

27. Inventory Logistical Management (ILM)

27. 1 XRP-II (Inventory Logistical Management {ILM})

ILM helps the M&O staff at the DAACs, EOC, and SMC to maintain records that describe all inventory components and their assembly structures and interdependencies. The database maintained by this tool, keeps chronological histories (a record of the transactions) of receipt, installation, and relocation of inventory items. ILM limits DAAC staff to accessing only those records, which correspond to equipment at their DAAC.

ILM is a set of automated tools that will assist the Procurement, Property Management, Maintenance, and Logistics teams in managing the tangible property of NASA's EOSDIS project. ILM is a heavily customized application developed utilizing the commercially available package XRP-II (Product Information and Inventory Management Modules). XRP-II is a manufacturing management system and its customization supports the required capabilities and functions of ILS. The application contains other functions in addition to the ILM tools. The ECS Management System Main Menu has selections for the Baseline Management tools which are not part of ILM.

XRP-II is a legacy based application. The application consists of a hierarchical menu screen structure and an imbedded COTS database (UNIFY). The hierarchical menu structure is built upon character oriented. **Once selected, entered, or deleted, the actions cannot be reversed.** In addition XRP/ILM is case sensitive. The vendor has customized the original screens to be ECS specific. The menu screens must be navigated to reach the appropriate ILM function. The lowest level of the structure is a function data screen that displays data and/or accepts data input for the function selected through the menu navigation process. While an operator is logged into the XRP-II program, he/she is engaged in a database session.

Use of the ILM tool involves considerations of the ECS business rules and general logistics concepts as applied on the ECS project. Some basic logistics definitions are provided below.

Each inventory item is identified by a unique Equipment Inventory Number (EIN), and in case of hardware items a physical silver sticker with the EIN is placed on the item. The most significant relationship maintained among inventory items is product structure. Product structure is the XRP-II term for the parent-component pairings that define the ingredients – or bill of material -- for an assembly. Product structures have corresponding active and inactive dates that establish the timeframe during which the pairing is in effect. They also facilitate tracking control item changes by a related configuration change request and/or trouble ticket.

27.2 ILM Operator Functions

The sections that follow present how to use the customized features of ILM. Each user/operator is assigned to a work group and the ILM menu options available are controlled based on the individual's role. Note: roles can be added or changed according to user need. The following roles currently exist within ILM:

- ILMADMIN All functions within the ILM;
- ILMADMND All functions require by DAAC System Administrator;
- ILMUSER All ILM operator privileges only;
- ILMLOG ILM Logistics User;
- ILMMAINT ILM Maintenance User;
- ILMMNTD ILM DAAC Maintenance User;
- LICUSER Software licensing privileges only;
- ILMQUERY ILM User with query privileges only;
- ILMUPDT ILM User with update privileges only;

Additionally there is an XRP administrator (XRPADM) who will have all privileges and is responsible for the operation of the XRP application. Customization of individual operator privileges is done on an as needed basis by an ILM system Administrator. The system tools provide the functions to revise the user privileges.

27.3 General Information

27.3.1 Using XRP

- The XRP application is case sensitive. It interprets data exactly as it is entered and takes the case of your input string into account. If something is in UPPER CASE, follow convention and put the request or data entry into UPPER CASE too.
- Pressing the <ENTER> key after each entry is required. Otherwise, the data entered may not be processed.
- The XRP application user interface is character based (not GUI). Keys handle navigation, selection, and moving. Each user interface screen has a set of active bottom line commands defining the keyboard letters, or function keys for activating functions or commands.
- **The mouse has limited capability within ILM.** ILM is not GUI driven; consequently, there is no cutting or pasting, placing the mouse pointer on an item and double clicking, etc. ILM is a character base system that requires the user to enter information, use bottom line commands, and press keys to start functions or commands.

27.3.2 ILM System

- The ILM System was designed to assist in the tracking of Government Property items for each site and in a consolidated manner.
- The ILM System is a character based, menu driven system based upon the UNIFY database.
- Each screen provides the user with simple and quick one or two keystroke commands to control entry and editing of data.
- System administrators have the ability to easily modify screens, menus, and reports to meet changing requirements and individual user needs.
- Included are functions for transferring data between sites and the SMC.
- Reports and screens at the SMC can provide consolidated views of material and requirements.

27.4 Quick Start Using ILM

ILM inherited a character-based user interface from the XRP-II application. ILM employs screens for data entry and report generation and menus for navigating to the screens. Data is entered via the keyboard in fields that are traversed from left to right, row by row. On data entry screens, labels for fields whose values can be modified are displayed in upper case; those that can not be modified have only the first letter capitalized. The database is updated every time a field's value changes, and a record of that change is written to a transaction log.

Most data entry screens have a form and a table view. Form views offer full screen layouts of a data record's fields, whereas table views offer rows of records in a window that is panned to see columns of fields. Some screens' table views, however, contain fewer fields than their corresponding form views. This is caused by system limitations on a table view's panes.

Numerous functions can be performed on the data entry screens. Commands available to an operator are screen-dependent and are listed near the bottom of each screen (hence their name: bottom-line commands). The **more** command helps the operator cycle through them. The terminology used can be confusing. "Mode" is used in two different ways: 1) as used in the next paragraph to describe data impact (Add, Insert, or Modify) and 2) the F4-mode of keyboard impact on the selected field in the display.

It is important to note that the UNIFY database management system XRP-II uses does not support rules requiring entries in specific fields. ILM attempts some enforcement via the data entry screens, either by establishing default values where feasible when new records are created, or by blocking an operator from advancing the cursor past a null field when in Add, Insert, or Modify modes. However, database updates can occur in ways that bypass these mechanisms, so operators must ensure required data is entered.

27.4.1 Invoking ILM from the Command Line Interface

To invoke the ILM program the operator must be logged in to the appropriate server and be registered with XRP for the appropriate privileges.

To execute ILM from the command line prompt use:

ilmusr

This script solicits the identity of the operator's workstation. When prompted the operator must provide either the workstation name or its IP address. This information is normally posted on a sticker on the workstation monitor. The script then starts XRP-II, and passes to the operator's userid it obtained from the system. The screen that is displayed after the XRP-II login is determined by XRP-II based on the user's ID and password.

Upon entering a valid userid and password the initial screen for the user will be displayed. The initial screen is associated with a specific userid/password. ILM users will be assigned to Groups according to the role for which their userid/password is valid. ILM privileges are dependent on the Group assignment. ILM privileges include function selections, data modification capability and report selection. *The configuration of the initial screen, screen modes, and function selection may result in the display of a data screen that is not exactly as shown in the presentation below.*

All ILM menus are similar in appearance and function the same way. Only the titles and selections vary.

Table 27.4.1-1. Procedures to Log into ILM

PERFORM	ACTION
Log on to XRP server at local site	At the Unix prompt type 'telnet <XRP server at local site>'
Provide log in information	At the login prompt Enter login name and press 'enter' Enter password and press 'enter'
Invoke ILM and display on the screen	Type 'ilm' and press 'enter' Type 'ilmusr' and press 'enter' Enter hostname, or IP address of the machine you are working on, so XRP knows where to display the screen

Remember to press <ENTER> after each field.

27.5 Commands and Functionality

The bottom line commands for each menu screen function the same as described for the main menu. Each data screen also has bottom line commands. Generally, the bottom line commands that are invoked with the single letter in bold print. For commands with an "already used" first letter, a slash, "/", is used as part of the command an example this would be /s command. A period, "." is used for the third occurrence of a leading letter.

Note that the bottom line commands appearing on any screen are dependent on the user's attributes. Not all the commands listed for a screen may be appropriate to specific users.

A set of "standard" bottom line commands occurs on nearly all the ILM data screens.

While entering data into ILM you may notice that /zoom appears at the bottom of the screen for a given field. This is an indication that a ZOOM list is available to assist with data entry selections.

Table 27.5-1 summaries XRP-II's bottom line commands for ILM. Sections 27.5.1 through 27.5.21 give the detail definition for each of the bottom line command.

Table 27.5-1. XRP-II's Bottom Line Commands for ILM (1 of 3)

Commands	Description
Commands used with ILM menus	
<F1>	Displays a description for the highlighted option.
<F3>	Moves back to the previous menu.
<F5>	Selects the highlighted option.
<F8>	Exit XRP-II.
Commands used with ILM screens	
<F1>	Invokes online help and displays a submenu for identifying the help target. Same as the Help command.
<F2>	Clears the value from the field.
<F3>	Exits the screen or function. Same as the Quit command.
<F5>	Starts a sort, select, find, or ad hoc report function after entry of parameters is completed.
<F7>	Copies data into or from a block of text.
<F9>	Tags and returns a value when executing a zoom command.
.Adjust_qty	Updates how many of a license entitlement's node and user rights-to-use are allocated and remaining.
.Cartons	Invokes the cartons page on the EIN Shipment screen so the number and sizes of cartons in a shipment can be recorded.
.Entitlements	Activates an items page for identifying the license entitlements associated with a specific software license.
.Licenses	Activates an items page for identifying the software licenses associated with a specific license entitlement.
.Process_Changes	Updates property records based on parameters specified in the line items for a Maintenance Work Order.
/Add	Invokes ADD mode so new records can be added (created) in the database. New records are placed after the current record.
/Copy	Copies values from "tagged" fields to corresponding fields in other records. If no values are tagged, copies -- to the field in which the cursor resides -- the value from the corresponding field in the preceding record.
/Delete	Deletes the displayed record from the database.
/Insert	Invokes ADD mode such that new records can be inserted (created) in the database. New records are placed ahead of the current record.
/Modify	Invokes MODIFY mode so an existing database record can be updated.
/Note	Enables free-form text to be associated with a data entry screen for a user.
/Report	Invokes ad hoc report processing for the set of records currently selected on a screen.
/Sort	Allows the current set of selected records to be sorted according to operator-specified sort criteria.

Table 27.5-1 XRP-II's Bottom Line Commands for ILM (2 of 3)

Commands	Description
/Zoom	Allows a set of records related to the current record to be displayed. Tagging any field in one of those records causes a value from that record to be returned and entered in the field at which the command was invoked.
Addr	Invokes the vendor address maintenance screen so multiple addresses for a vendor can be recorded.
Bom	Invokes a screen to display the Bill of Material (i.e., list of first-level components) for an item, if any.
Changes	Displays the record of changes logged for a purchase order line item.
Check	Validates certain data entered for a batch of inventory transactions prior to the transactions being processed.
Copy-bill	Adds to an EIN's Bill of Material (BOM) the BOM from another.
Copy-dates	Copies active and inactive dates -- defined for an EIN's structure in its structure manager record -- into the product structure records for the EIN's children.
Copyein	Creates a new item by copying all the fields except the EIN Number from another item.
Copypart	Creates a new item by copying all the fields except the EIN Number from another item.
Duplicate	Creates copies of a purchase order line item to support multiple deliveries on different dates.
Execute	Starts the processing of a major, supporting function attached to the screen.
Find	Locates and displays the first record having field values the operator specifies. Repeating the Find command without changing the search criteria locates the next record that qualifies.
Go	Locates and displays a record having a specified sequence number. The format is "ng", where <i>n</i> is the number.
Help	Invokes online help and displays a submenu for identifying the help target.
Items	Invokes the items page of a data entry screen so a set of related records can be attached to the current record. Examples of related records include the line items for a purchase order and the components of a parent EIN.
Items_Addl	Invokes the items page of the License Allocation data screen so allocated licenses can be mapped to backup/redundant servers without being included in computations of rights-to-use consumed.
Items_Allocation	Activates an items page that lists the host machines and sites to which a license has been allocated. The license's rights-to-use must have first been mapped to at least one entitlement before the license can be allocated.
Justify	Used with table view, places the column the cursor is in next to the column(s) of record key data at the left edge of the screen.
Left	Shifts the data window to the left for displays that cannot fit all fields in one window.
More	Displays more bottom-line commands. In general, XRP-II provides three menus of bottom-line commands for screens, since all commands available to a screen cannot fit on one line. This command cycles through these menus.
Next	Moves the display "forward" to the next record (in form view) or next page of records (in table view).

Table 27.5-1. XRP-II's Bottom Line Commands for ILM (3 of 3)

Commands	Description
Prior	Moves the display "back" to the prior record (in form view) or prior page of records (in table view).
Quit	Exits the current screen or function. (This command is not available when in ADD, INSERT, or MODIFY modes, as it would be mistaken for a character being entered in a field.)
Right	Shifts the data window to the right for displays that cannot fit all fields in one window.
Select	Invokes query-by-example record filtering and displays a submenu for specifying the criteria to be used. See <i>XRP-II System Reference Manual</i>
Tag	Identifies a specific record and field whose value is to be used when adding new records or copying data. Tagged values are highlighted on the screen.
Untag	Removes the "Tag" from all field on the screen.
View	Toggles between "form" or record display and "table" or list display.
Where	Invokes a screen to display the first-level parents or assemblies having the EIN-controlled item as a component.
Write	Saves the current record to a file designated by the operator.
Commands used in ADD, INSERT, and MODIFY modes	
<F1>	Invokes online help and displays a submenu for identifying the help target.
<F2>	Erases the character string in the field.
<F3>	Exits the mode.
<F4>	Switches among typeover, insert, and replace modes for data entry.
<F6>	Enters the default value for the field.
Commands used in DELETE mode	
H	Invokes online help and displays instructions on how to use the Delete command.
L	Invokes the line-by-line method for deleting records.
n	Specifies the number of records to delete starting with the current record.
Q	Exits the mode.
Commands used with online help	
C	Display help for bottom-line commands available to the screen. Commands are listed on the bottom-line menu, and the More command can be used to cycle through them. Type any highlighted keys to display the help text for those keys.
F	Display help for the screen field on which the cursor has landed.
Q	Exit online help.
S	Display help for the screen.

27.5.1 Cursor Motion

The four arrow keys (UP, DOWN, LEFT and RIGHT) are used to move the cursor to various fields of the screen. A number may be entered before depressing an arrow key in order to move to the cursor multiple fields at once. The current number that has been entered is displayed at the bottom left hand corner of the screen. If a DOWN arrow is entered when the cursor is at the bottom of a table view screen, then, assuming there is more data in the file, the screen is redrawn to display the data shifted a half page down. Similarly, the display may be shifted a half page

upwards by entering an UP arrow at the top of the screen. Cursor motion via the arrow keys is limited to the current page plus a half-page shift.

27.5.2 Next or Prior

The bottom line “**n**” (Next) and “**p**” (Prior), when in the form view (one record on the screen) these commands move the display to the next or prior record. When in the table view (multiple records per screen) these commands move to the next or prior page of records. A number may be entered prior to the command as in “**10n**” which advances the display 10 records when in the form view or ten pages when in the table view.

27.5.3 View Command

This command toggles the display between the form and table views of the data. The table view shows basic information for several records at once. The form view shows all of the fields of the current record. For records with too many fields to fit across the screen when in the table view, the Left, Right, and justify commands described later may be used to move the display to the left or right.

27.5.4 Find Command

This command is used to find a record based on data entered. Data may be entered at one or more fields of the display and a partial string may be entered. Datalook (is a utility that searches the database for specified information) to clear the screen and allows the user to enter data into one or more fields to find. Pressing “**F5**” begins the search.

27.5.5 Go Command

The Go command allows the user to go to the First record, Last record, or the specified record number. To use the Go command type ‘**g**’ for Go. A prompt will come up stating “GO: First, Last, or Record Number, or Quit?” Type in the first letter to specify where to go (i.e. enter ‘**f**’ for first record). The entry of a number followed by ‘**g**’ for Go causes the display to shift to the specified record number. For example:

0g or **g** or **1g** moves to the start of the file
10g moves the cursor to record 10
1000g moves the cursor to record 1000

27.5.6 Select Command

The bottom line ‘**s**’ (Select) command allows you to select a subset of all the records in order to view, edit, or report on them. Once a set has been selected, the select command may be used again to select a subset of the set.

27.5.7 Selection Criteria

Data may be entered at one or more fields in order to specify the records to be selected. The selection function may be initiated either from the table or form views, but sometimes it is necessary to first switch to the form view if there is insufficient room to enter the desired selection specifications when in the table view.

There are two basic kinds of selection capability:

- a. **Exact matching**, where the user types exactly what the selected records are to contain.
- b. **Inexact matching**, where special characters are entered which are expanded into patterns during the matching process. The inexact matching provisions described below also apply to range fields (i.e. Account Number or Range).

Some examples of inexact matches are numeric and date ranges (for example, numbers from 1 to 100, dates before 1/1/87, or dates from 3/1/87 to 4/1/87), or substring matching (all the strings that contain the name “Smith”).

27.5.7.1 Exact Matches

To specify an **Exact** match, simply fill in the field or fields on the screen with the exact data to select for.

27.5.7.2 Inexact matches on String Fields

To specify an inexact match on string fields, use the following special characters.

- ? The “**wild character**”. The question mark matches any single character. Thus to find all the Smith’s whether spelled “Smith” or “Smyth”, use the specification “Sm?th”
- * The “**wild string**”. The asterisk matches any string of characters of any length, including zero length strings (also called “**null strings**”). A * is automatically appended to the end of all string specifications.
- [...] The character class framed by the brackets matches any single character that is a member of the class. For example, [apq] matches any of the letters a, p or q. Ranges of characters may be specified by separating 2 characters by a dash (“-“). All upper case letters could be represented by the class [ABCDEFGHJKLMN-O-PQRSTUVWXYZ] or more conveniently as [A-Z]. All letters, upper and lower case together, can be represented as [a-Z]. Other classes can be similarly constructed.

If the string field contains numbers (eg. H0002) and the user wishes to inexact match on a range of these numbers it is important to understand that ranges within strings behave differently than ranges within numeric fields. For example a good range for a numeric field could be 1-9999. This is defined by the system to be all numbers ≥ 1 and ≤ 9999 . However, the range of [H00001-H99999] for a string would be defined as all strings starting with the letter H, or the numbers 0 and 9, or characters falling in the range of 1-H. If the user wanted to select all fields of H00001 through H9999, he could use H[0-9][0-9][0-9][0-9] if space permits.

27.5.7.3 Inexact Matches on Numeric Fields

Inexact matches on numeric fields, including dates and times, can be constructed by the Following set of expressions.

- >f1 The “**greater than**” operation. All fields with values greater than the entered value will match.
- <f1 The “**less than**” operation. All fields with values less than the entered value will match.
- !f1 The logical “**not**” operation. All fields that do not match the entered value will match.

F1-f2 The “**range**” operation. All field values that match the entered values, or are between the entered values will match. This is equivalent to $\geq f1$ AND $\leq f2$.

!f1-f2 This expression matches all field values that are outside the range of entered values. This is equivalent to $< f1$ OR $> f2$.

Any number of fields on the screen can be filled in as described above. The result is to select from the records of the file those which match all of the entered values. Once a set of records has been selected in this manner, Datalook displays the selected records.

27.5.8 Sort Command

The bottom line “/S” (Sort) command allows the current records to be sorted via any field or fields of the screen. Enter a number (1, 2,...) at each of the fields to be included in the sort, in the order they are to be included. Then press “F5” command to initiate the sort.

If a negative number is entered at a field, that field is sorted in descending order instead of the default ascending order.

27.5.9 Note Command

This command activates a text area for the user to write notes about the displayed screen. The information is retrieve by the same user when in the same screen.

27.5.10 Add/Insert

These commands are used to add new records. The bottom line “/I” (Insert) command adds a new record or records before the current record while the bottom line “/a” (Add) command adds a new record or records after the current record.

27.5.11 Modify Command

The bottom line “/m” (Modify) command is used to modify one or more fields of existing records. After modifying each field the cursor moves to the next field in the default direction, down in form view, or right in table view. Press “F3” to exit modify mode.

27.5.12 Delete Command

The bottom line “/d” (Delete) command offers a choice of deleting “line-by-line” or multiple records at once. If the “line-by-line” option is selected each entry of a down arrow deletes the current record. If, instead, a number is entered, the logic deletes the specified number of records.

27.5.13 Write, Execute Command

These commands appear only on screens that can drive an executable function. The bottom line “w” (Write) command is used to save the current record of the screen in a file named by the user. This file may then be referenced in a UNIX script that executes the function in **BATCH** mode. The bottom line “e” (Execute) command is used once the screen data is edited in order to start execution of the underlying function.

27.5.14 Items Command

The bottom line “**I**” (Items) command appears only on header-line item combination screens, such as are used for Purchase order or Work Order. When on the EIN menu (header record) pressing “**I**” activates the item screen.

27.5.15 Help Command

The bottom line “**h**” (Help) command on the main menu provides information concerning the screen, the fields of the screen, or Datalook commands. If the commands option is selected you may enter the letter or prefix plus letter that activates the command to see the help information for that command.

27.5.16 More Command

The “**m**” (More) command cycles the bottom line prompt through all of the available menu choices.

27.5.17 Quit Command

The bottom line “**q**” (Quit) command exits the screen.

27.5.18 Zoom Command

When the cursor is at a field which is related to data in a different table of the database, the bottom line “**/z**” (Zoom) command appears at the right of the screen. If the command is executed, Datalook opens a window to a different screen which displays the related data. The standard commands (Find, Go, Next, Prior, or arrows) may be used on the data in the window. If the user tags the field (the **tag** command is described later) and exits the zoom screen, the tagged value is returned to the initial screen. The “**/z**” (Zoom) option also appears when it is applicable while adding records or modifying fields.

27.5.19 Left, Right, Justify Commands

They allow the data window to be shifted left or right for screens, which have, too may fields to be shown on one page. The bottom line “**j**” (Justify) command causes the page to start with the current field at the left.

27.5.20 Tag, Untag Command

Tagged fields are used to identify default field values to be used when adding records or copying data into one or more records. If the user enters the “**t**” (Tag) command when the cursor is at a specified field, the field is tagged. This highlighted field in a manner (such as reverse video, or half intensity, depending on how the screen has been interfaced to the UNIX operating system). Only one field in a specific column of fields may be tagged at a time. A tagged field may be untagged either by entering the “**t**” (Tag) command again when the cursor is at that field, or by tagging some other field in the same column, or by entering the “**u**” (Untag) command which

untags tagged fields. A tagged field remains tagged whether or not it is on the current screen until it is untagged.

27.5.21 Report Command

The bottom line “/r” (Report) command has a series of submenus which identify the report, its parameters, and the destination of the report. Every database maintenance screen has three built-in reports:

- a. a “Table Report” which follows the format of a table view screen, but adds a report header and pagination
- b. a “Form Report” which provides a single-page report of the form view for the current record
- c. An “ASCII Report” which displays the data in ASCII form without headers and pagination, suitable for loading into a spreadsheet or transmitting to another computer.

27.5.21.1 Selecting Records for Printing

Before printing a Table Report or an ASCII Report, the user may select a subset of records via the Select function. If no preselection has been performed, Datalook displays the numbers of the first and last records in the file and allows the user to accept these as the range of records to be reported on, or to modify them in order to report on a subset of the records. The first page of a table report shows the criteria used to select the records.

27.5.21.2 Column Selection

On Entering the Report Command, the user has the option of specifying the columns and the order in which they should be printed in a Table Report. If you do not specify the columns, the report starts with the left-most field screen and includes as many columns to the right as specified. The left-most field of the report may be controlled via the Left, Right, and Justify commands.

27.5.21.3. Report Format

The default ASCII Report format consists of data in ASCII form with fields separated by pipe (|) symbols. To generate a formatted report on a subset of the records, execute the select function before executing report.

27.5.21.4. Report Destinations

Once a report has been specified, Datalook offers the user a choice of report destinations. These choices may be 1) screen, 2) file, or 3) local printer.

If the report is not being sent to the screen, the user can specify whether or not it is to be run in background.

Once a report and destination have been chosen, the logic verifies that the width of the report is supported by the destination. If necessary, it retrieves the control characters necessary to put the

output device into a mode such that it can support the width. If the report is too wide for the maximum width supported by the output device, the user is cautioned and may alter the destination or choose to proceed regardless.

27.6 ECS Management System Main Menu

The XRP top-level menu is ECS Management System Main Menu. The userid/password configured initial screen will generally be different for the operator. The ECS Management System Main Menu contains selections that are not ILM functions. Baseline Management is cover in a separate document.

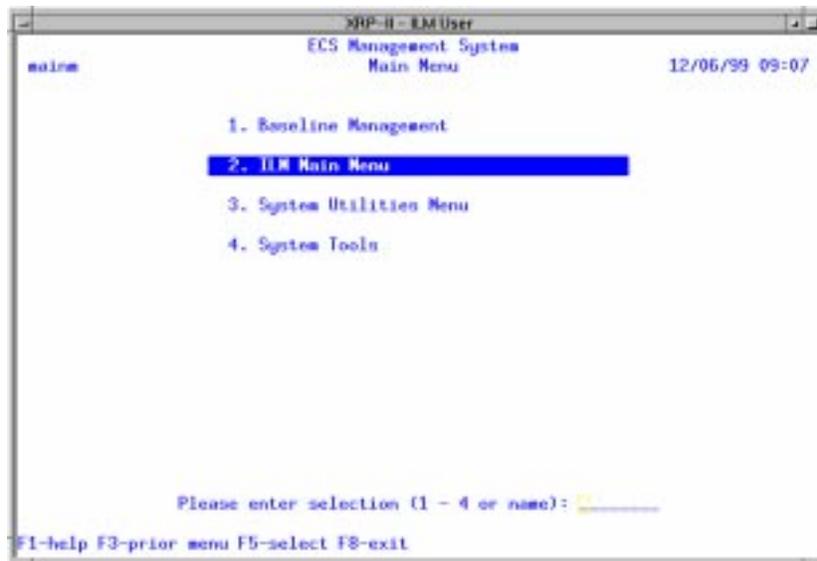


Figure 27.6-1. ECS Management System Main Menu

Table 27.6-1. Main Menu Functions

Menu item	Function	Section
Baseline Management	Provides access to XRP-II functions for maintaining control item and bill of material information	Refer to 609 section of BLM
ILM Main Menu	Provides access to XRP-II functions for maintaining inventory, logistics, and maintenance information	27.6.2
System Utilities Menu	Provides access to XRP-II functions for maintaining system information that spans functional domains	27.12
System Tools	Provides access to aids for registering XRP-II users, assigning permission, customizing data entry screens and menus, and performing general-purpose database dumps and loads.	27.13

27.6.1 ILM Main Menu

This menu (figure 27.6.2-1) provides access to ILM functions for maintaining inventory, logistics, and maintenance information. The sections following focus on the functions and features that are part of the ILM main menu.

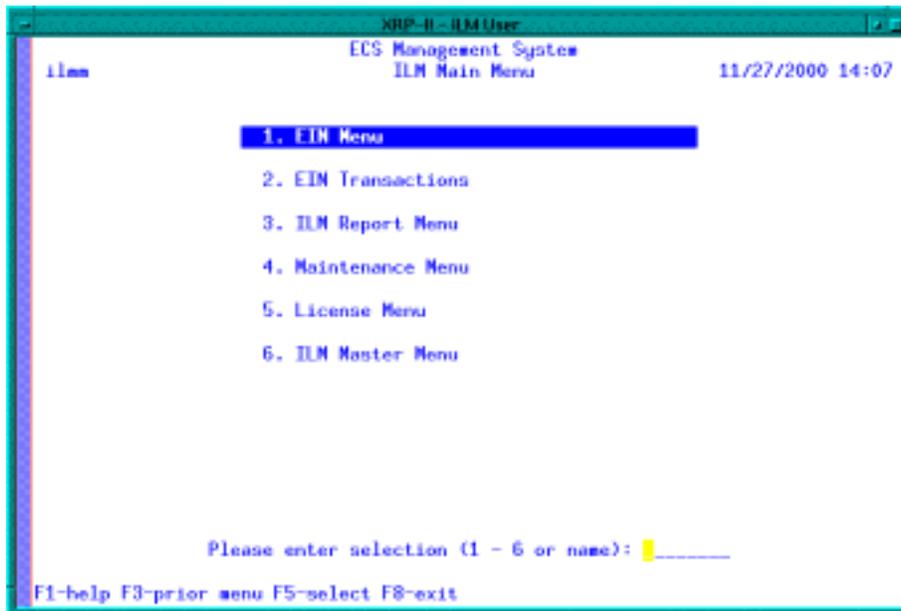


Figure 27.6.2-1. ECS Management System ILM Main Menu

The ILM Main Menu lets the operators navigate to the following submenus:

Table 27.6.2-1. ILM Main Menu Functions

Menu item	Function	Section
EIN Menu	For managing the catalog of EIN-controlled items	27.7
EIN Transactions	For browsing the log of all inventory transactions performed on items in the database	27.8
ILM Report Menu	For producing pre-defined reports	27.9
Maintenance Menu	For managing maintenance actions and data	27.10
License Menu	For managing licenses for commercial-off-the-shelf (COTS) software.	27.11
ILM Master Menu	For managing ILM parameters and reference information	27.12

27.7 EIN Menu

Options provided on this menu allow the operator to navigate to a set of screens for accessing the inventory information.

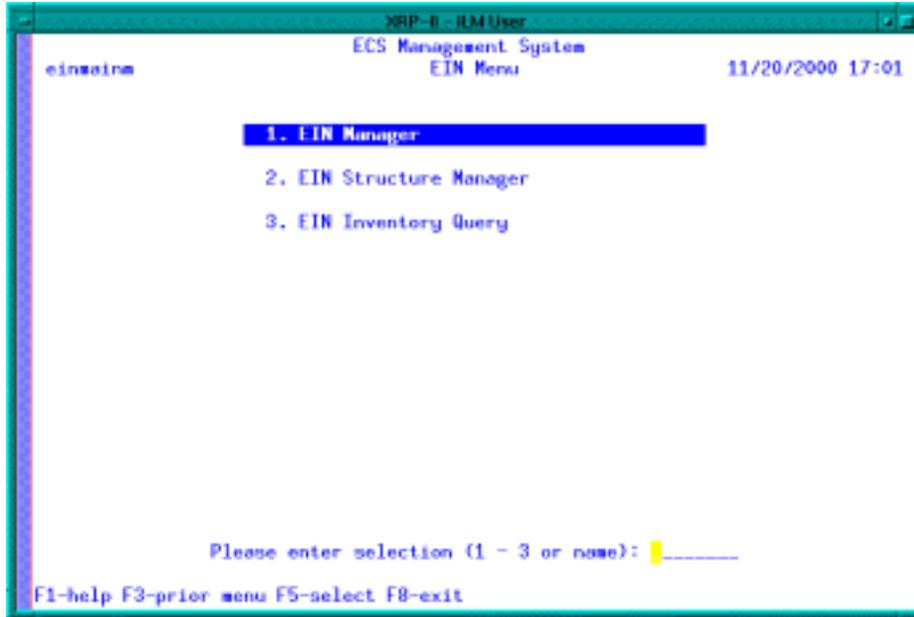


Figure 27.7-1. EIN Menu

The **EIN** menu is broken down into the following functions.

Table 27.7-1. EIN Menu options

Menu item	Function	Section
EIN Manager	For browsing data describing EINs at the local site	27.7.1
EIN Structure Manager	For browsing EIN structures for items at the local site	27.7.2
EIN Inventory Query	For browsing EIN records	27.7.3

The following pages describe the screens, the data, and the process for reviewing EIN Controlled items data. Each selection item on the EIN menu is discussed, in the order on the menu screen.

27.7.1 EIN Manager

This screen is designed to view ILM EIN controlled items. This screen is always presented in the INQUIRY mode. All changes to the database via this screen are reserved to the ILS Property Administrator and that function will not be active at the DAAC's. Operator may generate ad hoc reports on sorted or selected records. Refer to section 27.5.21 for instructions on how to generate ad hoc reports.

