

# Oracle Applications Compliance Statement for a Materials Management and Accounting System (MMAS)

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## **Introduction**

In May 1989, the Ten Contractor Material Management and Accounting System (MMAS) Standards were formally published in the Defense Federal Acquisition Regulation Supplement (DFARS). Subpart 252.242-7004 of the DFARS describes the standards for compliance. In addition, DFARS Subpart 242.72 provides policies, procedures and standards for use in evaluation of a contractors MMAS.

This action followed approximately two years of congressional hearings, meetings, draft legislation and test cases. Drafting the MMAS standards was a joint effort among the OSD, the DCAA and the AIA and established a new level of coordination and cooperation between those government agencies and industry.

This white paper assists government contractors in complying with MMAS standards using a combination of the Oracle Applications system and organizational procedures.

## **Objective of MMAS standards**

The following statement from DFARS Subpart 242.7202 outlines the overall policy or objective of the MMAS standards.

### **242.7202 Policy**

*DoD policy is for its contractors to have an MMAS that conforms to the standards in paragraph (e) of the clause at 252.242-7004, so that the system—*

*(a) Reasonably forecasts material requirements;*

*(b) Ensures the costs of purchased and fabricated material charged or allocated to a contract are based on valid time-phased requirements; and*

*(c) Maintains a consistent, equitable, and unbiased logic for costing of material transactions.*

## **Compliance**

Compliance with the MMAS is implemented in a stepwise manner. The following language, again from the DFARS, describes the compliance requirements.

### **242.7203 Review Procedures**

*(a) Criteria for conducting reviews. Conduct an MMAS review when--*

*(1) A contractor has \$40 million of qualifying sales to the Government during the contractor's preceding fiscal year; and*

*(2) The administrative contracting officer (ACO), with advice from the auditor, determines an MMAS review is needed based on a risk assessment of the contractor's past experience and current vulnerability.*

The Oracle Applications system is an information system, which can be used by a defense contractor to comply with the MMAS standards. The Oracle Applications system cannot be considered compliant out-of-the-box, but rather depends upon the defense contractor's creation of an overall management control system which will be used to demonstrate compliance. The Oracle Applications system programs and supporting documentation will be a core ingredient to be used by the defense contractor in this compliance demonstration.

The following describes how the program logic and Oracle Applications system documentation can be used by a defense contractor to comply with the MMAS standards (Contracts, projects, cost accounts and tasks can be used interchangeably).

## **Paragraph No. 1**

***Have an adequate system description including policies, procedures, and operating instructions that comply with the FAR & Defense FAR Supplement.***

Oracle provides the following documentation which can be used to prepare policies, procedures and operating instructions. Some of these documents are included with the software license while others are obtained through purchased services.

- Oracle Education Student Guides
- Oracle Applications Implementation Guides
- Oracle Applications User/Reference Guides
- Oracle Business Models

Every Oracle customer and alliance partner can send employees to Oracle training classes where students learn how to use and/or implement the application system. Student guides and implementation guides, which supplement lecture training materials, are delivered to all students who attend these classes.

Every Oracle customer who licenses the software system gets a copy of the application reference guides. These guides are available in hard copy, on CD-ROM or can be accessed via on-line help facilities.

Oracle Business Models contain business flow diagrams and describe other system characteristics.

Portions of all of these Oracle documentation tools can be used by the defense contractor to develop a system demonstration document or a demonstration script.

Each defense contractor will also likely have other policies, procedures and work instructions that address MMAS demonstration requirements. All of these materials, taken together should satisfy the requirement for an adequate system description.

## Paragraph No. 2

***Ensure that 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.***

***(i) A 98 percent bill of material accuracy and a 95 percent master production schedule accuracy are desirable as a goal in order to assure that requirements are both valid and appropriately time-phased.***

***(ii) If systems have accuracy levels below these, the contractor shall provide adequate evidence that—***

***(A) There is no material harm to the Government due to lower accuracy levels; and***

***(B) The cost to meet the accuracy goals is excessive in relation to the impact on the Government.***

The Oracle Applications system contains many different forms of material requirements planning (MRP), all of which ensure that the contractor is able to charge or allocate purchased or fabricated materials to a contract on a time-phased basis. The specific MRP policy or method chosen is completely at the discretion of the contractor. Each item master record in the system contains an order policy which works in conjunction with the chosen MRP practice to determine how much of an item is ordered and when it is scheduled for delivery. Furthermore, the contract charge policy is determined by a combination of the MRP method and order policy. The contractor either charges the cost of the material to the contract on receipt or on issue.

