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Appendix A. Additional Material

Abbreviations and Acronyms

17. Archive

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18. Data Distribution

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19. User Services

19.1 ECS User Account Management

All registered users of the ECS have a personal “user account” that is maintained within the ECS User Account database by the User Services Representative (US Rep). The account contains such information as the user’s name, User ID, e-mail address, preferred shipping address, billing address, media preferences, and other information regarding the user that is needed when processing user requests. This section provides a brief overview of the ECS User Account Management tool and gives a few examples of its use. Section 19.1.1 explains how to retrieve a user account to validate a user, Section 19.1.2 explains how to create a user account, Section 19.1.3 explains how to complete a user account from the Universal Resource Locator (URL) Registration, Section 19.1.4 explains how to edit/modify an existing account, Section 19.1.5 explains how to delete an account, Section 19.1.6 explains how to cancel/suspend an account, and Section 19.1.7 explains how to change a user’s password.

The Activity Checklist, Table 19.1-1, provides an overview of the User Verification process. Column one (**Order**) shows the order in which tasks should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 19.1-1. ECS User Account Management - Activity Checklist

Order	Role	Task	Section	Complete?
1	US Rep	Retrieve User Account/Validate User	(P) 19.1.1	
2	US Rep	Create a User Account	(P) 19.1.2	
3	US Rep	Account Creation from URN	(P) 19.1.3	
4	US Rep	Edit/Modify an Existing Account	(P) 19.1.4	
5	US Rep	Delete an ECS Account	(P) 19.1.5	
6	US Rep	Cancel/Suspend an ECS Account	(P) 19.1.6	
7	US Rep	Change an ECS User Password	(P) 19.1.7	

19.1.1 Retrieve User Account/Validate a User

When a user contacts the User Services Representative (US Rep) with any request, the user’s account is retrieved. User account information can be used to validate the user and/or provide information that will be needed to process the user’s request.

If you are already familiar with the procedure used to Retrieve/Validate a User, you may prefer to use the quick-step table (Table 19.1-2). If you are new to the system, you should use the following detailed procedures:

- 1 On the User Services Desktop, click the **ECS User Account Management** icon.
 - The **ECS User Account Management** window is displayed.
 - ↑ The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts**.”
- 2 **Click** the “**Manage Existing Accounts**” folder tab.
 - Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user’s profile information by entering search criteria in the “**Find**” field.
 - The “**Find**” field is located to the right of the **Find** button.
- 4 Enter the Search Criteria, then press **Return**.
 - ↑ You can create a search by entering the user’s **Last Name, E-mail address, or user ID**.
 - The scroll box displays a list of accounts that match the search criteria.
- 5 Scroll through the accounts listed until the desired account is **highlighted**, then **double click**.
 - ↑ Five folders are displayed that contain detailed information about the selected account: **Account Information, Personal Information, Shipping Address, Billing Address, and Mailing Address**.
- 6 **Click** on each folder you desire to display. The user account information that you need in order to validate the user is displayed.

Table 19.1-2. Validate a User - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Manage Existing Accounts folder tab	Click tab
3 & 4	Enter the search criteria in the “ Find ” field	press return
5	Highlight the desired account	double Click
6	Review the folders to validate user	Click on folders

19.1.2 Create a User Account

The User Registration process begins when the requester contacts User Services to request **TBD** data. This request may be by mail, phone, e-mail, fax, or a user walk-in. The US Rep can either provide the user with the URL for registration help procedures, or the US Rep can enter the registration information on behalf of the user. This section describes how the US Rep would register a user. Most of the information needed to register the user should be contained within the fax or E-mail message, but if more information is needed, the US Rep calls the user directly.

To register a user the US Rep uses the “**Process Account Requests**” folder of the ECS User Account Management tool. User information is entered into five subordinate folders: the “**Account Information**” folder, the “**Personal Information**” folder, the “**Shipping Address**” folder, the “**Billing Address**” folder, and the “**Mailing Address**” folder. The US Rep will normally enter the information into the five folders sequentially, then press the “**Create Account**” button. The “**Process Account Requests**” folder remains open throughout this process. If the US Rep is interrupted after the completion of two folders, he/she can press the “**Create Account**” button to save the two completed folders, but the remaining folders will have to be completed before an order can be placed. When the US Rep is ready to enter the information into the remaining three folders, he/she must open the “**Manage Existing Accounts**” folder to make edits to an existing account (see section 19.1.4). Sections 19.1.2.1 through 19.1.2.5 explain how to enter user information into the five folders when the information is entered sequentially. The “**Process Account Requests**” folder will remain open until the five folders have been completed. If you are already familiar with the procedures, you may prefer to use the quick-step table in Section 19.1.2.6 (Table 19.1-4).

The Activity Checklist, Table 19.1-3, provides an overview of the process used to create an ECS user account. Column one (**Order**) shows the order in which tasks should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Tasks**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (**P**) section number or Instruction (**I**) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to track the completed task steps.

Table 19.1-3. Create an ECS User Account - Activity Checklist

Order	Role	Task	Section	Complete?
1	US Rep	Account Information folder	(P) 19.1.2.1	
2	US Rep	Personal Information folder	(P) 19.1.2.2	
3	US Rep	Shipping Address Folder	(P) 19.1.2.3	
4	US Rep	Billing Address Folder	(P) 19.1.2.4	
5	US Rep	Mailing Address Folder	(P) 19.1.2.5	

19.1.2.1 Account Information

The “**Account Information**” folder contains the date the account was created, date of the last revision, expiration date, privilege level, and media preference. The user can receive data through the ftp protocol, 8mm or 4mm tapes, or CD-ROM. There are no privilege restrictions until SeaWiFS data are available; the restriction levels will be determined at that time. The system deletes an account when the **Expiration Date** has been reached. One week prior to the expiration date, an e-mail message is sent to the user and US Rep saying the account will be deleted on the expiration date. This date is ordinarily used when an account is placed on restriction due to non-payment of bills. To enter **Account Information**, execute the following steps:

- 1 On the User Services Desktop, click the **ECS User Account Management** icon.
 - _ The **ECS Account Management** window is displayed.
 - _ The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts.**”
- 2 Click the “**Process Account Requests**” folder tab.
 - _ The window will display five folders.
- 3 Click the “**Account Information**” folder.
 - _ The “**Account Information**” folder opens.
- 4 Click the “**Expiration Date**” field.
 - _ The cursor moves to the “**Expiration Date**” field.
- 5 Enter the **Expiration Date** only if required by the DAAC for new accounts, then press **Tab**.
 - _ When the **Expiration Date** is reached, the system automatically deletes the account from the system.
 - _ The expiration date depends on the policies at each DAAC.
 - _ The cursor moves to the “**Password**” field.
- 6 Enter the **Password**, then press **Tab**.
 - _ The password you enter will be a temporary password; the user must change the password the first time he/she uses the system.
 - _ The cursor moves to the “**Privilege Level**” field.
- 7 Press the **Tab**, leaving the “**Privilege Level**” field blank.
 - _ No restrictions are in place at this time; however, at the time that SeaWiFS data becomes available, restrictions will be implemented.
 - _ The cursor moves to the “**Media Preference**” field.
- 8 Enter the **Media Preference**, then press **Tab**.
 - _ The user can choose among ftp, CD-ROM, 8mm or 4mm tapes.
 - _ The **Account Information** folder is complete, go to next folder.

