments as soon as they are known. The contractor should have procedures and controls in place to ensure the prompt adjustment of billings to reflect these adjustments in indirect rates and direct costs. The contractor's billing system should be capable of providing cumulative cost data by contract. Cumulative costs are necessary to assure that the cumulative amounts billed do not exceed the total estimated ceiling costs on the contract and/or the current contract maximum funding levels. Cumulative amounts billed must appear on the SF 1035, Continuation Sheet of the Public Voucher. Maintenance of cumulative allowable costs allows the contractor to prepare accurate final vouchers on a timely basis.

a. The contractor's system should provide for the segregation of cost by year so that rate adjustments can be easily made and the rates used can be identified. Controls over who authorizes rate changes, or how unauthorized rate changes to contracts can be prevented, should be clearly identified. Rate computations should be subject to easy verification.

b. To assure rates are current, the contractor should have a procedure which requires reapproval of rates at stated intervals (at least annually) or revision upon the occurrence of the events mentioned in 5-1107.5 above. These procedures should identify the organization responsible for establishing billing rates, both projected and actual, as well as any adjustments to billing rates.

c. For tracking and documentation purposes, the contractor should maintain a rate folder or computer file which identifies the date of rate changes and includes the supporting documentation (ACO or auditor approvals). Overhead and G&A expenses should be calculated on the basis of billing rates, quick close-out or final overhead rates.

d. Generally, direct cost adjustments are identified as suspensions or withholds on the face of the voucher or on a separate attachment.

### 5-1107.6 Exclusion of Nonbillable Costs

As discussed in the introduction, one of the primary differences between basic accounting records and billed government contract cost is the exclusion of nonbillable or ineligible costs. It is essential that procedures and controls are established requiring the exclusion from billings of the following nonbillable costs:

(1) Accrued costs of direct materials and subcontract costs that will not be paid in accordance with the terms and conditions of the subcontract or invoice and ordinarily will not be paid prior to submission of the contractor's next payment request (public voucher or progress payment) to the government;

(2) accrued costs that the contractor is delinquent in paying in the normal course of business; and,

(3) accrued costs of pensions, post retirement benefits, and profit sharing or employee stock ownership plans that have not been paid at least quarterly (costs not paid within 30 days after the end of the quarter are not eligible for reimbursement). The specific clauses identifying reimbursable costs are in FAR 52.216-7b for vouchers and FAR 52.232-16(a)(2) for progress payments. The criteria are the same for both types of billings. When evaluating the adequacy of the contractor procedures, the auditor should determine:

a. Potentially nonbillable direct costs are, when possible, automatically coded and identified as such in the accounting or billing ledger data based on programmed criteria applied to cost ledger source codes. This would include unallowable direct costs, nonbillable accrued costs, and costs subject to special approval requirements or other contract limits such as overtime premium.

b. The billing system should identify and segregate any nonbillable direct costs that cannot be identified to a program or job order. Such costs should be reclassified as billable only when required conditions have been met.

### 5-1107.7 Subcontractor Progress Payments, Performance-Based Payments and Commercial Financing Payments

FAR 52.232-16(j) requires the contractor to exclude costs of:

(1) progress payments made to subcontractors on terms less favorable to the government than the progress payment clause contained in the prime contract;

(2) performance-based payments made to subcontractors on terms not substantially similar to the requirements of the Performance-Based Payments clause at 52.232-32; and

(3) commercial financing payments made to subcontractors on terms not structured in accordance with FAR 32.206(c).

When evaluating the adequacy of the contractor policies and procedures for subcontracts, the auditor should determine whether the contractor has purchasing policies and procedures which are adequate to assure that the terms of subcontracts or interdivisional fixed price orders are the same as FAR 52.232-16(j) (CPSRs may be used to determine the adequacy of this area). In addition, the contractor should have policies and procedures to ensure monitoring of performance and expected profitability under subcontracts, review and approval of the subcontract progress payments, performance-based payments and commercial financing payments and resultant reductions in upper tier progress payments, performance-based payments and commercial financing payments. The contractor should also have policies and procedures to ensure reductions or suspensions of subcontractor progress payments, performance-based payments, and commercial financing payments, as necessary to protect against overpayment and losses.

### 5-1107.8 Estimates to Complete, Estimates of Costs of Delivered/Invoiced Items

a. Estimates to Complete. For progress payment purposes, the amount on line 12b on the SF 1443, “Contractor's Request for Progress Payment,” is critical in the determination of the reasonableness of the request because it is used in the computation of the various critical limitations of reimbursable cost as discussed below. Because it is a critical factor, the FAR requires that the contractor keep these estimates to complete current (not more than 6 months old). The contractor should have policies and procedures to assure the most current estimates are used in progress payments, that these estimates reconcile with other external reporting requirements such as EVMS and the FPI limitation on payment requests, and other contractor internal/external reports. Based on the adequacy of the contractor budgetary system, these estimates should be taken directly from those systems used to report status to contractor upper management. The contractor may have IT controls or tickler files that identify estimates that exceed the 6-month requirement. However, contractor procedures should also require significant changes in the estimate to be included in the progress payment even if they occur prior to the 6 month update.

b. Alternate Liquidation Rates. The estimate at completion is also used to verify the continued applicability of liquidation and alternate liquidation rates which impact the unliquidated balance of progress payments.

c. Estimates of Costs of Delivered/Invoiced Items. Because costs by individual deliverable item are not generally available from cost accounting records, the contractor generally computes the costs of items delivered by applying the estimated cost/price ratio to the contract price

of items delivered. The cost/price ratio is computed by dividing the estimate of costs to complete (line 12a plus line 12b) by the contract price (line 5). The contractor should have policies and procedures which describe how the estimated cost for delivered items is computed or how actual costs are determined.

### 5-1107.9 Loss Contract Procedures

The contractor should have policies and procedures to provide for the computation of loss ratios and adjustments of billings on potential loss contracts. FAR 32.503-6(g), "Loss contracts," 14-200, and the progress payment audit program provide examples of these loss computations. The estimate at completion (line 12a plus 12b) is used to determine the loss ratio to be applied to incurred costs to adjust for loss contracts.

### 5-1107.10 Title to Assets

When the contracting officer has given the contractor consent to dispose of property under the progress payment clause (FAR 52.232-16(d)), the procedures should assure that the contractor disposes of the property systematically over the life of the contract, and appropriate credit is applied against the contract for the disposal proceeds. The contractor's failure to dispose of the property before contract completion could cause the government to lose the credits, since title to all property not delivered to and accepted by the government is vested in the contractor upon completion of all obligations under the contract. The contractor should have policies and procedures which require prompt disposal of property charged to fixed price contracts that are not deliverable end items.

### 5-1107.11 Contract Overpayments, Refunds and Offsets

The contractor should have internal control policies and procedures in place and operating adequately to:

- compare amounts billed to amounts received for each public voucher, progress payment request, performance-based payment, and invoice (both delivery and final) to readily identify contract over/underpayments;
- process refunds due the government in a timely manner; and
- make offsets to contract billings based on contracting officer and paying office instructions.

a. Over/underpayments. Contract over/underpayments are identified based on comparisons of amounts billed to amounts received. The auditor should determine if the contractor's internal controls:

(1) ensure identification of all outstanding over/underpayments;

(2) provide for timely notification to the contracting officer and paying office; and

(3) identify and document the reason(s) for the over/underpayments and why certain over/underpayments were not timely liquidated.

In addition, the auditor should verify that the contractor has documentation for its:

- notification to the contracting office and paying office;
- significant activities during the resolution process; and
- compliance with contracting officer and paying office instructions to resolve the difference.

b. Refunds. Contract refunds include funds returned to the government due to:

(1) contractor or paying office errors,

(2) contract administration adjustments, and

(3) responses to government demand letters.

Contract administration adjustments are payments the contractor received in accordance with contract provisions but which need to be reduced due to subsequent events or actions. For example, a contract administration adjustment may result from a contract modification changing the alternate liquidation rate for deliveries made on a contract using progress payment financing. The auditor should verify that the contractor's internal controls:

- require maintaining a list of refunds made to the government;
- provide for timely refund of amounts due the government; and

- identify and document the reason(s) for the refunds and why certain refunds were not timely processed.

The auditor should also verify that refunds caused by contract administration adjustments (contract modifications) are computed accurately. Finally, if the contractor disputes an amount requested by a demand letter, the contractor should have documentation to support its position.

c. Contract Offsets. Contractors may offset amounts due the government (overpayments and refunds) against underpayments. The auditor should verify that the contractor's internal controls require:

(1) significant offsets be made only after notification to and instructions from the contracting officer and/or paying office;

(2) offsets are made on a timely basis, usually within 30 days of the identification of the overpayment or refund; and

(3) maintenance of a list of all significant offsets and documentation showing coordination with the government.

d. Subcontractor Reviews. The contractor should have policies and procedures to ensure that their subcontractors' accounting and billing systems include adequate policies and procedures for identification and timely resolution of subcontractor overpayments, refunds, and offsets. Subcontractors should be able to document their identification and resolution of subcontract overpayments, refunds, and offsets with the prime contractor.

## 5-1108 Implementation of Billing System Policies and Procedures

Written policies and procedures help ensure that internal control objectives are documented. The contractor should ensure that these written policies and procedures are executed to assure only billable costs/prices/fees applicable to government contracts are included in billings in accordance with applicable regulations and contract terms. In addition, the contractor should have policies and procedures to ensure that all changes which impact how billings are prepared are promptly disclosed to the government.

### 5-1108.1 Disseminating Policies and Procedures

In order for policies and procedures to be effective they must be communicated to the employees responsible for implementing them. Employees should be made aware of the existence of the policies and procedures and they should have ready access to them. The auditor should be alert for aspects of the billing process that are not covered by policies and procedures, especially dealing with external data entry, data correction, and supervisory approvals. Additionally, the auditor should note any instances where actual practices are inconsistent with formal policies and procedures. In these instances, the auditor should consider the underlying cause for these inconsistencies.

### 5-1108.2 Training Applicable Employees

Merely making employees aware of policies and procedures and providing access to them, does not assure employees know how to interpret and execute them. Therefore, the contractor should provide training to the applicable employees. This training should include the topics described in 5-1107.1c above. The contractor should have training records---course materials and attendance sheets that document employee training. If the contractor does not provide formal training, evaluate alternative procedures that ensure that employees and management involved in the billing process have the required knowledge. The auditor may consider making inquiries of employees who performed a procedure and inspect documents and reports to ensure that employees are knowledgeable.

### 5-1108.3 Briefing Contract Requirements

Contract briefings should reflect contract requirements and these contract requirements should be reflected in the billings. The requirements may be documented either in a contract brief or

directly into an automated system. Policies and procedures should ensure that contracts are adequately briefed and updated as modifications are received. When evaluating the adequacy of the contractor briefings, contract requirements in the briefing matrix at 3-2S1 should be used.

### 5-1108.4 Management Review and Approval

Effective procedures require that all billings, including final billings, are subjected to management review prior to their submission. The contractor should have procedures and controls in place to ensure that vouchers and invoices are accurate and have the appropriate level of review and approval prior to their submission. The review should be evidenced by approval on the billing in accordance with contractor policy. When evaluating the reviews the auditor should use the guidance in 4-1000.

## 5-1109 Billing System - Information Technology System Internal Controls

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls or IT application controls. Whether the control activities are classified as general or applications controls, the objectives of control activities remain the same, (i) to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition, and (ii) that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should review the IT general controls and the billing system application controls in order to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are comprised of:

(1) organization and operation controls,

(2) systems development and documentation controls,

(3) hardware and systems software controls, and

(4) data and procedural controls.