At the heart of every MRP based system is the production or as-planned bill of material. The Oracle Applications system contains the as-planned as well as other versions of the bill of material. Users of the Oracle Application system can choose to directly enter the bill of material using on-line data entry functions or can import it from an external product data management (PDM) system.

Regardless of the input method chosen, a full suite of on-line and hard copy reports are available for the contractor to use to compare the as-planned bill of material to source documentation to determine bill of material accuracy.

The Master Production Schedule (MPS) accuracy measurement is initiated by a contractor driven policy statement which states how the contractor converts contract commitments into MPS delivery dates. Compliance is measured by how many times the policy is fulfilled divided by the total number of master schedule entries. On-line and hard copy reports are available from the Oracle Applications system to provide the master schedule delivery dates for the comparison.

### **Paragraph No. 3**

***Provide a mechanism to identify, report, and resolve system control weaknesses and manual override. Systems should identify operational exceptions such as excess/residual inventory as soon as known.***

The Oracle Applications system is delivered with a rigorous security control mechanism, which governs user access to create, update or display data. Users are granted access to menu functions, which provide said data access. Furthermore, the application is engineered to provide additional logical controls which dictate the sequence or frequency with which data can be created or updated. In some cases, manual overrides can occur and in all cases will be recorded in the transaction audit trail.

As described in the response to standard # 2, contractors can choose from among several material planning mechanisms. In some cases, the contractor may wish to plan and control materials by a group of contracts, while others may wish to plan and control by a single contract. In either case, the contractor can choose to have company owned materials, which are planned, allocated and ultimately consumed by each contract. Finally, due to lot sizing policies, residual inventories can exist. Where this is the case, the contractor is instructed via material planner action messages to consume residual inventories before ordering new ones. Standard or user supplied reports exist in the system to display or identify residual or excess materials.

### **Paragraph No. 4**

***Provide audit trails and maintain records (manual and those in machine readable form) necessary to evaluate system logic and to verify through transaction testing that the system is operating as desired.***

The Oracle Applications system contains a comprehensive audit trail of each and every transaction that inserts or updates a row in any database table. This transaction audit trail can be viewed via standard Oracle supplied on-line inquiries or hard copy reports or by user created inquiries or reports. The contractor determines how long the audit trail is retained in the system and also determines how to archive the data purged from active application system tables.

**Paragraph No. 5**

***Establish and maintain adequate levels of record accuracy, and include reconciliation of recorded inventory quantities to physical inventory by part number on a periodic basis. A 95 percent accuracy level is desirable. If systems have an accuracy level below 95 percent, the Contractor shall provide adequate evidence that—***

***(i) There is no material harm to the government due to lower accuracy levels; and***

***(ii) The cost to meet the accuracy goal is excessive in relation to the impact on the government.***

In standard # 2, two building blocks of the time-phased material planning system were introduced. Those are the bill of material and the master production schedule. The third building block is the perpetual inventory system. All of these building blocks must sustain a high degree of accuracy or the planning system will be ineffective. But, for the most part, the system can only go so far to help the company maintain or sustain the needed level of accuracy.

In order to test inventory record accuracy, the contractor must periodically compare what is physically on the stockroom shelf with what is in the inventory record system. This periodic test is called cycle counting. The contractor is allowed some error tolerance, but 95% of the time, the actual to record count must be within the stated tolerance.

Tolerance levels are determined based on the value of the item. A value category called the ABC code is assigned to each inventory item. The highest value items are designated with “A” and the lowest value items get a “C”. The highest value items are also tested more frequently than the low value ones.

The contractor has some latitude in setting tolerances and count frequencies. The following table illustrates how one company implemented those tolerances and frequencies:

<b>ABC Category</b>	<b>Count Tolerance</b>	<b>Count Frequency</b>
A	None	4 months
B	+/- 2%	8 months
C	+/- 5%	12 months

A typical characteristic of inventory is that a small population of parts is in the A and B categories -- 5 to 15 percent but they frequently represent 80 to 85 percent of the total inventory value. Those statistics explain why the count frequencies are high and the tolerances are low for A and B class items.