19.1.2.2 Personal Information

The “**Personal Information**” folder contains the user name, phone number, E-mail address, organization, affiliation, sponsor, home DAAC, project, discipline, and principal investigator. The user may need to be contacted in order to obtain all the information needed. The US Rep uses this information when validating a user at a later date. The “**Process Account Requests**” folder is still open. To add the user’s personal information, execute the following steps:

- 1 Click the “**Personal Information**” folder.
 - _ The “**Personal Information**” folder opens.
 - _ The cursor defaults to the “**Title**” field.

- 2 Enter the user's **Title**, then press **Tab**.
 - A dropdown menu may also be used:
 - a Point the mouse on the arrow to the right of the “**Title**” field.
 - b While holding the mouse down, **highlight** the **Title** you require.
 - c **Release** the mouse button.
 - The title you have chosen appears in the “**Title**” field.
 - The Titles in the dropdown box are **Dr.**, **Mr.**, **Mrs.**, **Ms.**, etc.
 - The cursor moves to the “**First Name**” field.
- 3 Enter the user's **first name**, then press **Tab**.
 - The cursor moves to the “**MI**” field.
- 4 Enter the user's **middle initial**, then press **Tab**.
 - The cursor moves to the “**Last Name**” field.
- 5 Enter the user's **last name**, then press **Tab**.
 - The cursor moves to the “**E-mail Address**” field.
- 6 Enter the user's **E-mail address**, then press **Tab**.
 - The cursor moves to the “**Telephone**” field.
- 7 Enter the user's **telephone number** (area code first), then press **Tab**.
 - The cursor moves to the “**Organization**” field.
- 8 Enter the user's **organization**, then press **Tab**.
 - The cursor moves to the “**Affiliation**” field.
- 9 Enter the user's **affiliation**, then press **Tab**.
 - A dropdown menu may also be used:
 - a Point the mouse on the arrow at the right of the “**Affiliation**” field.
 - b While holding the mouse button down, **highlight** the **affiliation** required.
 - c **Release** the mouse button.
 - The highlighted affiliation appears in the “**Affiliation**” field.
 - The dropdown menu options are **Commercial**, **Government**, **University**, **K-12**, and **Other**.
 - The cursor moves to the “**Sponsor**” field.
- 10 Enter the user's **sponsor**, then press **Tab**.
 - The cursor moves to the “**Home DAAC**” field.
- 11 Enter the user's **Home DAAC**, then press **Tab**.
 - A dropdown menu can also be used to select the **Home DAAC**.
 - a Point the mouse on the arrow to the right of the “**Home DAAC**” field.
 - b While holding the mouse button down, **highlight** the “**Home DAAC**.”
 - c **Release** the mouse button.
 - The highlighted DAAC appears in the “**Home DAAC**” field.

- The DAACs listed in the dropdown menu are ASF DAAC, EDC DAAC, GSFC DAAC, JPL DAAC, LaRC DAAC, MSFC DAAC, NSIDC DAAC and ORNL DAAC.

– The cursor moves to the “**Project**” field.

12 Enter the user’s **Project**, then press **Tab**.

– The cursor moves to the “**Discipline**” field.

13 Enter the user’s **Discipline**, then press **Tab**.

– The cursor moves to the “**Principal Investigator**” field.

14 Enter the **Principal Investigator’s name**, then press **Tab**.

– The **Personal Information** folder is complete.

– Open the Shipping Address folder.

19.1.2.3 Shipping Address

The “**Shipping Address**” folder contains the address for shipping data. The Shipping Address is not necessarily the same as the mailing or billing addresses. The US Rep will **always confirm** the **shipping address** with the user before shipping data.

The “**Process Account**” folder is still open. Locate and open the “**Shipping Address**” folder. To add the **shipping address**, execute the following steps:

1 Click the “**Shipping Address**” folder tab.

– The “**Shipping Address**” folder opens.

– The cursor moves to the first “**Address**” field.

2 Enter the user’s **Shipping Address**, then press **Tab**.

– The cursor moves to the second “**Address**” field.

3 If a second address field is needed to complete the user’s **Shipping Address**, enter the **Shipping Address**, then press **Tab**.

– If a second address field is not needed, press **Tab** to bypass the field.

– The cursor moves to the “**City**” field.

4 Enter the **City** to which the data will be shipped, then press **Tab**.

– The cursor moves to the “**State/Province**” field.

5 Enter the **State** or **Province** for the shipping address, then press **Tab**.

– The cursor moves to the “**Zip/Postal Code**” field.

6 Enter the **Zip/Postal Code** for the shipping address, then press **Tab**.

– The cursor moves to the “**Country**” field.

7 Enter the **Country** to which the data will be shipped, then press **Tab**.

– The cursor moves to the “**Telephone**” field.

- 8 Enter the **Telephone number** (area code first) used at the shipping address, then press **Tab**.
 - _ The cursor moves to the “**Fax**” field.
- 9 Enter the **Fax number** (area code first) used at the shipping address, then press **Tab**.
 - _ The “**Shipping Address**” folder is now complete.
 - _ Open the “**Billing Address**” folder.

19.1.2.4 Billing Address

The “**Billing Address**” is the address to which payment-due billings are sent. The **billing address** is not necessarily the same as the mailing and shipping addresses. The US Rep is responsible for maintaining up-to-date **billing addresses**.

The “**Process Account Requests**” folder is still open. Locate and open the “**Billing Address**” folder. To add the **billing address**, execute the following steps:

- 1 **Click** the “**Billing Address**” folder tab.
 - _ The “**Billing Address**” folder opens.
 - _ The cursor moves to the first “**Address**” field.
- 2 Enter the user’s **Billing Address**, then press **Tab**.
 - _ The cursor moves to the second “**Address**” field.
- 3 If a second address field is needed to complete the user’s **billing address**, enter the **Billing Address**, then press **Tab**.
 - _ If the second address field is not needed, press **Tab** to bypass the field.
 - _ The cursor moves to the “**City**” field.
- 4 Enter the **City** to which the payment-due billings will be sent, then press **Tab**.
 - _ The cursor moves to the “**State/Province**” field.
- 5 Enter the **State or Province** for the billing address, then press **Tab**.
 - _ The cursor moves to the “**Zip/Postal Code**” field.
- 6 Enter the **Zip/Postal Code** for the billing address, then press **Tab**.
 - _ The cursor moves to the “**Country**” field.
- 7 Enter the **Country** to which the payment due billings will be sent, then press **Tab**.
 - _ The cursor moves to the “**Telephone**” field.
- 8 Enter the **Telephone number** (area code first) used at the billing address, then press **Tab**.
 - _ The cursor moves to the “**Fax**” field.
- 9 Enter the **Fax number** (area code first) used at the billing address, then press **Tab**.
 - _ The “**Billing Address**” folder is now complete.