(See 5-400 for a more detailed explanation of general internal controls.)

d. Billing system application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as labor, MMAS, and in this instance, billing. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

## 5-1110 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on internal controls relative to the contractor's accounting and management systems.

## 5-1200 Section 12 --- Audit of Estimating System Internal Controls

### 5-1201 Introduction

a. Refer to 5-101 for the auditor's fundamental requirements for obtaining and documenting an understanding of a contractor's internal controls and assessing control risk.

b. This section provides guidance for conducting surveys of contractor estimating systems and discusses the requirements of DFARS 215.407-5 and 252.215-7002.

### 5-1201.1 Definitions

a. "Estimating System" is a term used to describe a contractor's policies, procedures, and practices for generating cost estimates which forecast costs based on information available at the time. It includes the organizational structure; established lines of authority, duties, and responsibilities; internal controls and managerial reviews; flow of work, coordination, and communication; and estimating methods, techniques, accumulation of historical costs, and analyses used by a contractor to generate cost estimates and other data included in proposals submitted in the expectation of receiving contract awards (DFARS 252.215-7002).

b. "Significant Estimating System Deficiency" means a shortcoming in the estimating system which is likely to result in proposal estimates for either total cost or a major cost element which are consistently unacceptable as a basis for negotiating fair and reasonable prices (DFARS 215.407-5-70(a)(4)).

NOTE: Whenever significant deficiencies are outstanding, the overall opinion on the estimating system should be either inadequate or inadequate in part. Further, a recommendation should be made to disapprove the part of the estimating system that is deficient - see 5-1212b. and 10-408.1d.

### 5-1202 Background

DFARS 215.407-5-70(b) requires all DoD contractors to have acceptable estimating systems, requires certain large businesses to disclose their estimating systems in writing, provides guidelines concerning the characteristics of an adequate estimating system, and provides guidance for conducting team estimating system surveys.

### 5-1202.1 Applicability of DFARS 215.407-5

a. It is DoD policy that all contractors have estimating systems that consistently produce well supported proposals acceptable as a basis for negotiating fair and reasonable prices. Estimating systems should be consistent and integrated with a contractor's related management systems, and be subject to applicable financial control systems (DFARS 215. 407-5-70(b)(1)). To be considered adequate, an estimating system must be established, maintained, reliable, and consistently applied. It must also produce verifiable, supportable and documented cost estimates (DFARS 215. 407-5-70(a)(1)).

b. Any business contractor which in its preceding fiscal year received DoD prime contracts or subcontracts of at least $50 million requiring cost or pricing data is subject to the requirements of DFARS 215. 407-5-70(c)(4), (d), (e), and (f) and paragraphs (d) and (e) of DFARS 252.215-7002 (see 5-1202.2, 5-1203.2, 5-1204.1 and 5-1204.2).

c. Any business contractor which in its preceding fiscal year received DoD prime contracts or subcontracts of at least $10 million requiring cost or pricing data may also be subject to the requirements of DFARS 215. 407-5-70(c)(4), (d), (e), and (f) and paragraphs (d) and (e) of DFARS 252.215-7002. Such coverage is required if the PCO, with the concurrence or at the request of the ACO, determines it to be in the best interest of the government (e.g., significant estimating problems are believed to exist or the contractor's sales are predominantly to the government). The additional coverage will apply if during contract performance the contracting officer provides written notification to the contractor.

d. The disclosure, maintenance and review requirements of DFARS 215. 407-5-70 (c)(4), (d), (e), and (f) do not apply to small businesses, educational institutions, or other nonprofit organizations.

### 5-1202.2 System Disclosure and Maintenance Requirements

Contractors subject to DFARS 215. 407-5-70(c)(4) or notified in writing by the contracting officer that paragraph (d) of DFARS 252.215-7002 applies (see 5-1202.1b and c), are required to establish and maintain an adequate estimating system and disclose it in writing to the contracting officer responsible for contract administration. Disclosure is considered adequate when the contractor has provided the cognizant ACO with: documentation accurately describing the policies, procedures, and practices that are currently used in preparing cost proposals, and sufficient detail for the government to reasonably make an informed judgment regarding the adequacy of the contractor's estimating practices. Significant changes to the cost estimating system must be disclosed to the cognizant ACO on a timely basis. If disclosed information contains commercial or financial information which the contractor regards as privileged and confidential, such information will be protected and not released outside the government without the permission of the contractor.

## 5-1203 General Audit Policy

a. Refer to 5-103 for DCAA's general audit policy for the audit of contractor accounting and management systems and related internal controls.

b. The auditor is responsible for evaluating contractor estimating methods and procedures. This is accomplished by estimating system surveys designed to determine the reliability of a contractor's estimates, identifying areas requiring special emphasis in the audit and negotiation of individual price proposals, and recommending improvements when deficiencies are noted in a contractor's estimating system. Estimating system surveys provide knowledge of the strengths and weaknesses in a contractor's estimating system. Effective reporting on the existence and impact of estimating system deficiencies can stimulate contractor corrective action. Corrective action can substantially reduce the incidence of defective pricing and the time and effort required to audit individual price proposals.

c. It is DCAA's policy that contractor estimating system audits be performed every three years unless past experience and current audit risk is considered to be low. A determination of low risk must be fully documented in the planning documents supporting the program plan. In addition to a current audit risk assessment and documented past experience, the documentation must also include evidence of coordination with the ACO. If the audit risk is considered to be high, estimating system audits should be performed more frequently. These audits should also be considered at non-major contractor locations where there are indications of significant estimating system problems. Such audits may be performed in conjunction with other planned contract audit activity.

d. Other changed circumstances that may impact risk are:

(1) Changes in the regulatory or operating environment and adoption of new accounting principles or changes accounting principles.

(2) New personnel with a different focus or understanding of internal control.

(3) New or significantly rapid changes in information systems.

(4) Rapid growth, which can increase the risk of a breakdown in controls.

(5) Incorporation of new technologies into production processes or information systems.

(6) Entering into business areas or transactions (e.g., new lines, products, or activities) with which an entity has little experience.

(7) The impact of corporate restructurings on staffing, changes in supervision, and segregation of duties.

### 5-1203.1 Comprehensive Surveys-Estimating Systems

a. Most estimating system surveys are conducted as comprehensive surveys. Comprehensive surveys pertain to effort accomplished primarily by auditors, although technical specialist assistance is recommended for the quantitative and qualitative aspects of the survey. (See Appendix D for guidance on the use of technical specialists.) Comprehensive

surveys are conducted at contractor locations not requiring a team review (see 5-1203.2). Auditors assigned should include individuals normally involved in the evaluation of the contractor's proposals. A regional office representative should also be available, if required, to provide advice and assistance in planning and conducting the survey.

b. The guidance contained in 5-1204 through 5-1212 forms the basis for evaluating a contractor's estimating system. Although much of the guidance refers to team reviews, it may also serve as the basis for performing comprehensive surveys.

**5-1203.2 Team Reviews**

a. Definition. Team reviews pertain to effort accomplished as a DCAA and contract administration office team effort in accordance with DFARS 215. 407-5.

b. Selection of Contractors for Team Reviews.

(1) Team reviews apply to contractors subject to DFARS 215. 407-5-70(b) (see 5-1202.1b and c). DCAA and the cognizant contract administration activities are to establish and manage regular programs for evaluating selected contractor estimating systems (DFARS 215.407-5-70(c) and (e)). Factors to consider in selecting contractors for a team review follow:

(a) The annual DoD sales under prime contracts and subcontracts in the preceding fiscal year requiring cost or pricing data (should normally be at least $50 million).

(b) The frequency of proposals subject to price analysis and audit.

(c) The date of the last team review.

(d) Any special pricing problems.

(2) Team reviews are to be conducted at least every three years at applicable contractors, except where the auditor and ACO determine that recent past experience has not found significant deficiencies and the current audit risk is low. A determination of low risk must be fully documented in the planning documents supporting the program plan. In addition to a current audit risk assessment and documented past experience, documentation must also include evidence of auditor and ACO coordination. Some examples of low risk indicators follow:

(a) No significant contractor reorganization has occurred which could affect its estimating or accounting functions.

(b) The contractor has not adopted major changes in its estimating methods or procedures.

(c) The contractor has carried out and submitted to the government periodic self-assessments of its estimating practices and procedures, using self-governance programs, which substantiate the reliability of its system.

(d) There is no other evidence indicating the estimating system contains a major deficiency.

(3) If the auditor and ACO determine that the government is subject to high risk, estimating system surveys should be done more frequently. However, the auditor's objective should be to work with the ACO and contractor to correct the deficiencies rather than perform more frequent reviews of the estimating system.

(4) At the beginning of each fiscal year, regional offices will coordinate a list of contractors selected for a team review with the responsible contract administration office (regional or other supervisory office).

c. Team Makeup and Responsibilities.

(1) The team will consist of members of the cognizant audit office, and technical specialists designated by the responsible contract administration office. The contract auditor will be designated as the team leader and is to be assigned responsibility for survey planning, direction of the work, and report finalization. Depending upon the nature of the contractor's activities, the contract administration office will designate quality control, production, engineering, packaging, transportation, and/or other specialists. Both offices are to assign sufficient personnel to permit completion of the review and issuance of the report within a reasonable time. If technical specialist assistance cannot be provided, inform the regional audit manager so the region can elevate the matter to appropriate acquisition management officials. If technical assistance is still not provided, the region should

elevate the matter to DCAA Headquarters (ATTN: PPD). DCAA Headquarters will attempt to obtain the technical support. In those instances where DCAA Headquarters is not successful and believes that further resolution is required, Headquarters will direct the request to the attention of the Under Secretary of Defense (Acquisition & Technology). DCAA will not, in any case, use its own resources to perform these specialist functions.

(2) To provide for an efficient and effective audit, auditors and technical specialists assigned as team members should include individuals normally involved in the evaluation of the contractor's price proposals.

d. Regional Office Assistance. Regional offices are to assist in resolving problems relating to the scheduling of specific team surveys, the participation of technical specialists on survey teams, and disputes between a team member and the team leader on survey findings and recommendations (see 5-1205.2c). Regional offices will also provide advice and assistance in planning and conducting the survey, as required.

## 5-1204 Audit Objectives

a. The purpose of this audit is to evaluate the adequacy of and the contractor's compliance with the estimating system's internal controls. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

b. There is a clear interrelationship between estimating system, price proposal, and defective pricing audits. It is important that the auditor recognize that the results in one or more of these areas will have a direct relationship on the scope of audit in the other area(s). In addition to meeting the DFARS requirement for review, an estimating system survey serves as the fundamental basis for determining audit risk and scope for future price proposal and defective pricing audits. The primary objectives of the survey are to:

(1) evaluate the adequacy of a contractor's system for developing cost estimates for price proposal purposes,

(2) evaluate a contractor's compliance with its written estimating procedures and disclosed estimating system (if applicable),

(3) identify areas of a contractor's estimating system requiring special emphasis or attention during the audit and negotiation of individual price proposals, and

(4) inform interested government activities on the reliability of a contractor's estimating system, and of actions necessary to correct existing deficiencies.