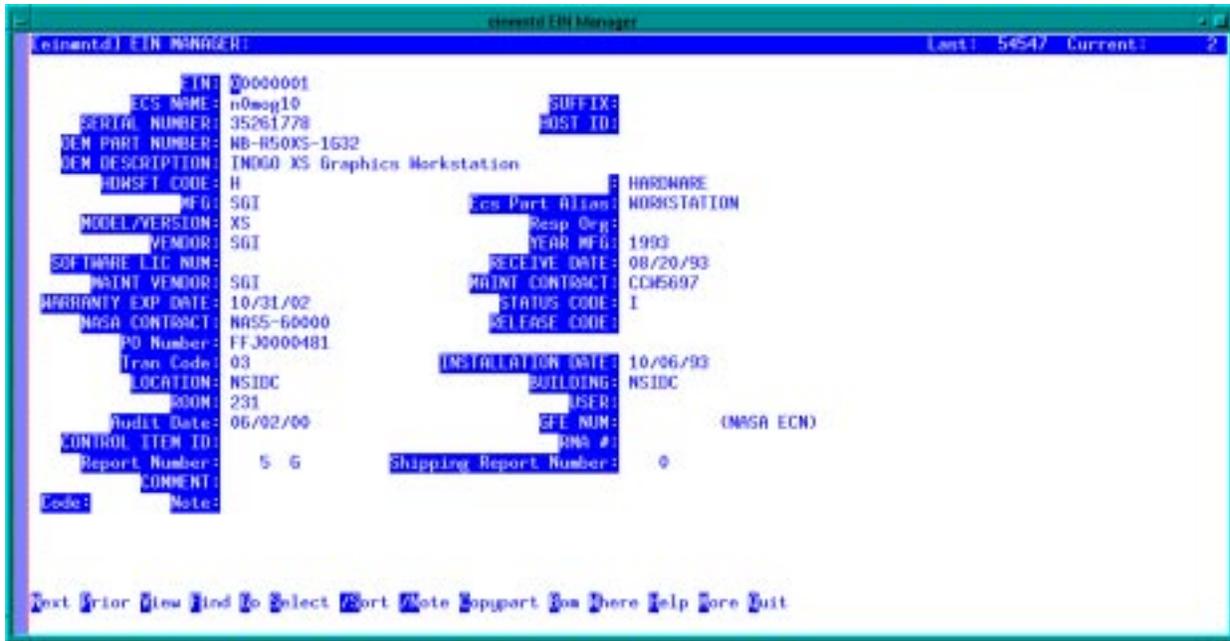


Figure 27.7.1-1. EIN MANAGER Screen

Table 27.7.1-1. EIN Manager Field Description (1 of 2)

Field Name	Data Type	Size	Description
EIN	String	20	Identifier for an EIN-controlled inventory item.
ECS NAME	String	30	Name of the machine with which the item is associated
SUFFIX	String	3	Code which when used as a suffix to ECS Name forms an identifier (RMA ID) for equipment subject to RMA reporting.
SERIAL NUMBER	String	30	Serial number of the item
HOSTID	String	20	Hexadecimal identifier of the host machine obtained when the "hostid" Unix shell command is run.
HDWSFT CODE	String	10	Code for classifying inventory items by type.
MODEL/VERSION	String	24	Model or version of the item
MFG	String	6	Code used for the manufacturer.
OEM PART NUMBER	String	34	Manufacturer or Vendor's part number.
OEM DESCRIPTION	String	40	Description of the OEM PART NUMBER entered in the field above.
ECS PART ALIAS	String	40	Common name used in ECS for a product and all its versions and variants.
RESP ORG	String	6	Code of the organization responsible for the item.
YEAR MFG	String	4	Year the item was manufactured.
RECEIVE DATE	Date	2	Date item was received from vendor

Table 27.7.1-1. EIN Manager Field Description (2 of 2)

Field Name	Data Type	Size	Description
VENDOR	String	6	Vendor code whom the item was purchased from.
SOFTWARE LIC NUM	String	10	License number for a software type license item.
MAINT VENDOR	String	6	Code for the vendor who is the maintenance vendor.
WARRANTY EXP DATE	Date	8	End date for the warranty period. This field default to 365 days from the date of entry.
MAINT CONTRACT	String	15	Maintenance Contract number for maintenance on this particular item.
STATUS CODE	String	1	Status of the item and is controlled by transactions within the system. The following codes are included : R - Received; S – Shipped; I - Installed; and X– Archived.
CONTROL ITEM ID	String	20	Identifier of the corresponding, version-controlled item in the Baseline Management system.
NASA CONTRACT	String	11	NASA contract number used for this item. The default number is NAS5-60000.
PO Number	String	10	Purchase order number against which the item was received.
Tran Code	Number	3	This field designates the transaction code. The value will always be set to '03'
Report Number	Number	4	Installation report number assigned by the system when an installation had occurred.
LOCATION	String	8	The actual location or site of where the item is.
BUILDING	String	6	Building number within the site where the item is.
ROOM	String	6	Room number where the item is or will be shipped to.
RMA#	String	6	Return Material Acquisition number.
RELEASE CODE	String	10	Code for distinguishing the release status of the item.
Installation Date	Date	2	The actual date this item was installed. The system sets the value during EIN installation processing.
Shipping Report Number	Number	2	Report number assigned to this item when the item was shipped.
USER	String	8	The user code of the person who has the item.
AUDIT DATE	Date	2	Date the item was physically inventoried last.
COMMENT	String	60	Miscellaneous information specific to the item.
NOTE	String	60	A message that can be associated with the item.

Table 27.7.1-2. Procedure to Inquiry for EIN

Perform	Action
Navigate to EIN Manager screen	From the Main Menu A. Select ILM Main Menu – press 'enter' B. Select EIN Menu – press 'enter' C. Select EIN Manager – press 'enter'
To look for records of interest	A. Press 'f' to do a Find or 's' to do a Select B. Enter the selection parameters (refer to section 27.5.6 for a more detail instruction on advance selection) C. Press 'F5' to start the search
To view the Bill of Material of the selected record	There is a command on the bottom of the screen call 'Bom' (Bill of Material). The Bom command lists the components of the selected item. If the selected item does not have any component attached to it, ILM will state that 'No records available'. To invoke the Bom command, press 'b'.
To find the parent EIN of the selected item	The 'Where' command at the bottom of the screen lists all the parents that the selected item has been assigned to and the associated active and inactive date.
Exit out of the current function or screen	Press 'F3' to exit the current mode.

Remember to press <ENTER> after each field.

27.7.2 EIN Structure Manager

This screen is designed to display structure for a machine and items attached to it. This screen will only be presented to the user in INQUIRY mode. All changes to the database via this screen are reserved to the ILS Property Administrator and will not be active at the DAACs. Refer to section 27.9.2 for instructions to generate EIN structure reports.

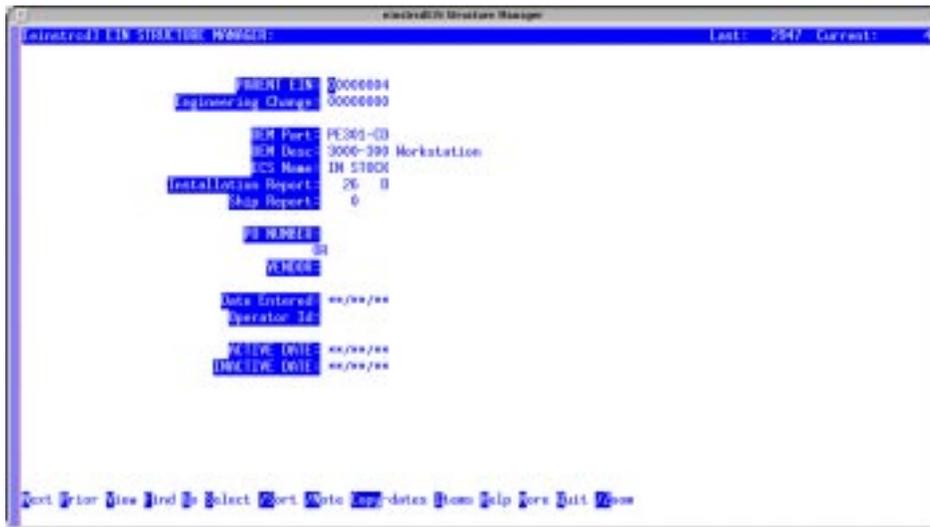


Figure 27.7.2-1. EIN Structure Manager Screen

Table 27.7.2-1. EIN Structure Manager Field Descriptions

Field Name	Data Type	Size	Description
PARENT EIN	String	20	Parent EIN for the installation/structure.
Engineering Change	String	8	Engineering change number assigned when the record was added to the database.
OEM Part	String	34	OEM part number of the parent EIN
OEM Desc	String	40	OEM Description of the Parent EIN.
ECS Name	String	30	Name of the machine with which the item is associated.
Installation Report	Number	4	Installation report number assigned by the system when an installation had occurred.
Ship Report	Number	3	Shipping report number assigned by the system when the item was shipped.
PO NUMBER	String	10	Purchase order number against which the parent EIN was received.
VENDOR	String	6	Vendor code from whom the item was purchased
Date Entered	Date	2	Date when this record was added to the database
Operator ID	String	8	Login ID of the user who added this item to the database and is not modifiable by the user.
ACTIVE DATE	Date	2	Date the item is received and entered into inventory.
INACTIVE DATE	Date	2	Date to make the structure ineffective.

27.7.2.2 Item Page of the Structure Manager

This screen is designed to view children items for the Parent EIN entered on the header page. This screen always comes up in Table view.



Figure 27.7.2-2. EIN Structure Manager Items page screen

Table 27.7.2-2. Items Page Field Descriptions

Field Name	Data Type	Size	Description
EIN CHILD	String	20	Child EIN number of the item assigned to the Parent EIN.
OEM PART	String	34	OEM Part Number reflected from the EIN record of the child.
OEM DESC	String	40	OEM Description reflected from the EIN record of the child.
MOD/VER	String	24	Model/Version reflected from the EIN record of the child.
QTY PER	Number	3	This field is used more for consumable material application the parent items and reflects the quantity of the item that had been applied to the parent. This field defaults to quantity of one when the record is added. Database changes are reserved to the ILS PA
ACTIVE DATE	Date	2	Effective date on which the EIN child is assigned to the Parent EIN. NOTE: **/**/** = earliest system date.
INACTIVE DATE	Date	2	Effective date on which the EIN child is no longer assigned to the Parent EIN. NOTE: **/**/** = latest system date.

27.7.3 EIN Inventory Query Screen

The EIN Inventory Query screen (Figure 27.7.3-1) is designed to view the inventory location of EIN controlled items. The operator may sort and select by any field on the screen and then print a report of the data. This screen is displayed in INQUIRY mode only and the operator may not modify any data with this screen.

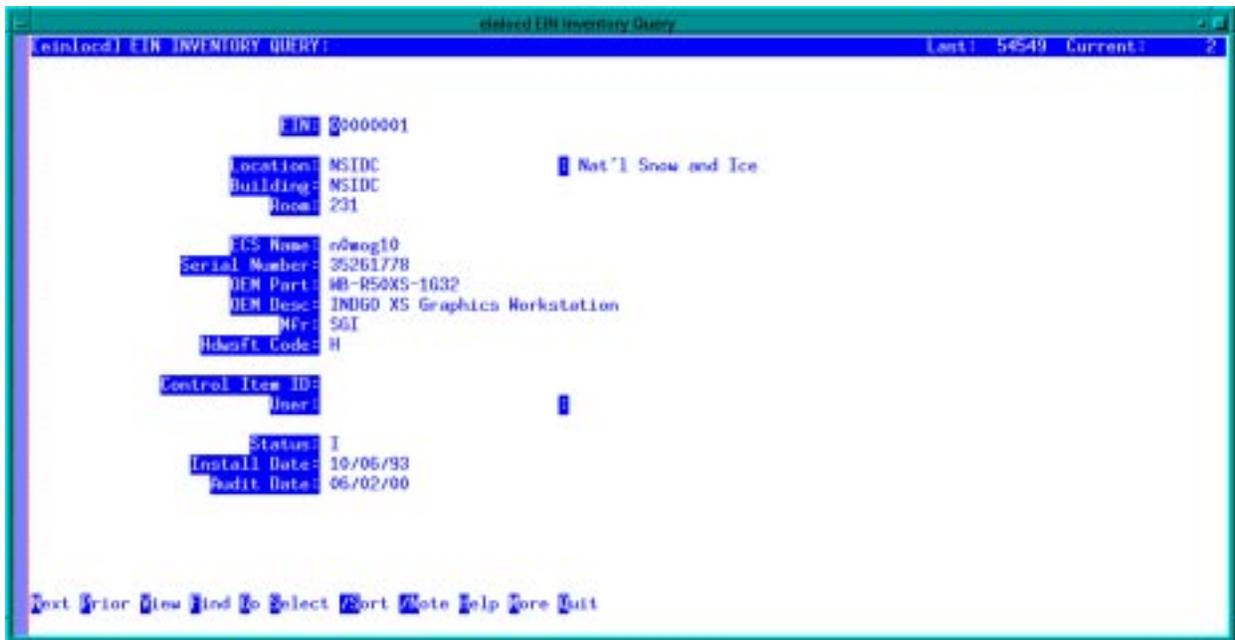


Figure 27.7.3-1. EIN Inventory Query Screen

Table 27.7.3-1. EIN Inventory Query Field Descriptions

Field Name	Data Type	Size	Description
EIN	String	20	Identifier for an EIN-controlled inventory item.
Location	String	8	Identifier that designates an inventory location.
:	String	30	Description for the inventory location. It is obtained from the inventory location file based on the value in field Location.
Building	String	6	Identifier for the building where the item can be found.
Room	String	6	Identifier for the room where the item can be found.
ECS Name	String	30	Name of the machine with which the item is associated.
OEM Part	String	34	Manufacturer's or vendor's part number for the item.
OEM Desc	String	40	Manufacturer's or vendor's description for the item.
Mfr	String	6	Code used for the manufacturer.
Hdwsft Code	String	10	Code for classifying inventory items by type.
Control Item ID	String	20	Identifier of a corresponding version-controlled item in the BASELINE MANAGEMENT system.
User	String	8	Code of the person who has the item.
:	String	30	Name of the person who has the item. It is obtained from the employee file based on the value in field User.
Status	String	1	Code that designates the status of the item. The following values are set when processing transactions: R = Received; S = Shipped; I = Installed; X = Archived;
Install Date	Date	2	Date the item was installed.
Audit Date	Date	2	Date the item was physically inventoried last.

27.8 EIN Transactions

The EIN Transactions menu (Figure 27.8-1) provides access to a screen for browsing the log of past inventory transactions.

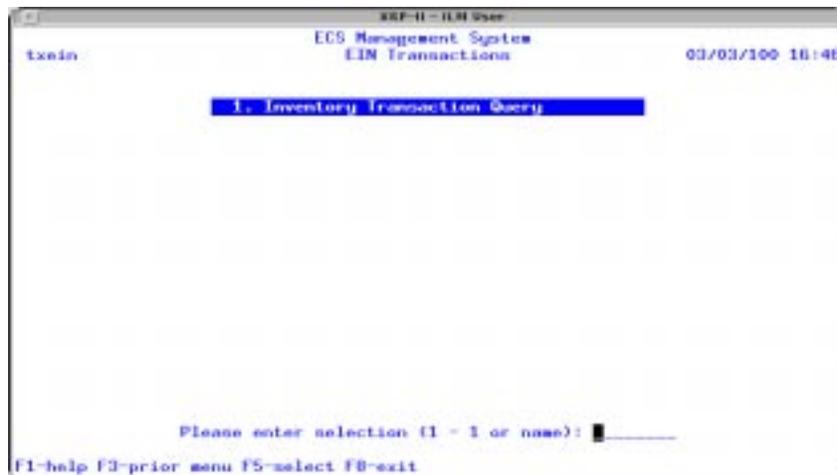


Figure 27.8-1. EIN Transactions

27.8.1 Inventory Transaction Query Screen

This screen allows operators to browse the log of all inventory transactions performed on items in the database. The operator may sort and select on any field on the screen and print ad hoc reports of sorted data, if desired, using XRP-II's report command. Table 27.8.1-1 describes the screen's fields.

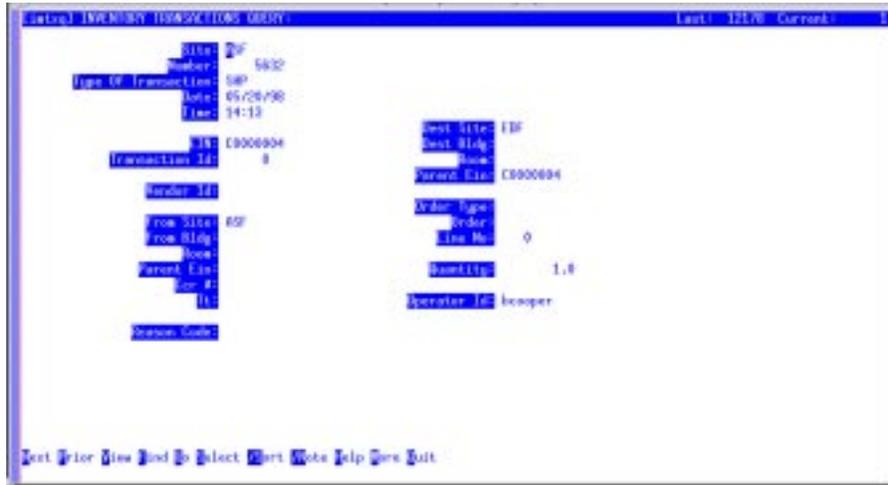


Figure 27.8.1-1. Inventory Transaction Query Screen

Table 27.8.1-1. Inventory Transactions Query Field Descriptions (1 of 2)

Field Name	Data Type	Size	Description
Site	String	6	Code for the site that entered the transaction.
Number	Numeric	8	Record number of database record being observed.
Type of Transaction	String	3	Code assigned to the type of transaction being performed. INS – Installation; REL = Relocation; TR = Transfer; ARC = Archive; SHP = Shipment; RX = Receipt; FAI = Failed, MRV = Maintenance Replaced by vendor; REP = Replaced; and MTR = Maintenance Transfer.
Date	Date	2	Date the transaction was entered.
Time	Time	2	Time the transaction was entered.
Dest Site	String	6	Code for the inventory location gaining the item.
EIN	String	20	EIN of the item involved in the transaction.
Dest Bldg	String	6	Identifier for the building gaining the item.
Transaction Id	Numeric	6	Number assigned to a particular transaction
Room	String	6	Number for the room gaining the item.
Vendor Id	String	6	Code for the vendor from whom the item was purchased.
Parent EIN	String	20	EIN of the parent item involved in the transaction.
Order Type	String	2	Code for the type of order, if any, involved in the transaction.

Table 27.8.1-1. Inventory Transactions Query Field Descriptions (2 of 2)

Field Name	Data Type	Size	Description
From Site	String	6	Identifier for the building losing the item.
Order	String	6	Identifier for the order, if any, involved in the transaction.
From Bldg	String	6	Identifier for the building losing the item.
Line No.	Numeric	4	Line number of the item on the order if an order is associated with the transaction.
Room	String	6	Number of the room losing the item.
Parent EIN	String	20	EIN of the parent item losing the item.
Quantity	Floating	10.1	Number of items in the transaction.
CCR #	String	30	Identifier for the CCR authorizing the transaction.
Tt	String	15	Identifier for the trouble ticket associated with the transaction.
Operator Id	String	8	Login ID of the operator performing the transaction.
Reason Code	String	4	Code for the reason for the transaction.

27.9 ILM Report Menu

ILM Report Menu provides access to display and report controlled items in the database. This section of ILM is mainly used for reporting purposes. When the user authorization is more limited, this menu offers fewer options. The ILM Report menu lets the users navigate to the following screens:

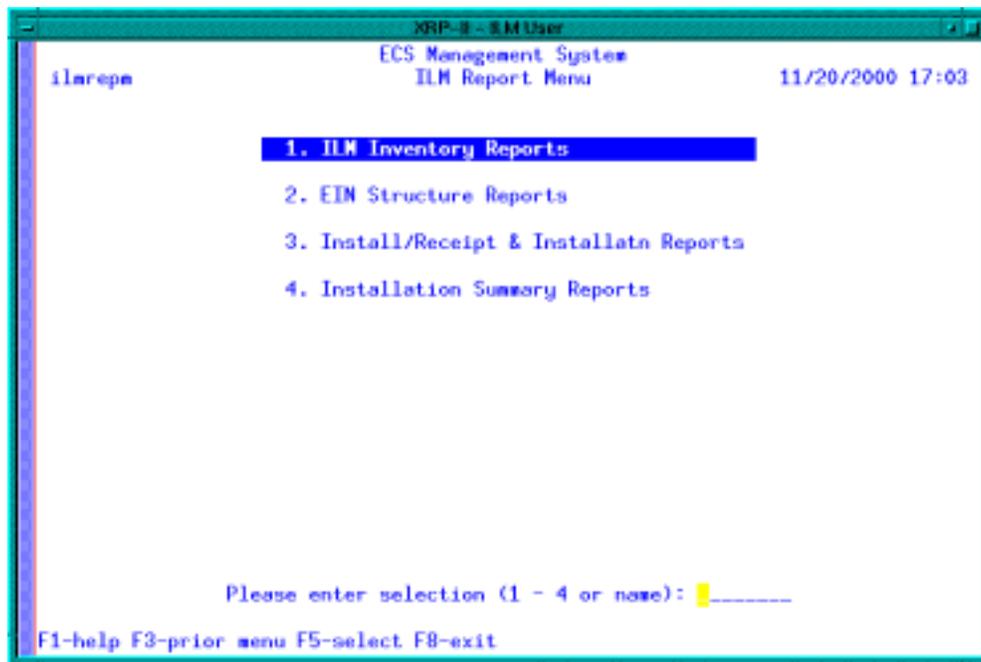


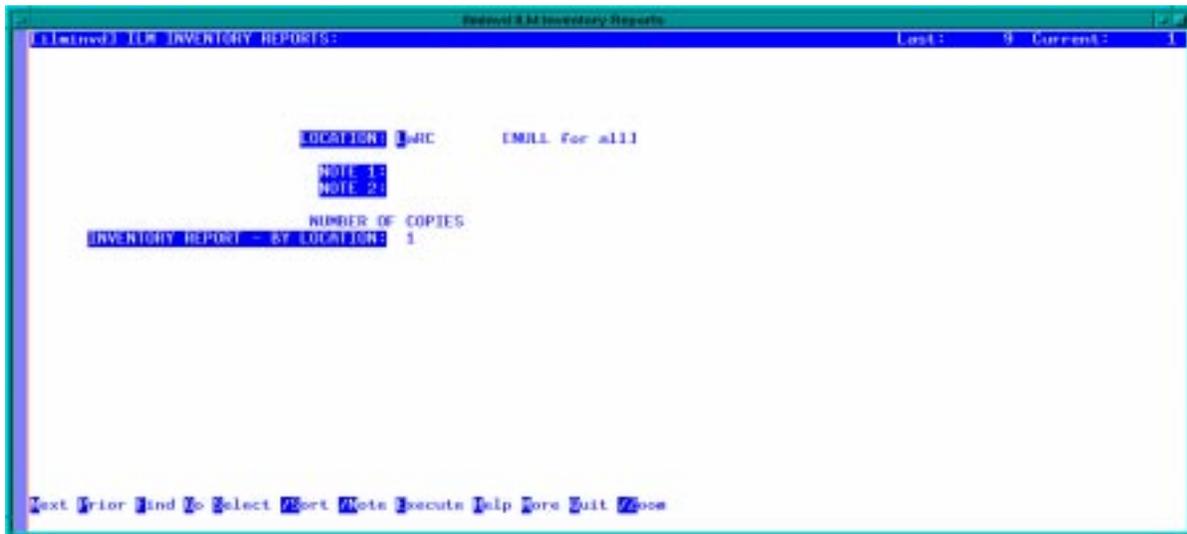
Figure 27.9-1. Report Menu

Table 27.9-1. ILM Reports Menu options

Menu item	Function	Section
ILM Inventory report	For printing all items contained within the designated location(s) by local site coordinators.	27.9.1
EIN Structure reports	For printing all designated parents and components in a multi-level bill report.	27.9.2
Install/Receipt Report	For printing a report of a parent EIN configuration and send the hard copy to the receiving organization for sign off.	27.9.3
Installation Summary Report	For printing a list of EINs installed during a specified time frame	27.9.4

27.9.1 ILM Inventory Reports Screen

The ILM Inventory Reports screen (Figure 27.9.1-1) is designed to retrieve and print all items contained within designated location(s).



27.9.1-1. ILM Inventory Report

Table 27.9.1-1. ILM Inventory Reports Field Descriptions

Field Name	Data Type	Size	Entry	Description
Location	String	8	optional	Code for an inventory location. The operator may zoom to the Inventory Location table and choose the code, if it had been entered there previously. (See the Inventory Location Manager screen.)
Note 1, 2	String	60	optional	A 60-character note to include in the report.
Inventory Report - By Location	Numeric	2	required	Number of copies of this report to generate.

Table 27.9.1-2. Procedures to generate ILM Inventory report

PERFORM	ACTION
Navigate to EIN Structure Reports screen	From the Main Menu A. Select ILM Main Menu – press 'enter' B. Select ILM Report Menu – press 'enter' C. Select ILM Inventory Report – press 'enter'
Invoke the add command	Press 'a' to go into add mode.
Enter parameters for the report	Fill in the necessary information A. Enter the location value or zoom to the inventory location table to pick the location to report. To do this, press ('z' , 't' , 'F3'). B. Enter any note to appeal on the report header C. Enter number of copies of the report to generate
Exit the add mode	Press 'F3' to exit adds mode.
Execute the report	Press 'e' to execute the report.
Report output	View the report output options: A. Enter 1 and press 'enter' – to view the report on the screen OR B. Enter 2 and press 'enter' – to save the report into a file. Enter the file name to be saved as. The file will be saved in the user's home directory. OR C. Enter 3 and press 'enter' – to print the report to the defaulted printer
Exit the report menu	If option 1 was selected, go to the next step. If option 2 or 3 was selected, press 'F3' to exit the report menu when finished.
Navigate through the report output	A. Navigating through the report -Press 'n' for Next -Press 'p' for Previous -Press 'r' for Right -Press 'q' for Quit or -Press 'h' to print a hard copy of the report B. After finished making the selection, press 'q' to exit the report screen. A message will come up specifying the number of reports generated, press 'enter' . C. Another message will prompt "Another?" -Press 'y' to generate more reports. This will go back to the EIN Structure Reports screen, or -Press 'n' to go back to the ILM Report Menu.

Remember to press <ENTER> after each field.

LOCATION: EDF : ECS Development Facility

EIN	OEM PART NO	OEM DESC	MODEL	SERIAL NO	BUILDING	ROOM
00000000	PARENTREC	PARENT FOR NON INSTALLED ITEMS RM 1073			1616	1073
00000004	PE301-CD	3000-300 Workstation	300X AXP	AB3500171X	1616	1073
00000006	7012-340	RISC 6000 Workstation	6000	MS70122663304	1616	1073
00000007	A2094A	Color Monitor - 19 IN		JP01000992	1616	1100D3
00000008	VRT19-HA	Color Monitor - 19 IN		IS33984574	1616	1073
00000009	7208-001	4 Milimeter Tape Unit	Model 7208	MS72062626430	1616	1073
00000010	6091-191	19 Inch Color Monitor		23-R0146	1616	1073
00000011	A2627A	715-50 PA RISC Workstation	715-50	6342A30521	1616	1100D3
00000013	S10TX-44-032-P46	SPARCStation 10	10	403F1014	1616	3039
00000014	A2094A	Color Monitor - 19 IN		JP04050797	1616	1100D3
00000015	X557A	CD ROM - 644 MB		405G1578	1616	1100D7
00000016	TLZ06-VA	Tape Drive - 4 MM		CX35103575	1616	1073
00000018	X814A	Tape Drive - 5 GB - 8 MM		407G3165	1616	1100D4
00000019	C1521B	Tape Drive - 2.0 GB - 4 MM		3314E62862	1616	1052C
00000022	PE301-CD	3000-300 Workstation	300X AXP	AB333001N2	1616	1105B1
00000023	PE301-CD	3000-300 Workstation	300X AXP	AB33300I04	1616	1073
00000025	VRT19-HA	Color Monitor - 19 IN		IS31773470	1616	1073
00000027	VRT19-HA	Color Monitor - 19 IN		IS31162480	1616	1105B1
00000028	VRT19-HA	Color Monitor - 19 IN		IS31162482	1616	1073
00000030	X545A	1.05 GB HD - Desktop		410G0301	1616	1100F4
00000031	BA353-AF	CD ROM - in Storage Expansion Unit		KB34203698	1616	1073
00000033	X545A	1.05 GB HD - Desktop		412G2197	1616	1073
00000034	PE301-CD	3000-300 Workstation	300X AXP	AB3500305S	1616	1073
00000035	X557A	CD ROM - 644 MB		408G0598	1616	1100D4
00000038	4-30-GX-32 P46	SPARCSystem LX Workstation	LX	411E0158	1616	1073
00000040	A2627A	715-50 PA RISC Workstation	715-50	6342A30520	1616	1105A2
00000041	A2608A	735 CRX Performance Workstation-Server 3	735-CRX	6342A00425	1616	1100D3
00000042	A2627A	715-50 PA RISC Workstation	715-50	6342A30034	1616	1073
00000043	A2627A	715-50 PA RISC Workstation	715-50	6340A30125	1616	1073

Figure 27.9.1-2 ILM Inventory Report – by Location

27.9.2 EIN Structure Reports

This screen is designed to retrieve and print all designated parents and components in a multi-level bill report. Table 27.9.2-1 describes the screen's fields. Table 27.9.2-2 provides instruction how to generate the report. Refer to figure 27.9.2-2 for a sample report.

Figure 27.9.2-1. EIN Structure Reports Screen

Table 27.9.2-1. EIN Structure Reports Field Descriptions

Field Name	Data Type	Size	Description
EIN or RANGE	String	20	Field can accept two 14 character strings. E.g. 00001234-00003456 for a range
NUMBER OF LEVELS TO EXPLODE	Number	2	Number of levels to display for a particular parent structure.
EXPLOSION QUANTITY	Number	2	Quantity of each EIN to reflect in the report
DATE OF BILL	Date	2	"As of" date used in selecting records from configuration history of the item
TYPE OF SORT	String	1	Null = part, S=Sort string N = Sort number
NOTE 1, NOTE 2	String	40	A 40 character note to include in the report.
EIN MULTI-LEVEL REPORT	Number	2	Number of copies of this report to generate.

Table 27.9.2-2. Procedures to generate EIN structure reports

PERFORM	ACTION
Navigate to EIN Structure Reports screen	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select ILM Report Menu – press ‘enter’ C. Select EIN Structure Reports – press ‘enter’
Invoke the add command	Press ‘a’ to go into add mode.
Enter parameters for the report	Fill in the necessary information A. Enter EIN number or zoom to the EIN data file to pick the EIN to report. To do this, press (‘/z’, ‘t’, ‘F3’). B. Enter Number of levels to display C. Enter explosion quantity of each EIN to reflect in the report D. Enter the date of Bill used in selecting records E. Enter the type of sort. -null = part -‘s’ = sort string -‘n’ =sort # F. Enter any note to appeal on the report header G. Enter number of copies of the report to generate
Exit the add mode	Press ‘F3’ to exit adds mode.
Execute the report	Press ‘e’ to execute the report.
Report output	View the report output options: A. Enter 1 and press ‘enter’ – to view the report on the screen OR B. Enter 2 and press ‘enter’ – to save the report into a file. Enter the file name to be saved as. The file will be saved in the user’s home directory. OR C. Enter 3 and press ‘enter’ – to print the report to the defaulted printer
Exit the report menu	If option 1 was selected, go to the next step. If option 2 or 3 was selected, press ‘F3’ to exit the report menu when finished.
Navigate through the report output	A. Navigating through the report -Press ‘n’ for Next -Press ‘p’ for Previous -Press ‘r’ for Right -Press ‘q’ for Quit or -Press ‘h’ to print a hardcopy of the report B. After finished making the selection, press ‘q’ to exit the report screen. A message will come up specifying the number of reports generated, press ‘enter’. C. Another message will prompt “Another?” -Press ‘y’ to generate more reports. This will go back to the EIN Structure Reports screen, or -Press ‘n’ to go back to the ILM Report Menu.