The Oracle Applications system supports cycle counting. An ABC code is assigned to each inventory item and reports can be printed to identify which parts should be counted during the next cycle count testing period (Note: The Oracle Applications system supports more codes than the traditional A, B, and C codes). Special inventory account receipt and issue transactions are entered which indicate the adjustments to inventory where appropriate.

## **Paragraph No. 6**

***Provide detailed descriptions of circumstances, which will result in manual or system generated transfers of parts.***

Within the Oracle Applications system, material transfers can occur using:

- Permanent transfers; or
- Temporary transfers; or
- Move orders

All transfers can only be executed by authorized users.

Permanent transfers can occur between contracts and result in an associated cost transfer for the materials that are being transferred. These transfers are executed manually using material transfer transactions (contract to contract transfer, common to contract transfer, contract to common transfer).

Temporary transfers can occur between contracts using a borrow/payback scenario. A temporary transfer implies that the receiving contract is borrowing the material and intends to return it at the original value once its supply is received.

Temporary transfers are reported by user definable aging buckets and are fully traceable to the originating transaction. Temporary payback transfers can also be rescheduled by authorized users if this is desired.

With regard to temporary and permanent transfers, the before mentioned circumstances must be incorporated in the contractors Cost Accounting Standard (CAS) disclosure statement.

Move orders can be used to route material between physical locations (subinventory, locator). Move orders for contract material are restricted to contract locations, hence no commingling violations occur in the system.

## **Paragraph No. 7**

***Maintain a consistent, equitable, and unbiased logic for costing of material transactions as follows:***

***(i) The contractor shall maintain and disclose a written policy describing the transfer methodology and the loan/pay-back technique.***

***(ii) The costing methodology may be standard or actual cost or any of the inventory costing methods in 48 CFR 9904.411-50(b). The Contractor shall maintain consistency across all contract and customer types, and from accounting period to accounting period for initial charging and transfer charging.***

***(iii) The system should transfer parts and associated cost within the same billing period. In the few instances where this may not be appropriate, the Contractor may accomplish the material transaction using a loan/pay-back technique. The “loan/pay-back technique” means that the physical part is moved temporarily from the contract, but the cost of the part remains on the contract. The procedures for the loan/pay-back technique must be approved by the ACO. When the technique is used, the Contractor shall have controls to ensure—***

***(A) Parts are paid back expeditiously;***

***(B) Procedures and controls are in place to correct any over billing that might occur;***

***(C) Monthly, at a minimum, identification of the borrowing contract and the date the part was borrowed; and***

***(D) The cost of the replacement part is charged to the borrowing contract.***

The Oracle Applications system supports the Perpetual Weighted Average Actual Costing methodology. Where the part is subject to contract (contract group, project, or cost account) ownership, a unique Weighted Average Unit Cost can exist for each unique occurrence of contract ownership of that part. This method of Perpetual Weighted Average Actual Costing is fully compliant with inventory costing methods outlined in 48 CFR 9904.411-50(b).

All permanent and temporary material transfers (see paragraph # 6 for an explanation of permanent and temporary transfers) result in a transfer of costs between contract cost accounts that are defined for each individual contract.

- (i) Where the transfer is permanent the transfer-from contract weighted average value of the part is credited from the transfer-from contract and the same amount is debited to the transfer-to contract.
- Where the transfer is temporary the transfer-from contract weighted average value of the part is credited from the transfer-from contract and the same amount is debited to the transfer-to contract. When the temporary transfer is reversed, the original transfer-from value of the part is transferred from the transfer-to contract back to the transfer-from contract. Any variance is charged to the borrowing contract.

All permanent and temporary transfer transactions are recorded in the Oracle Applications database. The contractor can view or print a report from the database that would identify all borrows which have not been accompanied by a payback transaction, grouped by aging bucket.

Finally, when materials from non-contract (common) inventory are issued to a contract owned production order, the current weighted average cost of the part is credited from the non-contract inventory and debited to the contract inventory.