### 5-1204.1 Characteristics of an Adequate Estimating System

The adequacy of an estimating system depends on the successful interrelationship of many variables. The relative importance or necessity of each is largely determined by the particular conditions existing at each contractor location. In general, adequate estimating systems should provide for the use of appropriate source data, utilize sound estimating techniques and appropriate judgment, maintain a consistent approach, and adhere to established policies and procedures. Although it is not possible to list all characteristics that should be present in an adequate estimating system, DFARS 215.407-5-70(d)(2) states that in evaluating the adequacy of an estimating system, the ACO should consider whether the contractor's estimating system:

a. Establishes clear responsibility for the preparation, review, and approval of cost estimates.

b. Provides a written description of the organization and duties of personnel responsible for preparing, reviewing, and approving cost estimates, and the various functions contributing to the estimating process such as accounting and planning.

c. Ensures that relevant personnel have sufficient training, experience, and guidance to perform estimating tasks in accordance with the contractor's established procedures.

d. Identifies sources of data and the estimating methods and rationale used in developing cost estimates.

e. Provides for appropriate supervision throughout the estimating process.

f. Provides for consistent application of estimating techniques.

g. Provides for detection and timely correction of errors.

h. Protects against cost duplication and omissions.

i. Provides for the use of historical experience where appropriate.

j. Requires use of appropriate analytical methods.

k. Integrates information available from other management systems as appropriate.

l. Requires management review including verification that the company's estimating policies, procedures, and practices comply with DFARS 215. 407-5.

m. Provides for internal review of and accountability for the adequacy of the estimating system, including the comparison of projected results to actual results and an analysis of any differences.

n. Provides procedures to update cost estimates in a timely manner throughout the negotiation process. (Also see 14-120.4 on defective pricing sweeps.)

o. Addresses responsibility for review and analysis of the reasonableness of subcontract prices.

### 5-1204.2 Indicators of Potentially Significant Estimating Deficiencies

Some indicators of, or conditions that may cause, significant estimating deficiencies as discussed in DFARS 215.407-5-70 (d)(3) are listed below. These indicators or conditions are not intended as a comprehensive checklist. They may, however, suggest the need for further analysis or evaluation. Since estimating is not an exact science and is partly based on judgment, differences between individual estimates and subsequent actual data are not necessarily indicators of a significant estimating system deficiency.

a. Failure to ensure that relevant historical experience is available to and used by cost estimators as appropriate.

b. Continuing failure to analyze material costs or failure to perform subcontractor cost reviews as required.

c. Consistent absence of analytical support for significant proposed cost amounts.

d. Excessive reliance on individual personal judgment where historical experience or commonly used standards are available.

e. Recurring significant defective pricing findings within the same cost element(s).

f. Failure to integrate relevant parts of other management systems (e.g., production control or cost accounting) with the estimating system, impairing the ability to generate reliable cost estimates.

g. Failure to provide established policies, procedures, and practices to persons responsible for preparing and supporting estimates.

Not all estimating system deficiencies will be significant as defined in DFARS 215. 407-5-70(a)(4). For example, the lack of written policies and procedures for a seldom-used cost estimating relationship is not necessarily an indicator of a significant deficiency when considered in the context of an otherwise adequate estimating system.

### 5-1205 Scope of Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk, (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. Controls for interrelated audit concerns regarding the adequacy of the contractor's other major systems (i.e., budgets, general accounting, etc.) will be audited under separate assignments. While the controls for these areas are not part of this audit, the results of all audits of these interrelated controls must be considered in forming an overall audit conclusion on the estimating system internal controls and also commented on in the related audit report.

c. The extent of audit effort should also be influenced by:

(1) the types of government contracts and their materiality

(2) deficiencies noted in recent proposal and postaward audits

(3) deficiencies noted in the prior estimating system survey and flash estimating system reports

(4) participation of the contractor in self-governance programs (this includes the work performed by the contractor's internal audit staff)

(5) input from the contracting officer

(6) contract provisions

General information regarding these scope areas is provided in 3-104 and additional considerations specific to the

estimating system are discussed below. A risk assessment documenting conclusions reached regarding the impact of the above areas on the scope of this audit should be documented in the working papers.

d. If possible, estimating system surveys should be completed in a timely and efficient manner early in the year. By minimizing the cycle time and completing the review early, the results can be used in assessing control risk when establishing the scope for audit effort on price proposal and defective pricing audits.

### 5-1205.1 Coordinating Team Surveys-Estimating Systems

Preparation for an effective audit requires proper coordination with interested procurement and contract administration activities, and the contractor as follows:

a. Approximately 30 to 60 days before the scheduled starting date, notify in writing each government procurement office having a significant volume of business with the contractor that an estimating system survey will be made. Request comments on any problems or special areas of interest related to the contractor's price proposals which would be appropriate for consideration.

b. Contact the ACO to discuss personnel and technical specialist requirements, survey scope, time phasing of the work, and the planned entrance conference with the contractor. Request that the ACO designate a member of his or her staff to coordinate the activities of the technical specialists assigned to the team. If the contractor is subject to DFARS 252.215-7002(d) (see 5-1202.1b and c), determine if it has disclosed its estimating system in writing to the ACO as required. If disclosure has not been made, immediately issue an estimating system deficiency flash report (see 9-310 and 9-1209d), and recommend that the ACO obtain the disclosure. In addition, report this deficiency in all subsequent forward pricing audit reports issued until corrected. Also consider deferring the estimating system survey until disclosure is made. If, however, you have leads or suspect that significant estimating system deficiencies exist, continue the audit.

c. Inform the contractor of the planned survey by sending a letter to the management official responsible for the total operations of the organizational unit being surveyed. Describe the purpose and general scope of the survey, indicate the tentative starting date, and identify the team leader and key participants. Request the contractor designate a company representative from its estimating department with whom survey matters can be coordinated. Also request that the contractor alert contributing departments of the planned survey and of their need to provide information and records required by the survey team. Identify data needed at the beginning of the survey and propose a date for an entrance conference. Invite the contractor's top management personnel to attend the entrance conference. Suggest that the contractor present an orientation briefing at the entrance conference on its organizational structure, operating policies, and other areas of concern to the review team. Invite a prompt reply and provide a copy of the letter to the ACO.

d. Prior to the entrance conference, hold a preliminary meeting with team members to develop a tentative survey program. The team leader will ensure that overall survey scope will be responsive to procurement and audit needs.

e. Conduct the entrance conference in accordance with 4-302. Explain the purpose of the audit, the overall plan for its performance, the estimated duration, and the types of books, records, and data to be evaluated. Also allow enough time for the contractor to present an orientation briefing (see 5-1205c.(3)). Discuss coordinated audit planning and self-governance programs with the contractor and explain its relevance to estimating system surveys. If the contractor has implemented self-governance programs, describe the effect of the self-governance program on the scope of audit. If the contractor is not a participant in self-governance, explain the benefits of these programs. Describe how it can strengthen internal controls and thereby reduce audit scope and decrease the frequency of estimating system surveys.

f. Shortly after the entrance conference, hold another team meeting to finalize survey plans and make appropriate modifications to the survey program. Assign specific program areas to individual team members and establish time-phased schedules. Tailor the survey to take advantage of the daily work per-

formed as part of the normal activities of the contract audit and contract administration functions.

### 5-1205.2 Areas of Coverage and Team Assignments

a. At any contractor location, certain areas of coverage or survey steps may be inapplicable, or applicable only in part. Read 5-1206 through 5-1210 to obtain a general understanding of the potential coverage requirements. Develop a survey program appropriate for the specific contractor location under review. A pro forma estimating system audit program is on the DCAA Intranet and the APPS under file name APESTG.

b. For areas of coverage dealing with the development of quantitative and qualitative requirements, carefully plan and coordinate with the technical specialists to eliminate duplication of effort and to ensure adequate audit coverage. The assignment of specific steps to an auditor, a technical specialist, or both depends upon the conditions encountered at each location. Base assignments to team members upon mutual agreement as to who can most effectively perform the work.

c. An auditor's areas of coverage will normally include cost and production records and data, learning and improvement curves, bills of material, operation or process time sheets, and other similar documentation. Such documentation provides a factual basis for determining the adequacy of a contractor's system for developing material and labor quantities and related usage, scrap, spoilage, and efficiency factors.

d. Technical specialists will normally be assigned to areas requiring technical knowledge and judgmental evaluations. Such areas include production processes, shop practices, machine loadings, time-and-motion factors, drawings and specifications, and engineering principles and techniques. They may also be required to evaluate data relating to plant layout and rearrangement, planning and scheduling plant capacity, and value engineering.

e. In assigning specific steps to team members, recognize that auditors and technical specialists have a common interest in:

(1) The quantitative aspects of the contractor's estimates.

(2) The methods by which requirements for the various types and quantities of labor hours and material are determined.

(3) Other areas such as special tooling and test equipment, packaging, and technical data.

### 5-1205.3 Team Monitoring and Coordination

a. Although technical specialists are responsible for the execution of their assigned functions, the team leader will coordinate the efforts and monitor the progress of all team members. The team leader will evaluate the scope of coverage and results obtained and determine with team members if efforts should be curtailed or expanded, or methods modified. All team members should adhere to professional standards, particularly those pertaining to the preparation of adequate working papers.

b. The team should meet periodically to resolve problems encountered and discuss progress and interim findings. The team leader should be currently informed of all interim findings so they may be referred for further development and consideration by other team members examining related areas.

c. Resolve any disagreements between a team member and the team leader at the local level so that coordinated views are reflected in the survey report. If resolution cannot be obtained at the local level, refer the matter to the DCAA regional office and, if appropriate, the contract administration counterpart. In unusual cases involving broad policy, refer the matter to Headquarters, ATTN: PPD.

d. Coordination with the ACO is essential throughout the survey. The team leader should actively solicit the personal participation of the ACO at the entrance and exit conferences. The team leader should also keep the ACO currently informed of significant developments. After completion of the field work and before the final report is issued, review all significant findings and recommendations with the ACO. Also

review any substantive changes made after this point with the ACO.

## 5-1206 Internal Audits

The estimating system should be subjected to periodic internal audits to ensure the following:

(1) The policies and procedures comply with applicable rules and regulations.

(2) Established policies and procedures are being followed.

(3) Prior internal audit findings have been properly dispositioned.

This objective recognizes the contractor's commitment to self-governance and its contractual responsibility for systems and accounting internal controls. The contractor should be conducting on-going, self-initiated reviews of various aspects of its estimating system in a timely manner. Contractors may comply with this standard using in-house staff efforts or through the services of outside consultants.

a. Our interpretation of "internal audits" for purposes of this objective includes reviews performed by functional units as well as the internal audit staff. The auditor must be aware of the requirements of 4-1000, Relying on the Work of Others. The level of objectivity and competence of personnel performing the reviews will have a significant impact on the reliability of the reviews and should be clearly communicated to the contractor. Both the auditor and the contractor should be aware that the objective is to ensure that adequate estimating system policies, procedures, and controls are in place and being followed, and that system adequacy is maintained on a real-time basis.

b. The auditor must ensure that the system is subjected to periodic internal audit. This objective does not create additional access requirements beyond those identified in FAR 52.215-2 and 1-504. Consideration should be given to both the contractor's internal audit schedule of completed audits and audits performed by functional units that meet this objective. If the contractor contends that such reviews have been performed but is unwilling to make them available to DCAA in any form, the auditor may be unable to determine if the contractor has met this objective. The auditor must evaluate the need for such access. Denial of access to relevant data should be escalated in accordance with 1-504.

c. The contractor cannot comply with the system disclosure and maintenance requirements if it does not provide to the government "sufficient detail" for the government to reasonably make an informed judgment regarding the adequacy of its estimating practices. If the internal auditor performs work supporting the system disclosure and maintenance effort, access to the detailed work products is necessary to assess the adequacy of the estimating practices

d. If a contractor is not performing periodic reviews of its estimating system, then it should be reported for not achieving this objective. This should be reported as a serious internal control weakness in light of the complexity of the estimating system and the risk of inaccurate costs being proposed on government contracts. This control weakness should also be tied to prior questioned costs, where applicable.

