



**DEPARTMENT OF THE ARMY**

U.S. Army Corps of Engineers  
WASHINGTON, D.C. 20314-1000

REPLY TO  
ATTENTION OF:

CELD-MS (700)

27 OCT 1998

**MEMORANDUM FOR SEE DISTRIBUTION**

**SUBJECT: Inventory Management Implementation Plan Training Deployment**

1. Reference CELD-MS memorandum 20 Oct 98, subject: Management of Material and Repair Parts.
2. In the above reference, the Commanding General forwarded an approved concept to improve management control, and the accountability of material and supplies held in inventory. This project will utilize the CEFMS Inventory Module to support all management levels. We request your help in the execution of this project.
3. During Phase 1, new inventory acquisitions will be performed using the CEFMS Inventory Module. Inventory items currently on-hand such as, repair parts/components, spares with a unit value equal to or greater than \$10K will be recorded in CEFMS. Other items without regard to unit value must also be recorded in CEFMS based on the following criteria: items identified as mission critical, long lead items, and items with safety, legal, or environmental impacts. Commanders have the option to approve additional items when economical and necessary. In addition, Commanders will name an accountable officer to manage inventory assets. During Phase 2, an evaluation will be made to determine if additional items need to be recorded, and disposal actions should be initiated for unneeded items.
4. The scope of this project affects all functional areas in the Corps. Team members outside of the logistics community must be part of this project, including functional participation from Civil Works Operations, Information Management and Resource Management. This group will also include those individuals who have the responsibility to either directly manage inventory assets or maintain the databases. Team members must have a working knowledge of CEFMS.
5. The training will utilize internet based training modules covering the CEFMS Inventory Management Module Screens, Inventory Data Conversion Process, and Inventory Accounting Policy. These modules will be available for use on 19 November 1998. These modules will be used to train all affected personnel.

CELD-MS

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6. The enclosed implementation plan is provided for your use. This plan is also available on the HQUSACE Logistics Home Page, which can be found at <http://www.hq.usace.army.mil/celd/inv.htm>.

7. This project will have a major impact on our business processes and daily operations. Your support is critical to the success in executing this effort and in gaining positive control over our inventory. Point of contacts are Ms. Debra Simms, (202) 761-8772 or Mr. Jeff Davis, (202) 761-1620.

FOR THE COMMANDER:

Encl

  
GARY L. ANDERSON  
Directorate of Logistics

DISTRIBUTION: (see page 3)

# INVENTORY MANAGEMENT

## IMPLEMENTATION PLAN

**PURPOSE:** Define strategy for implementing the CECG approved concept for managing material and repair parts held in inventory. The primary management tool is the CEFMS Inventory Management Module which will serve as the standard to gain control and accountability of all inventory assets.

**OBJECTIVE:** Ensure USACE-wide implementation NLT 30 Jun 99.

### REFERENCES:

- a. ER 700-1-1, USACE Supply Policies and Procedures.
- b. ER 37-2-10, Chapter 13, Accounting and Reporting – Civil Works Activities.
- c. DOD 4160.21-M, Defense Utilization and Disposal Manual.
- d. Federal Property Management Regulations, Title 41, Chapter 101.
- e. TM 38-400, NAV SUP PUB 572, AFMAN 23-210, MCO 4450-14, DLAM 4145.12,  
Joint Service Manual for Storage and Materials Handling.

**CONCEPT:** The following summarizes the implementation concept for transitioning inventory items into CEFMS warehouse accounts.

a. The project will be implemented in two primary phases. During Phase 1, the following repair parts/components will be recorded in CEFMS:

(1) Items with a unit value equal to or greater than \$10K;

(2) Mission critical items (determined by the local commander), defined as long lead time items acquisition lead-time greater than 120 days), items required to prevent mission failure, ensure safety, meet legal and/or environmental requirements regardless of dollar value. Commanders may maintain additional items when economical and necessary. **The basic rule is that if an item can be obtained in time to prevent mission failure, it should not be stocked. Only items that must be on hand to ensure mission success should be approved.** During Phase 2, an evaluation will be made to determine additions and/or subtractions from approved stockage lists.

b. USACE activities will determine and analyze current inventory items to scrub and dispose of any items that cannot be identified, are excess to current needs, have exceeded shelf life or are no longer usable.

c. Input to the CEFMS Inventory Management Module for revolving fund items those usable revolving fund-financed items (i.e., items financed by plant, shop/facility accounts, etc.) which are not currently carried in the accounting records at the current fair market value. Subsequently, these can be issued to multiple civil works or revolving fund customers.

d. Place ("found-on-works") usable project-financed items which are not currently carried in the accounting

records into the appropriate civil works project warehouse inventory at their current fair market value for subsequent issue to the appropriate project work item and/or feature/purpose.

e. In order to simplify the inventory classification process:

(1) Inventory items located in revolving fund warehouses, buildings, structures, etc., or on revolving fund floating plant will be classified as revolving fund-financed inventory items, unless there is documented evidence that the items were purchased with project funds.