Remember to press <ENTER> after each field.

(einstrep)		EIN STRUCTURE REPORT		DATE:	01/05/00	TIME	15:20
ECS Development Facility				PAGE:			1
EIN: 00001029				Number of levels: 99			
Explosion quantity: 1				Date of bill: **/**/**			
Parent EIN: 00001029		Desc: SPARCStation 20-50 SX					
MFG Part: S20SX-50-32-P46		Desc: SPARCStation 20-50 SX					
Active date: **/**/**		Inactive date: **/**/**					
LEVEL	EIN	MFG PART	CONTROL ITEM ID	MODEL/VERSION	QUANTITY PER	ACTIVE DATE	INACTIVE DATE
1	00000751	EXB-210TW		210	0.0000	04/12/99	**/**/**
	Tape Stacker - 8 MM						
.2	C0003845	315570-001			0.0000	04/12/99	**/**/**
	BAR CODE READER/EXB-210 & 218						
.2	C0003846	872013-025			0.0000	04/12/99	**/**/**
	8MM Tape Drive						
.2	C0003847	EXB-303220			0.0000	04/12/99	**/**/**
	Terminator						
.2	C0003848	EXB-30726			0.0000	04/12/99	**/**/**
	Tape Cartridge - 8 MM						
.2	C0003849	EXB-307627			0.0000	04/12/99	**/**/**
	Cable - SCSI						
.2	C0003850	TDKP6-1200Q			0.0000	04/12/99	**/**/**
	Tapes - 5 GB - 8 MM						
.2	C0162102	872013-025			0.0000	09/01/99	**/**/**
	8 MM Tape Drive - w/ Carrige Instal						
1	00001086	365-1324-01			0.0000	04/12/99	**/**/**
	20 Inch Color Monitor						
1	00003089	CDE-100		4X	0.0000	04/12/99	**/**/**
	Yamaha External 4X Write/4X Read CD-Rom						
1	00004692	X5511A			0.0000	04/12/99	**/**/**
	2.1 GB HD MultiPack (1 of 2 X 2.1=4.2GB)						
.2	C0021164	540-2730-03			0.0000	04/12/99	**/**/**
	2.1 GB HD Internal						
1	C0147699	SOL		2.4	0.0000	04/22/99	**/**/**
	Solaris						
There are 38 components in this bill.							

Figure 27.9.2-2 EIN Structure Report

27.9.3 Install/Receipt Report

This screen is designed to allow the user to print a report of a parent EIN configuration and send the hard copy to the receiving organization for sign off. Refer to figure 27.9.3-2 for a sample report. Table 27.9.3-1 describes the screen's fields, and table 27.9.3-2 gives the procedure on how to generate the report.



Figure 27.9.3-1. Install/Receipt Report Screen

Table 27.9.3-1. Install/Receipt Report Field Descriptions

Field Name	Data Type	Size	Description
PARENT EIN	String	20	EIN for the parent item in an EIN structure. The operator may zoom to the EIN table and choose the EIN, if it had been entered there previously. (See the EIN Entry section.)
ECS Name through Old User	Multi Fields	30	These fields reflect according to the Parent EIN entered.
INSTALL/RECEIPT REPORT	Number	2	Number of copies of this report to generate.

Table 27.9.3-2 Procedures to generate Install/Receipt reports

PERFORM	ACTION
Navigate to Install/Receipt Reports screen	From the Main Menu A. Select ILM Main Menu – press 'enter' B. Select ILM Report Menu - press 'enter' C. Select Install/Receipt Reports - press 'enter'
Invoke the add command	Press 'a' to go into add mode.
Enter report's parameters	Fill in the necessary information A. Enter Parent EIN or zoom to the EIN data file to select the EIN of interest. To do this, press ('z' , 't' , 'F3'). B. ECS Name through Old User – these fields are reflected from the Parent EIN you entered above. C. Enter number of copies for the Install/Receipt Report.
Exit the add mode	Press 'F3' to exit add mode.
Execute the report	Press 'e' to execute the report.
Report output	View the report output options: A. Enter 1 and press 'enter' – to view the report on the screen OR B. Enter 2 and press 'enter' – to save the report into a file. Enter the file name to be saved as. The file will be saved in the user's home directory. OR C. Enter 3 and press 'enter' – to print the report to the defaulted printer
Exit the report menu	If option 1 was selected, go to the next step. If option 2 or 3 was selected, press 'F3' to exit the report menu when finished.
Navigate through the report output	A. Navigating through the report -Press 'n' for Next -Press 'p' for Previous -Press 'r' for Right -Press 'q' for Quit or -Press 'h' to print a hard copy of the report B. After finished making the selection, press 'q' to exit the report screen. A message will come up specifying the number of reports generated, press 'enter' . C. Another message will prompt "Another?" -Press 'y' to generate more reports. This will go back to the Install/Receipt Report screen, or -Press 'n' to go back to the ILM Report Menu.

Remember to press <ENTER> after each field.

RUN DATE: 01/05/00

Page No: 1

EOSDIS
EQUIPMENT INSTALLATION/RECEIPT REPORT
BY ECN NUMBER

ECN NUMBER: 00002534
DATE ON-SITE WARRANTY EXPIRES: 12/31/98
WARRANTY END DATE: 12/31/98
HTSC HELP CENTER PHONE: 1-800-ECS-DATA
HTSC HELP CENTER HOURS ARE: 08:00 - 17:00 EST
DATE RECEIVED: 05/09/97

USER CONTACT
USER PHONE
LOCATION: Goddard
BUILDING # GSFC
ROOM #: C101
HOST NAME: g0acs03

I certify that I have received the equipment only for work associated with NASA Contract NAS5 - 60000.

Signature: _____ Date: ___/___/___

MFR	PRODUCT DESCRIPTION	MODEL/VERSION	PART NUMBER	SERIAL NUMBER	PART ECN	INSTALL DATE
SUN	Enterprize 3000 Enc, 4 Slot, CD 4, PWR/C		E3001	715V006C	00002534	05/27/97
WYE	Terminal		900983-07	0ICD6800046	00003256	03/13/98
WYE	Keyboard		901867-01	97030769	00006417	05/27/97
SUN	2.1 GB Internal HD		X5153A	9644628234	C0009199	08/12/99
SUN	250mhz Ultrasparc Modual		2530A	92F30203138	C0014226	05/27/97
SUN	250mhz Ultrasparc Modual		2530A	92F30202448	C0014227	05/27/97
SUN	CPU/Memory Board		2600A	5012976058254	C0014228	05/27/97
SUN	SBUS I/O Board - Enterprise Family		2610A	5014287011120	C0014229	05/27/97
SUN	CD ROM - Internal		370-2203-01	9715003781	C0014230	05/27/97
SUN	9.1 GB HD - 7200 RPM-3.5 Inch-F/W SCSI-2		540-2951-01	9707363003	C0014231	05/27/97
SUN	9.1 GB HD - 7200 RPM-3.5 Inch-F/W SCSI-2		540-2951-01	9707363312	C0014232	05/27/97
SUN	9.1 GB HD - 7200 RPM-3.5 Inch-F/W SCSI-2		540-2951-01	9715742422	C0014233	05/27/97
SUN	32 MB RAM Expansion (1 of 8X32MB=256 MB)		7022A	501265378299929	C0014234	05/27/97
SUN	32 MB RAM Expansion (1 of 8X32MB=256 MB)		7022A	501265378299923	C0014235	05/27/97
SUN	32 MB RAM Expansion (1 of 8X32MB=256 MB)		7022A	501265378299891	C0014236	05/27/97
			.			
			.			
			.			
SUN	Solaris Media for Servers	2.5.1	SOLS-C		C0150689	05/27/97

Figure 27.9.3-2. Equipment Installation/Receipt Report by ECN Number

27.9.4 Installation Summary Reports

This screen is designed to retrieve and print all receipts that have occurred for the designated PO, Vendor, or Date. Refer to figure 27.9.4-2 for a sample report. Table 27.9.4-1 lists the field descriptions. Table 27.9.4-2 provides a set of procedures to generate the report.



Figure 27.9.4-1. Installation Summary Reports Screen

Table 27.9.4-1. Installation Summary Reports Field Descriptions

Field Name	Data Type	Size	Description
INSTALLATION DATE or RANGE	Date	2	Date or range of dates on which installation(s) occurred.
NOTE 1, NOTE 2	String	40	A 40 character note to include in the report.
INSTALLATION REPORTS	Number	4	Number of copies of this report to generate.

Table 27.9.4-1. Procedures to generate installation summary reports

PERFORM	ACTION
Navigate to Installation Summary Reports Screen	From the Main Menu A. Select ILM Main Menu – press 'enter' B. Select ILM Report Menu - press 'enter' C. Select Installation Summary Reports - press 'enter'
Invoke the add command	Press '/a' to go into add mode.
Enter report's parameters	A. Enter the Installation date or range (i.e. 10/10/98-11/10/98). B. Enter any note to appear on the heading of the report C. Specify number of copies.
Exit the add mode	Press 'F3' to exit the add mode.
Execute the report	Press 'e' to execute the report.
Report output	View the report output options: A. Enter 1 and press 'enter' – to view the report on the screen OR B. Enter 2 and press 'enter' – to save the report into a file. Enter the file name to be saved as. The file will be saved in the user's home directory. OR C. Enter 3 and press 'enter' – to print the report to the defaulted printer
Exit the report menu	If option 1 was selected, go to the next step. If option 2 or 3 was selected, press 'F3' to exit the report menu when finished.
Navigate through the report output	A. Navigating through the report -Press 'n' for Next -Press 'p' for Previous -Press 'r' for Right -Press 'q' for Quit or -Press 'h' to print a hardcopy of the report B. After finished making the selection, press 'q' to exit the report screen. A message will come up specifying the number of reports generated, press 'enter' . C. Another message will prompt "Another?" -Press 'y' to generate more reports. This will go back to the Installation Summary Report screen, or -Press 'n' to go back to the ILM Report Menu.

Remember to press <ENTER> after each field.

```

(installr)
ECS Development Facility
                                INSTALLATION SUMMARY REPORT
                                Dates: 09/01/99-12/31/99
                                DATE: 01/05/00   TIME: 13:42
                                PAGE: 1

PARENT EIN: 00000343           NAME: judge
OEM PART: S20SX-50             OEM DESC: SPARCStation 20-50 SX
INSTALL DATE: 03/10/95
SITE: EDF ; ECS Development Facility
BUILDING: 1616   ROOM: 1100A4

CHILDREN INCLUDED:

EIN           OEM PART           INSTALL
=====
00000343     S20SX-50           03/10/95   EDF   1616   1100A4   Geistfeld
=====

```

Figure 27.9.4-2. Installation Summary Report

27.10 Maintenance Menu

The ILM Maintenance Menu is used to maintain the ILM database of maintenance oriented data, generate and track Work Orders for maintenance actions, and schedule preventative maintenance for appropriate items. (Please note) The arrangement of this screen may appear different in ILM but the content within the selections will remain the same.

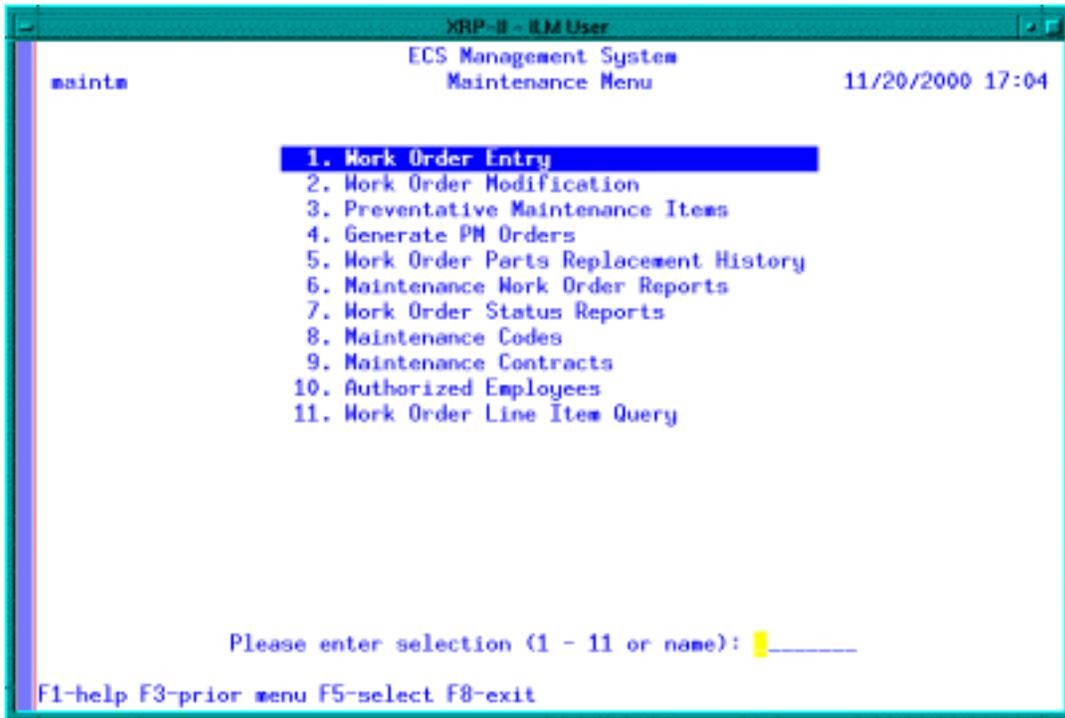


Figure 27.10-1. Maintenance Menu Screen

Table 27.10-1. Maintenance Menu options

Menu item	Function	Section
Work Order Entry	For entering work orders for repairs	27.10.2
Work Order Modification	For updating work orders as maintenance activity proceeds	27.10.3
Preventative Maintenance Items	For designating which items in the EIN file require preventative maintenance	27.10.4
Generate PM Orders	For generating work orders for items needing preventative maintenance	27.10.5
Work Order Parts Replacement History	For reporting items replaced under one or more work orders.	27.10.6
Maintenance Work Order Reports	For reporting about maintenance activity on selected machines	27.10.7
Work Order Status Reports	For reporting the status of work orders	27.10.8
Maintenance Codes	For defining failure codes to be used when describing repairs and replacements	27.10.9
Maintenance Contracts	For managing information about maintenance contracts with vendors and suppliers	27.10.10
Authorized Employees	For identifying employees permitted access to vendors for repair notification	27.10.11
Work Order Line Item Query	For browsing line item records across multiple maintenance work orders.	27.10.12

27.10.1 Filling out a Maintenance Work Order (MWO)

The purpose of the MWO is to track the following: corrective maintenance, preventative maintenance, configuration change, installation maintenance, and spare replacements. The MWO is the term used to define the formal documentation of maintenance events in a structured manner. The Work Order Entry screen and the Work Order Modification screen are used to initiate and complete the MWO, respectively.

Table 27.10.1-1 specifies the different types of MWOs and how to create them.

NOTE: The LMC only needs to enter a code if the maintenance action is something other than corrective maintenance.

Table 27.10.1-1. Types of MWO

TYPE	CODE	DEFINITION
Corrective Maintenance	CM	Corrective Maintenance (CM) is the unscheduled repair of equipment that includes detection, diagnosis, isolation and resolution through line replaceable unit repair or replacement.
Preventative Maintenance	PM	Preventative Maintenance (PM) is planned maintenance to include routine inspections and servicing that keeps the equipment in good repair in order to prevent failure. To specify the Work Order as a Preventative Maintenance, near the bottom of the MWO screen there is a label call "CODE" enter the code as PM for Preventative Maintenance.
Configuration Change	CC	Configuration change (CC) is the change of the equipment's configuration as directed by an approved CCR. To specify the Work Order as a Configuration Change, near the bottom of the MWO screen there is a label call "CODE" enter the code as CC for Configuration Change Maintenance.
Installation Maintenance	IM	Installation Maintenance (IM) is used for any maintenance action that occurs during the initial installation of new equipment. To specify the Work Order as a Installation Maintenance, near the bottom of the MWO screen there is a label call "CODE" enter the code as IM for Installation Maintenance.
Spare Replacement	SR	Spare replacement result in the use of pre-stocked spared parts. Only in the cases of spare use will two MWOs be created. One work order is used to account for the amount of time required to resolve the problem. A second work order is opened to account for the status of the failed component that the spare replaced. On the second work order specify that the type of MWO is a spare replacement by enter "PR" in the "CODE" field. In addition, on the "NOTE" field, reference the related work order number and who replaced the spare.

27.10.1.2 ECS Hardware States

- Operational – Operational hours are not tracked or reported but are determined by functional string using a formula.
- Impaired – Impaired operations exist when the system performs in less than a fully operational state due to a hardware malfunction. Impaired time is reportable but not chargeable as down time.
- Down – Down time occurs when a system is unable to perform its primary operational function due to a hardware malfunction. Down time is reportable and chargeable. Chargeable down time results only from inherent failures (i.e., no induced failures like power outages) of ECS hardware. Down time starts when the hardware problem is first recognized, and continues until the failed component is 1) repaired, 2) replaced, or 3) switched over to another system.

27.10.2 Work Order Entry Screen

This screen is use to initiate the Work Order for repair. User may also initiate a work order through the Work Order Modification screen. This screen is always presented in ADD mode. Refer to table 27.10.2-1 for the screen field descriptions. Table 27.10.2-2 provides procedure to determine the upper level assembly of failed component and table 27.10.2-3 gives the procedure to enter a new work order.

Note: XRP-II version 3.1.3 does not copy the bill of materials into the work order item page.

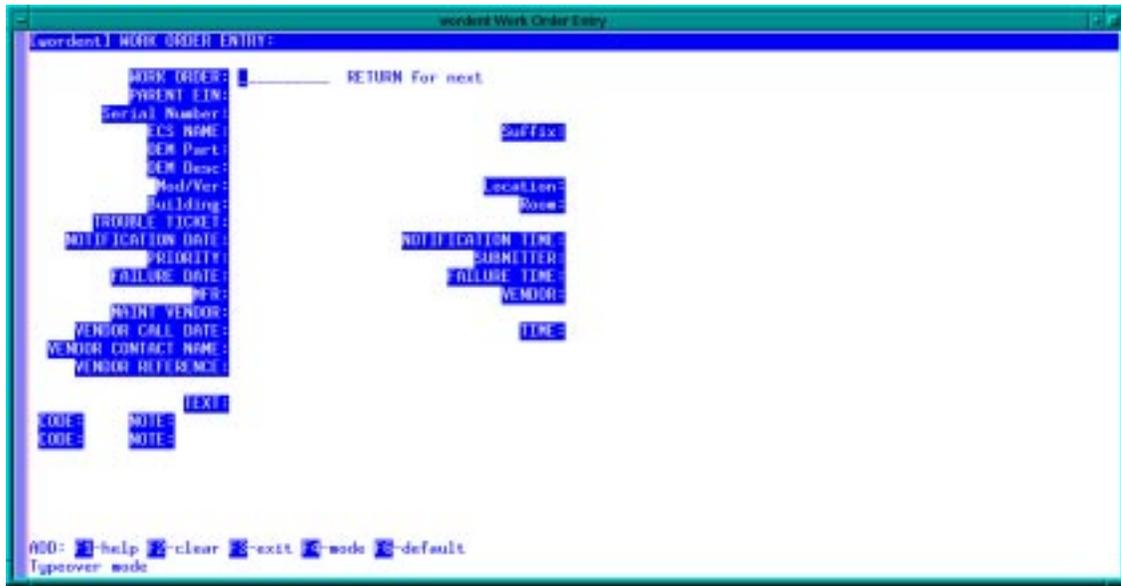


Figure 27.10.2-1. Work Order Entry Screen

Table 27.10.2-1. Work Order Entry Field Descriptions (1 of 2)

Field Name	Data Type	Size	Description
WORK ORDER	String	10	This is the actual Work Order number. The operator may press RETURN to obtain the next number sequentially assigned by the system.
PARENT EIN	String	20	EIN for the parent item in an EIN structure. This parent EIN is the next higher assembly EIN number. Refer to table 27.10.2-2 to determine the next higher assembly of the failed component
Serial Number	String	30	Serial Number of the item entered as parent EIN.
Name	String	30	Name of the machine with which the item is associated.
Suffix	String	3	Code which when used as a suffix to ECS Name forms an identifier (RMA ID) for equipment subject to RMA reporting.
OEM Part	String	34	Manufacturer's part number for the item entered as Parent EIN.
OEM Desc	String	30	Manufacturer's description for the item entered as Parent EIN.
Mod/Ver	String	24	Model or version of the item entered as Parent EIN.
Location	String	8	Designator for the inventory location of the item entered as Parent EIN.
Building	String	6	Building where the item entered as Parent EIN is situated.
Room	String	6	Room where the item entered as Parent EIN is situated.
TROUBLE TICKET #	String	15	Identifier for the trouble ticket associated with the work order
NOTIFICATION DATE	Date	2	Date the LMC is notified of the failure. The system defaulted to the current date.

Table 27.10.2-1. Work Order Entry Field Descriptions (2 of 2)

Field Name	Data Type	Size	Description
NOTIFICATION TIME	Time	2	Time the LMC is notified of the failure. The system defaulted to the current time.
PRIORITY	String	1	Priority assigned to the work. 1 being the highest and 3 is the lowest.
SUBMITTER	String	10	Code of the employee who submitted the problem and caused the work order to be opened.
FAILURE DATE	Date	2	The actual failure date. The earliest between the following: 1) the time the LMC is notified or 2) the time the hardware problem is first recognized.
FAILURE TIME	String	2	The actual failure time. The earliest between the following: 1) the time the LMC is notified or 2) the time the hardware problem is first recognized.
MFG/DEV	String	6	Code for the manufacturer. The operator may zoom to the Vendor table and choose the code, if it had been entered previously.
VENDOR	String	6	Code for the vendor from whom the item was purchased.
MAINT VENDOR	String	6	Code for the item's maintenance vendor.
VENDOR CALL DATE	Date	2	Date the vendor was called and informed of the problem.
VENDOR CALL TIME	Time	2	Time the vendor was called and informed of the problem.
VENDOR CONTACT NAME	String	30	Vendor point of contact
VENDOR REFERENCE	String	20	Identifier to be reference when contacting the vendor about the problem with the item
CODE	String	2	Identifier for a type of category of the maintenance action. CM – Corrective Maintenance, PM – Preventative Maintenance, IM – Installation Maintenance, SR – Spare Replacement, and CC – Configuration Change. NOTE: The LMC only needs to enter a code if the maintenance action is something other than corrective maintenance.
NOTE	String	60	A 60 character note that can be associated with this item.
TEXT	String	8	Press /Z at this prompt to obtain a free form text window. The operator may enter the failure / repair details in this window. When complete, press F3 to exit the text window.

Table 27.10.2-2. Determining Upper level assembly of Failed component

PERFORM	ACTION
Navigate to the EIN Manager screen.	From the Main Menu A. Select ILM Main Men – press ‘Enter’ B. Select EIN Menu – press ‘Enter’ C. Select EIN Manager – press ‘Enter’
Find the component EIN	A. Press ‘f’ to invoke the find command B. Enter the 8 digit EIN number of the failed component EIN C. Press ‘F5’ to start the search
Determine the upper level assembly of the failed component	After the system found and displayed the failed component EIN record information on the screen, press ‘W’ to view the next upper level assembly. If ILM replied, “No records available” this mean that this item is not attach to any parent structure.
Exit the EIN Manager screen	Press ‘F3’ twice to get out of the EIN Manager screen.

Table 27.10.2-3. Procedures to enter a new work order (1 of 2)

PERFORM	ACTION
Navigate to Work Order Entry screen.	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select Maintenance Menu – press ‘enter’ C. Select Work Order Entry – press ‘enter’

Table 27.10.2-3. Procedures to enter a new work order (2 of 2)

PERFORM	ACTION
Filling out the work order	<p>Fill in the necessary information</p> <p>A. Press 'enter' to get the next work order number.</p> <p>B. Enter Parent EIN number (the next higher assembly of the failed component, refer to table 27.10.2-2 to determine the next higher assembly) or press 'z', choose the Parent EIN from the list by pressing 't', then press 'F3' or "Q" quit</p> <p>C. Serial Number through Room number – these fields reflected from the Parent EIN entered above.</p> <p>D. Enter the applicable trouble ticket number. Entry required only if the HW problem was transferred from a Remedy trouble ticket or NCR.</p> <p>E. Enter the date and time the LMC was notified of the failure.</p> <p>F. Enter problem priority Enter '1' for any malfunction that results in down time of a production system and immediate corrective action is needed. Enter '2' for any malfunction that impairs system performance but does not result in down time; however, may result in down time if system must be brought down to fix the problem. Enter '3' for any malfunction that will not result in system down time (e.g. minor flickering screen, key sticking, sticking mouse, etc...)</p> <p>G. Enter the actual failure date and time. The earliest between the following: 1) the time the LMC is notified or 2) the time the hardware problem is first recognized.</p> <p>H. Enter date and time vendor was called and informed of the problem</p> <p>I. Enter vendor contact name</p> <p>J. Enter maintenance vendor's trouble ticket number. For advance replacement support, enter both the vendor's trouble ticket number and the RMA number, e.g. TT# 123456 RMA # 456789</p> <p>K. Enter the appropriate maintenance code: NOTE: Only need to enter a code if the maintenance action is something other than corrective maintenance. See table 27.10.1-1 for a more detail definition of the maintenance categories. CM – Corrective Maintenance PM – Preventive Maintenance IM – Installation Maintenance SR – Spare Replacement CC – Configuration Change</p> <p>L. Enter any other note about the work order</p>
Exit the add mode	Press 'F3' to exit add mode
Exit the Work Order Entry Screen	Press 'F3' again to exit the Work order Entry screen.

Remember to press <ENTER> after each field.

27.10.3 Work Order Modification Screens

This screen provides the ability to create or modify work orders as maintenance activity proceeds and as additional information about the repair is known. This screen selects work orders with parents located at the local site and precludes users from creating or modifying work orders for equipment that is not located at the local site. It functions much the same as Work Order Entry screen except it can accept more information and can be used to view all work orders pertinent to the site. This screen has a right page (chargeable hours) page on which cumulative downtime data can be recorded. Figure 27.10.3-2 depicts this page and table 27.10.3-2 describes the fields.

The header screen's Items command provides access to the item page for adding data about components involved in individual maintenance actions. In general, a line item would be created for each component that has failed, been replaced, or been added new. Figure 27.10.3-3 displays the screen and table 27.10.3-3 describes the fields.

Refer to figure 27.10.3-1 for the screen display, table 27.10.3-1 for the field description, table 27.10.3-5 for a listing of effects on property records by MWO line item processing, and table 27.10.3-6 for procedure to complete a work order.

Note: XRP-II version 3.1.3 does not copy the bill of materials into the work order item page. The item page should only contain components involved in the maintenance actions.

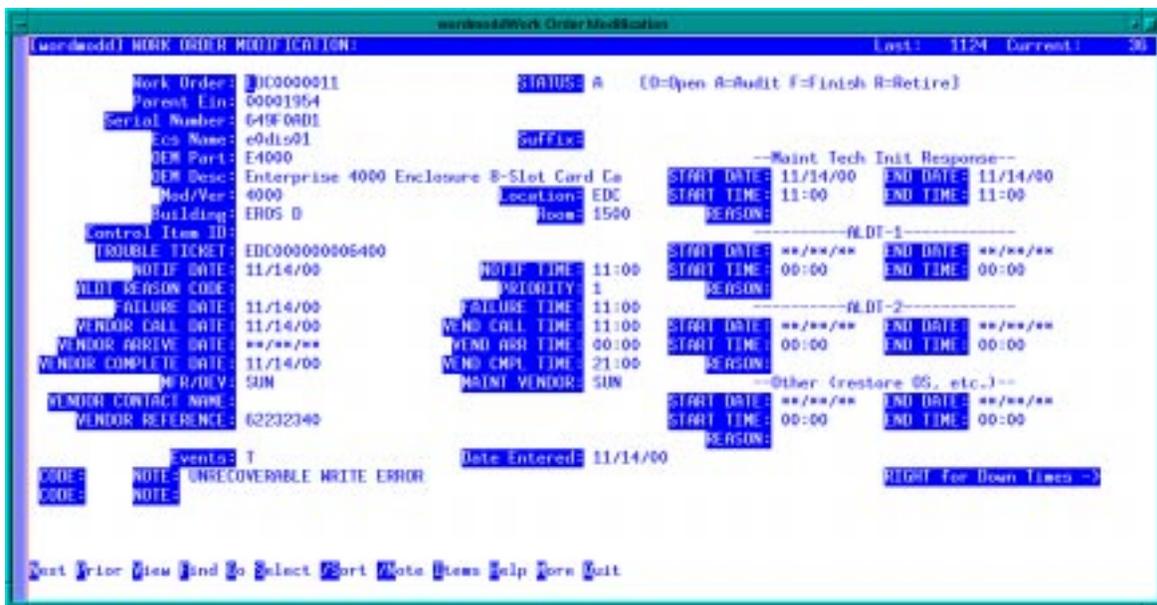


Figure 27.10.3-1. Work Order Modification Screen

Press RIGHT for Down Times -><-<- Press LEFT to return to main page

Table 27.10.3-1. Work Order Modification Field Descriptions (1 of 2)

Field Name	Data Type	Size	Description
WORK ORDER	String	10	Identifier for the work order.
STATUS	String	1	Used for determining status of the MWO. The definition for each of the status is stated below. WARNING: In order to ensure the integrity of the information, it is important that the LMC not update MWOs after the status has been changed to 'A' O – When the LMC opens the MWO. A – When the MWO action is completed the LMC changes the status to 'A' for the ILS Maintenance Coordinator review. F – After ILS Maintenance Coordinator reviewed, the status is changed to 'F'. R – After the ILS Property Administrator reviewed, status is changed to 'R'.
PARENT EIN	String	20	EIN for the parent item in an EIN structure. This parent EIN is the next higher assembly EIN number. Refer to table 27.10.2-1 to determine the next higher assembly of the failed component.
Serial Number through Control Item ID	MULTI-FIELD		These fields are all reflected from the EIN file for the Parent as entered.
TROUBLE TICKET #	String	15	Identifier for the trouble ticket associated with the work order
NOTIFICATION DATE and TIME	MULTI-FIELD		Date and time the problem was reported. These fields are initialized with the current date and time but can be modified.
ALDT REASON CODE	String	10	Code to describe the delays within the maintenance process. AV – Awaiting vendor AP – Awaiting Part UD – User Determined
PRIORITY	String	1	Priority assigned to the work order. 1 being the highest and 3 is the lowest.
FAILURE DATE and TIME	MULTI-FIELD		Actual failure date and time. The earliest between the following: 1) the time the LMC is notified or 2) the time the hardware problem is first recognized.
VENDOR CALL DATE and TIME	MULTI-FIELD		Date and time the maintenance vendor was called.
VENDOR ARRIVE DATE and TIME	MULTI-FIELD		Date and time the vendor arrived to perform the repairs.
VENDOR COMPLETE DATE and TIME	MULTI-FIELD		Date and time the repair was completed whether by on-site support, advanced replacement, spare replacement, or local site personnel repairs.
MFR/DEV	String	6	Code identifying the Manufacturer or Developer ID for the specified parent EIN.