- _ Open the “**Mailing Address**” folder.

19.1.2.5 Mailing Address

The “**Mailing Address**” is used for normal correspondence. The Mailing Address is not necessarily the same as the shipping or billing addresses. The US Rep is responsible for maintaining up-to-date **mailing addresses**.

The “**Process Account Requests**” folder is still open. Locate and open the “**Mailing Address**” folder. To add the Mailing Address, execute the following steps:

- 1 Click the “Mailing Address” folder tab.**
 - _ The “**Mailing Address**” folder opens.
 - _ The cursor moves to the first “**Address**” field.
- 2 Enter the user’s mailing address, then press Tab.**
 - _ The cursor moves to the second “**Address**” field.
- 3 If a second address field is needed to complete the user’s mailing address, enter the mailing address, then press Tab.**
 - _ If a second address is not needed, press **Tab** to bypass the field.
 - _ The cursor moves to the “**City**” field.
- 4 Enter the City to which regular correspondence is sent, then press Tab.**
 - _ The cursor moves to the “**State/Province**” field.
- 5 Enter the State or Province for the mailing address, then press Tab.**
 - _ The cursor moves to the “**Zip/Postal Code**” field.
- 6 Enter the Zip/Postal Code for the mailing address, then press Tab.**
 - _ The cursor moves to the “**Country**” field.
- 7 Enter the Country for the mailing address, then press Tab.**
 - _ The cursor moves to the “**Telephone**” field.
- 8 Enter the Telephone number (area code first) used at the mailing address, then press Tab.**
 - _ The cursor moves to the “**Fax**” field.
- 9 Enter the Fax number (area code first) used at the mailing address, then press Tab.**
 - _ The “**Mailing Address**” folder is now complete.
 - _ The five folders are now complete.
- 10 Click the “Create Account” button to complete the creation of the new account.**
 - _ The account is automatically logged into the database as an approved account.

- 11 Exit menu path **File**→**Exit**
- 12 Provide the user with his/her initial ECS account password.
 - _ Follow local DAAC policy regarding password dissemination.

19.1.2.6 Create a User Account Quick-Steps

Table 19.1-4 provides quick-step procedures to create a user account. **Do not** use the quick step version of a procedure unless you are **already very familiar** with the procedure.

The “**Process Account Requests**” folder remains open throughout this process. If the US Rep is interrupted after the completion of two folders, he/she can press the “**Create Account**” button to save the two completed folders, but the remaining folders will have to be completed before an order can be placed. When the US Rep is ready to enter the information into the remaining three folders, he/she must open the “**Manage Existing Accounts**” folder to make edits to an existing account (see section 19.1.4).

User information is entered into the five subordinate folders sequentially. As a guideline, Table 19.1-4 indicates which folder to open, and when to open it.

Table 19.1-4. Creating an ECS User Account - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Process Account Requests folder tab	Click tab
	****Open Account Information folder****	
3	Select the Account Information folder tab	Click tab
4	Defaults to Expiration Date	N/A
5	Do Not enter Expiration Date on setup	press tab
6	Enter the user’s Password	press tab
7	Enter the user’s Privilege Level	press tab
8	Enter the user’s Media Preference	press tab
	****Open Personal Information folder****	
9	Select the Personal Information folder tab	Click tab
10	Enter the user’s Title	press tab
11	Enter the user’s First Name	press tab
12	Enter the user’s Middle Initial	press tab
13	Enter the user’s Last Name	press tab
14	Enter the user’s E-mail address	press tab
15	Enter the user’s Telephone number	press tab
16	Enter the user’s Organization	press tab
17	Enter the user’s Affiliation	press tab
18	Enter the user’s Sponsor	press tab
19	Enter the user’s Home DAAC	press tab

Table 19.1-4. Creating an ECS User Account - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
20	Enter the user's Project	press tab
21	Enter the user's Discipline	press tab
22	Enter the user's Principal Investigator's name	press tab
	****Open Shipping Address Folder****	
23	Select the Shipping Address folder tab	Click tab
24	Enter the user's Address	press tab
25	Enter the second Address line if needed	press tab
26	Enter the City	press tab
27	Enter the State or Province	press tab
28	Enter the Zip/Postal Code	press tab
29	Enter the Country	press tab
30	Enter the Telephone number	press tab
31	Enter the Fax number	press tab
	****Open Billing Address Folder****	
32	Select the Billing Address folder tab	Click tab
33	Enter the Billing Address	press tab
34	Enter the Billing Address on second line if needed	press tab
35	Enter the City	press tab
36	Enter the State or Province	press tab
37	Enter the Zip/Postal Code	press tab
38	Enter the Country	press tab
39	Enter the Telephone number	press tab
40	Enter the Fax number	press tab
	****Open Mailing Address Folder****	
41	Select the Mailing Address folder tab	Click tab
42	Enter the Mailing Address	press tab
43	Enter the Mailing Address on second line if needed	press tab
44	Enter the City	press tab
45	Enter the State or Province	press tab
46	Enter the Zip/Postal Code	press tab
47	Enter the Country	press tab
48	Enter the Telephone number	press tab
49	Enter the Fax number	press tab
50	Select the Create Account button	Click button
51	Select the Close Window button	Click button
52	Provide the user with the initial ECS account password	N/A

19.1.3 Account Creation from URL Registration

When a requester has notified the US Rep that he/she wishes to become a registered user, the US Rep can either enter the registration information on behalf of the user, or can give the requester the URL, which will give the user access to the WWW registration page. The requester can then enter all the information themselves through the WWW. Each morning the US Rep conducts a search to see how many users have filled out the ECS Registration page. This search is conducted through the ECS User Account Management tool. The users URL registration is listed on the system as a “**Pending**” account. The US Rep locates all “**Pending**” accounts, then inputs the user information into the “**Process Account Requests**” folder. The US Rep then creates the new accounts from the pending accounts.

If you are already familiar with the procedures, you may prefer to use the quick-step table below (Table 19.1-5). If you are new to the system or have not performed this task recently, you should use the detailed procedures that follow to create an account from the URL Registration page.