## 5-1207 Estimating System-Description

a. The contractor should have an adequate estimating system description including policies, procedures, and operating instructions compliant with FAR and DFARS. While the contractor is required to provide a broad range of documents, the auditor should focus attention on the adequacy of the policies, procedures, and operating instructions related to the control objectives outlined in the remainder of this section.

b. The contractor should provide a written description of its estimating system in enough detail to allow the auditor to get a thorough understanding of how the system operates. The contractor's write-up should include items listed below:

(1) The overall organization and assignment of responsibilities.

(2) References to written policies and procedures.

(3) The flow of information between each process or function within the system as well as other management systems.

c. If the contractor’s system is fully or partially automated, the description should

include the IT aspects of the estimating system transaction flow, including data input, data processing, and data output.

### 5-1207.1 Evaluation of Contractor's Organization and Assignment of Responsibility

The estimating function may be organized differently by individual contractors because of differences in their products or services, industry practices, size and type of organization, degree of departmentalization, management attitudes, personnel capabilities, and other factors. Responsibility for developing estimates may be centralized in an estimating group or delegated to the various participating departments. However, the estimating function should be soundly organized on the basis of a definitive flow of authority and standard policies and procedures established at a top or upper management level. Each contractor should maintain a written description of the organization and the duties of personnel responsible for preparing, reviewing, and approving cost estimates, and the various functions contributing to the estimating process such as accounting, planning, training, etc.

a. Evaluation of a contractor's organization requires analysis of the relationship of the organizational segments participating in the estimating function. For this purpose, request that the contractor provide organization charts and written procedures or directives describing the organizational structure and responsibilities of the estimating group(s) and contributing departments. Request flow charts from the contractor which show the flow of work in the estimating process, from the initiation of a proposal to the contract certification date, and the integration of data prepared by personnel responsible for functions such as accounting, cost control, budgeting, estimating, planning, purchasing, production control, engineering, and sales.

b. The auditor should determine if:

(1) Preparation of required estimates is effectively controlled either on a centralized or decentralized basis.

(2) Lines of authority, duties, and responsibilities are clearly defined, including responsibilities for preparing, reviewing, and approving cost estimates.

(3) The estimating process is properly coordinated among segments of the organization responsible for different parts of the estimate.

(4) The department responsible for overall compilation of the estimate has authority to review and question the reasonableness or accuracy of feeder information received from other departments.

### 5-1207.2 Evaluation of Policies and Procedures

The estimating function is of such importance that direction and guidance for its implementation must be in a form that ensures complete understanding and precludes misunderstanding. A formal written statement of policies and procedures, rather than an informal one based on established customs of the organization, should exist at all contractor locations with substantial government business. Estimating procedures represent the means by which policies and objectives established by management are translated into detailed guidance and direction to personnel engaged in estimating functions. Policies and related implementing procedures should cover such areas as estimating organization; lines of authority; formats for proposal preparation; make-or-buy determinations; quantitative and pricing aspects of each cost element; use of statistical aids and estimating techniques (e.g., learning curves and scatter charts); extent of documentation; and review and control requirements.

a. Determine if standard policies have been established at a sufficiently high organizational level, and are in sufficient depth and detail to serve as a basis for definitive implementation.

b. Evaluate procedures for compatibility with underlying policy and for completeness as a source of guidance in all aspects of proposal preparation. Procedures should cover matters such as:

(1) Designation of individuals authorized to initiate and approve requests for preparing estimates.

(2) The required form of the request and the supporting detail to accompany the request. The latter includes documents such as the technical proposal, supplemental statement of work required under the proposed contract, and performance schedules.

(3) The basis for control, time phasing, review and approval of the estimate, and for the orderly flow of documentation and data in the buildup and support of the estimate.

(4) Methods for obtaining contributions from, and coordination among, segments of the organization responsible for different aspects of the estimate. Such segments include engineering, quality control, purchasing, accounting, budgeting, and production control.

(5) Format of the estimate and the detail required to support it.

(6) Identifying the sources of data and estimating methods and rationale used in developing cost estimates.

(7) The consistent application of estimating techniques.

(8) Use of appropriate analytical methods.

(9) Procedures to update cost estimates in a timely manner throughout the negotiation process.

(10) Pricing of component cost elements with emphasis on using the most accurate, complete, and current cost and pricing data available at the time the estimate is prepared. (If the contractor makes more than one estimate for the same component of cost, all estimates should be available for the government's evaluation.) To the extent applicable, maximum use should be made of historical cost data for pricing the same or similar items or services, or elements thereof. Procedures should also provide for furnishing current, accurate and complete data up to the date of the price agreement, for estimates requiring the execution of a certificate of current cost or pricing data.

(11) Responsibility for review and analysis of the reasonableness of subcontract prices.

c. Evaluate estimating procedures to determine if they are kept current, disseminated to all responsible employees, and consistent with the company's established cost accounting policy, system, and procedures.

### 5-1207.3 Integration with Other Management Systems

a. Cost Accounting System. The contractor's cost accounting system is usually a major source of data used in developing cost estimates. An evaluation of a contractor's cost accounting system is normally accomplished separately from an estimating system survey (9-302). One area which should be covered in an accounting system evaluation is the impact on the system of technological modernization (see 14-800). Any changes to the accounting system must be disclosed to and approved by the ACO. The following areas should be covered in an estimating system survey. (Reliance placed upon separate accounting system evaluations should be documented in accordance with 4-1000.)

(1) The extent to which cost accounting and adjunct statistical records contain sufficient refinements for cost estimating purposes. Examples of such refinements are lot costing and the segregation of nonrecurring costs.

(2) The consistency between estimating and cost accounting in the classification of cost elements as either direct or indirect. Determine the reasons for any inconsistencies and their effect upon the validity of cost estimates and indirect cost rates.

(3) The suitability of the contractor's standard costs and related variances for use in preparing cost estimates, considering:

(a) The extent to which variances are segregated by product line and according to contributing causes such as price and rate variances, use and efficiency variances, and variances due to "make" versus "buy" decisions.

(b) The degree to which historical cost variances used for estimating are adjusted to reflect anticipated or planned changes in conditions.

(c) The magnitude of the variances and their composition. Variances should be documented by the contractor and evalu-

ated by the auditor before they are accepted on future estimates.

b. Budget and Planning System. In addition to serving as a management control over the cost of operations, the contractor's budget system also provides data for use in developing estimates, particularly indirect cost projections and volume of activity forecasts. Contractor budget system audits should be made separately and preferably in advance of estimating system surveys (see 5-500). The following areas, however, should be considered during an estimating system survey. (Reliance placed upon separate budget system audits should be documented in accordance with 4-1000.)

(1) The degree to which the projected level of costs and volume of activity are considered in preparing cost estimates.

(2) The reliability of sales forecasts and the extent to which such forecasts are reflected in indirect cost projections.

(3) Consideration given by the contractor when preparing cost estimates to information contained in facilities budgets, e.g., commitments for the acquisition of new and improved equipment expected to reduce production costs.

(4) If either the estimating system or budget and planning system are fully or partially automated, consideration should be given to ensuring the accuracy of any data files flowing from the budget and planning system to the estimating system (see 5-1406.5).

## 5-1208 Training

a. Training should be provided to appropriate employees (including technical employees) on government regulations and company policies and procedures pertaining to the estimating process. Training on the use of statistical aids and advanced estimating techniques including appropriate proposal file documentation procedures should be provided.

b. Training modules should be periodically reviewed and updated and periodic training sessions provided for new hires and experienced personnel.

## 5-1209 Evaluation of Cost Estimate Development

a. A major part of the survey is an evaluation of the effectiveness of the methods and procedures used to develop estimates of individual cost elements. A contractor should ensure that estimating source data is appropriately applied and the basis for estimating each cost element is disclosed by providing written guidelines for developing and supporting consistent and verifiable proposals. Procedures and instructions on the documentation required for a proposal should cover items such as:

(1) Conditions, assumptions, and qualifications.

(2) Basis of each cost element including the methods and support used to develop indirect rates, pools and bases.

(3) Milestones for contract performance.

(4) Reconciling detail and summary level data.

b. In determining the scope and extent of coverage to include in the program for this part of the survey, team members should consider the preliminary survey work accomplished and the prior experience of the auditors and technical specialists. Give particular attention to costs questioned and findings disclosed during price proposal and postaward audits. Comparisons of previous estimates with actual costs of completed negotiated contracts may also furnish useful information, provided the methods used to develop such estimates are still in effect. Do not request that the contractor submit special data for this purpose if its preparation requires extensive effort.

c. Where information developed under recent incurred cost, price proposal and other audits provides the basis for an informed conclusion regarding a particular area of coverage, no further steps are needed for the evaluation of that area. However, reliance placed upon these other audits must be documented in accordance with 4-1000. Where further effort is considered necessary, use recent price proposals previously submitted by the contractor to test the effectiveness of the contractor's procedures.

## 5-1209.1 Estimating Methods

The methods employed by a contractor to develop cost estimates may vary depending on the type of work covered by a proposal, e.g., research, production, etc. Request the contractor to provide a flow chart for each type of proposal, showing how individual cost elements are developed and integrated into the total estimate. In addition, evaluate the estimating methods employed by the contractor in preparing various proposals to consider:

a. Appropriateness of the estimating methods employed in preparing cost estimates for each type of proposal, and if different methods should be used considering factors as:

(1) Nature of product or service.

(2) Degree of firmness of specifications.

(3) Contractor's prior experience with the same or related products or services.

(4) Extent detailed cost data can be derived from the accounting system, adjunct statistical records, and other sources.

(5) Relative dollar amount of estimates.

(6) Cost and time restrictions on the preparation of estimates.

b. A contractor should clearly identify the pricing policy for areas identified as sensitive by the government and contractor. Such areas include pricing policy for start-up costs on follow-on contracts; burdens for intracompany effort; inventory items including residual inventory; and government owned or furnished equipment.

c. Extent estimating methods make appropriate use of historical cost data relating to (1) entire products, (2) individual tasks required on new procurements similar to those accomplished under previous contracts, and (3) indirect cost ratios and percentage factors applicable to a common base.

d. If cost estimates based upon prior cost experience adequately consider:

(1) Differences in complexity, quantity, rate of production, state of development, etc., between items previously produced and those for which estimates are being developed.

(2) Applicability of preproduction engineering, special tooling, plant rearrangement, and other nonrecurring costs.

(3) Anticipated changes in production methods, material usage, prices, wage rates, labor efficiency, production volume, plant capacity, and make-or-buy structure.

e. The propriety of using company-wide forward pricing factors developed for the preparation of cost estimates and if such pricing factors are current, based upon reliable cost data and procedures, and correctly applied.

f. Applicability of historical standard cost variance factors. If standards have been revised to represent expected actual cost, historical cost variances are not applicable.

g. Reasonableness of formula pricing methods for spare parts to ensure individual elements of cost are not duplicated in base cost and loading factors.

h. Suitability of catalog pricing and prepriced listing methods for developing reasonable prices for spare parts proposals, if used by the contractor.

i. Acceptability of the contractor's methods for developing cost estimates for contract changes, considering:

(1) Degree to which estimates properly reflect the nature and scope of the change and status of the work at the time the change is issued.

(2) If work deleted by changes is priced correctly.

j. If there is effective use of the contractor's IT capabilities in developing estimates and summarizing detailed data for proposal preparation.

k. If analytical methods are used, when appropriate, to develop cost estimates and/or evaluate the reasonableness of cost estimates developed using other procedures.