Table 27.10-3-1. Work Order Modification Field Descriptions (2 of 2)

Field Name	Data Type	Size	Description
MAINT VENDOR	String	6	Code identifying the maintenance vendor for the specified parent EIN
VENDOR CONTACT NAME	String	30	Vendor point of contact
VENDOR REFERENCE	String	20	Maintenance vendor's trouble ticket number. For advance replacement support, enter both the vendor's trouble ticket number and the RMA number.
CODE	String	2	Identifier for a type of category of the maintenance action. CM – Corrective Maintenance, PM – Preventative Maintenance, IM – Installation Maintenance, SR – Spare Replacement, and CC – Configuration Change. NOTE: The LMC only needs to enter a code if the maintenance action is something other than corrective maintenance.
EVENTS	String	N/A	Used to enter information relevant to the maintenance event.
NOTE	String	60	This field is used to enter a 60 character note attached to this item.
START DATE and END DATE	MULTI-FIELD		The first block – indicate the time and date that the vendor returns call. Second and third blocks – indicate delay times for when the vendor's work was suspended and resumed (include travel time, admin delays, and logistic delays). Fourth block – indicate the time between when the vendor leaves and the system is back up.
REASON	String	2	Enter the appropriate reason code for the delay entered. AV – Awaiting vendor AP – Awaiting Part UD – User Determined

27.10.3.1 Chargeable Hours Page for Work Order Modification Screens

This screen provides the ability to maintain chargeable hours to be used in calculations for downtime.



Figure 27.10.3-2. Chargeable Hours Page for Work Order Modification Screen

**Table 27.10.3-2. Chargeable Hours Page for Work Order Modification
Field Descriptions**

Field Name	Data Type	Size	Description
ALDT	Floating	10.1	Duration, in hours, of any administrative logistic delays.
TIME TO REPAIR	Floating	10.1	Elapsed time required for technician to complete repair and to bring item to operational status.
SWITCH OVER TIME	Floating	10.1	The time required by the system to restore its functions by switching from the downed equipment to the backup equipment. Switch over time starts at the time of the failure and ends when the fail over system is functional. Enter the total hours (in tenths of an hour).
TOTAL CHARGEABLE DOWNTIME	Floating	10.1	Enter the total hours to be charged for downtime. Specified in tenths of an hour.

27.10.3.2 Items Page for Work Order Modification Screens

This screen provides the ability to add data about components involved in individual maintenance actions. In general, a line item would be created for each component that has failed, been replaced, or been added new. Figure 27.10.3-3 depicts the Left page of this screen and figure 27.10.3-4 displays the Right page. Refer to tables 27.10.3-3 and 27.10.3-4 for field descriptions for these screens.

ILS Maintenance Coordinator will review each of the work orders, and the ILS Property Administrator will process any property actions there after.

Note: XRP-II version 3.1.3 does not copy the bill of materials into the work order item page. The item page should only contain components involved in the maintenance actions.

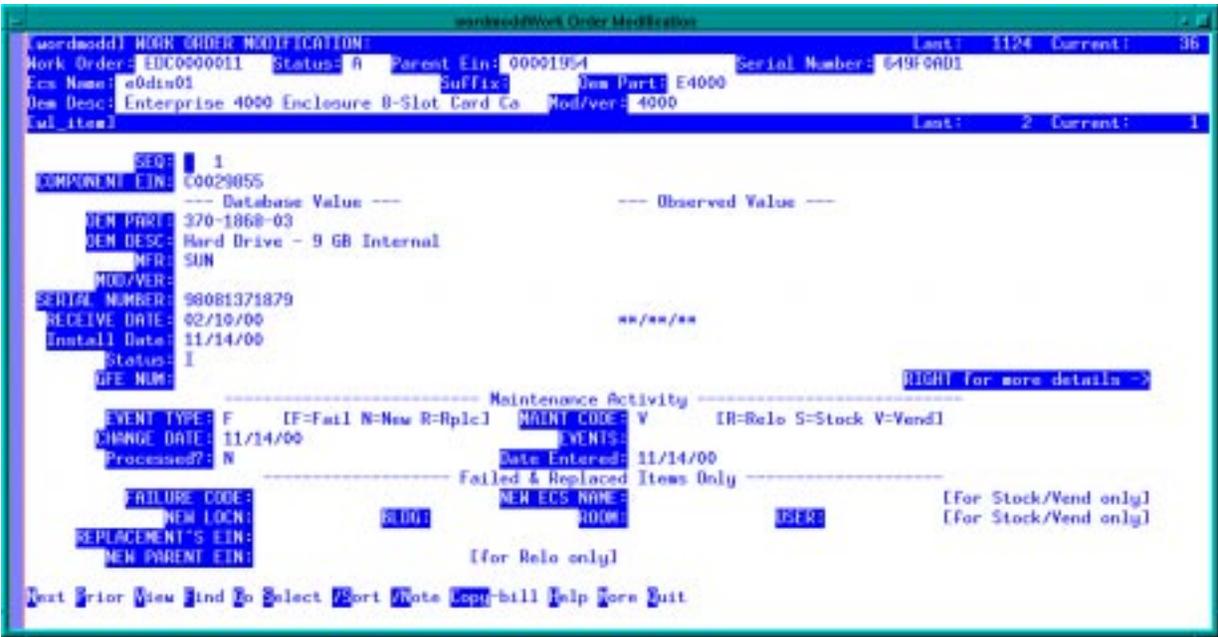


Figure 27.10.3-3. Items Page (Left) for Work Order Modification Screen (1 of 2)

Table 27.10.3-3. Items Page (Left) for Work Order Modification (EDF) Field Descriptions (1 of 3)

Field Name	Data Type	Size	Description
SEQ	Numeric	4	Number used to distinguish among the line items of a Maintenance Work Order.
COMPONENT EIN	String	20	Identifier for an EIN-controlled item that is a child (component) of a parent EIN and the target of the maintenance event. The operator may zoom to the EIN table to choose an identifier, if it had been entered there previously (see the EIN Manager section). If the field is left null or blank, the system will create an inventory number with a C-prefix for it automatically when the line item is processed.
OEM Part	String	34	Manufacturer's or vendor's part number for the item.
OEM Desc	String	40	Manufacturer's or vendor's description of the item. The operator may zoom to the OEM Parts table to choose a description, if it had been entered there previously (see the OEM Parts section).
MFR	String	6	Code used for the manufacturer of the item. The operator may zoom to the Vendor table to choose a code, if it had been entered there previously (see the Vendor Master section).
MOD/VER	String	24	Model or Version of the item.
SERIAL NUMBER	String	30	Serial number of the item.
RECEIVE DATE	Date	2	Date the item was received.
Install Date	Date	2	Date the item was installed.
Status	String	1	Code that designates the status of the item. The following values are set when processing transactions: R = Received; S = Shipped; I = Installed; X = Archived;

**Table 27.10.3-3. Items Page (Left) for Work Order Modification
Field Descriptions (2 of 3)**

Field Name	Data Type	Size	Description
GFE NUM	String	8	Gov't Furnished Equipment (GFE) number for the item
EVENT TYPE	String	1	Code identifying a type of maintenance event (N=new item installed; F=failed item replaced; R=serviceable item replaced).
MAINT CODE	String	3	Code designating the item's disposition. Property records are updated differently depending on the value entered.
CHANGE DATE	Date	2	Effective date of the configuration change.
EVENTS			A block of free form text for describing maintenance-related activities.
Processed?	String	1	Flag signifying whether or not the line item has been processed by the Work Order's .P(rocess_Changes) bottom-line command. The command updates the Component EIN's property records.
Date Entered	Date	2	Date the line item was created
FAILURE CODE	String	2	Code designating the cause of failure. This code is only used with failed items (i.e., Event Type="F".) The operator may zoom to the Maintenance Codes table and choose the code, if it had been entered there previously. (See the Maintenance Codes section.)
NEW ECS NAME	String	30	ECS name to be recorded in the item's property record. This code is only applicable to items that have failed or are being replaced.
NEW LOCN	String	6	Code for the new inventory location to which the item is to be assigned. This field is used for items that have failed or are being replaced (i.e., Event Type="F" or Event Type="R") and are being returned to stock or to a maintenance vendor. The operator may zoom to the Inventory Locations table to choose a code, if it had been entered there previously (see the Inventory Locations section).
BLDG	String	6	New building where the item is to be installed. This field is used for items that have failed or are being replaced (i.e., Event Type="F" or Event Type="R") and are being returned to stock or to a maintenance vendor. The operator may zoom to the Inventory Locations table to choose a code, if it had been entered there previously (see the Inventory Locations section).
ROOM	String	6	Room where the item is to be installed. This field is used for items that have failed or are being replaced (i.e., Event Type="F" or Event Type="R") and are being returned to stock or to a maintenance vendor.
USER	String	10	New user to which the item is to be assigned. This field is used for items that have failed or are being replaced (i.e., Event Type="F" or Event Type="R") and are being returned to stock or to a maintenance vendor.
REPLACEMENT' S EIN			Identifier of the new item being used as a replacement. This field is used only for items that have failed or that are being replaced (i.e., Event Type="F", or Event Type="R").

Table 27.10.3-3. Items Page (Left) for Work Order Modification Field Descriptions (3 of 3)

Field Name	Data Type	Size	Description
NEW PARENT EIN	String	30	EIN of the item to which the Component EIN is to be re-assigned. This field is applicable only to components that have failed or are being replaced (Event Type="F" or "R"), and are being relocated (Maint Code="R"). <i>The value must be supplied or the item will not get processed.</i> The operator may zoom to the EIN table to choose an identifier, if it had been entered there previously (see the EIN Manager section).

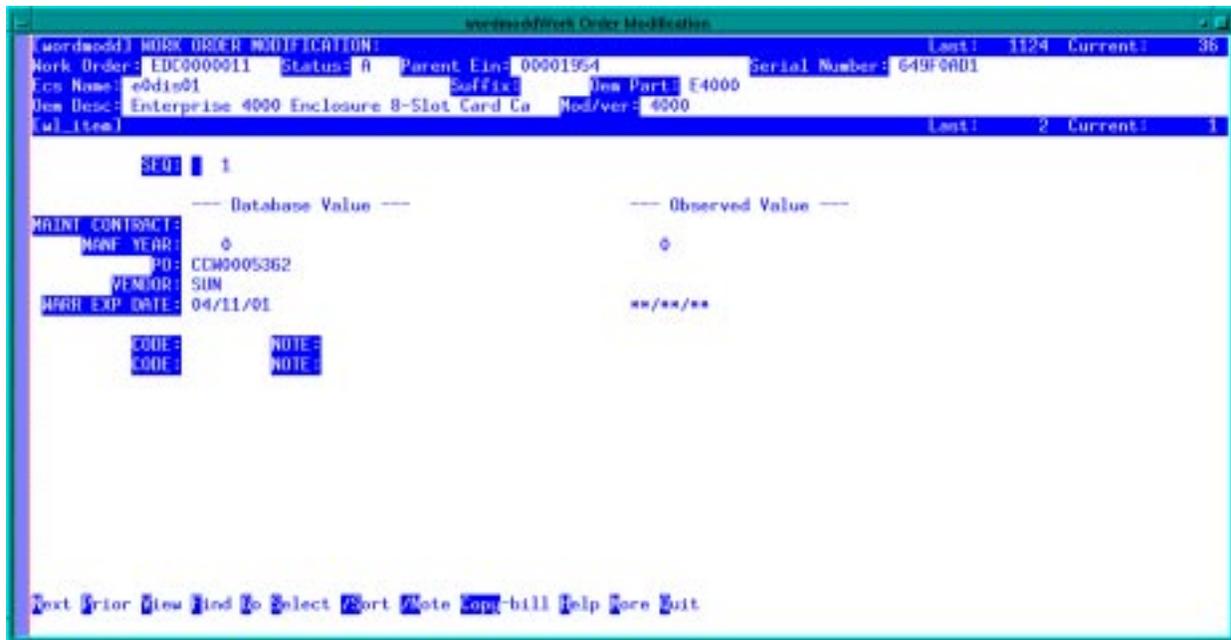


Figure 27.10.3-3. Items Page (Right) for Work Order Modification (2 of 2)

Table 27.10.3-4 describes the fields on the Items Page (Right) for Work Order Modification screen.

Table 27.10.3-4. Items Page (Right) for Work Order Modification Field Descriptions

Field Name	Data Type	Size	Description
SEQ	Numeric	4	Number used to distinguish among the line items of a Maintenance Work Order.
MAINT CONTRACT	String	15	Identifier for the maintenance contract as assigned by Purchasing or provided by the vendor.
MANF YEAR	Numeric	4	Date the item was manufactured.
PO NUMBER	String	10	Identifier for the purchase order against which the item was received.
VENDOR	String	6	Code for the vendor from which the item was purchased.
WARRANTY DATE	Date	2	Date the warranty period ends.
CODE	String	2	Identifier for a type or category of note associated with the item.
NOTE	String	60	A 60 character note that can be associated with this item.

The Process_Changes command provides a convenient, reliable, and efficient means for updating ILM property records based on information contained in MWO line items. New EIN records are created as necessary, as are corresponding OEM part, engineering change, and EIN structure records. Processing adds new items to the ECS inventory, archives those that have failed or been returned to the vendor, and re-assigns any that have been relocated or returned to stock. Additionally, items returned to a vendor are rendered obsolete with respect to their parent EINs and, of those that had failed, costs are transferred to their replacements.

If XRP-II is to update property records based on MWO line item data, line item records must specify values for Event Type and Maint Code. They determine the type of property record changes to be made. (See Table 27.10.3-5) Additionally, operators must supply a value for New Parent EIN if an item is designated for relocation. Other line item fields, such as Component EIN, Change Date, Replacement's EIN, New Locn, and New Bldg, have special significance as well in that they influence which database records actually change.

NOTE: Process changes command is reserved for the ILS PA uses only. However, LMC at each DAACs must provide the data detailed in table 27.10.3-5 in order for the ILS PA to process any changes derived from individual work orders.

**Table 27.10.3-5. Effects on Property Records by MWO Line Item Processing
(1 of 2)**

Event Types	Maint Codes	Required Fields	Definition
(F)ailed	(R)elocate	CHANGE DATE NEW PARENT EIN	<p>When an item has failed and been moved to a different machine, the system will:</p> <p>Render the EIN inactive, as of the replacement date, in EIN product structures that use it on or after that date.</p> <p>Update the EIN record for the failed item, clearing its installation date and setting its status to "F", its audit date to the replacement date, and its ECS name and its location values to those of the new parent EIN specified in the line item record.</p> <p>Add the EIN as a component of the new parent EIN as of the replacement date</p> <p>Records an FAI event in the inventory transaction log.</p>
(F)ailed	(V)endor	CHANGE DATE NEW ECS NAME = ARCHIVE NEW LOCN = EDFARC If External item, REPLACEMENT'S EIN	<p>When an item has failed and returned to the vendor, the system will:</p> <p>Render the EIN inactive, as of the replacement date, in EIN product structures that use it on or after that date.</p> <p>Update the EIN record for the failed item, clearing its installation date and setting its status to "X", its audit date to the replacement date, and its ECS name and location values to new values if specified in the line item record.</p> <p>Records an FAI event in the inventory transaction log.</p>
(N)ew	(V)endor	CHANGE DATE	<p>When an item is new and from the vendor, the system will:</p> <p>Render the component inactive in the product structure of other parent EINs, if any.</p> <p>Update the EIN record for the replacement item. Clearing its designator as a spare or consumable and setting its status to "I", its installation, receive, and audit dates to the replacement date, its ECS name to that of the MWO's parent EIN, and its location values to that of the replaced item.</p> <p>If the component is replacing a failed item and the failed item is being returned to the vendor, copy the item cost from the EIN record for the failed item to the EIN record for the new item, then zero out the cost in the EIN record for the failed item</p> <p>Add the component to the product structure of the MWO's parent EIN effective on the replacement date.</p> <p>Records an MRV event in the inventory transaction log.</p>
(R)eplaced	(R)elocate	CHANGE DATE NEW PARENT EIN	<p>When an item is being relocated to a new machine, the system will:</p> <p>Render the EIN inactive, as of the replacement date, in EIN product structures that use it on or after that date.</p> <p>Update the EIN record for the replaced item, clearing its installation date and setting its status to "R", its audit date to the replacement date, and its ECS name and its location values to those of the new parent EIN specified in the line item record.</p> <p>Add the EIN as a component of the specified, new parent EIN as of the replacement date.</p> <p>Records an REP event in the inventory transaction log.</p>

**Table 27.10.3-5. Effects on Property Records by MWO Line Item Processing
(2 of 2)**

Event Types	Maint Codes	Required Fields	Definition
(F)ailed	(S)tock	CHANGE DATE NEW ECS NAME NEW LOCN BLDG ROOM	<p>When an item has failed and returned to stock, the system will:</p> <p>Render the EIN inactive, as of the replacement date, in EIN product structures that use it on or after that date.</p> <p>Update the EIN record for the failed item, clearing its installation date and setting its status to “F”, its audit date to the replacement date, and its ECS name and location values to new values if specified in the line item record.</p> <p>Records an FAI event in the inventory transaction log.</p>
(N)ew	(S)tock	CHANGE DATE	<p>When the replacement item is new and taken from stock, the system will:</p> <p>Render the component inactive in the product structure of any other parent EIN (and adjust the inventory count for the losing locations accordingly).</p> <p>Update the EIN record for the replacement item, settings its status to “I”, its installation date and audit date to the replacement date, its ECS name to that of the MWO’s parent EIN, its location values to that of the replaced item.</p> <p>Add the component to the product structure of the MWO’s parent EIN effective on the replacement date.</p> <p>Records an MTR event in the inventory transaction log.</p>
(R)eplaced	(V)endor	CHANGE DATE NEW ECS NAME = ARCHIVE NEW LOCN = EDFARC REPLACEMENT’s EIN	<p>When an item is being replaced and returned to the vendor, the system will:</p> <p>Render the EIN inactive, as of the replacement date, in EIN product structures that use it on or after that date.</p> <p>Update the EIN record for the replaced item, clearing its installation date and setting its status to “X”, its audit date to the replacement date, and its ECS name and location values to new values if specified in the line item record.</p> <p>Remind the user to adjust item costs manually for the replacement item.</p> <p>Records an REP event in the inventory transaction log.</p>
(R)eplaced	(S)tock	CHANGE DATE NEW ECS NAME NEW LOCN BLDG ROOM REPLACEMENT’s EIN	<p>When an item is being relocated and return to stock, the system will:</p> <p>Render the EIN inactive, as of the replacement date, in EIN product structures that use it on or after that date.</p> <p>Update the EIN record for the replaced item, clearing its installation date and setting its status “R”, its audit date to the replacement date, and its ECS name and its location values to new values if specified in the line item record.</p> <p>Add the EIN as a component of the specified, new parent EIN as of the replacement date.</p> <p>Records an REP event in the inventory transaction log.</p>

Table 27.10.3-6. Procedures to Complete the Work Order (1 of 4)

PERFORM	ACTION
Navigate to Work Order Modification Screen	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select Maintenance Menu – press ‘enter’ C. Select Work Order Modification – press ‘enter’
Find the Work Order of interest	A. Press ‘f’ to find work order to modify B. Enter the work order number and then press ‘F5’, or press ‘v’ to go into the list mode, find the particular record by placing the cursor on the line of the desired record and then press ‘v’ again to bring back to the individual record mode.
Invoke the modify command	Press ‘/m’ to go into modify mode.
Enter new information about the work order as the maintenance proceed	Fill in the necessary information A. Enter vendor arrive date and time – when the vendor technician arrived on site to perform repair. B. Enter vendor complete date and time whether by on-site support, advanced replacement, spare replacement, or local site personnel repairs. C. At the Events field - Press ‘/z’ to get access to the text box, enter the following information: old and new, part numbers, EIN, and serial number. Other appropriate notes would be any administrative logistics delay times, problems, excessive delays or problem that should be brought to the attention of the ILS office. D. Enter the appropriate maintenance code: NOTE: Only need to enter a code if the maintenance action is something other than corrective maintenance. See table 27.10.1-1 for a more detail definition of the maintenance categories. CM – Corrective Maintenance PM – Preventive Maintenance IM – Installation Maintenance SR – Spare Replacement CC – Configuration Change E. Enter any other note about the work order F. Enter Start Date and End Date First block – indicate the time and date that the vendor returns call Second and third block – indicate delay times for when the vendor’s work was suspended and resumed (include travel time, admin delays, and logistic delays). Enter reason for the delay. AV – Awaiting Vendor, AP – Awaiting Part and UD – User Determined. Fourth block – indicate the time between when the vendor leaves and the system is back up. G. Press ‘F3’ to go to the next step

Table 27.10.3-6. Procedures to complete Work Order (2 of 4)

PERFORM	ACTION
Filling in the chargeable hours page if any.	<p>A. Press 'r' to go to the Chargeable Hours page for Work Order Modification screen.</p> <p>B. Press '/m' to go into modify mode</p> <p>C. Enter the Administrative Logistic Delay Time (ALDT).</p> <p>D. Enter elapsed time required for technician to complete repair and to bring item to operational status.</p> <p>E. Enter Switch over time (in tenths of an hour) required for switchover. Switchover time starts at the time of the failure and ends when the failover system is functional.</p> <p>F. Enter the total hours (in tenths of an hour) to be charged for down time.</p> <p>G. Press 'F3' to go to the next step</p>
Invoke the work order's item page	Press 'I' to invoke the items page.
Enter failed or replaced INTERNAL items	<p>If the screen is not in add mode, press '/a' to enter add mode. Enter the following information in the following fields:</p> <p>A. SEQ – press 'enter' – system will generate the next sequence number.</p> <p>B. COMPONENT EIN – Enter C component EIN if known – the system will populate all relevant information about the component on the DATABASE VALUES column. If the C component EIN is not known and is not in the database, fill out the following information on the OBSERVE VALUES column: OEM PART – Enter OEM part number – Operator may zoom to oem part table. OEM DESC – Enter part description MFG – Enter Manufacture code. Operator may zoom to the vendor table. SERIAL NUMBER – Enter the item serial number.</p> <p>C. EVENT TYPE – Enter F (Fail) or R (Replace) – Refer to table 27.10.3-5 to determine the appropriate event types.</p> <p>D. MAINT CODE – Enter R (Relocate) or S (Stock) or V (Vendor) - Refer to table 27.10.3-5 to determine the appropriate maintenance codes.</p> <p>E. CHANGE DATE – the actual date the change occurred.</p> <p>F. EVENTS – zoom to the event text block to enter any note about this item.</p> <p>G. Complete the following information only when the item is being relocated to a new parent or a new location within the project. If the item returned to the vendor, leave this section blank. NEW LOCN – Enter new location. Operator may zoom to the inventory location table. BLDG – Enter new building. ROOM – Enter new room. NEW PARENT EIN – Enter new parent EIN, if this item is being relocated to a new parent.</p> <p>H. Press 'F3' to exit Add mode.</p>

Remember to press <ENTER> after each field.

Table 27.10.3-6. Procedures to complete Work Order (3 of 4)

PERFORM	ACTION
<p>Enter failed or replaced EXTERNAL item</p>	<p>If the screen is not in add mode, press '/a' to enter add mode. Enter the following information in the following fields:</p> <ul style="list-style-type: none"> A. SEQ – press 'enter' – system will generate the next sequence number. B. COMPONENT EIN – Enter component EIN – the system will populate all relevant information about the component on the DATABASE VALUES column. If the component EIN is not in the database, fill out the following information on the OBSERVE VALUES column: <ul style="list-style-type: none"> OEM PART – Enter OEM part number – Operator may zoom to oem part table. OEM DESC – Enter part description MFG – Enter Manufacture code. Operator may zoom to the vendor table. SERIAL NUMBER – Enter the item serial number. C. EVENT TYPE – Enter F (Fail) or R (Replace) – Refer to table 27.10.3-5 to determine the appropriate event types. D. MAINT CODE – Enter R (Relocate) or S (Stock) or V (Vendor) - Refer to table 27.10.3-5 to determine the appropriate maintenance codes. E. CHANGE DATE – the actual date the change occurred. F. EVENTS – zoom to the event text block to enter any note about this item. G. Complete the following information only when the item is being relocated to a new parent or a new location within the project. If the item returned to the vendor, leave this section blank. <ul style="list-style-type: none"> NEW LOCN – Enter new location. Operator may zoom to the inventory location table. BLDG – Enter new building. ROOM – Enter new room. REPLACEMENT 'S EIN – Enter the new EIN that is replacing this item. NEW PARENT EIN – Enter new parent EIN, if this item is being relocated to a new parent. H. Press 'F3' to exit Add mode.

Table 27.10.3-6. Procedures to complete Work Order (4 of 4)

PERFORM	ACTION
Enter NEW or REPLACEMENT items	<p>If the screen is not in add mode, press '/a' to enter add mode. Enter the following information in the following fields:</p> <ul style="list-style-type: none"> A. SEQ – press 'enter' – system will generate the next sequence number. B. COMPONENT EIN – Enter component EIN – If the EIN is in ILM, the system will populate all relevant information about the component on the DATABASE VALUES column. If the component EIN is not known or is not in the database, fill out the following information on the OBSERVE VALUES column: <ul style="list-style-type: none"> OEM PART – Enter OEM part number – Operator may zoom to oem part table. OEM DESC – Enter part description MFG – Enter Manufacture code. Operator may zoom to the vendor table. SERIAL NUMBER – Enter the item serial number. C. EVENT TYPE – Enter N (New) D. MAINT CODE – Enter S (Stock) or V (Vendor) - Refer to table 27.10.3-5 to determine the appropriate maintenance codes. E. CHANGE DATE – the actual date this item was installed. F. Press 'F3' to exit Add mode.
Exit the item page	<p>When finished entering all failed & replacement information, press 'F3' to exit the item page. ILM will notify the operator that “there are n number of unprocessed line items.” Press 'enter' to clear the message and return to the MWO modification screen.</p>
Update the MWO status	<p>At the MWO Modification screen</p> <ul style="list-style-type: none"> A. Press '/m' to invoke the modify mode to change the status of the work order B. Enter an 'A' for audit. C. Press 'F3' to exit the modify mode.
Exit the Work Order Modification screen	<p>Press 'F3' to exit Work Order Modification screen.</p>

Remember to press <ENTER> after each field.

27.10.4 Preventative Maintenance Items Screens

The designator of which items in the EIN file has been determined and its frequency entered by the ECS/ILS office. Updates will be based on preventative maintenance 'MWO' submitted by the LMC.



Figure 27.10.4-1. Preventative Maintenance Items Screen

Table 27.10.4-1. Preventative Maintenance Items Field Descriptions

Field Name	Data Type	Size	Description
EIN through ROOM	MULTI-FIELD		These fields are not modifiable by the operator and represent the actual data from the EIN file.
SET AS PM ITEM (Y/N):	String	1	Flag designating the item is to undergo preventative maintenance. Y = Yes; N = No
FREQUENCY	Number	3	Number of days between PM.
LAST DATE	Date	2	Last date a PM has performed for this item.
MAINTENANCE DUE ON	String	8	Date the next maintenance is due.

27.10.5 Generate Preventative Maintenance Orders

This screen provides the ability to generate Work Orders for item needing a PM. When executed, orders are created for all items needing a PM prior to the cutoff date entered and prints a summary report of orders created.



Figure 27.10.5-1. Generate Preventative Maintenance Orders Screen

Table 27.10.5-1. Generate Maintenance Orders Field Descriptions

Field Name	Data Type	Size	Description
CUTOFF DATE	String	8	Enter the last date for the system to examine PM items and generate orders.
NOTE 1 and NOTE 2	String	40	A 40 character note to include in the report
NUMBER OF COPIES (PM ORDERS)	String	1	Number of copies of the report to print

Table 27.10.5-2. Procedures to generate PM orders

STEP	ACTION
Navigate to the Generate PM Orders screen	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select Maintenance Menu – press ‘enter’ C. Select Generate PM Orders – press ‘enter’
Invoke the add command	Press ‘/a’ to go into add mode.
Fill in the parameters to generate the PM orders	Fill in the necessary information A. Enter the last date for the system to examine preventative maintenance items. B. Enter any note to appear on the header of the report C. Enter number of copies of the report
Exit the add mode	Press ‘F3’ to exit the add mode.
Execute the PM orders	Press ‘e’ to execute the transaction.
Print the PM orders report	Press ‘F3’ if you do NOT want to print the report. If you want to print it on the screen, choose option 1 and press ‘enter’.
Select report options	A. Make your selection -Press ‘n’ for Next -Press ‘p’ for Previous -Press ‘r’ for Right -Press ‘q’ for Quit or -Press ‘h’ to print a hardcopy of the report B. After finished making the selection, press ‘q’ to exit the report screen. C. A message will come up specifying the number of reports generated, press ‘enter’. D. Another message will prompt “Another?” -Press ‘y’ to generate PM. This will go back to the Generate PM Orders screen, or -Press ‘n’, to go back to the Maintenance Menu.

Remember to press <ENTER> after each field.

27.10.6 Work Order Parts Replacement History Screen

The Work Order Parts Replacement History screen (Figure 27.10.6-1) generates reports detailing parts replaced under maintenance work orders. The operator enters a Work Order number or range of numbers and a number of copies wanted, then uses the Execute command to print the history reports. Table 27.10.6-1 describes the screen’s fields.



Figure 27.10.6-1. Work Order Parts Replacement History Report

Table 27.10.6-1. Work Order Parts Replacement History Field Descriptions

Field Name	Data Type	Size	Description
WORK ORDER or RANGE	String	25	Identifier for a work order or range of orders.
NOTE 1 and NOTE 2	String	60	A 40-character note to include in the report.
NUMBER OF COPIES (WORK ORDER HISTORY REPORT)	String	1	Number of copies of the report to print

Table 27.10.6-2. Procedures to generate Work Order Parts Replacement History Report

STEP	ACTION
Navigate to the Work Order Parts Replacement History Report	From the Main Menu A. Select ILM Main Menu – press 'enter' B. Select Maintenance Menu – press 'enter' C. Select Work Order Parts Replacement History – press 'enter'
Invoke the add command	Press '/a' to go into add mode.
Fill in the parameters to generate the report	Fill in the necessary information A. Enter the work order number or range of work orders to report on B. Enter any note to include in the report C. Specify number of copies of the report to generate
Exit the add mode	Press 'F3' to exit the add mode.
Execute the report	Press 'e' to execute the transaction.
Print the report	Press 'F3' if you do NOT want to print the report. If you want to print it on the screen, choose option 1 and press 'enter' .
Select report options	A. Make your selection -Press 'n' for Next -Press 'p' for Previous -Press 'r' for Right -Press 'q' for Quit or -Press 'h' to print a hard copy of the report B. After finished making the selection, press 'q' to exit the report screen. C. A message will come up specifying the number of reports generated, press 'enter' . D. Another message will prompt "Another?" -Press 'y' if you want to generate PM. This will go back to the Generate PM Orders screen, or -Press 'n' , to go back to the Maintenance Menu.

Remember to press <ENTER> after each field.

27.10.7 Maintenance Work Order Reports Screens

This screen provides Work Order Reports for work done on selected machines.



Figure 27.10.7-1. Maintenance Work Order Reports Screen

Table 27.10.7-1. Maintenance Work Order Reports Field Descriptions

Field Name	Data Type	Size	Description
PARENT EIN	String	20	Parent EIN for the installation/structure.
OEM PART	String	34	OEM part number reflected from the EIN record of the child.
SERIAL NUMBER	String	30	Serial number of the parent EIN.
SITE (LOCATION)	String	6	Code for the site which the items can be found.
NOTE 1	String	40	A 40 character message to include in the report
ENTER NUMBER OF COPIES (Maintenance Work Order Reports)	Number	1	Number of copies of the report to print.

