

**INTERNAL CONTROL MATRIX FOR
AUDIT OF MATERIAL MANAGEMENT AND ACCOUNTING SYSTEM CONTROLS**

Version No. 4.0

July 2004

<u>Control Objectives</u>	<u>Control Activities</u>	<u>Audit Procedures</u>
1. SYSTEM DESCRIPTION		
MMAS standard 1 requires the contractor to provide an adequate system description including policies, procedures, and operating instructions compliant with FAR/CAS criteria as interpreted by this guidance for all elements of affected cost.	Establish and maintain descriptions of the major manual and automated systems that comprise the MMAS.	a. Obtain the contractor's self assessment of its system description; including written policies, procedures, and operating instructions for its MMAS(s). Document deficiencies found by the contractor and the corrective actions taken/anticipated.
		b. Document in the working papers your evaluation of the system description including policies, procedures, and operating instructions including:
		(1) Whether they provide sufficient information to allow one to obtain a thorough understanding of the way the system is intended to operate. (2) Potential noncompliances with the standards and your evaluation of the contractor's initial response to these potential noncompliances. (3) Your conclusions on the adequacy of the contractor's policies and procedures, system descriptions, and action plan(s) for keeping them current.
		c. When the system description is considered adequate, determine and document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 - Relying on the Work of Others).
2. MATERIAL REQUIREMENTS		
MMAS standard 2 requires that the costs of purchased and fabricated material charged or allocated to a contract are based on valid time phased requirements as impacted by minimum/economic order quantity restrictions. The primary objective is to ensure sufficient controls are established and being used to assure material costs are valid and time phased. Accurate bills of material (BOM) and master production schedules (MPS) should assure that the	<u>Bill of Material (BOM) Accuracy</u> Establish and maintain policies and procedures for preparing bills of material and periodically testing BOM accuracy.	a. Identify the specific procedures for determining the material requirements and how the procedures and related internal controls ensure that materials ordered and billed to contracts are valid. Coordinate closely with the Government technical representative and document who will perform individual steps.

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contractor's material costs are both valid (a valid requirement for the material) and reasonably time-phased (billed within a reasonable time of the actual need date).		
		b. Evaluate the contractor's selection of appropriate production contract(s) from its self assessment for detailed analysis that procedures are being followed and are working.
		c. Evaluate the contractor's calculation of accuracy of selected BOM(s) and document whether the contractor meets the goal of 98% accuracy.
		d. Determine whether the contractor's evaluation of the individual processes of developing and revising BOMs provides adequate internal control and reasonable assurances that billed materials are needed to fulfill contract requirements and that all required materials have been accurately identified.
		e. Evaluate the contractor's reasons for any errors found in its BOM which the contractor considers excludable in the measurement of accuracy and/or does not result in harm to the system of controls or to the Government.
		f. Evaluate the contractor's identification of those conditions considered deficient and resulting in increased costs to the government and its calculation of the cost impact.
		g. Determine that appropriate adjustments were made to ensure billings are properly adjusted to exclude invalid requirements.
	<u>Master Production Schedule (MPS) Accuracy</u> Establish policies and procedures for the master production schedule and periodic testing of MPS accuracy.	a. Determine that the method used by the contractor ensures that materials will not be received and charged/billed to contracts earlier than is reasonably justified. Coordinate closely with the Government technical representative and document who will perform individual steps.

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		b. Determine the adequacy of the contractor's self-assessment of the procedures and internal controls governing the establishment and revision of available capacity and manufacturing lead and process times.
		c. Determine whether the contractor's scheduling (or related) procedures ensure development of a required material delivery date as close to the manufacturing/assembly need date as possible given the contractor's internal and external market forces.
		<p>d. Analyze the contractor's assessment of information used in the scheduling process compared to what is really being incurred in the department/shops in the following areas:</p> <ul style="list-style-type: none"> (1) Availability of actual capacity. (2) Manufacturing/assembly process times including individual processes, queue times, kitting/staging, etc. (3) Dock to stock which would include time for receiving, inspection, testing, handling, etc. (4) Time in inventory. Analyze the contractor's methodology and justification for the period of time between placement of materials in stores (a holding area) and its actual manufacturing/assembly need date. (5) Expand to other areas you deem necessary to ensure adequate time-phasing. (6) Determine whether the contractor's system is sufficient to: <ul style="list-style-type: none"> - ensure planned lead and process times are consistent with what is being experienced in the responsible department/shop and - provide assurances that material charges are reasonably time-phased.
		e. Evaluate the contractor's justification for costs/billings based on minimum/economic order quantities or other conditions warranting early receipt of material.
e		f. Evaluate the reasonableness of the contractor's