## 5-1209.2 Evaluation of Proposal Format and Support

A contractor's estimating procedures should provide a standardized format for proposals and the submission of supporting data. Estimating system documentation should include or reference policies and procedures on the formats for proposal preparation and the required detail for support. Where contractors are required to submit cost or pricing data, the contracting officer will specify the format to be used

including: FAR 15.408, Table 15-2, an alternate format, or permit submission in the contractor's format (see 9-304). Evaluation should cover:

a. Determination that proposals are submitted on appropriate forms (or acceptable substitutes) and all data required by the forms is furnished.

b. Sufficiency of detail contained in proposals and supporting data.

c. Adequacy of the contractor's identification of cost and pricing data submitted in support of the price proposal and the related Pricing Certification, when required by FAR 15.403.

### 5-1209.3 Subcontract Price/Cost Analysis

a. The contractor's policies and procedures should require the contractor to:

(1) conduct appropriate cost or price analyses to establish the reasonableness of proposed subcontract prices;

(2) include the results of these analyses in the price proposal; and

(3) when required in accordance with FAR 15.404-3(c), submit subcontractor cost or pricing data to the government as part of its own cost or pricing data.

Adequate and timely subcontract cost/price analysis is critical to the negotiation of fair and reasonable prime contract prices. For this reason, the contractor should have policies and procedures in place to accomplish such analyses prior to the submission of their own cost or pricing data.

b. Due to time and other constraints, the contractor may be unable to perform a detailed price/cost analysis prior to submission of its own cost or pricing data. In these instances, the contractor's policies and procedures should require that a plan be in place to complete the required analysis and provide it to the government negotiator prior to negotiation of the prime contract price.

c. In some exceptional cases, the contractor may be unable to obtain adequate cost or pricing data and/or perform the required analysis prior to negotiation of the prime contract price. The contractor's policies and procedures should provide for the timely identification of such circumstances and submission of a request, to the contracting officer, to be excused from the submission of subcontractor cost or pricing data and related analysis. This request should be supported by:

(1) an explanation as to why the data and analysis cannot be submitted in a timely manner, and

(2) an alternate analysis such as application of a negotiation reduction factor based on the historical difference between the initial subcontractor proposed amount and the ultimate negotiated amount.

### 5-1209.4 Evaluation of Contractor Control and Review of Estimates

The reliability of estimates depends largely upon the effectiveness of the internal controls and managerial reviews, including internal audits of the estimating function (see 5-1206), incorporated into the estimating process. Evaluate the contractor's estimating controls and reviews to determine the sufficiency of internal controls, including:

a. If the various phases and functions in the estimating process are adequately controlled to ensure timely processing of proposals.

b. If internal controls are adequate to ensure uniformity of approach, timely detection and correction of errors, and prevention of cost duplications and omissions.

c. If supervision in each area and at each level of the estimating process is adequate.

d. If management reviews of proposals cover the soundness of judgmental estimates and adherence to established procedures.

e. If estimators are required to summarize the conditions, assumptions, contingencies, qualifications, risks, etc., that were considered in developing estimates.

f. The quality, frequency, scope and results of management reviews of the estimating function. Such reviews should determine if the company's estimating policies, procedures, and practices comply with DFARS 215.407-5 and other applicable Federal regulations. They should also determine if the overall estimating system is adequate. In doing so, they should compare, on a sample basis, projections to actual results, and analyze any

differences. DCAA should evaluate management action and follow-up on reported findings and recommendations.

**5-1210 Contract Certification-Estimating Systems**

a. The contractor should have established policies and procedures for ensuring that all cost or pricing data is current, accurate, and complete as of the date of agreement on price. The auditor should evaluate these policies and procedures to determine if they are adequate to reasonably ensure that the additional cost or pricing data will be identified and submitted to the government negotiator prior to execution of the Certificate of Current Cost or Pricing Data.

b. The auditor's evaluation should carefully consider the results of recent postaward audits in determining the scope of audit for this objective. Additional audit guidance on Defective Pricing "Sweeps" is contained in 14-120.4.

**5-1211 Information Technology System Internal Controls-Estimating Systems**

a. Where information technology (IT) is used in significant financial applications, control activities are sometimes defined by classifying them into two types, IT general controls or IT application controls. Whether the control activities are classified by the auditor as general or applications controls, the objectives of control activities remain the same, to provide reasonable, but not necessarily absolute, assurance that assets are safeguarded from unauthorized use or disposition and that financial and cost records are reliable to permit the preparation of financial statements and cost representations.

b. The auditor should review the IT general controls and the estimating system application controls to determine if they have been designed according to management direction, GAAP, and applicable government regulations and that internal controls are operating effectively to provide reliability of and security over the data processed.

c. General controls are comprised of:

(1) organization and operation controls,

(2) systems development and documentation controls,

(3) hardware and systems software controls, and

(4) data and procedural controls.

(See 5-400 for a more detailed explanation of general internal controls.)

d. Estimating system application control activities are applied to the input, processing, and output phases of this single IT application. In contrast, IT general controls affect all system applications and operational elements of all IT systems. Separate control activities are developed for each unique application system, such as labor distribution, inventory control, and in this instance, estimating. Although some application control activities affect only one or just a few control objectives, most of the control activities are designed to prevent or detect several types of errors in most or all phases of the application. (See 5-1400 for a more detailed explanation of application internal controls.)

**5-1212 Summarization**

a. Upon completion of each assigned area and appropriate supervisory review, the auditor will discuss his or her tentative findings and recommendations with contractor personnel responsible for the specific area evaluated. The purpose is to confirm the factual accuracy of the findings and assess the feasibility of the recommendations. After the discussions, the auditor should promptly summarize the specific areas evaluated and those that need to be reported upon, as follows:

(1) An overall evaluation of the acceptability of the estimating methods and procedures applicable to the area.

(2) A description of each condition requiring corrective action, and related recommendations in such form and detail as required for the survey report.

(3) The contractor's reaction to that part of the findings and recommendations.

b. The ACO or a representative should coordinate the activities of the contract administration office team members; consolidate the technical findings and recommendations; and, when appropriate, prepare a comprehensive written report to be submit-

ted to the team leader. Attach this report to the overall estimating system survey team report. The contract administration activity will be responsible for the technical sufficiency and validity of the technical report(s). If requested technical assistance was not provided, qualify the estimating system survey audit report.

c. The technical specialists will retain their working papers. In some instances, copies of technical specialist summary schedules, etc., may be needed for the survey audit report. Such copies should be provided upon request of the team leader. These copies, as well as the reports of the team members and the detailed working papers prepared by the auditors, will be maintained in the survey file.

d. After completion of the field work, the team will meet to evaluate all findings and recommendations and establish the general content of the overall survey audit report. The team leader will prepare the report using the written input of the various team members. The team leader will coordinate the draft report with the ACO to resolve differences in conclusions or recommendations. Disagreements between a team member and the team leader in should be resolved in accordance with 5-1205.3b.

## 5-1213 Internal Control Reporting-Estimating System

a. The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on compliance with laws and regulations and on internal controls relative to the contractor's accounting and management systems. A shell report on an estimating system survey is included on the DCAA Intranet and the APPS.

b. If significant deficiencies are identified, the overall audit opinion on the system should be "inadequate " or "inadequate in part". Further, a recommendation that all or part of the estimating system be disapproved must be included in the report (DFARS 215.407-5). When making this recommendation, the estimating system survey report should include the estimated cost impact of each significant estimating deficiency. Calculation of the impact should be based on such factors as the amount of questioned and unsupported costs found in previous price proposal audits and the amount of recommended price adjustments found in previous postaward audits that are attributable to the estimating deficiency. Where appropriate, the report should also recommend that the ACO consider notifying contracting activities that cost or pricing data on negotiated procurements should be requested at the $100,000 level.

c. The auditor should recommend disapproval of an entire estimating system when deficiencies are so significant that the system is likely to produce proposal estimates which in total are consistently unacceptable for negotiating fair and reasonable prices. This may be appropriate when defective pricing findings, or estimating system deficiencies adversely affecting audit or negotiations, consistently occur in all major cost areas.

d. Recommend disapproval of part of an estimating system when significant deficiencies are likely to produce proposal estimates with one or a few major cost elements consistently unacceptable for negotiating fair and reasonable prices. This may be appropriate when defective pricing findings, or estimating system deficiencies adversely affecting audit or negotiations, consistently occur in one or a few major cost areas.

e. Only significant estimating system deficiencies should be reported. Minor deficiencies are defined as those deficiencies that would not cause disapproval of all or part of the contractor's estimating system. If correction of the minor deficiencies would enhance the contractor's estimating system, these deficiencies should be addressed in a separate appendix to the report as suggestions for improvement.

## 5-1214 Exit Conference

After completion of the draft report, the team leader will arrange and conduct an exit conference attended by all team members and the ACO. At the exit conference, discuss the results of audit and provide the contractor with a draft statement of the condition(s) and recommendation(s). Inform the contractor that its written response to the draft, if provided within a reasonable time, will be included in the audit report to the ACO (see 4-304.5b). After receipt of the

contractor's response or lapse of a reasonable time, the team leader will issue the final report in accordance with 10-400. If findings are significant, send information copies to each procurement office doing substantial business with the contractor. Do not unduly delay issuance of the report awaiting the contractor's response.

### 5-1215 ACO Processing of the Estimating System Report

a. Upon receipt of the report, the ACO will provide a copy to the contractor and allow 30 days or a reasonable extension for submission of its written response. If no significant deficiencies are identified, the ACO will notify the contractor in writing in a timely manner (DFARS 215.407-5-70 (f)(2)).

b. If the contractor agrees with the report findings and recommendations, the contractor should, within 60 days of receipt of the initial ACO notification, correct any identified system deficiencies or submit a corrective action plan showing milestones and actions leading to elimination of the deficiencies. If the contractor disagrees with the report findings and recommendations, the contractor's response should contain the rationale for each area of disagreement (DFARS 215.407-5-70(f)(2)).

c. The ACO, in consultation with the auditor, will evaluate the contractor's response and determine if: (1) the estimating system contains deficiencies needing correction; (2) any deficiencies are significant enough to warrant disapproval of all or part of the contractor's estimating system; or (3) any proposed corrective actions are adequate to correct the deficiency (DFARS 215.407-5-70(f)(3)). When recommending disapproval of portions of an estimating system, identify specific portions that should be disapproved. This will direct attention toward the significant deficiencies as well as inform the ACO which portion should not be relied upon.

d. The ACO will notify the contractor and the auditor of his/her determination and, if appropriate, of the government's intent to disapprove all or a selected part of the system. The notice will list the cost elements it covers and identify any deficiencies requiring correction. The notice will also require the contractor to make correction or submit a corrective action plan within 45 days showing proposed milestones and actions related to all identified deficiencies (DFARS 215.407-5-70 (f)(4)).