Table 27.10.7-2. Procedures to generate Maintenance Work Order Reports

PERFORM	ACTION
Navigate to the Maintenance Work Order Reports screen	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select Maintenance Menu – press ‘enter’ C. Select Maintenance Work Order Reports – press ‘enter’
Invoke the add command	Press ‘/a’ to go into add mode.
Enter the report parameters	Fill in the necessary information A. Enter the Parent EIN number, or you may press ‘/z’, choose the EIN from the list by pressing ‘t’, then press ‘F3’. B. Enter any note to appeal on the header of the report C. Enter number of copies of the report to print.
Exit the add mode	Press ‘F3’ to exit the add mode.
Execute the report	Press ‘e’ to execute the transaction.
Print the report	Press ‘F3’ NOT to print the report. To print it on the screen, choose option 1 and press ‘enter’.
Select printing options	A. Make the selection -Press ‘n’ for Next -Press ‘p’ for Previous -Press ‘r’ for Right -Press ‘q’ for Quit or -Press ‘h’ to print a hardcopy of the report B. After finished making the selection, press ‘q’ to exit the report screen. C. A message will come up specifying the number of reports generated, press ‘enter’. D. Another message will prompt “Another?” -Press ‘y’ to print more report. This will go back to the Maintenance Work Order reports screen, or -Press ‘n’, to go back to the Maintenance Menu.

Remember to press <ENTER> after each field.

27.10.8 Work Order Status Reports Screens

This screen provides status reports on selected Work Orders.



Figure 27.10.8-1. Work Order Status Reports Screen

Table 27.10.8-1. Work Order Status Reports Field Descriptions

Field Name	Data Type	Size	Description
WORK ORDER or RANGE	String	25	Identifier for a work order or a range of orders. The operator may zoom to the Work Order file to choose an identifier, if it had been entered there previously. (See the Work Order Entry section.)
PART (OEM PART NUMBER) or RANGE	String	34	Manufacturer's part number or a range of numbers for items. The operator may zoom to the OEM Part file to choose the part number, if it had been entered there previously. (See the OEM Part Numbers section.)
ORDER STATUS [FRCX] (STATUS)	String	2	Code for the status of a work order
NOTE 1, NOTE 2	String	40	A 40 character message to include in the report
ENTER NUMBER OF COPIES (Work Order Status)	Number	1	Enter any number of copies of the report to print.

Table 27.10.8-2. Procedures to generate Maintenance Work Order Reports

PERFORM	ACTION
Navigate to the Work Order Status Reports Screen	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select Maintenance Menu – press ‘enter’ C. Select Work Order Status Reports – press ‘enter’
Invoke the add command	Press ‘/a’ to go into add mode.
Enter the report parameters	Fill in the necessary information. This report can be run without filling in any fields except “NUMBER OF COPIES,” Fill in selection criteria for the other fields as required. A. Enter the Work order number, or you may press ‘/z’, choose the work order from the list by pressing ‘t’, then press ‘F3’. B. Enter the child OEM part number - you may press ‘/z’, choose the OEM Part from the list by pressing ‘t’, then press ‘F3’. C. Enter order status O - OPEN – when the order is first entered A – AUDIT – when the order is being reviewed by the ILS MC. F – FINISH – when the order is being reviewed by the ILS PA. R – RETIRE – when the order is closed. D. Enter any note to appeal on the header of the report E. Enter number of copies of the report to print. F. Press ‘F3’ to exit the add mode.
Execute the report	Press ‘e’ to execute the transaction.
Print the report	Press ‘F3’ if you do NOT want to print the report. If you want to print it on the screen, choose option 1 and press ‘enter’.
Select printing options	A. Make your selection -Press ‘n’ for Next -Press ‘p’ for Previous -Press ‘r’ for Right -Press ‘q’ for Quit or -Press ‘h’ to print a hardcopy of the report B. After finished making your selection, press ‘a’ to exit the report screen. C. A message will come up specifying the number of reports generated, press ‘enter’. D. Another message will prompt up “Another?” -Press ‘y’ if you want to print more report. This will take you back to the Work Order Status reports screen, or -Press ‘n’, this will take you back to the Maintenance Menu.

Remember to press <ENTER> after each field.

PLEASE NOTE the Maintenance Menu options for the following are reserved for the ILS Maintenance Coordinator and ILS Property Administrators. The view option is available for information only. The ILS Maintenance Coordinator and Property Administrators will maintain the add/modify/deletion for these options.

1. Maintenance Codes
2. Maintenance Contracts
3. Authorized Employees

27.10.9 Maintenance Codes Screens

This screen provides failure codes and descriptions for use with repairs and replacements.



Figure 27.10.9-1. Maintenance Codes Screen

Table 27.10.9-1. Maintenance Codes Field Descriptions

Field Name	Data Type	Size	Description
CODE (maintenance)	String	2	Code that distinguishes among item failures according to their cause
DESC (maintenance)	String	30	Description for the failure code.

27.10.10 Maintenance Contracts Screens

This screen provides contract numbers for repair contracts with vendors and suppliers. This screen is maintained by the ILS Maintenance Coordinator.

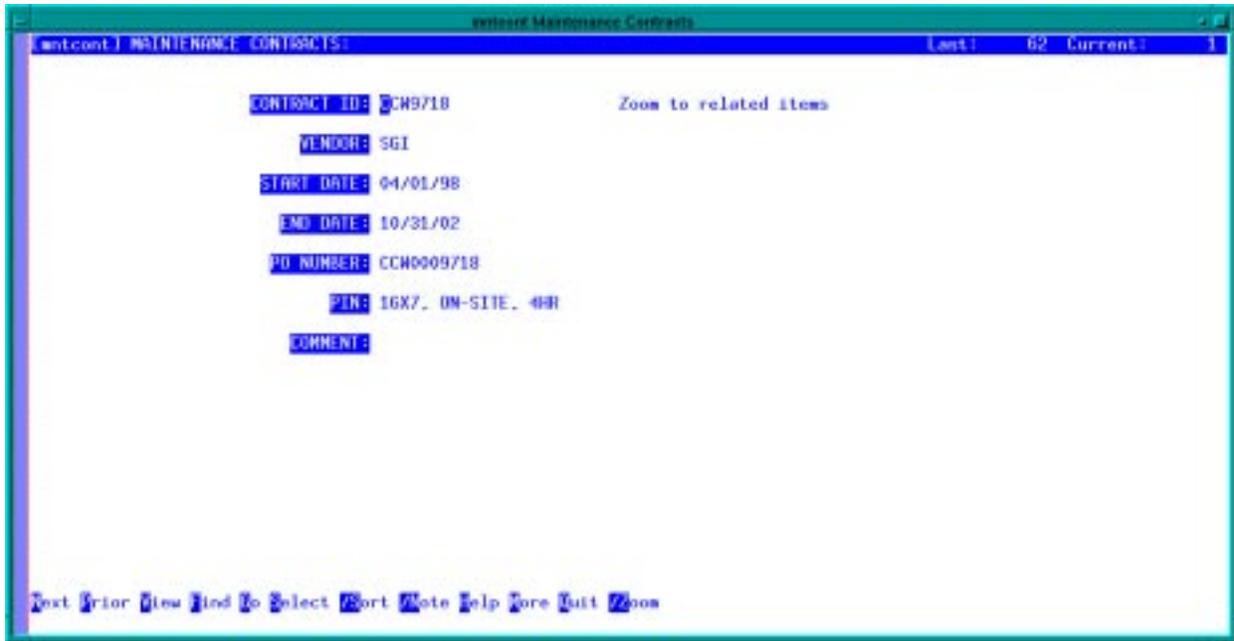


Figure 27.10.1-1. Maintenance Contracts Screen

Table 27.10.10-1. Maintenance Contracts Field Descriptions

Field Name	Data Type	Size	Description
CONTRACT ID	String	15	Identifier for the maintenance contract as assigned by purchasing or provided by the vendor
VENDOR	String	6	Vendor code whom the item was purchased from.
START DATE	Date	2	Date the contract is to become effective.
END DATE	Date	2	Date the contract will expire.
PO NUMBER	String	10	Identifier for the purchase order under which maintenance was procured.
PIN	String	20	PIN number applicable for authorization for vendor contact.
COMMENT	String	60	Comment about the maintenance contract.

27.10.11 Authorized Employees Screens

This screen provides employee codes for employees who have been permitted access to the vendor for repair notification.



Figure 27.10.11-1. Authorized Employees Screen

Table 27.10.11-1. Authorized Employees Field Descriptions

Field Name	Data Type	Size	Description
EMPL	String	10	Identifier for an employee. The operator may zoom to the Employee table and choose the code, if it had been entered there previously. (See the Employee Manager section.)
CONTRACT NO	String	10	Identifier for maintenance contract. . The operator may zoom to the Maintenance Contracts table and choose the identifier, if it had been entered there previously. (See the Maintenance Contracts Manager section.)
VENDOR	String	6	Code for the vendor with whom the contract is placed. The operator may zoom to the Vendor table and choose the code, if it had been entered there previously. (See the Vendor Master Maintenance section.
Last Name	String	30	Last name of the employee. The value is obtained from the Employee table.

27.10.12 Work Order Line Item Query Screen

The Work Order Line Item Query screen provides the ability to browse line items for all Maintenance Work Orders. Operators can use this screen to find and select all work orders under which maintenance actions have been performed for specific component EINs. This screen has left and right pages (Figures 27.10.12-1 and 27.10.12-2) that are nearly identical to the items pages for Work Order Modification. Refer to Tables 27.10.3-3 and 27.10.3-4 above for the descriptions of these fields.



Figure 27.10.12-1. Work Order Line Item Query (Left page) (1 of 2)



Figure 27.10.12-2. Work Order Line Item Query (Right Page) (2 of 2)

27.11 License Menu

Many software products used in ECS are licensed; that is, subject to conditions of limiting how many users can run the product and where. Licenses take numerous forms. Nodelock licenses let users run the product, but only on a designated machine; counted nodelock licenses limit the number of users that can run the product on that machine. Floating licenses allow users to run a product on any machine in a network. They may limit the number of users that can run the product concurrently, the number of servers that can be used concurrently, the number of sites that can use the product, or any combination of the above. Licenses can apply to a named product, one or more of its features, one or more of its versions, and/or one or more types of platforms. Some vendors enforce these provisions through use of license keys, but ECS is accountable for adhering to licensing provisions whether vendors use keys or not.

The life cycle for licensed COTS software encompasses developmental and systems engineering, purchasing, receiving, stocking, distribution, installation, use, and recovery. Licenses associated with COTS products are obtained, allocated, and archived; they also expire. Allocations can be re-assigned and recovered. Licenses do not always change when the licensed product does.

Multiple licenses are sometimes obtained from the product vendor under the provisions of a single license certificate. Each license would account for part of the rights-to-use under the certificate. Conversely, individual licenses can consume rights-to-use from more than one certificate. Each unique license key implies a unique license, but not every license has a key.

Licenses are allocated to the sites and host machines where their keys are installed, and keyless licenses are allocated to where their software products are installed. This is not so much for property accounting (i.e., cost accounting), but to verify adherence to purchased licensing provisions and to identify where licenses are used in case rights-to-use must be transferred elsewhere. A single license can be allocated to multiple sites and machines.

License rights-to-use is counted differently depending on the type of licenses purchased. Rights for nodelock license are allocated and counted by node and are consumed at the rate of one license per node. Floating license rights are allocated and counted based on number of users on a network rather than by specific machines, where the network is represented by a machine on which the license is installed. Floating license rights are consumed at the rate of number of users per license. Occasionally, a purchased entitlement covers a total number of users across a limited number of machines. In this case, rights are consumed at the rate of one license per node as well as number of users per license.

The License Menu (Figure 27.11-1) provides access to XRP-II's capability for managing software licenses.

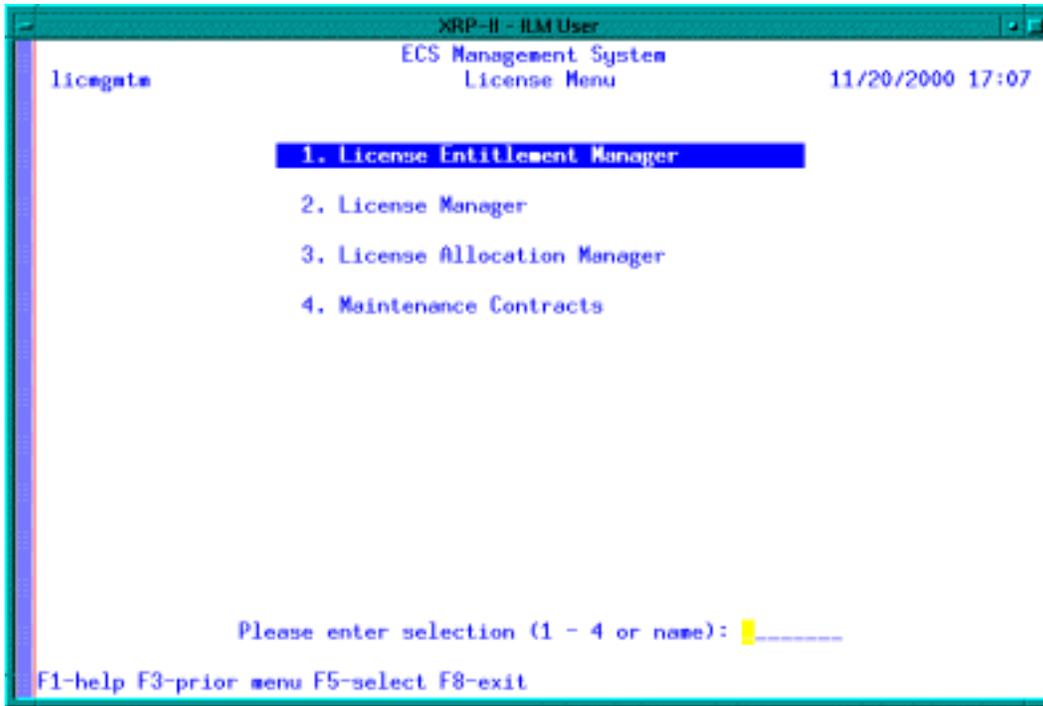


Figure 27.11-1. License Menu

Table 27.11-1. ILM Master Menu options

Menu item	Function	Section
License Entitlement Manager	For browsing purchased license entitlements at the DAACs.	27.11.1
License Manager	For tracking software license keys licenses obtained from vendors	27.11.2
License Allocation Manager	For tracking license rights-to-use allocated to hosts and sites;	27.11.3
Maintenance Contracts	For managing information about maintenance contracts with vendors and suppliers.	27.10.10

Note: Software License Management is managed by the Software License Administrator at EDF. DAACs only have query and report generating capabilities.

27.11.1 License Entitlement Manager Screen

Operators use the License Entitlement Manager screen (Figure 27.11.1-1) to maintain records of purchased rights-to-use for licensed software, including how many node and user rights-to-use have been consumed, remain, and are under maintenance. An entitlement record usually corresponds to a line item on a purchase order much like an EIN for hardware, but it can also represent rights associated with one or more copies of a software product for which licenses are

not purchased separately. A single record can accommodate a mix of both node and user rights-to-use. Rights consumed and remaining are computed automatically (and on demand) based on the licenses mapped against it.

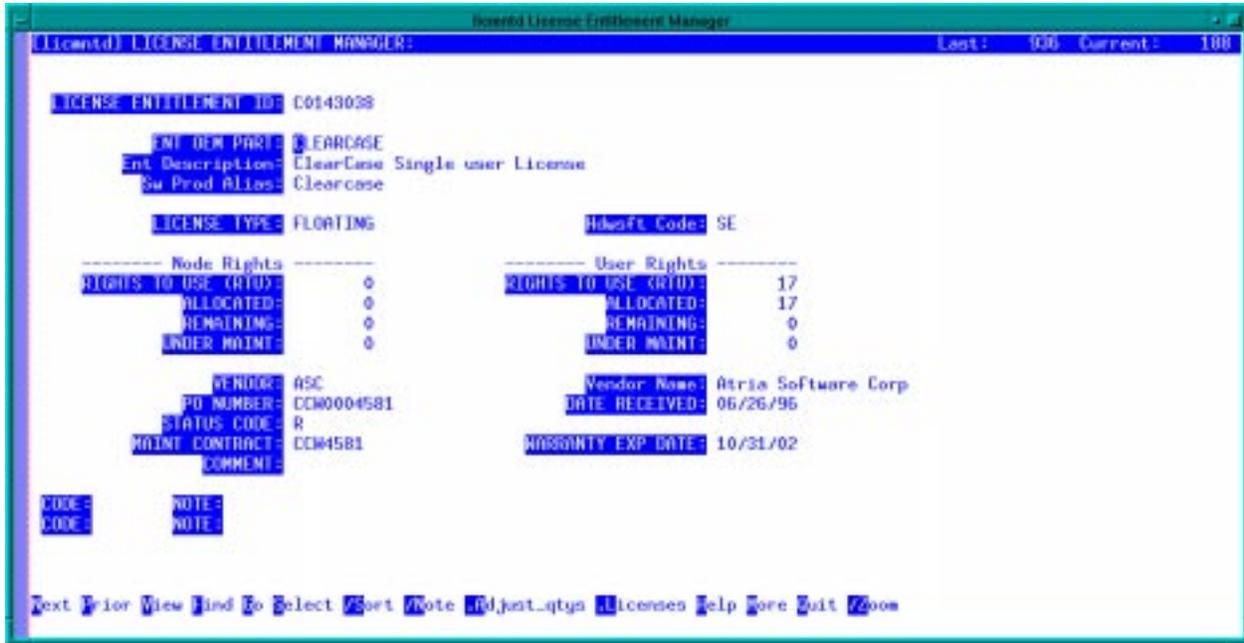


Figure 27.11.1-1. License Entitlements Manager Screen

The following bottom-line commands are unique to this screen:

- **.Adjust_qty** - updates how many of the license entitlement's node and user rights-to-use are currently allocated and how many remain. This function is useful because quantities are adjusted automatically only when license allocation data is changed via the data entry screens.
- **.Licenses** - activates an items page that lists all the licenses associated with the entitlement.

Table 27.11.1-1. License Entitlement Manager Field Descriptions

Field Name	Data Type	Size	Description
LICENSE ENTITLEMENT ID	String	20	Identifier for a purchased license entitlement. The equivalent of an EIN number.
ENT OEM PART	String	34	Manufacturer's or vendor's part number for the entitlement.
Ent Description	String	40	Manufacturer's or vendor's description for the entitlement. This field reflects the description of the OEM Part Number entered in the field above.
Sw Prod Alias	String	40	Common name used in ECS for the licensed product and all its versions and variants.
LICENSE TYPE	String	16	Classification that distinguishes among licenses according to rules of use. Examples include: floating (limited number of concurrent users), nodelocked (limited to use on a single machine), user (limited to use by a certain individual), project (unlimited use anywhere by individuals working on a certain project), site (unlimited use at a single site), etc.
Hdwsft Code	String	10	Code for classifying inventory items by type. For license entitlements, the code defaults to SE (Software Entitlement).
Rights to Use (RTU)	Numeric	8	Quantity of node or user rights-to-use authorized by this purchased entitlement.
Allocated	Numeric	8	Quantity of node or user rights under the license entitlement currently allocated by licenses mapped to the entitlement. This value is calculated by the system and reflects the total number of active allocations of those licenses.
Remaining	Numeric	8	Quantity of node or user rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
UNDER MAINT	Numeric	8	Quantity of node or user rights-to-use currently under maintenance.
VENDOR	String	6	Code for the vendor from whom the item was purchased.
Vendor Name	String	30	Name of the vendor from whom the item was purchased.
PO NUMBER	String	10	Identifier of the purchase order against which the item was received.
STATUS CODE	String	1	Code that designates the status of the software product. The following values are set when processing transactions: R = Received; S = Shipped; I = Installed; X = Archived;
DATE RECEIVED	String	8	Date item was received from vendor.
MAINT CONTRACT	String	15	Identifier for the Maintenance Contract under which the item is covered.
WARRANTY EXP DATE	Date	2	Date the warranty on the entitlement ends. This field defaults to 365 days from the date of entry.
CODE	String	2	Identifier for a type or category of note associated with the item
NOTE	String	60	A message that can be associated with the item.

The **.L** command invokes the Entitlement-Licenses items page depicted in Figure 27.11.1-2. This screen and its cousin, the Licenses-Entitlement items page attached to the License Manager screen, serve the same purpose: to map licenses obtained from vendors to the entitlements whose rights-to-use they consume. Multiple licenses may be mapped to a single entitlement, and a single license may be mapped to multiple entitlements. The Node RTU Allocated and User RTU Allocated fields specify how many of each type of rights a license draws from the entitlement and are what is used by the system when calculating an entitlement's rights consumed. The screen ensures that:

- a) the rights-to-use attributed to the entitlement do not exceed the entitlement's rights remaining;
- b) the sum of the rights being attributed for a license across multiple entitlements do not exceed the rights-to-use for the license.

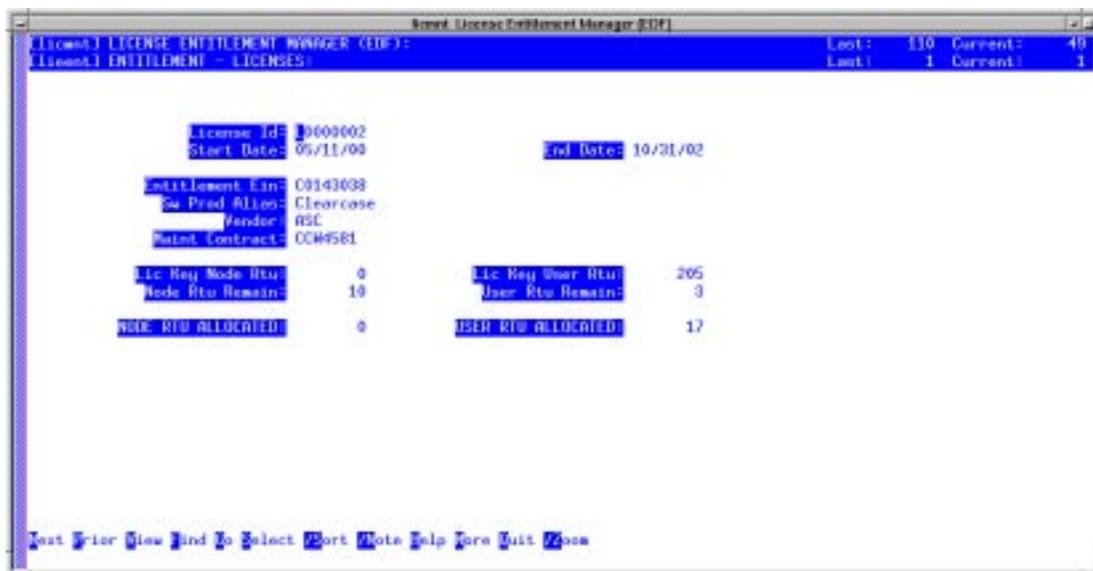


Figure 27.11.1-2. Entitlement – Licenses Page

Table 27.11.1-2 describes the fields on the Entitlement-Licenses Page.

Table 27.11.1-2. Entitlement – Licenses Page Field Descriptions

Field Name	Data Type	Size	Description
License Id	String	20	Unique designator for a license.
Start Date	Date	2	Date on which the license record takes effect.
End Date	Date	2	Date on which the license record is rendered ineffective
Entitlement Ein	String	20	Identifier for a purchased license entitlement. The equivalent of an EIN number.
Sw Prod Alias	String	40	Common name used in ECS for the licensed product and all its versions and variants.
Vendor	String	6	Code for the Vendor from whom the license entitlement was purchased.
Maint Contract	String	15	Identifier for the Maintenance Contract under which the license entitlement is covered.
Lic Key Node Rtu	Numeric	8	Number of machines on which the licensed product may be run concurrently sharing the same license key, if any. This value limits how many host allocation records can be created for the license.
Lic Key User Rtu	Numeric	8	Number of users authorized by the license to run the licensed product concurrently on a single network. This value limits the user rights-to-use that can be recorded in the license's allocation records.
Node Rtu Remain	Numeric	8	Quantity of node rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
User Rtu Remain	Numeric	8	Quantity of user rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
NODE RTU ALLOCATED	Numeric	8	Number of node rights-to-use to be counted under the entitlement as having been consumed by the license. The value may not exceed the current value plus the node rights remaining under the entitlement.
USER RTU ALLOCATED	Numeric	8	Number of user rights-to-use to be counted under the entitlement as having been consumed by the license. The value may not exceed the current value plus the user rights remaining under the entitlement.

27.11.2 License Manager Screen

The License Manager screen (Figure 27.11.2-1) maintains records of software licenses obtained from vendors. Licenses can be mapped to purchase license entitlements so that consumption of license rights can be tracked. A license may also be mapped to individual sites and hosts in order to track allocations, but only after it has first been mapped to one or more entitlements. This helps preclude allocating rights that exceed entitlements purchased.



Figure 27.11.2-1. License Manager Screen

The following bottom-line commands are unique to this screen:

- **.Entitlement** - activates an items page that lists the purchased entitlements from which the license's rights-to-use are derived.
- **Items_Allocation** - activates an items page that lists the host machines and sites to which the license has been allocated. The license's rights-to-use must have first been mapped to at least one entitlement before the license can be allocated.

Table 27.11.2-1. License Manager Field Descriptions (1 of 2)

Field Name	Data Type	Size	Description
License Id	String	20	Unique designator for a license.
DOC FILE #	String	20	Identifier under which any hardcopy records or correspondence pertaining to the license have been filed.
SW PRODUCT ALIAS	String	40	Common name used in ECS for the licensed product and all its versions and variants.
PRODUCT VERSIONS	String	24	Identifier(s) of one or more versions of the licensed product that are covered by the license.
PRODUCT FEATURES	String	54	Name(s) of one or more features of the licensed product that are covered by the license.
PLATFORMS	String	15	One or more codes for the types of machines to which the license applies (e.g., Sun, SGI, PC, etc.)
SERIAL NUMBER	String	30	Vendor-supplied serial number for the license or the product being licensed.
LICENSE TYPE	String	16	Classification that distinguishes among licenses according to rules of use. Examples include: floating (limited number of concurrent users), nodelocked (limited to use on a single machine), user (limited to use by a certain individual), project (unlimited use anywhere by individuals working on a certain project), site (unlimited use at a single site), etc.
LICENSE MANAGER	String	12	Technology employed in managing the license on-line (e.g., flexlm, proprietary, etc.)
SYSTEM HANDLER	String	30	Name of the system handler as provided by the license vendor.
DATE RECEIVED	Date	2	Date the license key and/or data arrived.
DELIVERY METHOD	String	10	Means by which the license key and/or data arrived (e.g., mail, e-mail, fax, etc.)
START DATE	Date	2	Date on which the license record takes effect. As of its end date, neither the license nor any of its associated allocations are counted in computations of node or user rights against entitlements. Changing the start date causes earlier start dates in allocation records to be changed to match.
END DATE	Date	2	Date on which the license record is rendered ineffective. This is not the same as the license expiration date. As of its end date, neither the license nor any of its associated allocations are counted in computations of node or user rights against entitlements. Changing the end date causes later end dates in allocation records to be changed to match.

Table 27.11.2-1. License Manager Field Descriptions (2 of 2)

Field Name	Data Type	Size	Description
LICENSE KEY	String	50	String of alphanumeric characters that represent the provisions for a license in an encoded form.
HOST ID	String	20	Host id of the license server machine supplied to the vendor when requesting the license. This is an information only field. Allocations of licenses to machines are accomplished via the License Allocation Manager screen.
PASSWORD	String	20	Password supplied along with the license key by the vendor. This is an information only field.
LIC KEY NODE RTU	Numeric	8	Number of machines on which the licensed product may be run concurrently sharing the same license key, if any. This value limits how many host allocation records can be created for the license.
LIC KEY USER RTU	Numeric	8	Number of users authorized by the license to run the licensed product concurrently on a single network. This value limits the user rights-to-use that can be recorded in the license's allocation records.
KEY EXP DATE	Date	2	Date on which the license key is no longer usable. This is not the same as the license end date, which is the date the license is no longer needed or used. The key expiration date is not used in computing license rights consumed against entitlements.
LICENSE KEY CHECKSUM	String	10	Checksum of the license key as supplied by the license vendor. (Checksums are used by the vendors to verify that a key was copied and matches what was issued.
DATA CHECKSUM	String	10	Checksum for license data supplied by the vendor.
Operator Id	String	8	Login id of the user who created the record.
Date Entered	Date	2	Date the record was created.
COMMENT	String	60	Comment to be stored in the record.
TEXT	String	n/a	A block of text associated with the current record.
CCR	String	10	Identifier for the CCR authorizing the license.
CODE	String	2	Identifier for a type or category of note associated with the item
NOTE	String	60	A message that can be associated with the item.

The License - Entitlements page (Figure 27.11.2-2) manages the mapping of a license to purchased entitlements and specifies how many node and/or user rights-to-use the license is consuming from each. The screen ensures that:

- a) the rights-to-use attributed to an entitlement do not exceed the entitlement's rights remaining;
- b) the sum of the rights being attributed to all entitlements do not exceed the rights-to-use for the license.



Figure 27.11.2-2. License – Entitlements Page

Table 27.11.2-2 describes the fields on the License-Entitlements Page.

Table 27.11.2-2. License – Entitlements Page Field Descriptions

Field Name	Data Type	Size	Description
Entitlement Ein	String	20	Identifier for a purchased license entitlement. The equivalent of an EIN number.
Sw Prod Alias	String	40	Common name used in ECS for the licensed product and all its versions and variants.
Vendor	String	6	Code for the Vendor from whom the license entitlement was purchased.
Maint Contract	String	15	Identifier for the Maintenance Contract under which the license entitlement is covered.
Lic Key Node Rtu	Numeric	8	Number of machines on which the licensed product may be run concurrently sharing the same license key, if any. This value limits how many host allocation records can be created for the license.
Llic Key User Rtu	Numeric	8	Number of users authorized by the license to run the licensed product concurrently on a single network. This value limits the user rights-to-use that can be recorded in the license's allocation records.
Node Rtu Remain	Numeric	8	Quantity of node rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
User Rtu Remain	Numeric	8	Quantity of user rights under a license entitlement not yet consumed by the mapping of licenses to the entitlement.
NODE RTU ALLOCATED	Numeric	8	Number of node rights-to-use to be counted under the entitlement as having been consumed by the license. The value may not exceed the current value plus the node rights remaining under the entitlement.
USER RTU ALLOCATED	Numeric	8	Number of user rights-to-use to be counted under the entitlement as having been consumed by the license. The value may not exceed the current value plus the user rights remaining under the entitlement.

The License Allocations items page maintains records about the hosts and sites to which software licenses have been allocated, and it has its own items page, License Allocation Additional Hosts, for identifying redundant or backup server machines on which this license will be installed.

One license allocation record is required for each host on which the license is installed where rights are to be counted as consumed. Allocations to hosts that are redundant or backup server machines are not typically counted against license entitlements and can be recorded as additional hosts associated with the allocation to the primary server.

The screen helps prevent licenses from being over-allocated. A license may not be allocated until it has first been mapped to at least one license entitlement, and allocations may not exceed the rights-to-use reflected in the license record or in the mappings to associated entitlements. In other words, a license cannot be allocated to:

- 1) more hosts than specified by:
 - a) the license's Node Rights-To-Use;

- b) the sum of all Node RTU Allocated in corresponding License – Entitlement records;
- 2) more users than specified by:
 - a) the license’s User Rights-To-Use;
 - b) the sum of all User RTU Allocated in corresponding License – Entitlement records.