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		<p>analysis of controls over acceptance of early deliveries of materials from vendors.</p> <p>(1) Evaluate the contractor’s selection and analysis of parts for comparing planned receipt dates (due dates which are based on scheduled lead times) to actual receipt dates and identify patterns of “early receipt and billing.”</p> <p>(2) Evaluate the contractor’s justification for early delivery/receipt.</p>
		<p>g. Evaluate the contractor’s calculation of MPS accuracy and document whether the contractor meets the goal of 95% accuracy.</p>
		<p>h. Evaluate the contractor’s identification of those conditions considered deficient and resulting in increased costs to the Government, and its calculation of the cost impact.</p>
		<p>i. Determine that appropriate adjustments were made to ensure billings are properly adjusted to exclude unreasonably time-phased materials.</p>
	<p><u>Justification of Exceptions</u> Ensure that material purchased and charged or allocated to contracts in greater quantities than time-phased requirements are justified.</p>	<p>a. Evaluate the contractor’s policies and procedures to determine if they require the identification, investigation, and appropriate corrective action for materials purchased and charged to contracts in excess of valid time-phased requirements.</p>
		<p>b. Selectively evaluate materials purchased and charged to Government contracts in excess of valid time-phased requirements to determine if they are reasonable or that appropriate adjustments are made to contract billings. The following steps may provide indications of such charges:</p> <p>(1) Evaluate the contractor’s analysis of the internal controls and procedures related to the netting process; also, identify materials/parts for which no requirements exist or for which quantities differ from identified requirements.</p> <p>(2) Evaluate the contractor’s analysis of inventory status data that identified parts having significant</p>

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		<p>positive and negative status that may indicate invalid requirements or unreasonably time-phased materials and problems in the system for determining requirements.</p> <p>(3) Evaluate (a) the methodologies used to charge material/parts to contracts (it may differ by class of material), (b) the cost basis for the charges, and (c) the level(s) at which material/parts charges are identified/recorded to gain an understanding as to how requirements are charged to contracts. Identify data files that contain material/part charges to the contract to identify potential problems relative to reconciliation between contract costs and requirements.</p> <p>(4) Evaluate the contractor's analysis of parts that determine if there appears to be an unusually long period between the time materials were received and the time they were used in the production process (months on hand). Document your agreement/disagreement with the contractor's reasons for materials sitting in inventory for long periods of time, including the basis of your decision.</p> <p>(5) Evaluate the contractor's analysis of inventory turnover.</p> <p>(6) Document your conclusions relative to the contractor's follow-up and treatment of apparent deficiencies found during the above steps.</p>
		<p>c. If the contractor identified deficiencies in its internal controls resulting in a noncompliance to the standard, evaluate the contractor's determination of the potential harm to the Government and its analysis to determine the cause of the deficiencies.</p>
<p>3. <u>SYSTEM MONITORING</u> MMAS standard 3 requires that the contractor's system provide a mechanism to identify, report, and resolve system control weaknesses and manual overrides. As with standards 1 and 4 the</p>	<p>Establish and maintain policies and procedures that describe the how and when operational exceptions are to be identified, reported, and resolved.</p>	<p>a. Determine the sufficiency of the contractor's analysis of MMAS related exception reports and reports that track manufacturing process performance pertaining to the contractor's material system.</p>

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requirements of this standard are an integral part of the evaluation of all standards.		
		b. Evaluate the contractor's review of policies, procedures, and operating instructions.
		c. Evaluate how the contractor selected significant reports and determined that exceptions are adequately identified, reported, and resolved consistent with procedures (testing of the system).
		d. Evaluate the analysis regarding the adequacy of the system to timely identify exceptions such as excess and residual materials, no cost transfers, lost/found parts, etc.
		(1) The analysis should include a determination regarding the reasonableness of the point when excess and/or residual material is made available for transfer (e.g., product delivery, shop order completion, testing completion, etc.). (2) The system should provide for identification and proper disposition of lost/found parts. Evaluate the contractor's analysis to determine how lost and found parts are recorded and reentered into the system.
		e. Where the contractor's analysis identified reports (systems) with a significant number of exceptions, evaluate the contractor's conclusions or corrective action plans.
		f. Evaluate the analysis regarding who has access to and authority to enter data into the system, resolve exceptions, and manually override the system logic.
		g. Determine whether the analysis evaluated whether edit check controls within the system include checks to preclude entry of erroneous data.
		h. Evaluate whether the analysis determined that there are sufficient controls in place that are being used to prevent the ordering and billing of parts over and above contract requirements without sufficient justification.