#### **Paragraph No. 8**

***Where allocations from common inventory are used, have controls (in addition to those in paragraphs (e)(2) and (7) of this clause) to ensure that--***

***(i) Reallocations and any credit due are processed no less frequently than the routine billing cycle;***

***(ii) Inventories retained for requirements, which are not under contract are not allocated to contracts; and***

***(iii) Algorithms are maintained based on valid and current data.***

The Oracle Applications system allows the contractor to hard or soft allocate inventory to a contract. When material is soft allocated, it is reserved for use by a contract but not actually owned by the contract until it is issued or consumed. The time-phased material planning process reserves the inventory on a first need first use basis and ensures that an adequate supply of said inventory will exist to meet contract demands.

In the Oracle Applications system, hard allocated inventory is eligible for progress billings while it is being produced or when it is acquired. Soft allocated inventory is also eligible for monthly progress billing either when it is purchased, while it is being produced or when it is consumed.

Each contractor must create a policy, which dictates how to treat soft allocated inventory when creating progress-billing invoices. As with other paragraphs in the MMAS standards, this policy must be implemented in a fair, equitable and unbiased manner.

### **Paragraph No. 9**

***Regardless of the provisions of FAR 45.505-3(f)(1)(ii), have adequate controls to ensure that physically commingled inventories that may include material for which costs are charged or allocated to fixed-price, cost-reimbursement, and commercial contracts do not compromise requirements of any of the standards in paragraphs (e)(1) through (8) of this clause. Government-furnished material shall not be—***

***(i) Physically commingled with other material; or***

***(ii) Used on commercial work***

The Oracle Applications system provides for several versions or methods of commingling, which can be categorized as inventory or supply order commingling.

Inventory commingling occurs when inventory, hard allocated to two or more contracts or soft allocated is stored in the same physical inventory location. The Oracle Applications system permits inventory commingling. However, when a contractor practices inventory commingling, they distinguish ownership of the parts. One way to distinguish ownership is to physically mark the material. Another way to distinguish ownership is to store the material in separate inventory locations. In either case, the Oracle Applications system will enforce unique contract ownership for hard pegged material.

The Oracle Applications system supports several different forms of supply order commingling for hard pegged material. When initially defining a contract, the contractor can combine contracts into contract groups. The Oracle Applications material planning system will commingle production and procurement supply orders within contract groups for hard allocated material. After releasing the planned order to production, an authorized user can issue hard pegged material from one contract to another if the appropriate system parameter allows the user to perform this transaction. If this transaction is allowed, the system will automatically generate the appropriate cost transfer transactions between the contracts. If this transaction is not allowed, an authorized user can manually perform a permanent transfer from one contract to another. The material in the receiving contract can then be issued to the respective work order.

Where the contractor acquires government furnished materials, it is recommended that they be treated as hard pegged items to ensure contract ownership. The contractor must then physically separate those parts from parts belonging to other contracts. Once the item is hard pegged, it can only be used by the owning contract or cost account. If that owning contract is part of a contract group and the contractor has elected to use contract group planning, the contractor must be sure that government and commercial contracts are not included in the same contract group.

For common material (soft allocated), the labor, material and overhead costs incurred on a supply order are shared across all contracts covered by the supply order on a fair and equitable basis. The value for common material is transferred to the receiving contract upon issuing this material to the contract owned work order.

### **Paragraph No. 10**

***Be subjected to periodic internal reviews to ensure compliance with established policies and procedures.***

Paragraph # 10 suggests that each contractor implement an internal audit procedure. The demonstration document described in paragraph # 1 used in conjunction with audit reports specified in paragraph # 4 should lead the contractor to develop internal audit policies and procedures which ensure compliance. Paragraph # 10 also states that the contractor's materials management and accounting system will be subject to periodic audits by the Defense Contract Audit Agency.

## **References**

- (1) Defense Federal Acquisition Regulation Supplement Subpart 242.72-- Contractor Material Management and Accounting System.  
(Revised December 13, 2000)
  
- (2) Defense Federal Acquisition Regulation Supplement Subpart 242.7202- Contractor Material Management and Accounting System Policy Statement.  
(Revised December 13, 2000)
  
- (3) Defense Federal Acquisition Regulation Supplement Part 252 – Solicitation Provisions and Contract Clauses, and Subpart 252.242-7004 – Material Management and Accounting System.  
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