(2) Inventory items not currently being carried in the accounting records as warehouse inventory, located at project sites, and/or stored in project owned/operated facilities will be classified as project financed inventory items. (That is, unless there is documented evidence that the items were purchased by the revolving fund and simply pre-placed at the project site for convenience.)

f. Once inventoried, screen supply-type items (nuts, bolts, lubricants, etc.) and spare parts (lock gates, generators, turbines, etc.) in the Civil Works project warehouses to identify items common to multiple projects. Evaluate these items to determine whether or not they should be stocked by the revolving fund as inventory in the future. If so, plan for a transition that would allow the existing project-owned stock to be depleted and replenishment stock acquired by the revolving fund.

g. Establish future inventory levels, economic order quantities, etc., for these items concurrently. If these cannot be established, determine whether the items should continue to be carried as inventory or reclassified as bench/cupboard stock. Set future inventory levels accordingly.

**METHODOLOGY:** HQUSACE will provide training tools for Divisions, the Research and Development Center, other Centers and FOAs to use in implementing this concept. These will include training modules for: CEFMS Inventory Management Modules; Automated Data Conversion Process; Accounting Policy. Commanders of these organizations will in turn, provide training to district and project personnel. HQUSACE will provide a "help desk" for assistance as required particularly for the data conversion process. As required, on-site assistance will be provided for specific problems.

## **RESPONSIBILITIES:**

### **Commanders:**

Commanders will personally approve stockage lists and levels. Hold stocks to the minimum. The basic rule is that if an item can be obtained in time to prevent mission failure, it should not be stocked. Only items that must be on hand to ensure mission success should be approved. Commanders will:

- Assess baseline inventory and warehouse requirements.
- Conduct physical inventory of on-hand repair parts and materials. During Phase 1, repair parts/components with a unit value equal to or greater than \$10K will be recorded in CEFMS. It will also include mission critical items (determined by the local commander), that are defined as long lead items (acquisition lead-time greater than 120 days), mission failure, safety, legal and environmental items regardless of dollar value. For "optional items", the commanders has the option to maintain additional items when economical and necessary. During Phase 2, the evaluation will be made to determine if additional items need to be stocked.
- Establish physical location of stock in accordance with TM 38-400, NAV SUP PUB 572, AFMAN 23-210, MCO 4450-14, DLAM 4145.12, Joint Service Manual for Storage and Materials Handling.

This manual supercedes DOD 4145.19-R-1, Storage and Materials Handling. However, proponent for DOD 4145-R-1 has been unable to rescind this regulation therefore, the DOD Publication Office continues to list regulation as active.

- Define area of functional responsibility.
- Appoint an accountable officer. The definition for an accountable officer is a person that has been assigned and obligated by lawful order or regulation to keep and accurate record of property, documents, or funds. Commanders will formally assign accountable officers the responsibility of property in his/her control (not necessarily in their possession). The accountable officer can further assign responsibility to someone else.
- Ensure that the accountable officer appoints ordering and receiving officials.
- Apply data conversion requirements for inventory assets.
- Record all items in project inventory management module unless otherwise identified as revolving fund.
- Provide trainers who will receive training from HQUSACE and provide training to others on CEFMS inventory management modules along with inventory and financial management procedures and policies.
- Assist with the implementation of the warehouse inventory program.
- Evaluate use of revolving fund for common items after all projects within a district are fully implemented.
- Evaluate policy for common items.
- Commanders will review management reports with their accountable officers at least quarterly.

#### **HQUSACE Actions:**

- Training material will be provided through the Internet.
- Will provide assistance in converting existing data into CEFMS Inventory Module and man help desk.
- Host "Kick-off" video-teleconferencing session on 19 Nov 98 with MSCs/Centers/FOAs.
- Conduct a one-time video-teleconferencing session on 2-3 Dec 98 with MSCs/Centers/FOAs to discuss any issues concerning the implementation effort.
- Provide monthly progress updates to the Command Group.
- Develop after-action report to the Command Group.

#### **Field Activities' Actions:**

##### **Initial Inventory Process:**

- Districts/Projects sites conduct 100 percent inventory verification.
- Determine asset retention criteria. All repair parts components with a unit value equal to and greater than \$10K will be recorded in CEFMS' inventory module. The focus will be on mission essential items with emphasis on high investment items. The local commander will make the final decision. The guidelines for mission critical items that are defined as long lead items (acquisition lead-time greater than 120 days), mission failure, safety, legal and environmental items that would adversely impact the mission or project regardless of dollar value.
- Apply stockage/retention criteria to determine items that exceed mission requirements.
- Determine what items are obsolete and process for disposal.
- Identify excess stocks to cross-leveling process.
- Allow 60 days for other activities to request identified excess items. Requesting activity may be required to pay for the requested item.