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		i. Determine whether the analysis included sufficient controls to identify and follow up on costs incurred on spares contracts after parts are delivered.
		j. Evaluate how the contractor reviewed for the possibility of major areas of risk that are not subject to either exception reporting or edit checks.
		k. Evaluate the reasonableness of the contractor's identification of those conditions considered deficient and result in increased cost to the Government, and its calculation of the cost impact.
		l. Determine that appropriate adjustments were made to ensure billings are properly adjusted to account for identified deficiencies causing overbillings.
		m. When the policies, procedures and operating instructions are adequate document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 - Relying on the Work of Others).
<p>4. <u>AUDIT TRAIL</u> MMAS standard 4 requires the contractor to provide audit trails and maintain records necessary to evaluate system logic and to verify through transaction testing that the system is operating as desired.</p>	<p>Systematically perform transaction testing of material costs to ensure that amounts recorded are traceable to source documentation and are processed consistent with system logic.</p>	<p>Perform the following steps to determine contractor compliance:</p> <p>a. For each of the 10 standards, determine the adequacy of the audit trail for allowing the evaluation of transactions/contractor actions of the system(s) under examination.</p>
		<p>b. Determine whether the contractor provided sufficient evidence through transaction testing to show its system is operating as desired.</p>
<p>5. <u>PHYSICAL INVENTORIES</u> MMAS standard #5 provides that a 95 percent inventory record accuracy is desirable in order to assure that recorded inventory quantities reconcile to the physical inventory.</p>	<p>Establish and maintain policies and procedures for receipt and inspection of material.</p>	<p>Perform the following steps to determine contractor compliance:</p> <p>a. Evaluate the contractor's policies and procedures for the receipt and inspection of material to determine if they are adequate to ensure that:</p> <p>(1) All material received is accounted for. (2) Only material meeting agreed-to quantity and quality specifications are accepted. (3) Material returns are properly controlled and accounted for.</p>

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		(4) All material received is transferred to inventory or otherwise accounted for.
		b. Physically observe the contractor's actual material receipt and storage practices to ensure that they are consistent with established policies and procedures.
	Establish and maintain policies and procedures for storage and issuance of material.	c. Evaluate the contractor's policies and procedures for issuing material to the floor to determine if they are adequate to ensure that all issued and returned material is accounted for.
		d. Physically observe the contractor's actual material issuance practices to determine if they are consistent with established policies and procedures.
	Procedures and controls that prescribe how inventory record accuracy is verified as to quantity and physical location.	e. Evaluate the contractor's procedures and internal controls for verifying the quantities of physical inventory. Physical inventories include company owned stock/asset inventory plus contract project inventory. Procedures and internal controls include reconciling the quantities recorded in the perpetual MMAS inventory books and records to the physical count of parts stored in the warehouses or other inventory locations. Coordinate this portion of your audit closely with the Government property specialists as many of the normal reviews performed by them may be of use in your evaluation.
		f. Evaluate the contractor's procedures for validating the overall inventory recorded in the MMAS perpetual inventory books of record, i.e., the value of inventory maintained in the MMAS books of record as represented by quantity multiplied by unit prices. Reconcile inventory recorded in perpetual MMAS inventory books of record to amounts recorded/charged in applicable cost or other appropriate controlling account ledger(s).
		g. Evaluate the contractor's identification of material classification whereby count tolerances are determined by the criticality or materiality of the materials.
		h. Evaluate the contractor's review and justification for