### 5-1216 Monitoring and Follow-up-Estimating System

a. The auditor and ACO will monitor the contractor's progress toward correction of deficiencies. In addition, a follow-up audit will be performed to ascertain the status of the corrective action plan and to reevaluate the significance of any uncorrected significant deficiencies. Since all reported deficiencies require follow-up, make the necessary follow-up within six months of the report issuance date to determine if the contractor has corrected the deficiencies. This period may be adjusted to allow for such factors as the significance of the deficiencies, volume of proposal activity, and realistic time frames for implementing corrective action. When a follow-up audit is not expected to be performed within six months, the auditor should indicate in the report why the follow-up audit has been deferred and the anticipated time frame when the review will be performed.

b. The follow-up audit should include steps to determine that the proposed corrective actions are adequate to correct any deficiencies, including those reported in flash audit reports issued after the system survey report date (see 9-310), as well as to determine that the contractor is complying with its corrective action plan. However, if there is an insignificant amount of proposal activity, the portion of the follow-up to determine contractor compliance with its corrective action plan may be deferred--but the report should note the limited scope. Compliance should then be evaluated during another follow-up audit. If required, request technical specialist assistance.

c. If the contractor fails to make adequate progress toward corrective action, recommend that the ACO take action to ensure the contractor corrects the deficiencies. Actions for the ACO to consider include reducing or suspending progress

payments per FAR 32.503-6 and/or recommending against the award of potential contracts (DFARS 215.407-5-70(f)(6)).

d. Issue a new report advising recipients of the original report on the status of the corrective actions. Include a description of the deficiency, status of corrective action, and status of any prior recommendation to disapprove portions of, or an entire, estimating system. Also, include the current opinion on the effectiveness of the estimating system with any recommendations to disapprove portions or the entire system. This new report should reference the previous report(s). If necessary, the report will request the assistance of procurement and/or contract administration activities to obtain contractor implementation of survey recommendations. If, as a result of estimating deficiencies, the contracting officer has lowered the threshold for requesting field pricing support (see 9-102.3), recommend that the threshold be raised if the follow-up work reveals that the deficiencies have been corrected. If the deficiencies were not corrected, recommend that the contracting officer take appropriate steps to stimulate contractor corrective action (see 5-1215).

e. If a follow-up audit discloses a significant estimating system deficiency not previously reported, it should be included in the follow-up report.

## 5-1217 Continuous Evaluation-Estimating System

a. Between estimating system surveys, auditors and technical specialists should carefully analyze exceptions taken to contractor estimates which support submitted price proposals. Make arrangements through the ACO for technical personnel to notify the auditor of estimating system deficiencies found during technical evaluations. Also, evaluate conditions attributable to estimating deficiencies disclosed during postaward audits and issue an estimating system deficiency flash report (see 9-310c), if appropriate.

b. When the report on an estimating system survey recommends disapproval of the system in whole or part, subsequent proposal audit reports should disclose the recommendation to disapprove the system. For any significant estimating system deficiency, disclose the cost impact where possible in subsequent proposal audit reports. These disclosures should continue until the deficiencies are resolved (DFARS 215.407-5-70(g)(1)). This also applies to significant estimating system deficiencies discovered during price proposal audits (see 9-310), estimating system survey follow-up audits (see 5-1216), and postaward audits (see 14-120.7d). In addition to questioning any inappropriate proposed costs resulting from estimating deficiencies, consider the following actions to improve the likelihood that the deficiencies will be corrected:

(1) When an estimating system deficiency exists that has only a minor impact on the adequacy of the proposal, qualify the audit report relative to the acceptability of the cost or pricing data.

(2) When an estimating system deficiency exists having a material impact on the adequacy of the proposal, consider the above, plus the following actions. (Pursue those actions considered most appropriate in the circumstances.)

-- Recommend that the contracting officer return the proposal to the contractor, and allow the contractor additional time to correct the deficiency and submit a corrected proposal (DFARS 215.407-5-70 (g)(2)(i)).

-- Recommend that the contracting officer consider another type of contract, e.g., a FPIF instead of a FFP contract (DFARS 215.407-5-70 (g)(2)(ii)).

-- Recommend that the contracting officer use additional cost analysis techniques to determine the reasonableness of the cost element(s) affected by the deficiency (DFARS 215.407-5-70(g)(2)(iii)).

-- Recommend that the contracting officer segregate the questionable areas as a cost reimbursable line item in any awarded contract (DFARS 215.407-5-70(g)(2)(iv)).

-- Recommend that some profit or fee adjustment be made in consideration of the system deficiency. This could be accomplished by a direct reduction to the profit objective that would normally be

considered based on the weighted guidelines calculation (DFARS 215.407-5-70(g)(2)(v)).

-- Recommend that the contracting officer include a contract clause that provides for adjustment of the contract amount after award (DFARS 215.407-5-70(g)(2)(vi)).

(3) When a significant deficiency exists that prevents the auditor from measuring the impact, or the impact is so significant that the estimates are not acceptable as a basis for negotiating a fair and reasonable price:

-- In addition to pursuing the appropriate steps identified above, issue an adverse opinion as provided by 9-210.3.

c. Cost Accounting Standard 401, "Consistency in Estimating, Accumulating and Reporting Costs," was established to: (1) make the cost accounting practices used by a contractor in estimating costs consistent with its practices for accumulating and reporting costs during contract performance and (2) provide a basis for comparing estimated to actual costs. Use the guidance in Chapter 8 to determine if contractor estimating systems comply with CAS 401 requirements.

## 5-1300 Section 13 --- Participation on Joint Team Reviews

### 5-1301 Introduction

This section provides guidance as a participant on a joint system review team. As appropriate, the guidance in 9-1300 also applies. Guidance for the auditor on the joint estimating system team is stated in 5-1200.

### 5-1302 Purchasing and Subcontracting System Reviews

### 5-1302.1 Introduction

Basic audit requirements in Chapter 6 provide for the review of the operating effectiveness and transactions of a contractor's purchasing and related departments as an integral and necessary part of the audit of purchased material and service costs. When contractor purchasing system reviews (CPSRs) are regularly performed at a contractor location (see 5-1302.2), the auditor should rely upon this work to the maximum extent feasible in establishing the extent of audit coverage to be undertaken in this area. See 5-1302.4 for guidance on the effect of a CPSR on the performance of audits.

### 5-1302.2 Contractor Purchasing System Review (CPSR)

a. FAR 44.302 requires a CPSR to be made for each contractor whose sales to the government (excluding competitively awarded FFP contracts, competitively awarded fixed price contracts with economic price adjustment, and commercial items pursuant to FAR Part 12) are expected to exceed $25 million during the next 12-months. Such sales include prime contracts, subcontracts under government prime contracts, and modifications. Unless segregation of subcontracts is impracticable, the CPSR evaluation shall not include subcontracts awarded by the contractor exclusively in support of government contracts that are competitively awarded FFP contracts, competitively awarded fixed price contracts with economic price adjustment, and sales of commercial items pursuant to FAR Part 12. Once the initial determination that a CPSR is needed under the above criteria has been made, the cognizant contract administration activity will decide whether a subsequent CPSR is needed at least triennially. The detailed procedures for conducting initial, subsequent, special, and follow-up CPSRs are in DFARS 244.3 and FAR 44.3. These reviews form the basis for the administrative contracting officer (ACO) to grant, continue, withhold, or withdraw approval of a contractor's purchasing system.

b. The ACO is responsible for reviewing the contractor's purchasing system. Members of other organizations, including DCAA, may participate in a review conducted under the ACO's authority, but are not to conduct separate reviews of a contractor's purchasing system. If a problem appears to exist, DCAA may recommend to the ACO that an additional review be performed.

c. CPSRs are conducted by teams under the direction of a purchasing system analyst (PSA) assigned by the local or regional contract administration office. The PSA is responsible for accomplishing the CPSR and conducting surveillance reviews. The review team consists of PSAs, the auditor, technical personnel, and other representatives of the ACO. The team captain, normally the senior PSA, will devise the overall review program, make assignments to the individual team members, and coordinate and monitor accomplishments. He/she is also responsible for the preparation and signing of the CPSR report, which is transmitted to the ACO after review by the appropriate CPSR Board. It is the ACO's responsibility to review the recommendations in the CPSR report to determine the appropriate action to be taken to correct any deficiencies and to so advise the contractor.

### 5-1302.3 Auditor Participation on CPSR Teams

a. Coordination with the PSA. The cognizant audit office will appoint an auditor to participate as a team member on initial and subsequent CPSRs or in the continuing surveillance process if used in lieu of a subsequent CPSR. Since the auditor and PSA have related responsibilities, it is imperative

that they coordinate and correlate their activities to avoid duplication. The review program should be sufficient in scope to be responsive to the needs of both procurement and audit. The CPSR should make full use of day-to-day work performed by the auditor as an integral part of the contract audit mission. Maximum use should be made of the auditor's past audits and evaluations, and results of other audit work which bear upon the effectiveness of the contractor's purchasing system. See 4-1000 for documentation requirements when relying upon such work.

b. Auditor's Role. The auditor will be responsible for the timely performance of those areas specifically assigned by the CPSR team captain.

c. Auditor Performance and Supervision. The auditor will be responsible for the preparation and execution of detailed audit programs for all areas assigned by the team captain. Technical direction will be provided by an audit supervisor. The team captain will correlate the efforts and monitor the accomplishments of the auditor and other team members to the extent necessary for effective coordination of the overall review. During the audit, the auditor should discuss audit findings with the contractor in accordance with 4-300. After the auditor's findings and recommendations are developed, they will be reviewed with the audit supervisor and furnished in draft form to the team captain prior to completion of the in-plant effort of the CPSR team, to enable the team captain to conduct the exit conference with the contractor.

d. Reports and Working Papers. The FAO will retain the detailed working papers covering DCAA's part of the review, and submit a complete written report to the team captain setting forth the findings and recommendations in such form and detail as required for the survey report. The auditor's report will be formally issued by the appropriate audit office as soon as possible after the exit conference with the contractor. The team captain will also be provided with any summary schedules and/or copies of working papers required for consolidation of statistical data or as additional supporting documentation for the survey file.

e. Differences Between Audit and ACO Personnel. Differences between the auditor and PSA, or other ACO personnel, with respect to the delineation of responsibilities, policies, procedures, and other requirements related to the CPSR which cannot be resolved locally will be referred to the regional office. The regional office should also be informed of any differences between the auditor and the team captain relating to audit findings, conclusions, and recommendations.

### 5-1302.4 Effect of CPSR on Performance of Audits

a. The auditor should coordinate and seek agreement from the ACO and PSA whenever a review of an area affecting the CPSR is contemplated. At contractor locations where CPSRs are regularly performed, the auditor should obtain copies of reports and memorandums issued by the PSA and the ACO. Such items include the CPSR and final summary reports and notifications relating to the approval of the contractor's purchasing system. Based upon DCAA's prior participation in the CPSR and a review of these reports and documents, the auditor will determine the extent to which the work performed under the CPSR meets the audit objectives established in the functional areas enumerated in 6-300 for purchased material and service costs. See 4-1000 for documentation requirements when relying upon the work of others.

b. Where the scope of coverage in the CPSR is considered sufficient to support a conclusion that the policies, administrative procedures, and control activities in a related functional area are well defined, reasonable in concept, and effectively implemented, the audit program need provide for only minimum substantive testing. When the policies and procedures are not adequate, the audit program should provide for increased substantive testing. Perform substantive testing and verification of individual transactions in the functional area commensurate with the degree of reliability that can be placed on the control activities. In developing tests of transactions, the auditor should consider the items and periods covered by the CPSR and not duplicate this work.

c. Where a current evaluation of a contractor's purchasing system is needed for audit purposes and a CPSR has not been recently performed, the auditor should coordinate this need with the ACO and should give due consideration to the timing and scheduling of the next CPSR in planning an audit of purchased material and service costs.

d. PCOs may make requests to the auditor for information pertaining to the adequacy of the contractor's purchasing system even though FAR 44.302 does not require a CPSR at the contractor's location. After appropriate coordination with the cognizant ACO, auditors will be responsive to such requests. The results of recent activity or functional surveys or other audits can serve as the basis for the auditor's reply. However, if the request from a PCO is in effect a request for performance of a CPSR as contemplated by FAR/DFARS 44.3, the auditor will refer such request to the cognizant ACO.