- 1 On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - The **ECS User Account Management** window is displayed.
 - The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts.**”
- 2 **Click** the “**Process Account Requests**” folder tab.
 - The window displays five folders.
 - Above the five folders are the search criteria:
Sort by: “**Submission Date**” or “**Last Name**”
Status: “**Pending**” or “**Approved,**” “**Denied,**” or “**All**”
- 3 **Click** the **Pending** button.
- 4 **Click** the **Retrieve** button.
 - The scroll box displays all the URL registration forms completed by the requesters, which are still pending.
 - The accounts are listed as pending until the US Rep completes the creation process.
- 5 Highlight one account and **Double Click** to display the account.
 - The user registration information is automatically transferred into the five user folders.
- 6 **Click** the “**Personal Information**” folder
 - The “**Personal Information**” folder is opened.
 - View the folder to verify that the information is complete.
 - If the information is not complete, contact the user, then complete the folder.
- 7 **Click** the “**Account Information**” folder
 - The “**Account Information**” folder is opened.
 - View the folder to verify that the information is complete.

- If the information is not complete, contact the user, then complete the folder.
- 8 Click the “Shipping Address” folder.**
- The “**Shipping Address**” folder is opened.
 - View the folder to verify that the information is complete.
 - If the information is not complete, contact the user, then complete the folder.
- 9 Click the “Billing Address” folder.**
- The “**Billing Address**” folder is opened.
 - View the folder to verify that the information is complete.
 - If the information is not complete, contact the user, then complete the folder.
- 10 Click the “Mailing Address” folder.**
- The “**Mailing Address**” folder is opened.
 - View the folder to verify that the information is complete.
 - If the information is not complete, contact the user, then complete the folder.
- 11 If the information is complete, Click the “Create Account” button.**
- The account is created, the entry moves from the pending list to the approved list.
 - An account remains in the “Pending” scroll box until you exit the system or create the account.
 - If there are more pending accounts, start with step 6 to continue creating additional accounts from the URL Registration list, or
 - Exit ECS User Account Management tool by;
 - Exit menu path **File→Exit**.

Table 19.1-5. Completion of URL Registration - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Process Account Requests folder tab	Click tab
3	Select the Pending button	Click button
4	Select the Retrieve button	Click button
5	Highlight One of the pending accounts	double click
6	Select the Personal Information folder	Click folder tab
6	View the folder for completeness	N/A
7	Select the Account Information folder	Click folder tab
7	View the folder for completeness	N/A
8	Select the Shipping Address folder	Click folder tab
8	View the folder for completeness	N/A
9	Select the Billing Address folder	Click folder tab
9	View the folder for completeness	N/A

Table 19.1-5. Completion of URL Registration - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
10	Select the Mailing Address folder	Click folder tab
10	View the folder for completeness	N/A
11	Select the Create Account button	Click button
11	Select the File menu	Hold button down
11	Drag mouse to Exit	Release mouse button
11	Provide user with initial ECS password	N/A

19.1.4 Edit/Modify an Existing Account

The US Rep has the responsibility of maintaining the ECS user accounts. Part of this responsibility is to stay in close contact with the user to ensure that the records containing the user’s shipping and billing addresses, as well as the remainder of the information maintained in the user account folders, are up-to-date. There are five folders containing information about the user. The five folders are maintained in the **ECS User Account Management** tool. Three of the folders contain addresses: **Billing Address**, **Shipping Address**, and **Mailing Address**. All the addresses can be the same; however, some companies may have different addresses for accounts receivable, regular correspondence, and the shipment of data. When an address change requested by a user does not indicate which address folder to change, the US Rep must contact the user for this information. The US Rep may have reviewed the previous address folders and noticed that the three folders contained the same previous address; however, do not assume that the same circumstances apply now. Always contact the user to make sure. The remaining two folders contain “**Account Information**” and “**Personal Information.**” The “**Manage Existing Accounts**” folder, which is located in the **ECS User Account Management** tool, is used for all editing and modifications.

The Activity Checklist, Table 19.1-6, provides an overview of the process used to edit/modify an existing ECS account. Column one (**Order**) shows the order in which tasks should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Tasks**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (**P**) section number or Instruction (**I**) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 19.1-6. Edit/Modify and Existing Account - Activity Checklist

	Role	Task	Section	Complete?
1	US Rep	Edit/Modify Account Information	(P) 19.1.4.1	
2	US Rep	Edit/Modify Personal Information	(P) 19.1.4.2	
3	US Rep	Edit/Modify Shipping Address	(P) 19.1.4.3	
4	US Rep	Edit/Modify Billing Address	(P) 19.1.4.4	
5	US Rep	Edit/Modify Mailing Address	(P) 19.1.4.5	

Sections 19.1.4.1 through 19.1.4.5 explain how to edit information in the five folders. If you are already familiar with the procedures, you may prefer to use the quick-step table, provided in section 19.1.4.6, Table 19.1-7. In the following examples, the US Rep receives a notice from the user indicating that the Shipping, Billing and Mailing addresses have changed, as well as the E-mail address, Principal Investigator, and the Media Preference. The following sections explain how the US Rep retrieves a user account, then changes the address in three folders (in this example the same address is used in all the address folders), and also changes the E-mail Address, the Principal Investigator and the Media Preference in the remaining two folders.

19.1.4.1 Edit/Modify Account Information

The “**Account Information**” folder contains the Date the Account was Created, Date Last Revised, Expiration Date, Password, Privilege Level, and the Media Preference. The following steps are required to change the Media Preference. If you are already familiar with the procedures, you may prefer to use the quick-step table (Table 19.1-7 in section 19.1.4.6). If you are new to the system or have not modified an account recently, you should execute the following detailed procedures:

- 1 On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - The **ECS Account Management** window is displayed.
 - The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts.**”
- 2 **Click** the “**Manage Existing Accounts**” folder tab.
 - Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user’s profile information by entering the search criteria in the “**Find**” field.
 - The “**Find**” field is located to the right of the **Find** button.
- 4 Enter the Search Criteria, then **press Return**.
 - Enter the user’s **Last Name**, **E-mail address**, or **User ID** to create the search.
 - The scroll box displays a list of accounts which match the search criteria.
- 5 Scroll through the accounts listed until the desired account is **highlighted**, then **double click**.
 - Five folders are displayed that contain detailed information about the selected user’s account: **Account Information**, **Personal Information**, **Shipping Address**, **Billing Address**, and **Mailing Address**.
- 6 **Click** the “**Account Information**” folder.
 - The “**Account Information**” folder opens.
- 7 **Click** the “**Media Preference**” field.
 - The cursor moves to “**Media Preference**” field.

- 8 Enter the new **media preference**, then press **Tab**.
 - _ All changes for this folder have been completed.
- 9 **Click** the “**Apply Edits**” button to implement the changes to the “**Account Information**” folder.
 - _ Continue editing another folder by **Clicking** on the folder, or
 - _ Exit **ECS User Account Management** by:
 - _ Exit menu path **File**→**Exit**.