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		established count tolerances.
		i. Evaluate the contractor's method of determining inventory record accuracy.
		j. Determine the reasonableness of the contractor's cycle (periodic ongoing) counts of inventory with emphasis on: (1) Recent results of cycle counts. (2) Cycle count procedures. (3) The basis for count intervals.
	Procedures and controls for making adjustments for the difference between booked and physical inventory counts, to include the costing of such adjustments in the accounting records, if appropriate.	k. Evaluate the contractor's adjustments for differences between book inventory and physical count to ascertain that the contractor has effective internal controls for controlling losses and overages.
		l. Determine the appropriateness of how the contractor handled the effects of physical losses/overages when they occurred, including the contractor's basis for determining whether or not the errors resulted in harm to the Government.
		m. Evaluate the contractor's methodology for costing adjustments to booked inventory. Determine whether the method is consistent, equitable, and unbiased.
		n. Evaluate the contractor's calculation of inventory record accuracy.
		o. Evaluate the contractor's identification of those conditions considered deficient and resulting in increased costs to the Government, and its calculation of the cost impact.
		p. Determine that appropriate adjustments were made to ensure billings are properly adjusted to account for identified deficiencies causing overbillings.
		q. When the policies, procedures and operating instructions for inventory record accuracy are adequate, determine and document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 - Relying on the Work of Others).
6. <u>MATERIAL TRANSFERS</u>		

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The contractor's policies and procedures should provide detailed descriptions of circumstances which will result in manual or system generated transfers of parts.	Descriptions of the circumstances that result in physical and/or financial transfers of parts.	Determine whether the contractor adequately describes circumstances which will result in manual or system generated transfers of parts.
7. MATERIAL COSTING The contractor should maintain a consistent, equitable, and unbiased logic for costing material transactions.	Assure that material transactions are costed using standard or actual costs, or any of the inventory costing methods in FAR 30.411-50(b).	a. Evaluate the assessment of the contractor's procedures and controls for initial charging of material to ensure charges are consistent, equitable, and unbiased and compliant with CAS 411. NOTE: If a CAS 411 compliance examination has been recently performed, the auditor should incorporate the results of that examination into this audit and no further effort should be required.
	Provide clear identification of the costing policy for sensitive areas as identified by the government and contractor.	b. Evaluate the contractor's policies and procedures to determine if they clearly identify the costing policies for sensitive material transactions.
		c. Selectively evaluate sensitive material transactions to determine if they were costs in accordance with established policies and procedures. Several computer software packages are available to assist in this task. These include MS-Excel, MS-Access, DATATRAK, SAS, etc. Contact your Regional IT representative (RSA) if assistance in this area is necessary.
	The system should transfer parts and associated costs within the same billing period or utilize an ACO approved "Loan/Payback" technique.	d. For cost transfers: (1) Evaluate the assessment of the company's description of the material transfer system and the procedures and internal controls governing transfers. (2) Evaluate the contractor's analysis of its detailed transfer listings. Evaluate a sample (sufficient size to provide evidence needed) of transfers in order to determine the cause and reasonableness of the transfers. Evaluate the rationale for continuing high levels of transfers or plans to correct identified deficiencies.

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		<p>(3) Evaluate the contractor's assessment of transfer costing methodology.</p> <ul style="list-style-type: none"> - Determine whether sufficient tests were performed to determine if and when costs are transferred with the physical movement of parts. - Determine whether sufficient tests were performed to ensure the contractor transfers all costs associated with the parts. For example, fabricated parts should be transferred at a value which includes material, labor and related indirect costs. - Determine whether sufficient tests were performed to ensure the contractor's practices are consistent with its stated methodology for initial charges and transfer charges to contracts. - Determine whether sufficient tests were performed to ensure costs are transferred at standard or actual costs using one of the CAS 411.50(b) inventory valuation methods. - If costs are not always transferred at the same time as the part, determine the reasonableness of the contractor's analysis of controls that are in place to ensure that costs are transferred within the same billing cycle or within a reasonable time thereafter. - Determine whether sufficient tests were performed to ensure cost transfers are consistent, equitable, and unbiased. <p>(4) In order to consider audit leads of possible internal control weaknesses, evaluate the contractor's sample (sufficient size to provide evidence needed) of transfer activity used to analyze trends.</p>
		<p>e. <u>For loan paybacks</u></p> <p>(1) Evaluate the analysis of circumstances that result in a loan/payback, including its basis for determining the reasonableness and equitableness</p>