- Excess items remaining after 120 days will be processed for disposal.
- Load Project unique items into CEFMS Project-fund Inventory Management Module. No reimbursement will be required to the project.
- Common items will be loaded in the Revolving-fund module. A special code will be used to retain identity of these items for later issue to the project as required without necessity of reimbursement to the revolving fund. Issue to a different project may require reimbursement.

### **Routine Business Practice**

#### **Storage:**

- Districts/Projects use CEFMS Inventory Management Module for purchase and storage of all supplies/repair parts requiring storage.
- Apply stockage criteria prior to purchase to determine need.
- Common items defined as those items that can be used at more than one Project site will be procured using the Revolving fund module.
- District accountable officer will identify common items and disseminate to projects.
- PR&Cs for supplies and materials will be visible to the district accountable officer. They will verify appropriate stockage criteria, and use of Revolving vs Project fund modules.
- Project managers will be responsible for ensuring that common items are purchased through the revolving fund in coordination with the district accountable officer.
- Project unique items are purchased for storage by the project fund.
- Management reports will be reviewed periodically (at least monthly) by the accountable officer to identify trends and excess stockage. This is based on established stockage criteria
- Excess stocks will be identified to the cross-leveling process 120 days prior to processing for disposal.

#### **Consumption:**

- Items needed for immediate consumption (within 30 days) will be procured using CEFMS.
- PR&Cs for supplies and material will be reviewed by the PBO to determine expendable vs. non-expendable.
- Items available from current stocks will be issued from storage.
- If the stockage criteria are met, items will be entered into the CEFMS Inventory Management Module (common items to the Revolving fund, and project unique items to the Project fund).

#### **Management Reports:**

- Management reports will be reviewed periodically (at least monthly) by the accountable officer to identify trends and excess stockage. This is based on established stockage criteria
- Excess stocks will be identified to the cross-leveling process 120 days prior to processing for disposal.
- Commanders will review management reports at least quarterly.

# INVENTORY MANAGEMENT

## IMPLEMENTATION PLAN

### CEFMS Inventory Management Module

#### Data Conversion Instructions

There are six Sql\*Loader control files (.ctl) which can be used to load the inventory data into CEFMS from ASCII text files created from the old system. Accompanying each .ctl file is a text description of the input format (.txt), and a sample data file (.dat).

In order to properly use these files, the following execution order must be observed:

1. wrescode.ctl--- loads resource code table with whs. resources
2. wresreor.ctl--- ties resource code to the eor code (code 2600)
3. wir.ctl--- loads wir table with initial data
4. wircost.ctl--- sets up the initial cost history for the item
5. wirloc.ctl--- defines physical location (1 per location, per whs.)
6. wresloc.ctl--- ties resource code with physical location

#### **Overview of Warehouse Structures Being Loaded**

A warehouse is represented in CEFMS by a Warehouse Work Item in the Work-Item table, with a Wi\_Class = 'W'. This contains such data as the appropriation and /or project associated with the warehouse. This allows multiple warehouses to be maintained, each identified by its own

work item. This must be loaded, 1 work item per warehouse, via the CEFMS screen 2.103, "Inventory Management – Work Item Create/Update Screen" before executing any of the load scripts.

An item that is stocked in any warehouse is represented by a resource code in the Resource\_Codes table, with a Rev\_Fund\_Ind = 'W'. This table contains data that is pertinent to the resource regardless of which warehouse may stock the item. This table is loaded with the

wrescode script.

An item that is stocked in a particular warehouse is represented as a Warehouse Resource Code in the Wir table. This contains data about the item that is distinct to that warehouse stocking it, such as quantity on hand, unit of measure, and the charge rate when the item is issued.

This table is loaded with the wir script.

Note: The remainder of this section describes optional steps that need

not be completed for the inventory to be functional.

Every warehouse may be divided into designated locations for ease in locating items stocked there. These locations are represented in CEFMS in the Wir\_Location table. This table is loaded with the wirloc script. If location codes are being used, you may want to load all known locations for each warehouse via this script to eliminate entering them by hand in the future, even if no inventory is stocked in a location at the current time.

There are 5 location breakdowns in CEFMS designated as bay\_no, bin\_no, section\_no, aisle\_no, and shelf\_no, listed in order of major to minor location, any or all of which may be used or left blank, and will accept alphanumeric data, not just a number. Each unique combination of these 5 values is assigned a key, Wir\_Location\_Code, when loaded into the table, so that when a location designation is changed (e.g.: bay "A" is relabeled as bay "1", the key in the table can remain the same. This key is what is used later to associate a location with a resource that is being stocked there.