## 5-1303 Review of Contractor Insurance Cost and Pension Cost

Basic audit requirements for the review and evaluation of indirect costs are found in 6-600, with additional coverage of insurance and pension costs in 7-500 and 7-600 respectively. DFARS 242.73 sets forth the requirements for conducting Contractor Insurance/Pension Reviews (CIPR). The DFARS, as revised on July 29, 1998, requires that:

(1) a CIPR be conducted based on need (rather than every two years as required by the prior DFARS,

(2) a special CIPR be conducted under certain circumstances and

(3) DCAA perform audits for compliance with Cost Accounting Standards.

The auditor should consider data developed during previous audits of these areas in establishing the scope of audit effort related to a CIPR. Conversely, the results of the CIPR should be fully integrated in planning the coverage of future reviews of pension and insurance costs. See 4-1000 for documentation requirements when relying upon such work.

### 5-1303.1 Insurance/Pension Team Reviews

a. Defense Logistics Agency is the DoD Executive Agency for the performance of all CIPRs. CIPRs are performed on an as needed basis. DFARS 242.7302 provides that a CIPR be performed when two conditions are met. First, a contractor has $40 million of annual government sales on prime contracts, subcontracts and contract modifications that are negotiated using cost or pricing data or that are priced on other than a firm-fixed-price or fixed-price with economic price adjustment basis. Second, the administrative contracting officer determines that a CIPR is needed based on a risk assessment [see c below]. A CIPR consists of a thorough evaluation of a contractor's corporate insurance programs, pension plans, and other deferred compensation plans, including policies, procedures, practices and costs, to determine whether they are in compliance with CAS and FAR provisions and pertinent contract clauses.

b. A special CIPR may also be performed on the insurance and pension programs of those contractors that do not meet the criteria established for a CIPR. A special CIPR may be performed when any of the following circumstances result in a material impact on government contracts: (i) information reveals a deficiency in the contractor’s insurance/pension program, (ii) the contractor proposes or implements changes in its insurance, pension, or deferred compensation plans, (iii) the contractor is involved in a merger, acquisition, or divestiture, or (iv) the government needs to follow up on contractor implementation of prior CIPR recommendations.

c. The ACO determines the need for a CIPR or special CIPR. As an advisor to the ACO, the auditor should notify the ACO of the need for a CIPR or special CIPR based on a risk assessment performed during the annual planning process or at the beginning of each insurance and pension audit. In addition, when the auditor identifies a potential risk or an event that requires the assistance of a DLA insurance/pension specialist, the auditor should send a request to the ACO and provide a

copy of the request to the cognizant DLA insurance/pension specialist (I/PS). The request should identify the area of risk and the time period that assistance of the I/PS will be needed. The CIPRs or special CIPRs may be performed in conjunction with incurred cost audits, forward pricing audits, or CAS compliance audits. Examples of effective use of CIPRs are to determine the reasonableness and propriety of group insurance reserves, the reasonableness of settlements of workers compensation claims, the recognition of unrealized appreciation of assets in contractor pension trusts, the proper measurement of pension plan liabilities in a segment closing, whether segment accounting is required, and the impact of full funding limitation on forward pricing.

d. The ACO is responsible for notifying the contractor of pending insurance and pension reviews and for arranging for the contractor to furnish information required, such as a schedule of insurance coverage, copies of pension plans, and related cost information.

e. To ensure timely and responsive CIPRs and special CIPRs, the Regional Special Programs Office should:

(1) Identify when FAOs have requested a CIPR or special CIPR.

(2) Obtain and maintain a current schedule of DLA CIPRs.

(3) Coordinate the CIPR schedule with the FAO and ensure that DCAA participation is planned and scheduled.

(4) Notify Headquarters, PAC if any FAO is unable to participate in a scheduled CIPR.

(5) Establish procedures for monitoring the progress of scheduled reviews.

(6) Review significant issues identified during the CIPRs and special CIPRs.

f. CIPRs are conducted by joint teams that are generally under the direction of a DLA Insurance/Pension Specialist (I/PS). The team will normally consist of the I/PS, the cognizant auditor, and other specialists required in the circumstances. The I/PS usually serves as team captain and is responsible for maintaining complete documentation for CIPR reports, resolving discrepancies between audit reports and CIPR draft reports prior to releasing the final CIPR report, preparing and distributing the final CIPR report, providing the final audit report as an attachment to the CIPR report and preparing a draft letter for the ACO's use in notifying the contractor of CIPR results. The CIPR report is addressed to the cognizant ACO, with a copy furnished the auditor. Upon receipt of the CIPR report, the ACO is then responsible for transmitting it to the contractor for reply.

## 5-1303.2 Auditor Participation on CIPR Teams

There are currently two joint CIPR programs available on the DCAA Intranet and the APPS. Review steps can be added or deleted from the joint CIPR programs as needed to address the specific areas of audit risk. The first program (File "JNT CIPR PEN" Version 1.1, dated July 1, 1998) is for performing a joint CIPR for incurred pension costs, which includes steps for determining compliance with CAS 412 and 413. The second program (File "JNT CIPR SEG" Version 1.0, dated February 20, 1998) is for performing a joint special CIPR for the adjustment of pension cost required by CAS 413-50(c)(12). The programs are guides to establish review steps and assign the CIPR team member responsible for performing each review step identified. The auditor should identify audit steps needed to meet DCAA audit objectives and coordinate with the DLA pension specialist to establish the responsibility for each CIPR team member. If the scheduled date for a CIPR cannot be met because of other urgent priorities, the ACO and the DLA insurance/pension specialist should be advised accordingly and an alternative date suggested. In view of the interrelationship of auditor, ACO and I/PS responsibilities in the area of insurance and pensions, efforts must be coordinated very carefully to avoid duplication. While the scope of the auditor's program should be responsive to the needs of the ACO and the I/PS, it should also reflect due consideration for previous audit experience with respect to these costs.

a. The designated DCAA auditor will participate on the CIPR team, providing

advice and information in a separate report to the CIPR team leader based on the analysis of the contractor's books, accounting records, and procedures. As a minimum, DCAA participation in the performance of a CIPR should include the following:

(1) Meet with the DLA insurance/pension specialist and ACO. The meeting should include (i) a discussion of how the review will address known problems and concerns, (ii) the planning and scheduling of review steps using the Joint CIPR Program or identifying of review steps that will need to be performed, (iii) identifying the team member responsible for performing the identified review steps, and (iv) the coordination of data requests between the CIPR team participants.

(2) Elevate to the region any differences with respect to the delineation of responsibilities, policies, procedures, and other issues which cannot be resolved locally by the ACO and FAO management.

(3) Participate in an entrance conference with the contractor.

(4) Conduct joint review and discuss findings and concerns among the CIPR team members as the review progresses.

(5) Meet with DLA insurance/pension specialist near the end of the review to discuss findings.

(6) Coordinate a draft audit report before providing it to the contractor for comment, and review and provide comment on a draft CIPR report.

(7) Conduct exit conference with the contractor.

(8) Provide a copy of the draft report to the contractor. Request contractor comments.

(9) Issue a separate report (as needed) to the ACO for all CAS and FAR noncompliances disclosed during the CIPR.

b. Auditor performance and supervision will be accomplished in accordance with 5-1302.3c.

c. Reports and working papers will be prepared and processed in accordance with 5-1302.3d.

### 5-1303.3 Effect of the CIPR on Subsequent Audits

a. The results of CIPRs are an important factor in determining the extent to which insurance and pensions are given audit coverage under Chapter 6, 7-500, and 7-600. The auditor should maintain appropriate follow-up on prior CIPR findings and recommendations (see 14-504). When the CIPR discloses that the contractor's insurance and pension programs are reasonable and effectively maintained, and assuming no significant change in conditions since the previous CIPR, the audit program will be revised to reflect the findings of the CIPR. Conversely, when significant deficiencies had been disclosed by a previous CIPR, the auditor should verify corrective action taken. If corrective action has not been accomplished, the auditor should ascertain the reason(s) for inaction. The ACO should be advised and the audit scope appropriately adjusted. If the scope of the previous CIPR was limited and did not provide an adequate basis for an audit conclusion as to the allowability of the costs generated by the insurance and pension areas in their entirety, the audit program should provide for the additional review necessary to accomplish those objectives. If circumstances indicate that additional review of the contractor's insurance or pension program is needed, the ACO should be requested to initiate a CIPR in accordance with DFARS 242.7301(b) (see 5-1303.1b).

b. In establishing the time frame for cyclic audit coverage of insurance and pension costs, the auditor should contact the I/PS to ascertain the timing of future CIPRs. The planning for audit coverage of insurance and pension costs should be coordinated with the scheduled CIPRs.

# 5-1400 Section 14 --- Audit of Information Technology Systems Application Internal Controls

## 5-1401 Introduction

a. This section provides guidance for reviewing application-specific information technology (IT) internal controls to evaluate the adequacy of the contractor's computerized accounting system and subsystems and assess control risk related to the allowability and allocability of costs charged to government contracts. The guidance in this section is applicable to all application systems and subsystems regardless of the environment in which they operate. It is applicable to application systems and subsystems processing in centralized IT operations, distributed processing environments, local/wide area networks (LAN/WAN), or client/server systems. See the IS Knowledge Base available on DCAA's Intranet for further guidance on reviewing IT systems.

b. Refer to 5-101 for the auditor's fundamental requirements on obtaining and documenting an understanding of a contractor's internal control and assessing control risk.

c. The guidance should be applied selectively, giving consideration to the unique aspects of the in-place data processing system and areas judged to be relatively high risk.

## 5-1402 Background Information

a. IT application internal controls are normally divided into three categories: input controls, processing controls, and output controls. To give effect to more specific elements of the overall process, there is a further subdivision of access controls and controls over the error correction and submission process within each specific application system or subsystem.

b. Access controls provide safeguards to insure that IT resources are properly utilized. Effective access controls will assist in the prevention or detection of deliberate or accidental errors caused by improper use or manipulation of data files, unauthorized or incorrect use of a computer program, and/or improper use of computer resources.

c. Data input controls are designed to provide reasonable assurance that data received for processing have been properly authorized, converted into machine sensible form and identified, and that data have not been lost, suppressed, added, duplicated, or otherwise improperly changed. Input controls include controls that relate to rejection, correction, and resubmission of data that were initially incorrect.

d. Processing controls are designed to provide reasonable assurance that electronic data processing has been performed as intended for a particular application.

e. The correction of all errors detected by the system and the resubmission of corrected transactions is a critical process that must be reviewed and controlled. Effective control can be achieved by assigning the responsibility to a specific individual or group. A correction or revision that is entered into the system should be subjected to the same edits and controls that were applied to the original transaction.

f. Output controls are designed to assure the accuracy of the processing results and that only authorized personnel receive the output results. The results of processing can be listings, displays, reports, magnetic files, invoices, checks, or some other electronic media that will serve as input to other systems.

## 5-1403 General Audit Policy

a. Refer to 5-103 for DCAA's general audit policy for the review of contractor accounting and management systems and related internal controls.

b. IT application internal controls meet the definitions of "record" and "data" contained in FAR 52.215-2, Audit and Records- Negotiation, and FAR 52.214-26, Audit and Records- Sealed Bidding. The applicability of these FAR sections is agreed to by contractors when submitting price proposals and executing contracts with DoD components. These contract clauses give the auditor the right of access to contractor records, including IT internal control data, after contract award. Refer to

1-504, Access to Records of Contractor, and 1-505, Other Access to Records Issues - Transfer of Records from Hard Copy to Computer Medium.