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		<p>of these transactions.</p> <p>(2) Evaluate the analysis of the loan/payback aging report to determine whether the system identifies the borrowing contract and the date the parts were borrowed.</p> <p>(3) Evaluate the tests that provide sufficient evidence that loans do not remain outstanding for unreasonable periods of time.</p> <p>(4) Evaluate the tests that provide sufficient evidence that procedures and controls are in place to correct any overbillings due to loan/payback.</p> <p>(5) Evaluate the tests that provide sufficient evidence that the costs of the replacement parts are charged to the borrowing contract.</p>
		<p>f. Evaluate the contractor's identification of those conditions considered deficient and resulting in increased costs to the Government, and its calculation of the cost impact.</p>
		<p>g. Evaluate the determination that appropriate adjustments were made to ensure billings are properly adjusted to account for identified deficiencies causing overbillings.</p>
		<p>h. When the policies, procedures and operating instructions for inventory record accuracy are adequate, determine and document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 - Relying on the Work of Others).</p>
<p>8. <u>INVENTORY ALLOCATIONS</u> MMAS standard #8 requires that the contractor's system handle allocations of common inventory in such a manner as to preclude improper allocation and costing of allocations.</p>	<p>Procedures and controls exist which provide assurance that allocations from common inventory accounts are based on valid time-phased requirements.</p>	<p>Perform the following steps to determine contractor compliance.</p> <p>a. Evaluate the contractor's analysis to determine the magnitude of contractor cost allocations from common inventories. If allocations are immaterial, further effort may not be required.</p>
		<p>b. Evaluate the contractor's analysis of its procedures and internal controls governing the allocation process.</p>

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		c. Evaluate the contractor's definition(s) and determine that the classifications are appropriate for the types of materials costed as common inventory. Evaluate the contractor's analysis of different classes of materials comprising the common inventory costs that are allocated to contracts. Determine that common materials that have been allocated benefit the contracts charged.
		d. Determine whether the contractor's analysis provides sufficient evidence that allocation methods are compliant with valid time-phased requirements. Allocations should not result in allocations of material costs for which there are no contract requirements or are too far in advance of required production dates without sufficient justification, e.g., availability of quantity discounts, economic order quantities, known or expected vendor problems, etc.
		e. Assess the contractor's analysis of the common inventory being allocated to determine if the pool of common inventory allocated is accurate (refer to MMAS standard 5).
		f. Evaluate the contractor's analysis of the frequency of the billing cycle, and evaluate tests that assure billings show common inventory costs were properly calculated (computerized or manually) and costed on a current basis.
		g. 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.
		h. Evaluate the contractor's identification of those conditions considered deficient. Determine that any adverse cost impact is calculated and that adjustments are made to ensure billings are made to

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		<p>account for identified deficiencies.</p> <p>i. When policies, procedures and operating instructions are adequate, determine and document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 - Relying on the Work of Others).</p>
<p>9. <u>COMMINGLED INVENTORY</u> Where a contractor has commingled inventory, MMAS standard #9 requires adequate controls to ensure material charges or allocations do not compromise the first eight standards.</p>	<p>Policies and procedures for commingled inventories should meet all of the above standards.</p>	<p>Perform the following steps to determine contractor compliance:</p> <p>a. Evaluate the contractor’s analysis of the procedures and internal controls related to the commingled inventory.</p> <p>b. Determine whether the contractor’s internal controls over charging and/or allocation of commingled inventory are sufficient to ensure the requirements of the standards 1 through 8 are met for this portion of the contractor’s material inventory.</p> <p>c. When the system description is considered adequate, determine and document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 – Relying on the Work of Others).</p>
<p>10. <u>INTERNAL AUDITS</u> MMAS standard #10 requires that the system be subjected to periodic internal audits to ensure compliance with established policies and procedures.</p>	<p>Perform periodic evaluations of the MMAS to ensure that:</p> <p>(1) Policies and procedures are compliant with applicable rules and regulations.</p> <p>(2) Policies and procedures have been properly implemented and are operating effectively.</p>	<p>Perform the following steps to determine contractor compliance:</p> <p>a. Determine whether the MMAS is subject to periodic internal audits.</p> <p>b. Evaluate the contractor’s internal audit plan and schedule of completed audits.</p> <p>c. Consider audits performed by functional units that meet the objective of Standard #10.</p> <p>d. 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 this standard. The auditor must be satisfied that the system is subjected to periodical internal audit.</p>

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		<ul style="list-style-type: none"> e. Document the basis for your conclusion that the system is subject to periodic internal audit. f. When the contractor's policies, procedures and operating instructions for internal audits are adequate, determine and document any additional audit steps necessary to express an audit opinion (see CAM 4-1000 – Relying on the Work of Others).