19.1.4.2 Edit/Modify Personal Information

The “**Personal Information**” folder contains the user’s Title, Name, E-mail address, Telephone Number, Organization, Affiliation, Sponsor, Home DAAC, Project, Discipline, and Principal Investigator. Execute the following steps to change the E-mail address and the Principal Investigator on an existing account. If the “**Manage Existing Accounts**” folder of the **ECS User Account Management** icon remains open and the user’s account is still displayed, skip steps 1 through 5; otherwise, begin with step 1 to execute the changes.

- 1 On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - _ The **ECS User Account Management** window is displayed
 - _ The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts**.”
- 2 **Click** the “**Manage Existing Accounts**” folder tab.
 - _ Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user’s profile information by entering the search criteria in the “**Find**” field.
 - _ The “**Find**” field is located to the right of the **Find** button.
- 4 Enter the Search Criteria, then **press Return**.
 - _ The scroll box displays a list of accounts which match the search criteria.
 - _ Create a search by entering the user’s **Last Name**, **E-mail address**, or **User ID**.
- 5 Scroll through the listed accounts until the desired account is **highlighted**, then **double Click**.
 - _ Five folders are displayed that contain detailed information about the selected user’s account; **Account Information**, **Personal Information**, **Shipping Address**, **Billing Address**, and **Mailing Address**.
- 6 **Click** the “**Personal Information**” folder.
 - _ The “**Personal Information**” folder opens.
- 7 **Click** the “**E-mail Address**” field.
 - _ The cursor moves to the **E-mail address**.
- 8 Enter the **E-mail Address**, then press **Tab**.

- The cursor moves to the “**Telephone**” field.
- 9 Tab** through each field until the “**Principal Investigator**” field is reached.
 - The “**Principal Investigator**” field can also be selected by using the mouse;
 - **Click** the “**Principal Investigator**” field.
- 10** Enter **principal investigator name**, then press **Tab**.
 - All changes have been entered for this folder.
- 11 Click** the “**Apply Edits**” button to implement the changes to the “**Personal Information**” folder.
 - **Click** another folder to continue editing, or
 - Exit **ECS User Account Management** by:
Exit menu path **File**→**Exit**.

19.1.4.3 Edit/Modify Shipping Address

The “**Shipping Address**” folder contains the address for shipping data. This address is not necessarily the same as the mailing or billing addresses. The US Rep will always confirm the **shipping address** with the user before shipping data. Execute the following steps to edit/modify the “**Shipping Address**” folder. If the “**Manage Existing Accounts**” folder of the **ECS User Account Management** icon is still open and the user’s account is still displayed, skip steps 1 through 5; otherwise, begin with step 1 to execute your changes.

- 1** On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - The **ECS User Account Management** window is displayed
 - The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts**.”
- 2 Click** the “**Manage Existing Accounts**” folder tab.
 - Folders and fields applicable to existing accounts are displayed.
- 3** Retrieve the user’s profile information by entering the search criteria in the “**Find**” field.
 - The “**Find**” field is located to the right of the **Find** button.
- 4** Enter the Search Criteria, then **press Return**.
 - Enter the user’s **Last Name**, **E-mail address**, or **User ID** to create the search.
 - The scroll box displays a list of accounts which match the search criteria.
- 5** Scroll through the accounts listed until the desired account is **highlighted**, then **double Click**.
 - Five folders are displayed that contain detailed information about the selected user’s account: **Account Information**, **Personal Information**, **Shipping Address**, **Billing Address**, and **Mailing Address**.
- 6 Click** the “**Shipping Address**” folder.

- The “**Shipping Address**” folder opens.
 - The cursor moves to the first “**Address**” field.
- 7** Enter the user’s new **Shipping Address**, then press **Tab**.
- The cursor moves to the second “**Address**” field.
- 8** If a second address field is needed to complete the user’s **shipping address**, enter the **Shipping Address**, then press **Tab**.
- If a second address is not needed, press **Tab** to bypass the field.
 - The cursor moves to the “**City**” field.
- 9** Enter the new **City** to which the data will be shipped, then press **Tab**.
- The cursor moves to the “**State/Province**” field.
- 10** Enter the new **State** or **Province** for the shipping address, then press **Tab**.
- The cursor moves to the “**Zip/Postal Code**” field.
- 11** Enter the new **Zip/Postal Code** for the shipping address, then press **Tab**.
- The cursor moves to the “**Country**” field.
- 12** Enter the **Country** to which the data will be shipped, then press **Tab**.
- The cursor moves to the “**Telephone**” field.
- 13** Enter the **Telephone number** (area code first) used at the new shipping address, then press **Tab**.
- The cursor moves to the “**Fax**” field.
- 14** Enter the **Fax number** (area code first) used at the shipping address, then press **Tab**.
- All changes have been entered for this folder.
- 15** **Click** the “**Apply Edits**” button to implement the changes to the “**Shipping Address**” folder.
- If the **billing** and **mailing addresses** are the same, continue editing.
 - **Click** another folder to continue editing, or
 - Exit **ECS User Account Management** by:
Exit menu path **File**→**Exit**.

19.1.4.4 Edit/Modify Billing Address

The “**Billing Address**” is not necessarily the same as the mailing and shipping addresses. This is the address to which payment-due billings are sent. The US Rep is responsible for maintaining up-to-date **billing addresses**. You must execute the following steps to edit/modify the “**Billing Address**” folder. If the “**Manage Existing Accounts**” folder of the **ECS User Account Management** icon remains open and the user’s account is still displayed, skip steps 1 through 5; otherwise, begin with step 1 to execute your changes.

- 1 On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - _ The **ECS User Account Management** window is displayed
 - _ The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts.**”
- 2 **Click** the “**Manage Existing Accounts**” folder tab.
 - _ Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user’s profile information by entering the search criteria in the “**Find**” field.
 - _ The “**Find**” field is located to the right of the **Find** button.
- 4 Enter the **Search Criteria**, then press **Return**.
 - _ The scroll box displays a list of accounts that match the search criteria.
 - _ Enter the user’s **Last Name**, **E-mail address**, or **User ID** to create the search.
- 5 Scroll through the accounts listed until the desired account is **highlighted**, then **double Click**.
 - _ Five folders are displayed that contain detailed information about the selected user’s account: **Account Information**, **Personal Information**, **Shipping Address**, **Billing Address**, and **Mailing Address**.
- 6 **Click** the “**Billing Address**” folder.
 - _ The “**Billing Address**” folder opens.
 - _ The cursor moves to the first “**Address**” field.
- 7 Enter the user’s new **billing address**, then press **Tab**.
 - _ The cursor moves to the second “**Address**” field.
- 8 If the second address field is needed to complete the user’s **billing address**, enter the **billing address**, then press **Tab**.
 - _ If the second address field is not needed, press **Tab** to bypass the field.
 - _ The cursor moves to the “**City**” field.
- 9 Enter the **City** to which the payment-due billings will be sent, then press **Tab**.
 - _ The cursor moves to the “**State/Province**” field.
- 10 Enter the **State** or **Province** for the new billing address, then press **Tab**.
 - _ The cursor moves to the “**Zip/Postal Code**” field.
- 11 Enter the **Zip/Postal Code** for the new billing address, then press **Tab**.
 - _ The cursor moves to the “**Country**” field.
- 12 Enter the **Country** to which the payment-due billings will be sent, then press **Tab**.
 - _ The cursor moves to the “**Telephone**” field.
- 13 Enter the **Telephone number** (area code first) used at the new billing address, then press **Tab**.