When a resource is stocked, it may be associated with one or more locations in the warehouse. This association is stored in the Wir\_Resource\_Location table, which is loaded by the wresloc script. One element of the data input to this script is generated when the Wir\_Location table is loaded as described above, the Wir\_Location\_Code. You must first run that script, and then select the generated Wir\_Location\_Code for each unique combination of bay/bin/etc. and use that in preparing the wresloc.dat file. This file should contain a record for each stocking location for each item in each warehouse.

### **Making the Data "Safe" to Load**

In each .ctl file, it indicates the delimiter between the fields in the input records, which is currently a comma >,<. This command is:

fields terminated by ',' optionally enclosed by ''''

What this means is, that EVERY comma separates one data field from the next. If a data field contains an embedded comma, such as a resource description like >SCREWDRIVERS, FLAT HEAD<, SQL\*Loader gets confused and thinks the value for the description field is >SCREWDRIVERS< and the value for the next data field is > FLAT HEAD<. To prevent this problem, each data field may OPTIONALLY be enclosed with some other character, which for these .ctl files is a double quote >"<. In the above example, it would look like >"SCREWDRIVERS, FLAT HEAD"<. Seems safer now, the embedded >,< in the description will be understood as being part of the description itself, and would load as >SCREWDRIVERS,

FLAT HEAD<. But, just when you thought it was safe, another problem can occur! What if the description was >SCREWS, 3/4" COARSE< ? If we use the >"< enclosure, it looks like >" COARSE"<. But, since the >"< marks must pair together, the embedded >"< in the description confuses the loader, which sees the description as >SCREWS, 3/4< and thinks the next

data field starts as > COARSE<, but may get lost looking for the >"< that ends it! What to do?!?! Well, in this example, if we change every single embedded >"< to a pair >""<, SQL\*Loader understands the pair together as meaning a one >"< embedded in the field. So, in the second example above example, the correct way to specify the description in the data file is >"SCREWS, 3/4"" COARSE"<. Confused? Me to, but it works! Depending on your data, you can change the line in the .ctl files to specify different delimiters between fields and different optional enclosing characters. If you pick a delimiter that NEVER occurs in your data, then there would never be a need for the optional enclosing characters.

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### Using SQL\*Loader

The .ctl file is a script for SQL\*Loader. This contains instructions on how to read the input data (.dat file) and what tables and columns it is to be loaded into. All .dat files for these scripts are named the same as the .ctl file. A log file of the SQL\*Loader results is created and any error records are copied to a reject file, e.g.:

script = wrescode.ctl, input data = wrescode.dat

rejects = wrescode.bad, log file = wrescode.log

All these scripts use the append option when loading. What this means is that any data in the existing tables will be kept, and the contents of the .dat files will be appended to it. This is necessary for tables like Resource\_Codes and Resource\_Eor where there are already rows that do not pertain to inventory.

At the Unix prompt, you run these scripts with a command such as:

```
> sqlload userid=user control=wrescode
```

Note that the keyword=value must be exactly as shown with no spaces on either side of the '='. Use your Oracle data base user\_id and you will be prompted for the password. SQL\*Loader assumes the control file has a .ctl extension. A log file will automatically be created with the control file name and a .log extension. This file tells how the data was processed during the run. It is overwritten each time. Inspect this after each run to see the results of the load process, looking in particular at the numbers at the bottom of the file, indicating the number of records read and the number rejected for various reasons. If the number rejected is not 0, the error(s) for each record will be shown in the log file above the record counts at the end.

### Handling SQL\*Loader Rejects

What you do when records are rejected may depend on the number of rejects. If just a few, it is probably easier to load them through the CEFMS screens. If more are rejected than load good, there may be a problem with the .dat file not matching the expected input format, or one of the prerequisite scripts may have been skipped or did not load completely. All scripts except wirloc can be run again once the cause of the errors is corrected, but you should be aware of the results of rerunning them. SQL\*Loader does NOT ROLLBACK any updates - any rows loaded will be in the database after the run, even if there is only 1 good record and 1000 bad!

If you rerun any script again because of errors, you may want to delete any data loaded by the first run. If you just run again with the same .dat file as input, you will see an error (primary/unique key constraint violated) in the log file for any row that was loaded well by the first run and is attempting to be loaded again on a 2nd run. While these errors will not prevent loading good records, the presence of so many "innocent" errors may make it difficult to locate any "real" errors that happen.

An exception to the above is the wirloc script. Since a unique sequence number is assigned as each row is loaded, running the script a 2nd time will result in duplicating the warehouse bay/bin/etc. with different Wir\_Location\_Codes! If you are loading all locations in one wirloc.dat file (i.e.: there is only one

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SUBJECT: Inventory Management Implementation Plan Training Deployment

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