## 5-1404 Audit Objectives

The purpose of an audit of IT application controls is to evaluate the adequacy of and the contractor's compliance with the application-specific IT system's internal controls. Refer to 5-104 for DCAA's primary objectives for auditing the contractor's accounting and management systems.

## 5-1405 Scope of Audit

a. While the nature and extent of audit effort depends upon contractor size, amount of government business, and audit risk (materiality and sensitivity), the audit scope should be consistent with the guidance in 5-105.

b. The auditor should consider any IT related outstanding deficiencies identified in the IT general internal control review as well as other accounting and management system audits previously performed. The nature of such deficiencies may affect the scope of the specific IT system being audited. For example, a general internal control deficiency involving an inadequate segregation of duties within the IT group may affect the current review of internal controls within the contractor‘s billing system.

c. The following sections contain general guidance for the audit and evaluation of IT application internal controls. This guidance gives the auditor a framework for the audit, regardless of the specific system under audit. However, this guidance is not a substitute for professional judgment. The auditor should adapt this guidance to fit individual audit circumstances.

## 5-1406 Information Technology System Internal Controls

a. Information and Communication is one of five components of internal control. It is the identification, capture, and exchange of information in a form and time frame that enables people to carry out their responsibilities. Therefore, the information system relevant to cost reporting objectives consists of the methods and records established to record, process, summarize and report entity transactions (as well as events and conditions) and to maintain their accountability.

b. Most information systems involve some computer processing. Although the objectives of computer and manual systems are the same, control activities take on unique characteristics in a computerized environment. The quality of system generated information affects management’s ability to make appropriate decisions in controlling the entity’s activities and in preparing reliable cost data. Therefore, the contractor should include controls in its information processing that check for accuracy, completeness, and proper authorization of transactions.

c. A variety of control activities are performed to check the accuracy, completeness, and authorization of transactions. The two broad groupings of Information Technology System Internal Controls are general controls and applications controls. General controls commonly include controls over data center operations, contingency planning/disaster recovery, system software acquisition and maintenance, access security, and application system development and maintenance. These controls apply to mainframe, minicomputer, and end-user environments. (See 5-400 for a more detailed explanation of general internal controls.)

d. Application controls apply to the processing of individual applications and help ensure that transactions are valid, properly authorized, and completely and accurately processed. If a system is partially or fully automated, appropriate application controls must be evaluated in order to assess control risk at less than maximum. These applications include controls in the areas of access, data input, processing, error correction and submission, and output.

### 5-1406.1 Access Controls

Access controls help ensure that only properly authorized personnel have access

to specific networks, applications, and application transactions. They are designed to prevent or detect deliberate or unintentional errors caused by improper use or manipulation of data files, unauthorized or incorrect use of a computer program, and/or improper use of computer resources. These controls can be manual (i.e. non-automated), physical access, and/or logical access. If manual controls and physical access controls are weak in some areas, logical access controls can act as a compensating control. This includes restricting unauthorized persons from accessing computer data and program files. Access rules can be defined in terms of who can perform specific functions (e.g. add, modify, delete, query), control when these functions can be performed, and limit the selected devices from where these activities can be performed. The contractor's accounting system and subsystems should include an adequate scheme of access controls to ensure that:

a. A user identification code (i.e. logon id) and password are required to access computer programs and data files. By evaluating a system security profile listing, the auditor can often determine if logon id and password rules exist and whether they are adequate to ensure integrity and confidentiality. The system security profile listing should include, at a minimum, user access requirements and user access rights and privileges.

b. System user access rules and profiles reflect the users' actual job duties and responsibilities. Job descriptions should:

(1) be current,

(2) reflect actual conditions and practices, and

(3) be distributed to employees.

c. An adequate segregation of duties, where reasonably possible, exists between data entry, input/output control, systems development, systems maintenance, systems programming, computer operations, and user departments.

d. Terminated and/or transferred employees are removed from the registry of valid and authorized users defined to the system.

e. When appropriate, users are logged out of sensitive applications or off the network after a workstation has been inactive for a predetermined time limit.

f. The specific accounting system/subsystem is designed to record and report all unauthorized access attempts. If security violations are disclosed, they should be followed up on a regular basis.

### 5-1406.2 Data Input Controls

Data input controls help ensure that all input data are authorized and complete, and data are consistently recorded, accumulated, processed, and reported in a controlled environment to produce timely and accurate information. Written procedures for originating, authorizing, collecting, preparing, and approving input transactions to the contractor's accounting system/subsystems should be in place to ensure that:

a. Documentation exists to identify all input data and/or files.

b. There are established authorization procedures for all source documents feeding the system.

c. The functions of originating, approving, and converting source documents into machine-readable data are adequately segregated. If anyone in the data input area performs more than one of the operations related to the origination, entering, processing, or distribution of data, there should be compensating controls for the lack of segregation of duties.

d. All input data is properly authorized, validated, and recorded.

e. All authorized data remains complete, accurate, and valid through the source document origination process.

f. All input data is transmitted in a timely manner.

g. Source documents are periodically reviewed for proper completion and approval.

h. Erroneous source documents are handled appropriately and are not entered into the system.

i. On-line accounting systems/subsystems are designed to address the following additional areas:

(1) The system includes methods to prevent data entry errors such as self-help features, pre-selected formats, menu selections, and operator prompting.

(2) The system includes preventive controls regarding rejection of invalid data (e.g. table lookups, format checks, etc.). The invalid data should be rejected at the point of entry and immediately communicated back to the user.

j. The system includes front-end edits which are automated internal program processing controls in the form of data input, edit, and validation routines. These routines are actually programs that edit the input of data after entry and acceptance by the system, and before processing. The auditor may obtain or prepare a schedule of all appropriate routines currently employed in the system and evaluate them for accuracy and relevancy.

k. An audit trail is maintained during and after data input. The auditor may verify this by tracing a selection of transactions through the system from the point of origination to the point of being captured by the system. Note that in an on-line system the input document may no longer exist. To trace transactions through the system in an on-line environment there must be a transaction trail established. A system-generated Input Log can be used to capture pertinent information for tracing transactions. The Input Log would typically include the following items:

(1) The non-confidential portion of a User ID to identify input operator.

(2) Sequence numbers assigned to each transaction.

(3) An indicator as to type of transaction.

**5-1406.3 Processing controls**

Processing controls in both mainframe oriented legacy systems and client/server based systems provide reasonable assurance that electronic data processing has been performed as intended for the application. The contractor's accounting system/subsystem should include an adequate scheme of controls within the processing cycle to ensure that:

a. All authorized transactions are processed accurately and properly. Controls typically include:

(1) Input control totals, which facilitate the balancing of processing controls.

(2) A reconciliation between manual batch control totals and automated batch control totals.

(3) A verification of run-to-run control totals from one processing job to another before distribution of reports to users.

(4) Programmed routines that check the input data and processing results for completeness, accuracy, and reasonableness (data processing edit and validation routines such as record counts, line counts, and reasonableness and relational tests) are in use.

(5) A periodic user-review of internal tables (used in master file updating) to ensure the accuracy of their values.

b. The system is designed to prevent processing the wrong file. Controls should include:

(1) File library and processing procedures that ensure the appropriate files are processed properly (this can be determined by evaluating a listing of all programmed routines that check to see if proper data files are being used).

(2) The scheduling of computer processing at appropriate times.

(3) Measures to ensure that file checking routines are prevented from being bypassed. This can be determined by reviewing a listing (i.e. SYSLOG) of abnormal terminations caused by operator action. If abnormal terminations were disclosed, determine how the errors were subsequently resolved.

c. The system is designed to detect errors in normal file manipulation and highlight operator-caused errors. Controls should include:

(1) An evaluation of job accounting reports by computer operations supervisors for detection of unauthorized accesses and acts by users, computer operators, and/or others.

(2) An evaluation of the movement and control of data from one computer processing job to another and between or within user departments (when data are moved or passed from one processing job or step to another, control totals should be generated

by the program and verified; data should not merely be moved or transferred from one job or step to another).

d. The system is designed to maintain an audit trail during and after processing. It should include controls that ensure there is no loss of visibility which would hinder audits of transactions. In addition before/after image reporting should be available for all transaction/reference/master file updating activities. These are reports which should show the contents of changed fields before and after each file update. This can be determined by:

(1) Tracing input file after edits to post-processing files.

(2) Comparing, validating, footing and recomputing selected critical data fields or elements with the use of manual and/or automated testing tools.

### 5-1406.4 Error Correction and Submission

Error correction and submission controls help ensure that the system maintains control over all errors detected until the errors have been resolved. The contractor's accounting system/subsystems should have internal controls in place to ensure that:

a. Procedures related to the identification, correction, and resubmission of rejected data are established and documented.

b. Errors are displayed or printed immediately upon detection to facilitate prompt correction.

c. After invalid data has been rejected (see 5-1406.2) it should automatically be written to suspense files identified by application system. This is especially important when errors are corrected on-line due mainly to the access rights provided to many users and the potential for uncorrected errors going undetected. This suspense file provides an audit trail subject to evaluation and should include information such as (i) codes to indicate error types, (ii) date and time at which an entry is written to the suspense files, and (iii) identification of the user who originated the input. Based on information in the suspense file the system should produce follow-up messages and report the status of uncorrected transactions or errors on a regular basis. User department management should review reports from the suspense files to analyze the level of transaction errors and status of uncorrected transactions. The contractor may also decide to age the suspense file transactions and errors.

d. All corrections are reviewed and approved by supervisors before re-entry.

### 5-1406.5 Output Controls

Output controls help ensure the accuracy of the processing result, and assure that only authorized personnel have access to and receive the related output, whether it be printed, displayed in electronic form, or recorded on electronic media. Output could also be electronic input to other related systems. Output controls that could be in use in a typical contractor accounting system/subsystem include the following:

a. Users reconcile input control totals to output control totals via processing control totals. This helps ensure the accuracy of computer program-processing cycle. System generated reports can be used to perform this reconciliation.

b. Data control personnel scan output reports to detect obvious errors such as missing data fields, unreasonable values, and incorrect report format before distributing to users.

c. Verification that adequate identification is made of all reports and items on the reports (e.g., report name and number, date produced, accounting month-end or other effective date, company and department name and number, page number, program number if necessary, end-of-report messages, subtotals, and report totals).

d. Assurance that only authorized users receive the reports. In an on-line environment, ensure that users who are defined to the system have a continuing business need to view the reports.

e. Assurance that output report retention periods are adequate for system backup and recovery, legal, tax, regulatory, management, and audit purposes.

f. Data file integrity is maintained by printing out header and trailer record counts at the end of each output report.

g. Documented output error correction and resubmission procedures ensure error logging and tracking.

h. Periodic user review of the report balancing rules and reconciliation procedures for accuracy and appropriateness.

### 5-1406.6 Audit Effect of a Weakness in Application Controls

a. The effectiveness of controls in each category should be considered in relation to their impact on the application being reviewed.

b. In evaluating application internal controls, the auditor should consider the following:

(1) The absence of access and input controls may permit transactions to be lost, duplicated, or entered incorrectly. This could seriously affect financial results or cost representations.

(2) Lack of control over the error correction and submission process, as well as other processing control weaknesses, could result in lost or duplicate records or out-of-balance financial records or cost representations.

(3) Output control weaknesses can have serious audit implications. Be aware of increased potential for errors when distribution of output is not adequately controlled, especially when the output consists of checks, invoices, or other sensitive information.

## 5-1407 Internal Control Reporting

The auditor should follow the guidance in 5-110, 10-200 and 10-400 for reporting on internal controls relative to the contractor's accounting and management systems and subsystems.