- The cursor moves to the “**Fax**” field.
- 14** Enter the **Fax number** (area code first) used at the new billing address, then press **Tab**.
 - All changes have been entered for this folder.
- 15** **Click** the “**Apply Edits**” button to implement the changes to the “**Billing Address**” folder.
 - If the **mailing address** is the same, continue editing.
 - **Click** another folder to continue editing, or
 - Exit **ECS User Account Management** by:
 - Exit menu path **File**→**Exit**.

19.1.4.5 Edit/Modify Mailing Address

The “**Mailing Address**” is used for normal correspondence. The Mailing Address is not necessarily the same as the shipping or billing addresses. Execute the following steps to edit/modify the “**Mailing Address**” folder. If the “**Manage Existing Accounts**” folder of the **ECS User Account Management** icon remains open and the user’s account is still displayed, skip steps 1 through 5; otherwise, begin with step 1 to execute the changes.

- 1** On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - The **ECS User Account Management** window is displayed.
 - The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts**.”
- 2** **Click** the “**Manage Existing Accounts**” folder tab.
 - Folders and fields applicable to existing accounts are displayed.
- 3** Retrieve the user’s profile information by entering search criteria in the “**Find**” field.
 - The “**Find**” field is located to the right of the **Find** button.
- 4** Enter the **Search Criteria**, then press **Return**.
 - Enter the user’s **Last Name**, **E-mail**, or **User ID** to create the search.
 - The scroll box displays a list of accounts which match the search criteria.
- 5** Scroll through the accounts listed until the desired account is **highlighted**, then **double Click**.
 - Five folders are displayed that contain detailed information about the selected user’s account: **Account Information**, **Personal Information**, **Shipping Address**, **Billing Address**, and **Mailing Address**.
- 6** **Click** the “**Mailing Address**” folder.
 - The “**Mailing Address**” folder opens.
 - The cursor moves to the first “**Address**” field.
- 7** Enter the user’s new **mailing address**, then press **Tab**.

- The cursor moves to the second “**Address**” field.
- 8** If a second address field is needed to complete the user’s new **mailing address**, enter the **Mailing Address**, then press **Tab**.
 - If a second address is not needed, press **Tab** to bypass the field.
 - The cursor moves to the “**City**” field.
- 9** Enter the new **City** to which the mail is sent, then press **Tab**.
 - The cursor moves to the “**State/Province**” field.
- 10** Enter the new **State** or **Province** for the new **mailing address**, then press **Tab**.
 - The cursor moves to the “**Zip/Postal Code**” field.
- 11** Enter the **Zip/Postal Code** for the new **mailing address**, then press **Tab**.
 - The cursor moves the “**Country**” field.
- 12** Enter the **Country** for the new **mailing address**, then press **Tab**.
 - Cursor moves to the “**Telephone**” field.
- 13** Enter the **Telephone number** (area code first) used at the new **mailing address**, then press **Tab**.
 - The cursor moves to the “**Fax**” field.
- 14** Enter the **Fax number** (area code first) used at the new **mailing address**, then press **Tab**.
 - All changes have been entered for this folder.
- 15** **Click** the “**Apply Edits**” button to implement the changes to the “**Mailing Address**” folder.
 - Edits to the folder are complete.
 - Exit ECS User Account Management tool by:
Exit menu path **File**→**Exit**

19.1.4.6 Edit/Modify an Existing Account Quick-Steps

To **Edit/Modify** an account, execute the steps provided in Table 19.1-7. **Do not** use the quick step version of this procedure unless you are already **very familiar** with the procedure. The table is a quick-step procedure that assumes all the changes to the five subordinate folders will be entered simultaneously, eliminating the first five steps when opening a new folder. The Quick-Step table indicates when and what folder to open when making all the changes sequentially.

Table 19.1-7. Edit/Modify an Account - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Manage Existing Accounts folder tab	Click tab
3	Select to the Find field criteria	Click
4	Enter the Last Name	press Return
5	Highlight the account required	double Click
	****Open Account Information folder****	
6	Select the Account Information folder tab	Click tab
7	Select the Media Preference field	Click
8	Enter the Media Preference	press Tab
9	Select the Apply Edits button	Click
	****Open Personal Information Folder****	
10	Select the Personal Information folder	Click
11	Select to the E-mail address field	Click
12	Enter the E-mail address	press Tab
13	Select the Principal Investigator field	Click
14	Enter the Principal Investigator name	press Tab
15	Select the Apply Edits button	Click
	****Open the Shipping Address folder****	
16	Select to the Shipping Address folder tab	Click folder tab
17	Enter the new Shipping Address in first address field	press Tab
18	Complete the Address on second address field if needed	press Tab
19	Enter the City	press Tab
20	Enter the State or Province	press Tab
21	Enter the Zip/Postal Code	press Tab
22	Enter the Country	press Tab
23	Enter the Telephone number	press Tab
24	Enter the Fax number	press Tab
25	Select the Apply Edits button	Click
	****Open the Billing Address folder****	
26	Select the Billing Address folder	Click folder tab
27	Enter the new Billing address in first address field	press tab
28	Complete the Address on second address field if needed	press tab
29	Enter the City	press Tab
30	Enter the State or Province	press Tab
31	Enter the Zip/Postal Code	press Tab
32	Enter the Country	press Tab
33	Enter the Telephone number	press Tab
34	Enter the Fax number	press Tab

Table 19.1-7. Edit/Modify an Account - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
35	Select the Apply Edits button	Click button
	****Open the Mailing Address folder****	
36	Select the Mailing Address folder tab	Click folder tab
37	Enter the new Mailing Address in the first address field	press Tab
38	Complete the Address on the second address field if needed	press Tab
39	Enter the City	press Tab
40	Enter the State or Province	press Tab
41	Enter the Zip/Postal Code	press Tab
42	Enter the Country	press Tab
43	Enter the Telephone number	press Tab
44	Enter the Fax number	press Tab
45	Select the Apply Edits button	Click
46	Select to the File menu	Hold button down
47	Drag the mouse to Exit	Release mouse button

19.1.5 Deleting an ECS Account

An ECS user can be deleted from the ECS database through the **ECS User Account Management** tool. When the US Rep receives instructions to delete a user, he/she will retrieve the user's account, validate the account scheduled for deletion, then complete the deletion. The **Personal Information** folder is generally the folder used to validate an account because it has the most information about the user, such as Name, Title, E-mail address, Organization, Telephone Number, etc.