The screen also helps operators determine if their license and license allocation records are consistent with the current name, location, and status in the EIN record for that host. An inconsistency suggests that a license-related issue may exist that should be resolved.

The following bottom-line commands are unique to this screen:

- **Items_Add1** – This command activates an items page that lists the backup or redundant server hosts for the allocated license. These items are not included when calculating the rights-to-use allocated and remaining for purchased entitlements.

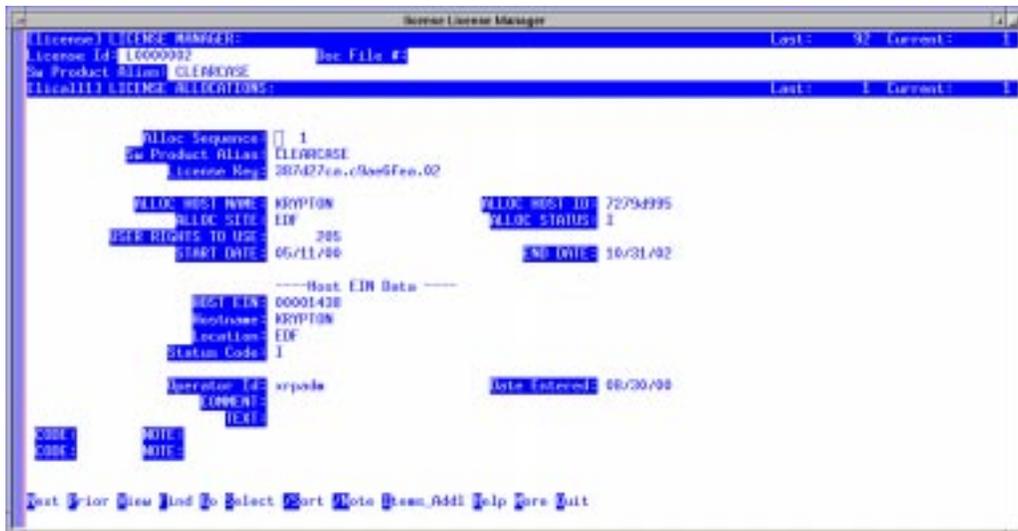


Figure 27.11.2-3. License Allocations Page

Table 27.11.2-3 describes the fields on the License Allocations Page screen.

Table 27.11.2-3. License Allocations Page Field Descriptions

Field Name	Data Type	Size	Description
Alloc Sequence	Numeric	4	Number used for identifying uniquely the principal host allocation records for a specific license.
SW PRODUCT ALIAS	String	40	Common name used in ECS for the licensed product and all its versions and variants.
License Key	String	50	String of alphanumeric characters that represent the provisions for a license in an encoded form.
ALLOC HOST NAME	String	30	ECS name of a machine to which the license is allocated.
ALLOC HOST ID	String	8	Host id of a machine to which a license is allocated.
ALLOC SITE	String	6	Code for the site to which the license is allocated.
ALLOC STATUS	String	1	Implementation status of the license with respect to the host or site.
CODE	String	2	Identifier for a type or category of note associated with the item
NOTE	String	60	A message that can be associated with the item.
USER RIGHTS TO USE	Numeric	8	Quantity of user rights being consumed for this license allocation.
START DATE	Date	2	Date on which the license allocation takes effect. Computations of node and user rights consumed against entitlements do not include any associated with allocations having a start date after the current date
END DATE	Date	2	Date on which the allocation of the license to the host expires. This is not the same as the license expiration date. As of its end date, an allocation is no longer counted in computations of user or node rights against entitlements.
HOST EIN	String	30	EIN number of the host to which the license is allocated.
Hostname	String	30	Name of the machine with which the Host EIN is associated.
Location	String	8	Identifier that designates the inventory location of the Host EIN.
Status Code	String	1	Code that designates the status of the Host EIN. The following values are set when processing transactions: R = Received; S = Shipped; I = Installed; X = Archived.
Operator Id	String	8	Login id of the user who created the record.
Date Entered	Date	2	Date the record was created.
COMMENT	String	60	Comment to be stored in the record.
TEXT	String	n/a	A block of text associated with the current record.

The License Allocation Additional Hosts screen (Figure 27.11.2-4) maintains records about backup or redundant license servers for machines to which a license has been allocated. Identifying additional hosts has no effect on calculations of entitlements' node or user rights-to-use consumed or remaining, but is useful for tracking where licenses are supposed to be or may be installed. As a convenience, the screen lets operators specify a Host EIN to facilitate corroborating license allocation data with data in ILM property records.

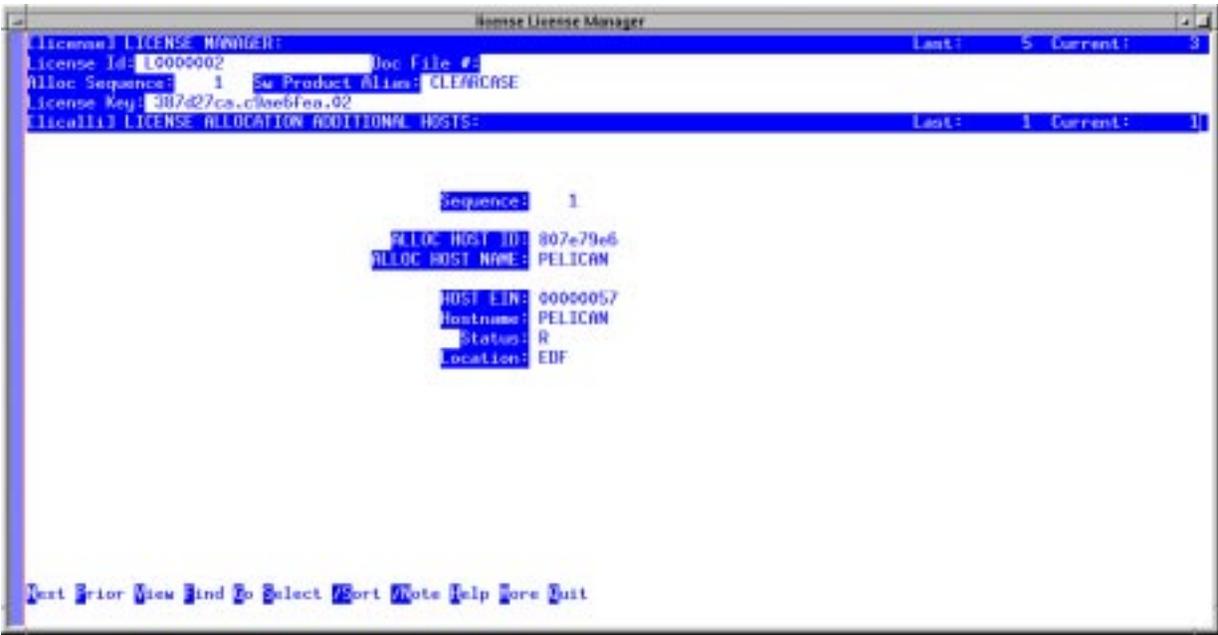


Figure 27.11.2-4. License Allocation Additional Hosts

Table 27.11.2-4 describes the fields on the License Allocation Additional Hosts screen.

Table 27.11.2-4. License Allocation Additional Hosts Field Descriptions

Field Name	Data Type	Size	Description
Sequence	Numeric	4	Number used for identifying uniquely the records that describe the backup or redundant license servers for a machine allocated a specific license.
ALLOC HOST ID	String	20	Host id of a machine that is a backup or redundant license server for the one to which the license is principally allocated.
ALLOC HOST NAME	String	30	ECS name of a machine that is a backup or redundant license server for the one to which the license is principally allocated.
HOST EIN	String	30	EIN number of the host to which the license is allocated.
Hostname	String	30	Name of the machine with which the Host EIN is associated.
Status	String	1	Code that designates the status of the Host EIN. The following values are set when processing transactions: R = Received; S = Shipped; I = Installed; X = Archived.
Location	String	8	Identifier that designates the inventory location of the Host EIN.

27.11.3 License Allocation Manager Screen

The License Allocation Manager screen (Figure 27.11.3-1) maintains records about the hosts and sites to which software licenses have been allocated. The screen is a near clone of the License Allocations items page of the License Manager screen, permitting operators to browse and update all allocation records at once rather than one license at a time. Refer to Section 27.11.2-3 for the description.

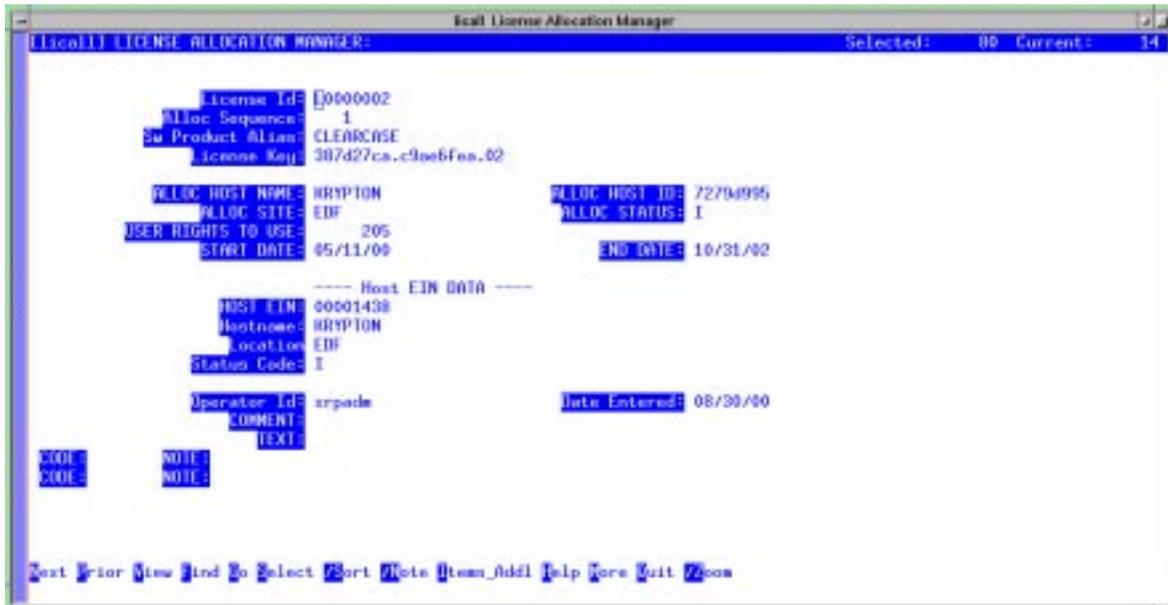


Figure 27.11.3-3. License Allocation Manager

27.11.4 Pre-defined License reports

ILM has three pre-defined software license reports that provide useful information to the License Administrator and the DAACs. Refer to sections 27.11.4.1 through 27.11.4.3 for more detail information about these reports.

27.11.4.1. License Entitlements Status Report

License Entitlements Status report provides the license purchased, such as: number of rights to use purchased, number of rights remaining, special flags that indicate whether the number allocated was over consumed and whether maintenance warranty expired or will expire within 30 days. The report is sorted by product name. This report is attached to the License Entitlement Manager report's menu. Refer to table 27.11.4.1-1 for field descriptions, and table 27.11.4.1-2 for procedure to generate the report.

See figure 27.11.4.1-1 for a sample display of the License Entitlements Status report.

Table 27.11.4-1. License Entitlement Status Report Field Descriptions (1 of 2)

Field Name	Data Type	Size	Description
License Type	String	16	Classification that distinguishes among licenses according to rules of use. Examples include: floating (limited number of concurrent users), node locked (limited to use on a single machine), user (limited to use by a certain individual), project (unlimited use anywhere by individuals working on a certain project), site (unlimited use at a single site), etc.
EIN	String	20	Identifier for a purchased license entitlement. The equivalent of an EIN number.
OEM DESC	String	40	Manufacturer's or vendor's description for the entitlement. This field reflects the description of the OEM Part Number entered in the field above.
VENDOR	String	6	Code for the vendor from whom the item was purchased.
PO NUMBER	String	10	Identifier of the purchase order against which the item was received.
MAINT CONTRACT	String	15	Identifier for the Maintenance Contract under which the item is covered.
WARRANTY EXP DATE	Date	2	Date the warranty on the entitlement ends. This field defaults to 365 days from the date of entry.
User RTU	Numeric	8	Quantity of user rights-to-use authorized by this purchased entitlement.
URTU REM	Numeric	8	Quantity of user rights under a license's entitlement not yet consumed by the mapping of licenses to the entitlement.
URTU MNT	Numeric	8	Quantity of user rights-to-use currently under maintenance.
NODE RTU	Numeric	8	Quantity of node rights-to-use authorized by this purchased entitlement.
NRTU REM	Numeric	8	Quantity of node rights under a license's entitlement not yet consumed by the mapping of licenses to the entitlement.
NRTU MNT	Numeric	8	Quantity of node rights-to-use currently under maintenance. An asterisk (*) is an indicated of the flag.
U	Flag		Flag designates user rights to use was over allocated. An asterisk(*) is an indicated of the flag.
N	Flag		Flag designates node rights to use was over allocated.
M	Flag		Flag designates maintenance warranty expired or will expire within 30 days. An asterisk (*) is an indicated of the flag.

Table 27.11.4.1-2. Procedures to generate License Entitlement Status Reports

PERFORM	ACTION
Navigate to the License Entitlement Manager Screen	From the Main Menu A. Select ILM Main Menu – press ‘enter’ B. Select License Menu – press ‘enter’ C. Select License Entitlement Manager – press ‘enter’
Selecting data to report.	You may select a subset of the license entitlements to report on, or you may run the report for all the license entitlements available.
To activate the report menu	A. Press ‘/r’ to display the report menu. Note: The number of selections on the report option may be difference according to each of the screen, However, the License Entitlement screen has the following report options: 1. TABLE REPORT 2. FORM REPORT 3. ASCII REPORT 4. LICENSE ENTITLEMENTS STATUS REPORT B. Select option 4 (License Entitlements status report) and press ‘enter’. A report destination option box will appear.
Displaying the report	Make your selection on where to display the report. The report destination has three options: 1. CRT – to display the report on the screen. 2. FILE – save the report to a file. You can find the file in your home directory. 3. Ltr-land-80 – print the report directly to your default printer.
Return to the License Entitlement Manager screen	Press ‘F3’ until XRP takes you back to the License Entitlement Manager Screen.

Remember to press <ENTER> after each field.

*** Clearcase ***

LIC TYPE	EIN	OEM DESC	VENDOR	PURCHASE ORDER	MAINT CONTRACT	WARR DT	USER RTU	URTU REM	URTU MNT	NODE RTU	NRTU REM	NRTU MNT	U	N	M
	C0147636	ClearCase 60 user License	ASC	SG-254515-	N/A	12/31/98	0	0	0	0	0	0			*
	C0156262	ClearCase 60 user License	ASC	SG-254519-	N/A	12/31/02	0	0	0	0	0	0			
FLOATING	C0146938	ClearCase Single user License	ASC	CCM0001631	CCM1631	10/31/02	180	0	0	0	0	0			
FLOATING	C0143038	ClearCase Single user License	ASC	CCW0004581	CCW4581	10/31/02	17	0	0	0	0	0			
FLOATING	C0147677	ClearCase Single user License	ASC	CCW0004528	CCW4528	06/30/98	100	19	0	0	0	0			*

Figure 27.11.4.1-1. License Entitlements Status Report

27.11.4.2 License Allocation by Product Report

License Allocation by Product Report identifies each of the products and their associated license information if any. As the name indicates, this report is sorted by product. The report lists the License Number, seq, host name, host id, license key, expiration date, user rtu, start date, and end date. It also lists redundant hosts if any. This report is attached to the License Allocation Manager screen report menu (section 27.11.3). Please refer to table 27.11.4.2-1 for the field descriptions, and table 27.11.4.2-2 for procedure to generate the report.

See figure 27.11.4.2-1 for a sample report.

Table 27.11.4.2-1. License Allocations by Product Field Descriptions

Field Name	Data Type	Size	Description
LICENSE	String	20	Unique designator for a license.
SEQ	Numeric	4	Number used for identifying uniquely the principal host allocation records for a specific license.
ALLOC HOST NAME	String	30	ECS name of a machine to which the license is allocated.
ALLOC HOST ID	String	8	Host id of a machine to which a license is allocated.
LICENSE KEY	String	50	String of alphanumeric characters that represent the provisions for a license in an encoded form.
KEY EXP DATE	Date	2	Date on which the license key is no longer usable.
PLATFORMS	String	15	One or more codes for the types of machines to which the license applies (e.g., Sun, SGI, PC, etc.)
USER RTU	Numeric	8	Quantity of user rights being consumed for this license allocation.
START DATE	Date	2	Date on which the license allocation takes effect.
END DATE	Date	2	Date on which the allocation of the license to the host expires.

Table 27.11.4.2-2. Procedures to generate License Allocations by Product Reports

PERFORM	ACTION
Navigate to the License Entitlement Manager Screen	From the Main Menu A. Select ILM Main Menu – press ‘ enter ’ B. Select License Menu – press ‘ enter ’ C. Select License Allocation Manager – press ‘ enter ’
Selecting data to report.	Operator may choose whether the report is to list all or only active allocations, certain software products, and certain sites’ data.
To activate the report menu	A. Press ‘ /r ’ to display the report menu. Note: The number of selections on the report option may be difference according to each of the screen, However, the License Entitlement screen has the following report options: 1. TABLE REPORT 2. FORM REPORT 3. ASCII REPORT 4. LICENSE ALLOCATIONS BY PRODUCT REPORT 5. LICENSE ALLOCATIONS BY HOST REPORT B. Select option 4 and press ‘ enter ’. A report destination option box will appear.
Displaying the report	Make your selection on where to display the report. The report destination has three options: 1. CRT – to display the report on the screen. 2. FILE – save the report to a file. You can find the file in your home directory. 3. Ltr-land-80 – print the report directly to your default printer.
Return to the License Allocation Manager screen	Press ‘ F3 ’ until XRP takes you back to the License Allocation Manager Screen.

Remember to press <ENTER> after each field.

```

*** Clearcase ***
                Versions: 2.1                Features:
LICENSE          SEQ  HOST NAME          HOST ID          LICENSE KEY          EXP DATE  PLATFORMS          USER RTU  START DT  END DATE
-----
L0000038        1  KRYPTON           7279d995        387d27ca.c9ae6fea.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000039        1  t1mss04           807fe113        387d2a2e.01ee9020.02  **/**/**  ALL                0          **/**/**  **/**/**
  -- Addl Host:  2  t1mss02           80804996        387d2a2e.01ee9020.02  **/**/**  ALL                0
  -- Addl Host:  1  t1css01           80857bb0        387d2a2e.01ee9020.02  **/**/**  ALL                0
L0000040        1  p0mss02           8080bfb7        387e7228.528a5aad.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000041        1  p0mss02           8080bfb7        387e717b.f4b05dab.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000042        1  p0mss02           8080bfb7        387e70be.9600a857.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000043        1  p0mss02           8080bfb7        387e702e.79f1f224.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000044        1  m0mss02           8080fd39        387d28fe.3da6012e.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000045        1  g0mss02           8080c9e8        387d287f.95f02f0b.02  **/**/**  ALL                0          **/**/**  **/**/**
  -- Addl Host:  3  g0css02           7279e28d        387d287f.95f02f0b.02  **/**/**  ALL                0
  -- Addl Host:  2  g0mss10          8080f61b        387d287f.95f02f0b.02  **/**/**  ALL                0
  -- Addl Host:  1  g0mss07          807b10bc        387d287f.95f02f0b.02  **/**/**  ALL                0
L0000046        1  e0mss02           8080f3d1        387e7122.577caf6e.02  **/**/**  ALL                0          **/**/**  **/**/**
L0000047        1  l0mss01           80806745        387e6f6a.d56ca8fd.02  **/**/**  ALL                0          **/**/**  **/**/**
  -- Addl Host:  2  l0css02           7278fdeb        387e6f6a.d56ca8fd.02  **/**/**  ALL                0
  -- Addl Host:  1  l0mss05          807b1107        387e6f6a.d56ca8fd.02  **/**/**  ALL                0
L0000048        1  n0mss02           808579b7        387d2a01.03aa9d75.02  **/**/**  ALL                0          **/**/**  **/**/**
-----
  
```

Figure 27.11.4.2-2. License Allocations by Product Report

27.11.4.3 License Allocations by Host Report

License Allocations by Host Report provides license information for each host or selected hosts depends on operator preferences. The report is sorted by host name and product name. For each host, it lists the host name, host id, host status, machine information, and license information. It also lists any redundant host that the license was assigned. Refer to table 27.11.4.3-1 for detail descriptions of each of the fields. This report can be found in the License Allocation Manager report menu. Table 27.11.4.3-2 gives the instruction to generate the report, and figure 27.11.4.3-1 displays a sample report.

Table 27.11.4.3-1. License Allocations by Host Report Field Descriptions

Field Name	Data Type	Size	Description
HOST NAME	String	30	ECS name of a machine to which the license is allocated.
HOST ID	String	8	Host id of a machine to which a license is allocated.
ALLOC STATUS	String	1	Implementation status of the license with respect to the host or site.
EIN Through DESC			These fields populated according to the entered EIN number.
LICENSE	String	20	Unique designator for a license.
SEQ	Numeric	4	Number used for identifying uniquely the principal host allocation records for a specific license.
ECS ALIAS	String	40	Common name used in ECS for the licensed product and all its versions and variants.
VERSIONS	String	24	Identifier(s) of one or more versions of the licensed product that are covered by the license.
PLATFORMS	String	15	One or more codes for the types of machines to which the license applies (e.g., Sun, SGI, PC, etc.)
License Key	String	50	String of alphanumeric characters that represent the provisions for a license in an encoded form.
USER RTU	Numeric	8	Quantity of user rights being consumed for this license allocation.
START DATE	Date	2	Date on which the license allocation takes effect.
END DATE	Date	2	Date on which the allocation of the license to the host expires.

Table 27.11.4.3-2. Procedures to generate License Allocations by Host Reports

PERFORM	ACTION
Navigate to the License Entitlement Manager Screen	From the Main Menu A. Select ILM Main Menu – press ‘ enter ’ B. Select License Menu – press ‘ enter ’ C. Select License Allocation Manager – press ‘ enter ’
Selecting data to report.	Operator may choose whether the report is to list all or only active allocations, all hosts, and certain hosts data.
To activate the report menu	A. Press ‘/r’ to display the report menu. Note: The number of selections on the report option may be difference according to each of the screen, However, the License Entitlement screen has the following report options: 1. TABLE REPORT 2. FORM REPORT 3. ASCII REPORT 4. LICENSE ALLOCATIONS BY PRODUCT REPORT 5. LICENSE ALLOCATIONS BY HOST REPORT B. Select option 5 and press ‘ enter ’. A report destination option box will appear.
Displaying the report	Make your selection on where to display the report. The report destination has three options: 1. CRT – to display the report on the screen. 2. FILE – save the report to a file. You can find the file in your home directory. 3. Ltr-land-80 – print the report directly to your default printer.
Return to the License Allocation Manager screen	Press ‘ F3 ’ until XRP takes you back to the License Allocation Manager Screen.

Remember to press <ENTER> after each field.

```

*** p0mss02 ***          ALLOC HOSTID: 8080bfb7          ALLOC STATUS: I
                          EIN: 00001821          EIN HOSTID:          EIN STATUS: I  MFR: SUN          MODEL: 1170          SERIAL NUMBER: 647F1185
                          DESC: Ultra Server 2 w/1-167MHZ CPU,128MB

LICENSE          SEQ  ECS ALIAS          VERSION          PLATFORMS          LICENSE KEY          EXP DATE          USER RTU          START DT          END DATE
-----
L0000040        1  Clearcase          2.1              ALL              387e7228.528a5aad.02  **/**/00          0          **/**/00          **/**/00
L0000041        1  Clearcase          2.1              ALL              387e717b.f4b05dab.02  **/**/00          0          **/**/00          **/**/00
L0000042        1  Clearcase          2.1              ALL              387e70be.9600a857.02  **/**/00          0          **/**/00          **/**/00
L0000043        1  Clearcase          2.1              ALL              387e702e.79f1f224.02  **/**/00          0          **/**/00          **/**/00
  
```

```

*** t1mss04 ***          ALLOC HOSTID: 807fe113          ALLOC STATUS: I
                          EIN: 00003317          EIN HOSTID:          EIN STATUS: I  MFR: SUN          MODEL:          SERIAL NUMBER: 716F0632
                          DESC: Ultra 2 Model 2170 w/2 167 MHZ CPU

LICENSE          SEQ  ECS ALIAS          VERSION          PLATFORMS          LICENSE KEY          EXP DATE          USER RTU          START DT          END DATE
-----
L0000039        1  Clearcase          2.1              ALL              387d2a2e.01ee9020.02  **/**/00          0          **/**/00          **/**/00
  -- Addl Host:  1  t1css01
  -- Addl Host:  2  t1mss02
  
```

Figure 27.11.4.3-1. License Allocations by Host Report

27.12 ILM Master Menu

The ILM Master Menu provides the LMC with the ability to verify the accuracy of ILM in reference to employee information, inventory location, hardware and software codes and OEM Part Numbers. All additions, deletions or modifications are to be directed to the ILS Property Administrator.

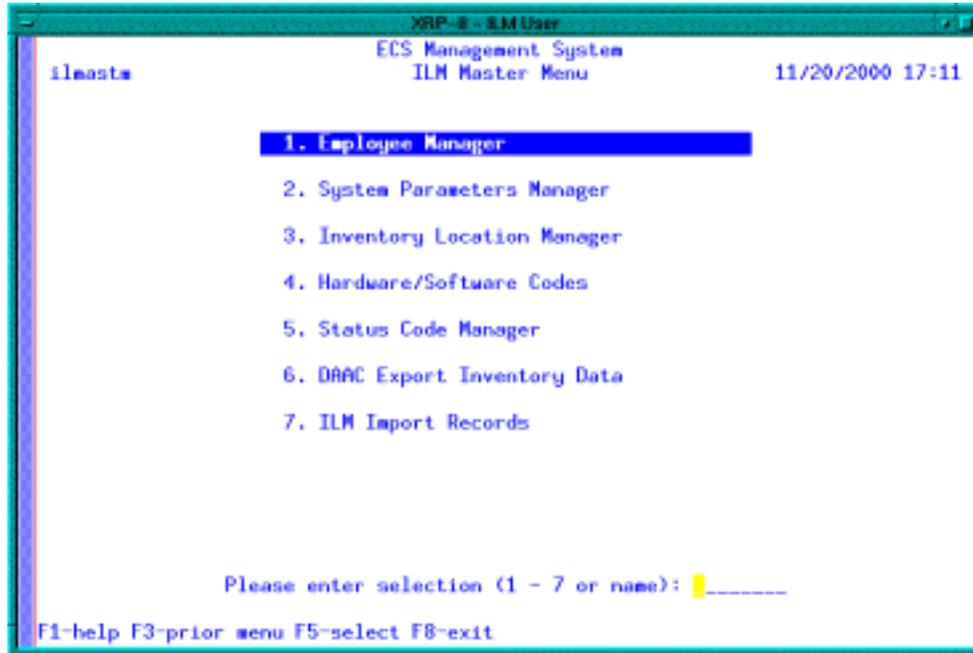


Figure 27.12-1. ILM Master Menu

The ILM Master menu is broken down into the following functions:

Table 27.12-1. ILM Master Menu options

Menu item	Function	Section
Employee Manager	For maintaining employee information	27.12.1
System Parameters Manager	For creating parent/child relationship between components in an assembly	27.12.2
Inventory Location Manager	For maintaining standardized information about ECS inventory locations for all ILM processes.	27.12.3
Hardware/Software Codes	For maintaining a standard set of codes for classifying inventory items according to type.	27.12.4
Status Code Manager	For maintaining a standard set of codes for classifying inventory items according to status.	27.12.5
DAAC Export Inventory Data	For exporting a DAAC's inventory data and transferring them to the SMC's ILM system.	27.12.6
ILM Import Records	For uploading inventory data that had been exported at another site.	27.12.7

27.12.1 Employee Manager Screens

This screen provides for the maintenance of employee information.



Figure 27.12.1-1. Employee Manager Screen

Table 27.12.1-1. Employee Manager Field Descriptions

Field Name	Data Type	Size	Description
EMPLOYEE NUMBER (EMPL)	String	10	Unique identifier for an employee.
LAST NAME (EMPLOYEE)	String	30	Last name of the employee.
FIRST NAME (EMPLOYEE)	String	30	First name of the employee.
STATUS (EMPLOYEE)	String	1	Status of the employee.
WORK CENTER (EMPLOYEE)	String	6	Code for work center where the employee is normally assigned.
PHONE (EMPLOYEE)	String	18	Telephone number of the employee.
FAX NUMBER (EMPLOYEE)	String	13	FAX number of the employee.
E-MAIL (EMPLOYEE)	String	30	E-mail address for the employee.
PAGER NUMBER (EMPLOYEE)	String	13	Pager number for the employee.
CC MAIL (EMPLOYEE)	String	30	CC-mail address of the employee.

27.12.2 System Parameters Manager Screen

The System Parameters Manager screen (Figure 27.12.2-1) is for maintaining system-wide XRP-II parameters and is principally used when first installing the system. Since ILM uses only a subset of the full XRP-II capabilities, this is a scaled down version of the screen described in the Section 6 of the *XRP-II System Reference Manual*. It contains only the fields needed to tailor the system to the site at which it operates.

Several fields have particular significance for ILM. The Site ID field contains the code for the ECS site where the operator's copy of XRP-II is installed. The field is interrogated by ILM processes that have to determine which assets belong to the local site. The Last EIN field is used by XRP-II to keep track of the most recently used, automatically assigned EIN. It updates the field whenever an operator presses <RETURN> in the EIN field when creating records via EIN Entry. The NASA Contract Number and Default MFG Year fields contain values used as defaults when creating ILM records, and the Export Functioning field precludes more than one export process from running at a time because they would conflict.

Table 27.12.2-1 describes each of the screen's fields.



Figure 27.12.2-1. System Parameters Manager

Table 27.12.2-1. System Parameters Manager Field Descriptions

Field Name	Data Type	Size	Description
SYSTEM PARAMETER KEY	String	1	Code that designates the active record in XRP-II's system parameter table. The active record must have the value "A".
SITE ID	String	6	Code that identifies the ECS site where this XRP-II system is installed.
LAST CONTROL ITEM ID	String	20	Code used in determining the next sequentially available identifier when assigning control item identifiers automatically.
LAST EIN	String	20	Code used in determining the next sequentially-available identifier when assigning EIN numbers automatically
USE BRANCH AS ORDER PREFIX	String	1	Code that, if "Y", causes all new purchase orders, work orders, and sale orders to be prefixed with the site code of the operator or, if null, the default site code.
starting RAM	Number	8	Initial amount of memory XRP-II is to use
NASA CONTRACT NUMBER	String	11	Code that is used by NASA to identify the ECS contract. It is attached to all property records
DEFAULT MFG YEAR	String	4	Year used as default to identify when an item was built.
EXPORT FUNCTIONING	String	1	Code that indicates if an XRP-II data "export" function is in progress; used to prevent multiple export routines being run concurrently

27.12.3 Inventory Location Manager Screens

This screen provides for the maintenance of location information used in the inventory and logistics processes.