If you are already familiar with the procedure to delete an account, you may prefer to use the quick-step table below (Table 19.1-8). If you are new to the system, you should use the following detailed procedures:

- 1 On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - _ The **ECS Account Management** window is displayed.
 - _ The window shows two folders: "**Process Account Requests**" and "**Manage Existing Accounts.**"
- 2 **Click** the "**Manage Existing Accounts**" folder tab.
 - _ Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user's profile information by entering the search criteria in the "**Find**" field.
 - _ The "**Find**" field is located to the right of the **Find** Button.
- 4 Enter the **Search Criteria**, then press **Return**.
 - _ Enter the user's **Last Name**, **E-mail**, or **User ID** to create the search.

- The scroll box displays a list of accounts which match the search criteria.
- 5 Scroll through the accounts listed until the desired account is **highlighted**, then **double Click**.
 - Five folders are displayed that contain detailed information about the selected user’s account: **Account Information, Personal Information, Shipping Address, Billing Address, and Mailing Address.**
 - 6 **Click** the “**Personal Information**” folder
 - The “**Personal Information**” folder opens.
 - View the folder to validate the account scheduled for deletion.
 - 7 **Click** the “**Delete Account**” button
 - The account is deleted.
 - 8 Exit the **ECS User Account Management** tool by;
 - Exit menu path **File→Exit.**

Table 19.1-8. Deleting an ECS Account - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Manage Existing Account folder tab	Click tab
3	Select the Find field	Click
4	Enter the user Name, E-mail or User ID	press Return
5	Highlight the account needed	double Click
6	Select the Personal Information folder tab	Click tab
6	Verify the users account information	N/A
7	Select the Delete button	Click button
8	Select the File menu	Hold mouse button
8	Drag the mouse to Exit	Release mouse button

19.1.6 Canceling an ECS Account

When the US Rep receives instructions to suspend a user’s privileges, he/she will retrieve the user’s account through the **Manage Existing Accounts** folder of the **ECS User Account Management** icon. The US Rep must first review the account information to validate the account scheduled for suspension. The **Personal Information** folder has the most information about the user, such as Name, Title, E-mail address, Organization, Telephone Number, etc.; therefore, the **Personal Information** folder is the folder generally used to validate an account. The suspension of an account is ordinarily due to a non payment of some type, such as payment due for services previously rendered. The US Rep will send the user an E-mail or letter, informing the user that the account privileges have been temporarily suspended and the account will be deleted if the payment has not been received by a specified date.

If you are already familiar with the procedures to Cancel/Suspend an ECS Account, you may prefer to use the quick-step table below (Table 19.1-9). If you are new to the system or have not performed this task recently, you should use the following detailed procedures:

- 1** On the User Services Desktop, **Click** the **ECS User Account Management** icon.
 - The **ECS User Account Management** window is displayed.
 - The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts**.”
- 2** **Click** the “**Manage Existing Accounts**” folder tab.
 - Folders and fields applicable to existing accounts are displayed.
- 3** Retrieve the user’s profile information by entering a search criteria in the “**Find**” field.
 - The “**Find**” field is located to the right of the **Find** button.
- 4** Enter the **Search Criteria**, then press **Return**.
 - Enter the user’s **Last Name**, **E-mail address**, or **User ID** to create a search.
 - The scroll box displays a list of accounts which match the search criteria.
- 5** Scroll through the accounts listed until the desired account is **highlighted**, then **double Click**.
 - Five folders are displayed that contain detailed information about the selected account: **Account Information**, **Personal Information**, **Shipping Address**, **Billing Address**, and **Mailing Address**.
- 6** **Click** the “**Personal Information**” folder tab.
 - The “**Personal Information**” folder opens.
 - View the folder to verify the account scheduled for suspension.
- 7** **Click** the “**Account Information**” folder tab.
 - The “**Account Information**” folder opens.
- 8** **Click** the “**Expiration Date**” field.
 - The cursor moved to the **Expiration Date** field.
- 9** Enter the **Expiration Date**, then press **Tab**.
 - When the “**Expiration Date**” is reached, the system automatically deletes the accounts from the system.
- 10** **Click** the **Cancel Account** button.
 - The privileges on this account are suspended.
 - The account privileges can be reinstated until the expiration date has been reached.
 - An account can be reinstated by removing the expiration date.
- 11** Exit the **ECS User Account Management** tool by:
 - Exit file menu **File**→**Exit**.

Canceling an account suspends the user's access until further notice. At the time that the users privileges are suspended, the US Rep must enter an Expiration date. If the account is not reinstated before the expiration date, it will be deleted from the system.

Table 19.1-9. Canceling an ECS Account - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Manage Existing Accounts folder tab	Click tab
3	Select the Find field	Click
4	Enter the users Name, E-mail address or User ID	press Return
5	Highlight the account	double Click
6	Select the Personal Account folder	Click
6	Review the folder to verify account	N/A
7	Select to the Account Information folder	Click
8 & 9	Enter the Expiration Date	press Tab
10	Select the Cancel Account button	Click
11	Select the File Menu	hold mouse down
11	Drag the mouse to Exit	Release mouse

19.1.7 Changing an ECS User's Password

The user has notified the US Rep that he/she has forgotten his/her password. The US Rep uses the “**Manage Existing Account**” folder of the ECS User Account Management tool to change a password. The US Rep retrieves the user’s account, then reviews the information contained in the folders to validate the user. The “**Personal Information**” folder is generally the folder used to validate a user because it contains information about the user, such as name, title, e-mail address, organization, telephone number, etc. The US Rep would then issue a new password to the user. The user would be informed that it is a “one time” password only; therefore, the user must change the password the first time he/she enters the system.

If you are already familiar with the procedures, you may prefer to use the quick-step table (Table 19.1-10). If you are new to the system or have not performed this task recently, you should use the detailed procedures that follow:

- 1 On the User Services Desktop, **click** the **ECS User Account Management** icon.
 - _ The **ECS User Account Management** window is displayed.
 - _ The window shows two folders: “**Process Account Requests**” and “**Manage Existing Accounts.**”
- 2 **Click** the “**Manage Existing Accounts**” folder tab.
 - _ Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user’s profile information by entering search criteria in the “**Find**” field.