Figure 27.12.3-1. Inventory Location Manager Screen

Table 27.12.4-1. Hardware/Software Codes Field Descriptions

Field Name	Data Type	Size	Description
CODE (Hardware/Software)	String	10	Code for classifying the type of items.
DESCRIPTION (Hardware/Software)	String	30	Description for the hardware/software code

27.12.5 Status Code Manager Screen

The Status Code Manager screen (Figure 27.12.5-1) maintains a set of standardized status codes for tracking property and events in the inventory and logistics processes. Table 27.12.5.1 describes the screen's fields.



Figure 27.12.5-1. Status Code Manager

Table 27.12.5-1. Status Code Manager Field Descriptions

Field Name	Data Type	Size	Description
CODE	String	4	Code for an inventory status for an item.
DESCRIPTION	String	30	Description for the code.

27.12.6 DAAC Export Inventory Data Screen

ILM at the SMC can maintain consolidated records about inventory, logistics, and maintenance activities system-wide. Records created at local sites can be exported and shipped to the SMC where they can be added to records that were centrally created. For ECS, only records about items at the site are to be exported.

The DAAC Export Inventory Data utility supports this customized export process. It generates a formatted data file containing site records changed but not previously exported, and optionally

transfers the file via ftp to a machine at the SMC. Operators at the SMC use the ILM Import Records utility (see Section 27.12.7) to load the data into the system there.

The screen in Figure 27.12.6 initiates the export process. XRP-II analyzes the transaction log to determine what data changed since the last time the function was used and which site items were affected. EIN, EIN structure, purchase order, work order, inventory and transaction history records are copied and stored in files compatible with XRP-II's ILM Import Records utility. These files are, in turn, archived in a tar file. The tar file is given a name that identifies the date and time the export was done, the origination site, the file's type, and the machine to which the file is to be sent. If the SEND NOW feature is used, XRP-II transfers the files via ftp then moves them from the export directory to an archive directory. Otherwise, the files remain in the export directory to be transferred manually.

NOTE: ILM import and export are being done manually daily through cronjobs at all the sites. The cron jobs perform the same tasks as described in sections 27.12.6 and 27.12.7.

Note: Export files that are transferred manually to a destination machine must also be moved manually to the export archive directory.

Note: The export directory and its corresponding export archive directory are configuration parameters named via program environment variables set in the XRP-II configuration files during installation.

Enter the name of the machine to receive the data (using its domain name or IP address), and choose whether or not to ftp the tar file immediately after it is created. The name can be selected from a managed list by using XRP-II's /Zoom command. Use **Execute** to begin data extraction and, if prompted, provide a login account and a password for the ftp. As processing progresses, XRP-II will display informational messages, including some that contain the name of the tar file that are created. Messages that terminate with the symbol ">" require an operator response. Hit any key and processing will continue. XRP-II returns to the System Utilities menu when done.

Table 27.12.6-1 describes the screen's fields.



Figure 27.12.6-1. DAAC Export Inventory

Table 27.12.6-1. DAAC Export Inventory Data Field Descriptions

Field Name	Data Type	Size	Description
FIRST MACHINE TO SEND TO	String	40	Full domain name or IP address of the machine to receive the exported inventory data.
SEND NOW	String	1	Flag to indicate if the export tar file is to be sent now.

27.12.7 ILM Import Records Screen

ILM data will be exchanged among ECS sites on a routine basis. The ILM Import Records utility is designed to load data from tar files that had been created and forwarded using either of XRP-II's ILM data export utilities (see Sections 27.12.6).

The screen shown in Figure 27.12.7-1 initiates the import process. Entering “Y” at the prompt causes XRP-II to process all files in the directory named in the IMPORTPATH environment variable. Import tar files -- whose names indicate the date and time they were made -- are processed in chronological order as determined from their file names. Upon completion, the original files are moved to an archive directory named in the IMPORTARC environment variable.

NOTE: ILM import and export are being done manually daily through cronjobs at all the sites. The cron jobs perform the same tasks as described in sections 27.12.6 and 27.12.7.



Figure 27.12.7-1. ILM Import Records

27.13 System Utilities Menu (Perform XRP-II Master File Maintenance)

XRP-II groups together several programs that help standardize values for all of XRP-II and support inter-site exchange of Baseline Manager data. The screens supporting these programs are accessed via the System Utilities menu (Figure 27.13-1).

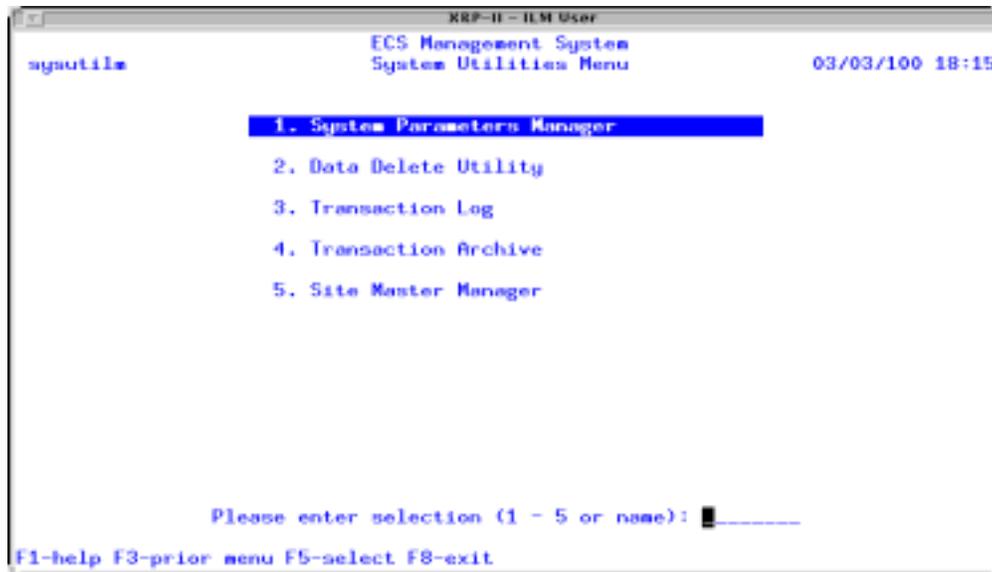


Figure 27.13-1. System Utilities Menu

Table 27.13-1. System Utilities Options

Menu item	Function	Section
System Parameters Manager	Contains fields that needed to tailor the system at a site.	Refer to section 27.12.2
Data Delete Utility	Enables the deletion of data that is no longer wanted in the database	27.13.2
Transaction Log	Contains all the transaction log of all the transaction user performs on the system.	27.13.3
Transaction Archive	Enables the archiving of all the old transaction logs.	27.13.4
Site Master Manager	Maintains information about all the ECS-related sites.	27.13.5

27.13.1 Data Delete Utility

Data Delete Utility enables the deletion of arbitrary types of data that are no longer wanted in the database. Access to this screen should be restricted to the System administrator. In a relational database with referential integrity it is not possible to delete a record in a database table that is referenced by a record in some other table. Data delete utility enables the user to specify a table and key value, then it identifies on the screen the data related to the specified data, and optionally allows the user to delete the related data and the base record.

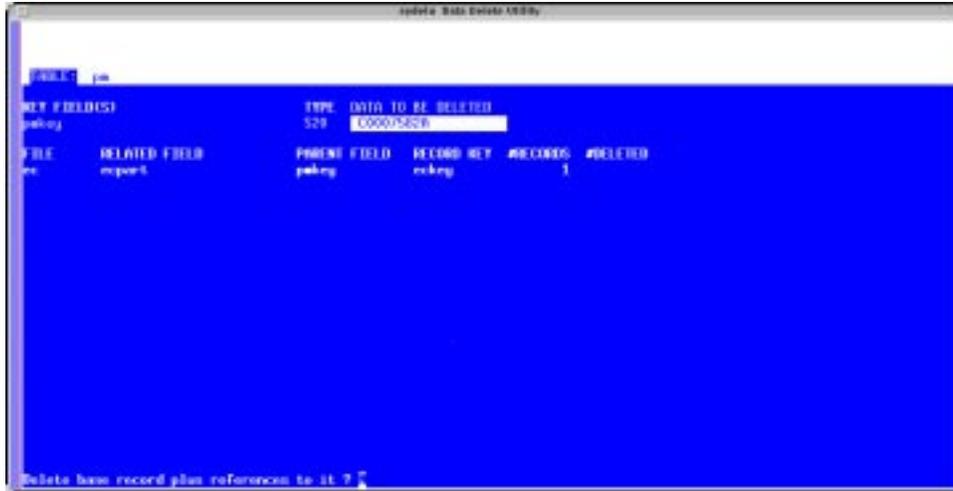


Figure 27.13.1-1. Data Delete Utility

Table 27.13.1-1. Procedure to delete base records in the database

PERFORM	ACTION
Navigate to the Data Delete Utility screen	<p>From the Main Menu</p> <p>A. Select System Utilities Menu – press ‘enter’</p> <p>B. Select Data Delete Utility – press ‘enter’</p>
Enter data to be deleted	<p>A. Enter the table name of a database table at the “Table:” prompt. XRP responds by listing the one or more fields which form the key of the file.</p> <p>B. Then enter the key value identifying the base record to be deleted.</p> <p>C. XRP specifies the number of record selected based on the key value the user entered. Press ‘enter’ to go to the next step.</p> <p>D. XRP prompts “DELETE MODE: Confirm Silent or Quit?”</p> <p>Confirm – Type ‘C’ to select confirm. XRP identifies and lists on the screen all of the tables in the database have one or more records referencing the base record. If the user confirms that the data is to be deleted, XRP deletes all of the related records and then the base record. The number of records deleted from each table is echoed to the screen.</p> <p>Silent – XRP will delete all the base records silently without asking the user to confirm the deletion.</p> <p>Quit – to exit out of the delete mode.</p>
Exit the screen	Press ‘F3’ to exit Data Delete Utility screen.

27.13.2 Transaction Log Screen

The screen shown in Figure 27.13.2-1 allows operators to browse, and maintain if necessary, the database transaction log file. Values for all fields on this screen are system-supplied. When a database record is modified via a data entry screen, the system provides the next available transaction number and record information about what field was modified when and by whom.

The transaction log facilitates synchronizing database changes among sites. For example, the Export Site-Unique Changes utility (Section 27.12-6) analyzes the log's entries to identify database records that have been modified, setting each Transferred field so it bypasses the entry next time the utility is run.

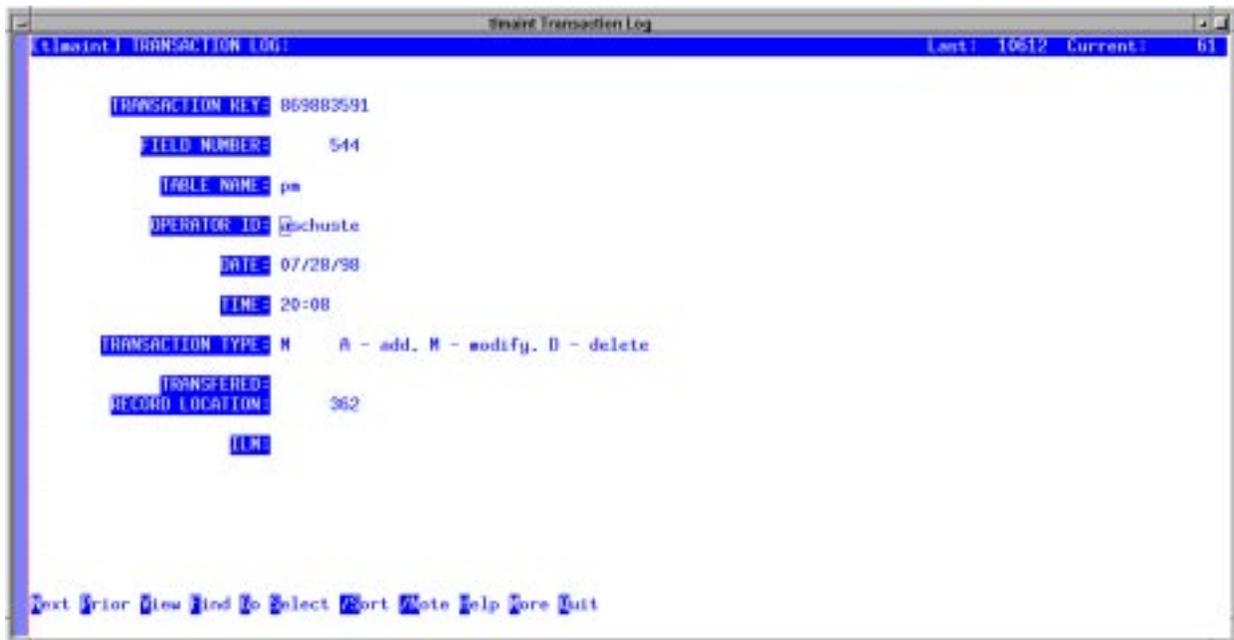


Figure 27.13.2-1. Transaction Log

The screen displays numbers to identify XRP-II database fields because field names are not stored in the database. Field names that correspond to the numbers can be found in file `$MSPATH/mms/def/file.h`, where `MSPATH` is an environment variable identifying XRP-II's installation directory.

Similarly, the screen uses numbers to identify locations of altered database records. The current contents of a referenced record can be displayed as follows, but only if the record at that location was neither deleted nor replaced by another since the log entry was made. At a Unix command line prompt, type:

SYS920	Invokes UNIFY's database test driver
setloc <table> <location>	Displays a record's data
end	Exits program SYS920

Note: Use Transaction Archive (Section 27.13.4) to remove obsolete transaction records. Transaction Archive preserves records that export utilities still need, and it saves a historical copy of the records it deletes.

Table 27.13.2-1 describes this screen's fields.

Table 27.13.2-1. Transaction Log Field Descriptions

Field Name	Data Type	Size	Description
transaction key	numeric	5	Number that uniquely identifies each update transaction
field number	numeric	8	Numerical identifier for the XRP-II field affected by the transaction.
table name	string	10	Name of the XRP-II table affected by the update transaction
operator id	string	8	Userid of the operator making the update transaction
date	date	N/A	Date of the update transaction
time	time	N/A	Time of the update transaction
transaction type	string	1	Code for the type of transaction: A (add), M (modify), or D (delete)
transferred	string	1	Code that indicates that the transaction has been analyzed by an export utility. "T" means the corresponding control item record has been exported, while "X" means it did not need to be exported.
record location	numeric	8	Identifier for the relative record within the XRP-II table affected by the update transaction
ilm	string	1	Code that distinguishes between ILM-and BLM-related log entries; "Y" signifies ILM

27.13.3 Transaction Archive Screen

Control item data update transactions should periodically be deleted from the database after changed records have been exported. This makes room to log new transactions.

The Transaction Archive screen shown in Figure 27.13.3-1 copies to a named file the records of transactions that occurred on or prior to a specified cutoff date. It then deletes the records from the database.

Specify the date of the last transaction to archive and the name of a file in which to store the data.

Note: XRP-II will only archive a transaction log record if its Transferred field contains the value "T" or "X". The presence of a "T" or "X" means the record has been analyzed by a program for exporting records about control item changes to other sites (see Section 27.13.2). Deleting unanalyzed transaction log records can cause incomplete data exchanges.



Figure 27.13.3-1. Transaction Archive

Table 27.13.3-1. Transaction Archive Field Descriptions

Field Name	Data Type	Size	Description
file name	string	8	Name of the file in which to store transaction records being archived
cutoff date	date	N/A	Date of the most recent transaction to be archived

27.13.4 Site Master Manager Screen

The Site Master Manager screen (Figure 27.13.4-1) lets operators maintain an index of ECS-related sites. This index, which identifies details about each site, also serves as a pick list to facilitate entering control item implementation status data and report generation parameters on other screens.



Figure 27.13.4-1. Site Master Manager

Table 27.13.4-1 describes the “site” fields that were tailored for ECS.

Table 27.13.4-1. Site Master Manager Field Descriptions

Field Name	Data Type	Size	Description
site id	string	6	Code that uniquely identifies an ECS site.
site name	string	46	Full name of an ECS site.
phone number	string	8	Phone number of a point of contact at the site
street address	string	30	Address for the site
city	string	20	Name of the city in which the site is located
state	string	2	Abbreviation for the state in which the site is located
zip	string	10	Postal code for the site
country	string	16	Code for the country in which the site is located

27.14 System Tools Menu (Perform XRP-II System and Database Administration)

XRP-II provides several programs for controlling user access, maintaining the database, and customizing the user interface. Many of the programs are supported by data entry screens accessed via XRP-II's System Tools menu (Figure 27.14-1).

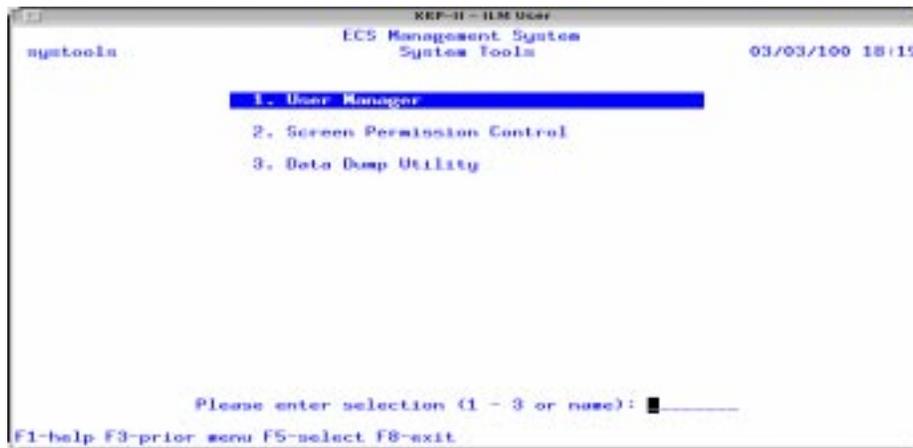


Figure 27.14-1. System Tools

Table 27.14-1. System Tools Options

Menu item	Function	Section
User Manager	Use to register users to XRP.	27.14.1
Screen Permission Control	Let operator specifies the XRP-II menus and data entry screens a user or group can access.	27.14.2
Data Dump Utility	To bulk dump one or more XRP-II database tables into specially formatted data files.	27.14.3

27.14.1 User Manager Screen

Operators use the User Manager screen (Figure 27.14.1-1) to register the Unix userids of individuals authorized to run XRP-II. Individuals are assigned a group of menus and screens that may be accessed and a specific entry menu. As part of logon processing, XRP-II's menu handler obtains an individual's Unix userid from the system and verifies it against those that have been registered.

Use this screen to add, delete, modify or browse XRP-II user records.

Note: Data access for operators running XRP-II executables from the command line is governed by Unix file permissions rather than the menu handler.

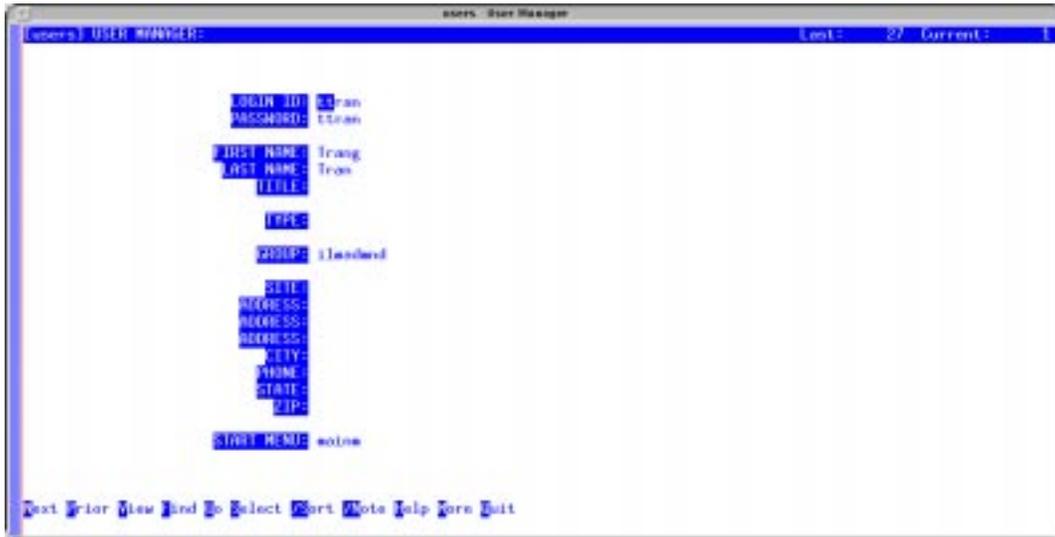


Figure 27.14.1-1. User Manager

Table 27.14.1-1. User Manager Field Descriptions

Field Name	Data Type	Size	Description
login id	String	32	Full, network-addressable name of a host
password	String	6	Code that uniquely identifies an ECS site
first name	String	30	First name of the user
last name	String	30	Surname of the user
title	String	20	Name of the user's position or job
group	String	8	Name for a collection of XRP-II data entry screens and menus. These are the default screens and menus the user can access. Deviations can be specified via Screen Permission Control.
address	String	30	Street address where the responsible engineer is located
city	String	20	Name of the city in which the responsible engineer is located
phone	String	18	Phone number for the responsible engineer
state	String	2	Name of the state in which the responsible engineer is located
zip	String	10	Postal code where the responsible engineer is located
start menu	String	8	Name or code of the menu initially presented to the user at login

27.14.2 Screen Permission Control Screen

Screen Permission Control (Figure 27.14.2-1) lets operators specify the XRP-II menus and data entry screens a user or user group can access and the data manipulation permissions the user or group is granted when accessing a screen. It replaces reliance on the “users” and “groups” files

discussed in Sections 5 and D.5 of the *XRP-II System Reference Manual*, however the concept of access and privileges by group and user is the same.

Use this screen to browse, add to, or edit existing screen permission control records. Each record renders a menu or data entry screen accessible to some user or group. For data entry screens, it also assigns to the user or group the privilege to query (inquire), add, modify, and/or delete records via the screen. A privilege is assigned by placing a “Y” in the appropriate privilege field. Similarly, a privilege is removed by placing an “N” in the appropriate privilege field.

Consider the following when modifying screen permissions:

- Privileges specified for a user take precedence over privileges specified for the user’s group
- A user or group is granted access to a menu or screen only if a privilege is assigned.
- Assignment of All Privilege overrides other privileges specified in the record
- Privileges specified in the record do not override permission restrictions coded into specifications for the screen (e.g., no user can update the database via a screen marked for querying the database only, regardless the privileges the user is given for the screen.)

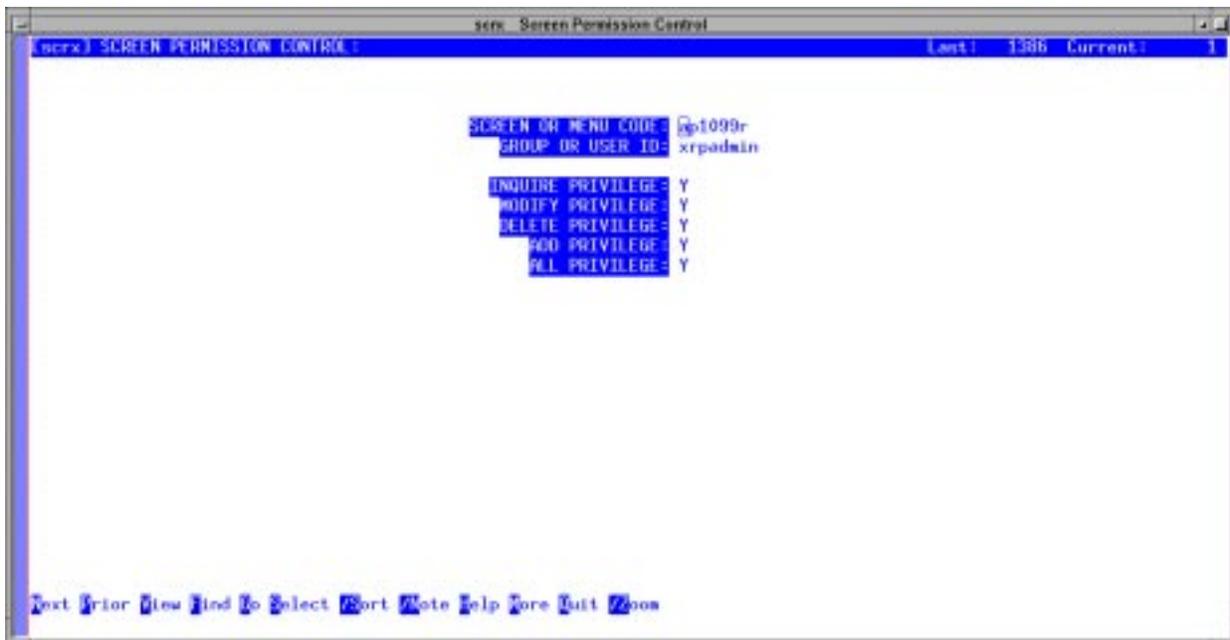


Figure 27.14.2-1. Screen Permission Control

ILM is delivered with a default set of user groups and associated screen permissions (see Section 27.2). Example ways an operator might extend this set include:

- Making a screen available to a group - add a record that names the screen and group, then assign at least one privilege for the group
- Making a screen accessible to only certain users - add a record for each user. Name the screen and the user, and assign at least one privilege for the user. Then find and delete any records that make the screen accessible to groups other than any established for the system administrator.
- Increasing a screen's privileges for a member of a group - add a record that names the screen and the user, and assign the extra privilege for the user.
- Restricting a screen's privileges for a member of a group - add a record that names the screen and the user, and remove the privilege(s) for the user

Table 27.14.2-1 describes this screen's fields.

Table 27.14.2-1. Screen Permission Control Field Descriptions

Field Name	Data Type	Size	Description
screen or menu code	string	8	Identifier (short name) that XRP-II programs use in referencing an XRP-II screen or menu (e.g., pici).
group or user id	string	8	Name that classifies XRP-II users according to access required to menus and screens, or an individual's Unix userid
inquire privilege	string	1	Code indicating if the group or user can: a) read database records via the named screen; or b) can access the named menu.
modify privilege	string	1	Code indicating if the group or user can: a) modify database records via the named screen; or b) can access the named menu.
delete privilege	string	1	Code indicating if the group or user can: a) delete database records via the named screen; or b) can access the named menu.
Add privilege	string	1	Code indicating if the group or user can: a) add database records via the named screen; or b) can access the named menu.
All privilege	string	1	Code indicating if the group or user can: a) read, modify, delete, and add database records via the named screen; or, b) can access the named menu.

27.14.3 Data Dump Utility Screen

Operators use the Data Dump Utility screen (Figure 27.14.3-1) to bulk dump one or more XRP-II database tables into specially formatted data files. A file is created for each database table, and it contains all fields for all records in the table. Fields are separated by pipe symbols (|).

The first line in each file identifies the field ordering. See the XRP Tools, Techniques, and Conventions Manual, Sections 1.5 and 1.6, for file format conventions XRP-II uses.

Enter Modify mode and specify which tables to dump and whether to archive the resulting data files. Return to Inquiry mode, then enter “E” to initiate the dump and “Y” at the confirmation prompt. XRP-II will create the requested data files and return to the System Tools menu.

Note: If a tar file is named, XRP-II archives all formatted data files it finds regardless whether the corresponding database table was part of the current dump.



Figure 27.14.3-1. Data Dump Utility

Table 27.14.3-1. Data Dump Utility Field Descriptions

Field Name	Data Type	Size	Description
dump	string	60	List of tables to dump (e.g., pm, ec, etc.). A null field causes all tables to be dumped.
tar dump files	string	1	Code indicating whether or not to tar the data tables that were dumped
tar file name	string	40	Pathname for the tar file in, or relative to, the database directory specified in environment variable \$DBPATH

28. Maintenance of Configuration Parameters

28.1 Purpose

These procedures describe the overall maintenance of the ECS Configuration Parameters Baseline for ECS custom software and hardware, including patches, database, operating systems, Commercial-off-the-shelf (COTS) and networks.

The ECS Configuration Parameter Baseline comprises of capturing, controlling, managing, documenting and verifying updates to the ECS Configuration Parameter Baseline at the ECS Development Facility (EDF). It also sets the direction for EDF to capture and document approved changes made by the Data Active Archive Center (DAAC) personnel to their operational configuration parameter baseline. The only assumption is that an initial ECS configuration parameter baseline has been established through the appropriate ECS Configuration Change Request (CCR) and ECS Change Control Board (CCB) approval process.

28.2 Applicability/Scope

This document is applicable to all organizational activities within the ECS Development Facility (EDF) and DAAC(s) that result in a change to the ECS Configuration Parameter Baseline.

This document adheres to the policies, guidelines and procedures of the following ECS Plan, Project Instructions (PI) and WIs.

102-CD-003	Configuration Plan for SDPS for the ECS Project
PI CM-1-004	Change Control Board Processes
PI MO-1-003	ECS SDPS Sustaining Engineering and Maintenance Mgt.
WI CM-1-040-1	Conduct ECS Custom Code Baseline
WI MO-1-003-3	Preparing an Effective Trouble Ticket
WI MO-1-003-4	ECS Deployment IPT Work Instructions
WI MO-1-003-5	Operations Class NCR Management

28.3 Major Stakeholders and Supporting Organizations

The Maintenance and Operations, Development Engineering, Systems Engineering, Sustaining Engineering, Program Management, Quality Office, Testing, Deployment, DAAC(s) and ESDIS organizations are the primary stakeholders in this process.

28.4 Definitions

Configuration Parameter Change - A configuration parameter change as defined in this document, refers to any change that results in the modification of an existing configuration parameter, addition of a new configuration parameter, or deletion of an existing configuration parameter. A configuration parameter change can be a result of ECS updates to the ECS custom software/hardware, patches, database, operating systems COTS and networks, or due to altering of a parameter setting or a value range of an existing configuration parameter.

Configuration Change Request (CCR) - A document that requests, defines and justifies a change(s) to design and/or documentation which is controlled by a CCB. In the context of the configuration parameter, a CCR is required to propose a change to the ECS Configuration Parameter Baseline. A CCR written against a Configuration Parameter Baseline will follow the normal path of CCR process, review, and appropriate CCB approvals.

ECS Change Control Board (CCB) - ESDIS CM consists of hierarchy of boards that control the configuration. These consist of ESDIS CCB (top level), ECS CCB (middle level), lower level CCBs, such as, Maintenance and Operations (M&O) CCB, Science Development (SD) CCB and ECS Development Facility (EDF) CCB, and the lowest level CCBs at the DAACs.

COTS - Commercial off-the-shelf (COTS) hardware platforms, or software products. These tools may be brought into the EDF either permanently (e.g., as an approved software development tool) or temporarily (e.g., for the purpose of testing and/or evaluation).

DAAC - Distributed Active Archive Center is one of several operational sites where science data is ingested and processing is performed within EOSDIS.

DDTS - Distributed Defect Tracking System is a UNIX change management and bug tracking system that tracks and manages defects (Non-Conformance Reports - NCRs) throughout the software lifecycle.

EDF - ECS Development Facility, Upper Marlboro, MD; also known as Landover.

EDF/SCDV CCB - EDF/SCDV CCB is responsible for establishing and managing ECS Baseline development. This includes controlling development configurations; recommending EDF procurement to the ECS CCB; approving all non-procurement internal CCRs to change the EDF configuration, COTS, hardware/software, networks, facilities and related procedures; Controlling all EDF documents, and installation /removal of all evaluation COTS in the EDF. EDF/SCDV also has the responsibility for controlling ECS releases. It controls the configurations at the test environment (PVC and VATC), and recommends test environment procurements within the contractual baseline. It authorizes segment turnovers and toolkit distribution and migration. It approves release-specific CDRL documents, Class II release-specific changes, white papers and technical documents, ECS Baseline Technical Documents, and distribution of ECS software and hardware outside of the EDF for use within the ECS project prior to CSR.

M&O CCB - Maintenance and Operations Configuration Control Board, is responsible for agenda items on providing technical support to operational sites and SMC, and is responsible for M&O related CCRs and NCRs written at the DAAC(s) that are reviewed for closure. M&O is

the approving authority on any hardware or software configuration changes to the system operational baseline. Any ECS configuration baseline changes to the DAAC(s) and SMC operational baseline, must be approved by the M&O CCB first.

Non-Conformance Report (NCR) - The description of a problem discovered at the EDF within the development, PVC or VATC environments, or at the DAAC(s) and SMC. NCRs are managed using the DDTS tool.

NCR Review Board - Daily review board is responsible for the review and approval of NCRs entered into the REL_B0_INFORMAL 1 DDTS class, and in the OPERATIONS class that are ready for closure.

Operational Site - One of the DAAC(s) or the SMC.

Patch - A temporary addition or change to the ECS configuration. This is often a “quick-and-dirty” remedy to an existing bug. A patch may or may not be permanently incorporated into the ECS configuration baseline.

PVC - Performance Verification Center - A simulated DAAC operational environment within the EDF, used for testing and evaluating performance of ECS custom software, databases, COTS, operating systems and networks.

SMC - System Monitoring Center. The coordination and monitoring node of the operational portions of the ECS SDPS system.

Sustaining Engineering Effort - Responsible for implementing needed improvements to the current operational version of the hardware, software, and firmware. The sustaining engineering function includes analysis, identification of processes, procedures and methods to accommodate the following: new technologies and concepts; manage system upgrades and evolution; control and maintenance of ECS databases; and activities necessary to ensure ECS reliability, maintainability, and availability. The sustaining engineering effort also includes the development, test, installation, configuration, and tuning of the ECS software, COTS packages, operating systems, compilers, tools, utilities, networks and databases.

Trouble Ticket (TT) - A description of a problem, or an unresolved operational issue, discovered at one or more DAAC(s) or the SMC. TTs are documented using the Remedy Tool. Unresolved Trouble Ticket can be upgraded to an NCR level.

VATC - Verification and Acceptance Test Center - Test environment located within the EDF.

28.5 Procedure/Responsibilities

The procedures in this document for Maintenance of Configuration Parameters Baseline, are in close compliance with plans, PIs and WIs referenced in this document. The author will not discuss any information that is already documented in the referenced documents. Reader is advised to review the appropriate references (documents listed in sections 3.2 and 6.1.1) for details on topics covered in this WI.

28.5.1 Procedure Documentation

For details on specific roles and responsibilities of CCBs, and associated process and procedures, some related documents are as follows: ESDIS Change Control Process (documents 432-10-21 and 423-10-21-1); ECS CCB procedures are described in PI-CM-1-024, and document control is described in 152-TR-001; for EDF processes and procedures for Change Control, refer to PI CM-1-004; M&O Change Control Process can be found in PI MO-1-003, and Sustaining Engineering and Maintenance Management is described in WI MO-1-003-4.

Roles of lower-level CCBs are outlined in the 'definitions' sections. The procedures to change the Configuration Parameter Baseline will follow the current CCR and CCB approved processes and guidelines. CCRs falling under the authority of lower-level CCBs, and requesting a change to DAAC operational Configuration Parameter Baseline shall be approved by the ECS M&O CCB, in addition to lowest-level DAAC CCBs and Board approvals. ECS M&O will make the final decision on any changes implemented to the DAAC and SMC Operational Configuration Parameter Baseline. For further details refer to PI CM-1-004.

28.5.2 Parameter Change Control Procedure

Configuration parameters are 'controlled' by either DAAC or the EDF. Proposed changes to these configuration parameters will originate from the controller of these parameters, in most cases. The one exception is when new ECS software/hardware patches or versions warrant new configuration parameters, or changes to the existing parameters. In cases, where one of the entities, i.e., DAAC or Landover, proposes a change to an existing configuration parameter which it 'does not' control, then the requesting entity will follow the appropriate ECS change request, resolution and CCB approval process of the entity that controls that parameter.

Configuration Parameter Baseline documents defines information on various areas of ECS. These areas are, but are not limited to the following: ECS Custom Code configuration, program and application configuration files and parameters; Sybase Server Databases; Operating System - build, options of auto mount, and Kernel configuration files and parameters; and COTS configuration files and parameters. The information captured will be site and host specific, wherever applicable. The 'types' of information captured, whenever possible, shall include configuration parameters and files; definitions and descriptions of parameters; ECS recommended value; value or value ranges, i.e., common range across multiple DAACs or DAAC-specific range; impacts associated with changing a parameter; and controlling entity (DAAC or Landover) of the parameter.

These baselined documents will be maintained by ECS CM, and are posted on ECS Baseline Information System (EBIS) Site. The baselined information is replicated and posted on a mirror site for DAAC(s) accessibility and review.

All changes to ECS software/hardware patches and versions, are controlled by the EDF and M&O CCBs.

A prototype (non-baselined) version of the configuration information can be posted on EBIS and mirror site for ECS and DAAC review prior to the CCB approval process, as long as, the posted

information is clearly identified as 'prototype' to distinguish it from the ECS baselined information.

Depending upon who 'controls' (Landover or DAAC) the configuration parameters, changes to those will follow the appropriate process. The five cases are as follows:

Landover Controlled Parameters: For a 'Landover proposed change' to "Landover controlled" configuration parameters, proposed changes to ECS Baselined Configuration Parameters will proceed through the appropriate EDF CCR process. Changes coming through the ECS Development, SE, CM, Test, Deployment and M&O organizations will pass through the respective CCB(s) for approval. ECS CM will coordinate, document, manage and maintain all the configuration change activities between EDF organization, DAAC(s) and the CCB.

'For a DAAC proposed change' to "Landover controlled" configuration parameter, DAAC(s) will create and submit a CCR. This CCR will be reviewed by the appropriate EDF organizations. EDF engineers will analyze the DAAC proposed change to ECS Configuration Parameters Baseline in terms of a 'DAAC-specific' change, or a 'global change across multiple DAACs'. EDF engineers will assess the need for the proposed change in light of DAAC(s) system operational requirements, subsystem dependencies, DAAC-specific and/or cross-DAAC impacts to the system performance, and overall ECS operational health. EDF will then forward its findings and recommendations to the relevant CCB. The DAAC submitted CCR shall follow the appropriate ECS CCR and CCB approval process (refer to section 3.2). Approved DAAC proposed changes will be updated in the ECS configuration parameter baselined documents.

DAAC Controlled Parameters: For 'a Landover proposed change' to "DAAC controlled" configuration parameters, the proposed change will proceed through Landover CCR/CCB process, and will be reviewed and approved by DAAC(s) CCBs/Review Board. Approved Landover proposed changes will be updated in the ECS configuration parameter baselined documents.

For a 'DAAC proposed change' to a "DAAC controlled" parameter, it will proceed through the DAAC change control process and/or DAAC Review Board. The DAAC Review Board assesses the proposed change. If the DAAC Review Board approves the proposed change based on its guidelines, then a notification of the change to the DAAC configuration parameter baseline is sent to the ECS CM. ECSCM will provide the change notice to M&O CCB for informational review. ECS CM will validate such change through its own verification methods (refer to section 6.8). DAAC approved changes to the DAAC configuration parameters will be updated in the appropriate baselined documents after verification by the ECS CM.

If the DAAC Review Board decides that the 'DAAC proposed change' to a "DAAC controlled" parameter affects the ECS Configuration Baseline, but the proposed change is neither a Trouble Ticket, nor an NCR, then the DAAC will create and submit a CCR. The DAAC CCR will be reviewed by appropriate EDF subsystem engineers in terms of ECS Configuration Parameters Baseline change to that "DAAC-specific" environment, or 'change across multiple DAAC' environments, including possible changes to PVC and VATC. EDF subsystem engineer will forward its recommendation and solution to the relevant CCB. The DAAC submitted CCR shall follow the appropriate ECS CCR and CCB approval process.

Examples of DAAC proposed changes that may affect the ECS Configuration Parameter Baseline are, but not limited to, the following: changes to a configuration parameter setting or a value which is outside of the EDF recommended setting or value range; addition or deletion of a configuration parameter; adding any DAAC unique files/parameters or DAAC unique-extensions which will interface with the ECS custom software, database, OS, COTS and networks; and addition of new hardware, processes, or memory.

Parameter NCR and TT Procedure: Configuration Parameter NCRs can originate both at EDF or DAAC/SMC. NCR originated by an organization within the EDF, or a Trouble Ticket (TT) upgraded to an NCR by the DAAC will be studied by the TT/NCR Review Board, and will follow the NCR process. The responsible engineer or subsystem lead assigned to work the NCR shall identify whether the NCR constitute an ECS Configuration Parameter Baseline change.

Configuration Parameter NCRs originated at EDF will follow the NCR Review Board and EDF CCB approval process.

Configuration Parameter NCR originated from a TT upgrade at the DAAC(s) will follow the NCR Review Board and the M&O CCB approval process

NCRs that affect the ECS configuration parameter baseline, will be entered into DDTS or Remedy(once the transition to Remedy from DDTS is completed) by the responsible engineer, under the 'type' 'configuration parameters'. EDF subsystem engineer responsible for the configuration parameter NCR fix shall document the following "types" of information as part of the solution for NCR: the configuration parameter name; description of the parameter and what is fixed; recommended value or value range; identify if it is a static or a dynamic parameter, if applicable; and possible impacts associated with the configuration of the parameter. In addition, the engineer will provide any implementation guidelines, when necessary.

Final release of the parameter change and updates to the baselined documents will require an approved NCR form with attached redline changes, where applicable. Approved NCR parameter changes will be posted on ECS Baseline Information System (EBIS) and on the DAAC mirror site.

EDF Development Organization Proposed Change Procedure: EDF Development Organization will be responsible for capturing, defining and documenting configuration parameters related to ECS custom code software/hardware, patches/versions, database, operating systems, COTS and networks. Evolutionary updates to the ECS software/hardware configuration may warrant updates to the ECS Configuration Parameter Baselined documentation. Development will be responsible to provide any such updates using appropriate ECS CCR and CCB approval process. A CCR proposing updates to the ECS Configuration Parameters Baselined documentation shall accompany a red-lined changes, where applicable (red-line changes will not apply when a completely new document is developed), that will clearly identify the following: what baselined document sections are affected, including section(s) that are added, modified or deleted; and additions, modifications or deletions of files and parameters. Development organization shall adhere to the appropriate baselined document 'format' and 'type of information' when providing updates (the 'type' of information is similar to paragraph 6.5.3). ECS CM shall update the relevant baselined documents based on the approved

CCR and the attached redlined changes, where applicable, and shall post that updated information on EBIS and DAAC mirror sites.

The EDF Test and Deployment Organizations Proposed Change Procedure: The EDF Test and Deployment Organizations will forward their recommendations to EDF Development in cases when: a certain configuration parameter or setting may be required; a change in value or value range may enhance the performance of the system; or when a parameter setting or value range may pose a risk to the system configuration. Any proposed changes to ECS configuration parameters baseline by the Test/Integration and Deployment Organizations will accompany an analysis report and/or test data (from PVC and VATC) that will be reviewed by the EDF Development engineers. The EDF Test or Deployment shall follow the established ECS CCR and CCB approval process, when required, for proposing a change to the ECS Configuration Parameter Baseline.

ECS CM Organization Responsibilities: The ECS CM responsibility is well defined in document 102-CD-003, Configuration Plan for SDPS for the ECS Project, CM-1-040-1, Conduct ECS Custom Code Baseline, and in other referenced documents. The Configuration Parameter Baseline Maintenance effort falls under the direct scope, responsibility and guidelines described in the above document(s). The ECS CM will maintain 'custom software' configuration parameter baselined information in the EDF Configuration Registry Database. The software and hardware configuration baselined information and its updates will be posted on EBIS and mirror site, as explained in the previous sections of this WI. ECS CM will conduct periodic audits to ensure that the hosts at DAAC(s) and EDF (PVC and VATC) are built to the Configuration Parameter Baseline. In addition, ECS CM will develop 'methods' to capture changes made to the ECS Configuration Parameter Baseline at the DAAC, PVC and VATC without proper notification, or changes that did not follow the appropriate ECS CCR and CCB process. Examples of verification 'methods' are, but not limited to, developing and executing scripts that will take snapshots of DAAC(s), PVC and VTAC modes and hosts at any given time, and running processes to acquire near real-time information and alerts of DAAC(s), PVC and VATC host environment changes.

ECS M&O Responsibilities: The ECS M&O responsibilities are defined in Project Instruction MO-1-003, and other related documents. It will manage the ECS Configuration Parameter Baseline for operations as part of the M&O and/or Sustaining Engineering effort(s). Any proposed change to the ECS Configuration Parameter Baseline for DAAC operations, must be approved by the M&O CCB. ECS M&O will conduct periodic audits on configuration parameter NCRs in the DDTS. It will review, analyze and validate that approved configuration parameter NCR(s) changes are implemented and documented in the ECS Configuration Parameter Baseline, and it will resolve any discrepancies found. Furthermore, M&O will act as the interface between DAAC and EDF on all issues relating with ECS Configuration Parameters Baseline.

28.6 Overview of Configuration Parameter Files

Various types of source files are used to modify the configuration parameters at the Landover functionality labs and at the DAACs. These are as follows: a) the 'Mkcfg' scripts contain

persistent values of configuration parameters, and only ECS developers are allowed to modify them. b) the '.cfgparms', '.extparms' and '.dbparms' files- These files are resident in Clearcase, and contain persistent values of configuration parameters for the EDF. The delivered version of these files to the DAACs contain DAAC specific and mode specific values. The .cfgparms files hold parameters used to generate the standard .CFG files. The .extparms files contain parameters to generate non-standard (or extension)files, and are not used by most subsystems. The .dbparms files hold parameters used in database operations. c) .cfgparms file patches the .cfgparms, .extparms and .dbparms. Changes are from one version to another, e.g., 6A.01 to 6A.02. d) Finally the '.rgypatch' file patches the registry database.

28.6.1 Configuration Registry Documentation

The ECS configuration Registry is intended to improve the manageability of the ECS Custom Code configuration parameters. The concept of the Registry is to provide a centralized service that will be accessible by any application running in the DAAC. Each DAAC will house its own Registry.

The architecture of a Registry will allow hierarchical attribute structure to be represented as well as multi-valued attributes. Detailed information on the Registry Architecture is in CDRL 305, the Registry Database Design is in the CDRL 311-0CD-528 and the Registry GUI description is in CDRL 609.

28.6.2 Overview of Configuration Registry

The Registry Database is initially created with parameters from the .CFG files that are generated by running Ecs Assistant's mkcfg process. In future other files such as the .PCFG and .ACFG files may be housed in the registry database. A .rgypatch file is required to make a change (i.e., to add, update or delete a parameter) to a registry configuration parameter. Another method of making changes to the parameters in the registry is to use the Registry GUI.

ECS servers use a single class to access .CFG files. This class is modified in 5B to request values from the registry servers, if there is no .CFG file present. The registry server then obtains the requested values from the registry database, and returns them to the requester. It is important to note that the registry server provides read-only access to the configuration parameters, and caches non-leaf nodes. Therefore changes made via the GUI which is mode specific, will not take effect until the affected servers have been restarted. If a non-leaf node is added, deleted, or updated, the changes will not take effect until the registry server, has been restarted, and then the affected servers have been restarted.

The registry schema contains provision for Access Control List (ACL) processing. This capability is scheduled for 6B activity. This would restrict read and write privileges. For example the write privileges of registry in the OPS mode will be granted to individuals at a supervisory role, while read privileges can be non-supervisory etc. Until ACL is implemented, access control to the registry can be managed by database accounts (for

28.6.3 Registry Deployment and Baseline Maintenance

Registry changes can be made by anyone having the DBO privileges. Any changes to the configuration parameter baseline, such as addition, deletion or modifications of parameters, should follow the respective CCB process as mentioned previously in these procedures.

The mode where the registry is to be installed must be running ECS 5B or later. The registry can be brought online either during 5B installation, or shortly after in order to minimize risk.

Run the registry DbBuild script EcCsRgDbBuild to create an empty registry database on the ingest server. On each machine, run the registry population tool (/tools/common/ea/EcCoPopulateRegistry) to copy the configuration parameters from the .CFG files into the registry database. This is a manual process. The tool allows either an individual file or all .CFG files in the directory to be specified.

ECS servers will use the .CFG files, if present in /usr/ecs/<mode>/CUSTOM/cfg when the server is started. Otherwise the ECS servers will use the registry. Therefore move the .CFG files to another directory, and servers will use the registry next time they restart. This allows the registry to be brought online, and taken offline on a server by server basis.

Once the registry has been populated, maintenance of the parameters must be via the registry GUI or via database patches. Changes to the .CFG files or the .cfgparms files will not result in the registry, unless the files are re-imported into the registry. The ability to create a .CFG files during the "make config" phase of Ecs Assist processing can be switched off (via a configuration parameter) after the initial population of the registry. Addition, deletion and modification of values in the registry are achieved either by the GUI or by a database patch script.

The Landover will maintain the "baseline" registry database that will be used to generate the database patches. Landover will no longer provide the .cfgpatch files, and the .cfgparms. The .CFG files will become obsolete.

The baseline registry database will have the structure of a generic DAAC, using functional host names rather than actual host names. It will contain the master values of parameters owned by Landover, and will contain null values for parameters owned by the configuration management process. ECS developers will make changes to the baseline database via the software configuration management process. The database will contain an attribute tree for each release, and release patch supported by Landover. Prior to a release or a release patch, a configuration patch script will be created; by comparing the tree for the new release, with the tree for the release being replaced. The patch script will contain a series of add, update and delete statements, tagged to indicate the sites they pertain to. The primary purpose of the patch is to enhance the process of parameter additions, modifications or deletions to the DAAC configuration. The patch will also be used to propagate value changes for parameters owned by the Landover.

28.6.4 Registry Preparation Procedures

Create a new Registry Tree for the mode to be installed:

1. Backup the registry database (Use the DAAC general backup procedures, or follow the registry database backup procedures under section 7.2.).
2. Start the registry GUI for the mode into which the required Drop is being installed.
3. Select the attribute tree name that is mapped to the current mode from the drop-down menu (when the correct tree is selected, the name of the mode should appear in the "Attribute Information" box below).
4. Click on the name of the attribute tree in the window below (the window with a white background), to enable the menu icons.
5. Click on the "Copy selected item" icon (the icon on the left).
6. Enter the name of the new registry tree in the Attribute Name box.
7. Select the <Ok> button.
8. Wait for the new tree to be created (NOTE: It may take a long time for the new tree to be created -- on the order of 30 minutes).
9. Select the newly-created tree name in the window.
10. Click on the MAP icon.
11. Select the mode name from the drop-down menu in the new window that appears and select <Ok>.
12. Exit the GUI by selecting the File → Exit menu option.

28.6.5 Registry Database Backup Procedures

Registry database should be regularly (e.g., nightly) backed up via the Sybase dumps. (The DAACs should have added the registry db to their list of dbs for backup when the registry was installed with 5B.

1. To make a backup copy of a tree within the registry, just click on the "copy" in the registry GUI before making modifications to the tree.
2. To make a backup copy of a tree and dump it to a file, click on "Add New Tree" at the bottom of the tree display in the GUI. Then choose the MkRgyPatch option from the menu, and specify the new tree (which is empty) and the tree that you want to copy. This will produce a file containing the tree in the rgypatch format.

Caution: Check before deleting a tree, as this may hose the registry db. A fix to this bug will be provided to the DAACs shortly.

28.6.6 Registry Patch Procedures

Patch the Registry Database using the **.rgypatch** file:

1. From the ECS Assist Subsystem Manager, select the appropriate Mode, Subsystem, and Component from the main window.
2. Select "Registry Data Patch" from the "Tools" menu. An "Apply Registry Data Patch" window will appear.
3. In the "Apply Registry Data Patch" window, enter the name of the SQL server in the "Registry Database Server:" box.
4. Enter the registry database DBO ID and password, respectively, in the next two boxes.
5. In the next ("Registry DB Name:") box, be sure to enter the name of the registry database (**EcCsRegistry[_<mode>]**) and press the <ENTER> key. This will cause ECS Assist to connect to the registry database and populate the drop-down menu associated with the next field ("Tree to patch:").
6. Use the drop-down menu to select the appropriate registry tree that is being patched (if you are not sure which tree to select, bring up the registry GUI and verify which tree is mapped to the mode that you are updating).
7. Finally, click on the "Select Patch File" button to bring up the "File Selection Dialog" window.
8. Navigate through this window to find the .rgypatch file (note: if your installation was successful, it should appear in the /usr/ecs/<MODE>/CUSTOM/.installed/DMS directory).
9. Highlight the .rgypatch file in the window and select <OK>.
10. Verify that the appropriate information is indicated in the "Patch File:" box in the "Apply Registry Data Patch" window and select <OK>. At this point, the registry patch will be applied.
11. Monitor the output via ECS Assist for any warning or error messages as the patch is run.

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Appendix A. Additional Material

TBS

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Abbreviations and Acronyms

A _o	Operational Availability
ACL	Access Control List
ADC	Affiliated Data Center (NOAA)
ADSERV	Advertising Service
AI&T	Algorithm Integration and Test
AIT	Algorithm Integration Team
AMASS	Archival Management and Storage System
ASCII	American Standard Code for Information Interchange
BBS	Bulletin Board System
CCB	Configuration Control Board (NASA Convention)
CCR	Configuration Change Request
CCRS	Canada Centre for Remote Sensing
CD	Compact Disk
CDE	Common Desktop Environment
CD-ROM	Compact Disk - Read Only Memory
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CDS	Cell Directory Service
CHCI	Communications Hardware Configuration Item
CHUI	Character User Interface
CI	Configuration Item
CIDM	Client Interoperability and Data Management
CM	Configuration Management
CMA	CM Administrator
CN	Change Notice
CO	Contracting Officer

COTR	Contracting Officer's Technical Representative
COTS	Commercial Off-the-Shelf (hardware or software)
CPU	Central Processing Unit
CR	Change Request
CRM	Change Request Manager
CSCI	Computer Software Configuration Item
CSMS	Communications and Systems Management Segment (ECS)
CSR	Consent To Ship Review
CSS	Communication Subsystem
DAA	Data Availability Acknowledgment
DAAC	Distributed Active Archive Center
DADS	Data Archive and Distribution System
DAN	Data Availability Notice
DAP	Delivered Algorithm Package
DAR	Data Acquisition Request
DAS	Data Availability Schedule
DAT	Digital Audio Tape
DB	Database
DBA	Database Administrator
DBMS	Database Management System
DCE	Distributed Computing Environment (OSF)
DCF	Data Capture Facility
DCN	Document Change Notice
DCO	Document Change Order
DCR	Data Collection Request
DD	Data Dictionary
DDA	Data Delivery Acknowledgment
DDICT	Data Dictionary
DDIST	Data Distribution

DDN	Data Delivery Notice
DDSRV	Document Data Server
DDTS	Distributed Defect Tracking System
DES	Data Encryption Standard
DESKT	Desktop Configuration Item
DID	Data Item Description
DIF	Data Interchange Formant
DIMGR	Distributed Information Manager
DME	Distributed Management Environment
DMO	Data Management Organization
DNS	Domain Name Service
DOF	Distributed Object Framework
DPR	Data Processing Request
DPS	Data Processing Subsystem
DR	Delivery Record
DS	Data Server
DSS	Data Server Subsystem
e-mail	Electronic Mail
EBNet	EOSDIS Backbone Network (combines Ecom and ESN)
ECN	Equipment Control Number
ECS	EOSDIS Core System
EDC	EROS Data Center (DAAC)
EDF	ECS Development Facility
EDHS	ECS Data Handling System
EGS	EOS Ground System
EIN	Equipment Identification Number
EMC	Enterprise Monitoring and Coordination
EOC	EOS Operations Center (ECS)
EOS	Earth Observing System

EOSDIS	Earth Observing System Data and Information System
EP	Evaluation Package
EROS	Earth Resources Observation System
ESD	Electrostatic Discharge
ESDIS	Earth Science Data and Information System (GSFC Code 505)
ESDT	Earth Science Data Type
ESOD	Earth Science On-line Directory
ET	Eastern (standard or daylight savings) Time
FDDI	Fiber Distributed Data Interface
FORTRAN	FORmula TRANslation (computer language)
FOS	Flight Operations Segment (ECS)
FOT	Flight Operations Team
FTP	File Transfer Protocol
FTPD	File Transfer Protocol Daemon
GB	Gigabyte (10^9)
Gb	Gigabit (10^9)
GBps	Gigabytes per Second
Gbps	Gigabits per Second
GCDIS	Global Change Data and Information System
GCMD	Global Change Master Directory
GFE	Government Furnished Equipment
GFP	Government Furnished Property
GSFC	Goddard Space Flight Center
GUI	Graphical User Interface
H/W	Hardware
HDF	Hierarchical Data Format
HIPPI	High Performance Parallel Interface
HPOV	HP Open View
HSM	Hierarchical Storage Management

HTML	Hypertext Mark-Up Language
HWCI	Hardware Configuration Item
I&AT	Integration and Acceptance Test
I&T	Integration and Test
I&TT	Integration and Test Team
IATO	Independent Acceptance Test Organization
ICD	Interface Control Document
ICLHW	Ingest Client Hardware [configuration item]
ILM	Inventory, Logistics, and Maintenance
ILP	Integrated Logistics Plan
ILS	Integrated Logistics Support
ILSMT	ILS Management Team
ILSO	ILS Office
INGST	Ingest Services
INS	Ingest System
IOS	Interoperability Subsystem
IP	Internet Protocol
IQ	Intelligent Query and IQ Access
Ir1	Interim Release 1
ISDN	Integrated Services Digital Network
ISS	Internetworking Subsystem
ISQL	Interactive SQL
IV&V	Independent Verification and Validation
JIL	Job Information Language
JPL	Jet Propulsion Laboratory (DAAC)
KB	Kilobyte (10^3)
Kb	Kilobit (10^3)
KBps	Kilobytes per Second

Kbps	Kilobits per Second
L-7	Landsat-7 (Landsat-7 for EDHS search)
L0	Level 0
L0-L4	Level 0 (zero) through Level 4 (use Level-0 through Level-4 for EDHS search)
LAN	Local Area Network
Landsat	Land Remote-Sensing Satellite
LaRC	Langley Research Center (DAAC)
LDOS	Landsat Data and Operations System
LIM	Local Information Manager
LIMGR	Local Information Manager
LMC	Local Maintenance y
Loral	Loral Aerosys (ECS Team)
LRU	Line Replaceable Unit
M	Million, mega (prefix)
M&O	Maintenance and Operations
MAN	Metropolitan Area Network
MB	Megabyte (10 ⁶)
Mb	Megabit (10 ⁶)
MBps	Megabytes per Second
Mbps	Megabits per Second
MCF	Metadata Configuration File Metadata Control File
MD	Master Directory
MDA	Management Data Access
MDT	Mean Downtime
MHWCI	Management Hardware Configuration Item
MHz	Megahertz
MIB	Management Information Base
MIS	Management Information System

MM	Millimeter
MO&DSD	Mission Operations and Data Systems Directorate (GSFC Code 500)
MOU	Memorandum of Understanding
MR	Malfunction Report
MSEC	Millisecond
MSFC	Marshall Space Flight Center (DAAC)
MSS	Management Systems Subsystem
MTBCM	Mean Time Between Corrective Maintenance
MTBF	Mean Time Between Failure
MTBM	Mean Time Between Maintenance
MTBPM	Mean Time Between Preventive Maintenance
MTPE	Mission to Planet Earth
MTTR	Mean Time to Repair
MTTRes	Mean Time to Restore
N/A	Not Applicable
NA	Network Administrator
NASA	National Aeronautics and Space Administration
Nascom	NASA Communications
NCC	Network Control Center (GSFC) network communication center
NCR	Nonconformance Report
NCS	Netscape Commerce Server
NCSA	National Center for Supercomputer Applications
NMCI	Network Management Configuration Item
NNM	HPOpenView Network Node Manager
NOAA	National Oceanic and Atmospheric Administration
NSI	NASA Science Internet
NWCI	Networking Configuration Item
OEM	Original Equipment Manufacturer

OJT	On-the-Job Training
OPS	Operations
Ops Super	Operations Supervisor
ORPA	Operations Readiness & Performance Assurance
ORR	Operations Readiness Review
OS	Operating System
OSF	Open Software Foundation
OTS	Off the Shelf
OVW	HP OpenView Windows
PAIP	Performance Assurance Implementation Plan
PB	Petabyte (10 ¹⁵)
PC	Personal Computer Process Control
PCF	Process Control File
PDL	Program Design Language
PDPS	Planning and Data Processing System
PGE	Product Generation Executive
PGS	Product Generation Service
PI	Principal Investigator
PIN	Password Identification Number
PLANG	Production Planning CSCI
PLNHW	Planning Hardware [configuration item]
PLS	Planning Subsystem
PM	Preventative Maintenance
PPM	Principal Period of Maintenance
PR	Production Request
QA	Quality Assurance
QC	Quality Control
QRU	Query, Retrieve, and Update

R&M	Reliability and Maintainability
RAID	Redundant Array of Inexpensive Disks
RAM	Random Access Memory
RE	Responsible Engineer
RID	Review Item Discrepancy
RMA	Return Material Authorization
RMS	Resource Management Subsystem
RSM	Replication Server Manager
RSSD	Replication Server System Database
S/C	Spacecraft
S/W	Software
S/WCI	Software Configuration Item
SA	System Administrator
SATAN	Security Administrator Tool for Analyzing Networks
SCDO	Science and Communications Development Office (ECS)
SCF	Science Computing Facility
SCSI	Small Computer System Interface
SDP	Science Data Processing
SDPF	Science Data Processing Facility
SDPS	Science Data Processing Segment (ECS)
SDPS/W	Science Data Production Software
SDPTK	Science Data Processing Toolkit
SDSRV	Science Data Server
SE	System Engineering
SE&I	System Engineering and Integration
SEI&T	System Engineering, Integration, and Test
SEO	Sustaining Engineering Organization
SEPG	Software Engineering Process Group
SGI	Silicon Graphics Incorporated

SI&T	System Integration and Test
SMC	System(s) Monitoring and Coordination Center
SMF	Status Message Facility
SMTP	Simple Mail Transport Protocol
SNMP	Simple Network Management Protocol
SOR	System Operations Review
SORR	Segment Operational Readiness Review
SPRHW	Science Processing Hardware [configuration item]
SQL	Structured Query Language
SQR	SQL Report Writer
SRR	System Requirements Review
SSAP	Science Software Archive Package
SSI&T	Science Software Integration and Test
SSL	Secure Socket Layer
STMGT	Storage Management
T&M	Time and Materials
TB	Terabyte (10 ¹²)
TBC	To Be Confirmed
TBD	To Be Determined
TBR	To Be Resolved
TBS	To Be Supplied
Tbyte	Terabyte
TCP/IP	Transmission Control Protocol/Internet Protocol
TEC	Tivoli Enterprise Console
telecon	Telephone Conference
TELNET	Telecommunication Network
TRMM	Tropical Rainfall Measurement Mission
TSDIS	TRMM Science Data and Information System

TT	Trouble Ticket
UDP	User Datagram Protocol
UR	Universal Reference
URDB	User Recommendations Database
URL	Universal Resource Locator
USO	User Support Office
US Rep	User Services Representative
UWG	User Working Group
VDD	Version Description Document
VOB	Versioned Object Base (ClearCase)
WAIS	Wide Area Information Server
WAN	Wide Area Network
WKBCH	Workbench
WKSHCI	Working Storage Hardware Configuration Item
WWW	World Wide Web

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