- The **“Find”** field is located to the right of the **Find** button.
- 4** Enter the Search Criteria, then press **Return**.
 - You can create a search by entering the user’s **Last Name, E-mail address, or User ID**.
 - The scroll box displays a list of accounts which match the search criteria.
- 5** Scroll through the accounts listed until the desired account is **highlighted**, then **double Click**.
 - Five folders are displayed that contain detailed information about the selected account: **Account Information, Personal Information, Shipping Address, Billing Address, and Mailing Address**.
- 6** **Click** the **“Personal Information”** folder tab.
 - The **“Personal Information”** folder opens.
 - Review the folder to verify the user requesting the password change.
- 7** **Click** the **“Account Information”** folder tab.
 - The **“Account Information”** folder opens.
- 8** **Click** the **“Password”** field.
 - The cursor moves to the **“Password”** field.
- 9** Enter the **Password**, then press **Tab**.
 - Inform the user of the new password, with instructions to change the password when they enter the system.
- 10** Exit the **ECS User Account Management** tool by:
Exit menu path **File→Exit**.

Table 19.1-10. Changing an ECS User’s Password - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Select the ECS User Account Management icon	Click icon
2	Select the Manage Existing Accounts folder tab	Click tab
3	Select the Find field	Click
4	Enter the user’s Name, E-mail address or User ID	press Return
5	Highlight the account	double Click
6	Select the Personal Information folder tab	Click tab
6	Review the folder to verify the account	N/A
7	Select the Account Information folder tab	Click
8	Select the Password field	Click
9	Enter the new Password	press Tab
9	Notify the user of the new Password	N/A
10	Select the File menu	hold mouse down
10	Drag the mouse to Exit	Release mouse

19.2 Processing an Order

This section describes how a User Services Representative (US Rep) might process an order from a user. The specific order of activities may vary from what is suggested here due to Operator preference or local DAAC policy; however, the procedures themselves will be the same for any order processed.

In the example provided here, when the user contacts the US Rep with a request for data, the US Rep logs the request in the User Contact Log (Section 19.2.1), then launches the ECS User Account Management tool to validate the user (Section 19.2.2). Next, the US Rep uses the Search and Order tool to locate the requested data (Section 19.2.3). Once the data is located, the US Rep obtains a price estimate, if applicable (Section 19.2.4) and confirms the order with the user. After the user has approved the order, the US Rep places the order (Section 19.2.5), then notifies the user that the order is being processed. The US Rep then completes the process by updating the User Contact Log record to indicate that the order has been placed (Section 19.2.6).

The Activity Checklist, Table 19.2-1, provides an overview of the process used when an order for data is received. Column One (**Order**) shows the order in which task should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 19.2-1. Processing an Order - Activity Checklist

Order	Role	Task	Section	Complete?
1	US Rep	Create User Contact Log	(P) 19.2.1	
2	US Rep	Retrieve User Information	(P) 19.2.2	
3	US Rep	Locate Data via Search & Order tool	(P) 19.2.3	
4	US Rep	Request Price Estimate/Confirm Order	(P) 19.2.4	
5	US Rep	Order Data	(P) 19.2.5	
6	US Rep	Update User Contact Log	(P) 19.2.6	

19.2.1 Create a User Contact Log Record

A User Contact Log record is created for each unique User Services event. An “event” can be a registration request, a request for data, a request to track the status of an order, a complaint, a comment, or other. If a user contacts the US Rep for any reason, the US Rep must log the contact into the User Contact Log. The User Contact Log, which is located on the User Services Desktop, is kept as a running record of all user interactions. The US Rep uses the User Contact Log so frequently that, once it is launched, it is likely to be kept open during an entire shift/working session.

A unique “Log-Id” is assigned to each User Contact Log record. Once the record has been created, if the US Rep wants to add new information to the record or review previous entries, he/she can retrieve the record by using the Log-Id. The record continues to be updated to show a chronology of activities relating to the event, until such time as the event is closed out. Once closed, the record can be retrieved for historical purposes, but new information cannot be added. How long closed records stay on the system is determined by a combination of system capacity and DAAC policy.

In the User Contact Log, the person who contacted User Services is referred to as the “Contact.” A log entry contains the Contact’s name, phone number, E-mail address, Home DAAC, and Organization. Other window fields include the Contact Method, Receiving Operator, and Received Time. The User Contact Log also contains Short and Long description fields for recording the contact’s reasons for placing the call. To create a User Contact Log the “**Bolded**” fields must be completed. Local DAAC policy will determine which of the remaining fields are to be completed. The window also contains fields that permit the US Rep to initiate a trouble ticket, if a trouble ticket is required. Trouble tickets are not discussed in this section; therefore, fields that relate only to trouble tickets will not be used in this procedure. For information about trouble tickets, refer to Section 8 of this document, "Problem Management."

There are four User Contact Log screens: the “Submit” screen, the “Display” screen, the “Edit” screen, and the “Entry” Screen. The Submit screen is used to create new User Contact Log records, the Display screen is used to display already existing Contact Log records and to generate reports, the Edit screen is used to make changes to existing User Contact Log records, and the Entry screen is used as a path to the previous screens. When the User Contact Log is opened, it defaults to the Entry screen. An existing record can be displayed or modified by entering its unique Log-ID then using the menu at the top of the screen and following menu path **Query → Display or Modify Individual**. It is also possible to enter new account information into the Entry screen, but the information must be transferred to the Submit screen before the log record can be created. This is accomplished by using the menu at the top of the screen and following menu path **Action → Copy to Submit**.

Although it is fairly easy to copy information from the Entry screen to the Submit screen, it is recommended that the Submit screen always be used when creating new records in order to leave the Entry screen available for other activities. If the US Rep receives a phone call regarding a different activity while in the middle of creating a new User Contact Log record, he/she can switch to the Entry screen and query the Log for information about the other situation without disturbing the data already entered into the Submit screen. As long as the Entry screen remains available, it can be used as a pathway for opening several Submit screens or Edit screens at one time. When the US Rep has finished with the other activity, he/she can return to the Submit screen and finish creating the new log record.

19.2.1.1 How to Create a User Contact Log Record

The procedure that follows explains how to create a User Contact Log. This procedure will assume that all of the “Contact” information is needed. If you are already familiar with the procedure, you may prefer to use the quick-steps table at the end of the procedure (Table 19.2-2). If you are new to the system, you should use the following detailed procedures:

- 1** On the User Services Desktop, **Click** the **User Contact Log/Trouble Ticket** icon.
 - _ The **User Contact Log** defaults to the **Entry** screen.
- 2** From the Menu Bar, follow menu path **File**→ **Open Submit**.
 - _ The display changes from the **Entry** screen to the **Submit** Screen.
 - _ The screens look the same except for the action buttons on the bottom of the screen.
- 3** **Click** on the “**Contact Method**” field.
- 4** **Enter** the **Contact Method**.
 - _ Please see **Note 1** at the end of this procedure.
- 5** **Click** on the **Short Description** field.
 - _ The “**Short Description**” field is 128 characters long.
 - _ Please see **Note 2** at the end of this procedure.
- 6** **Enter** the **Short Description**.
- 7** **Click** on the “**Set Received Time**” button.
 - _ The current time and date are displayed.
- 8** **Click** on the “**Long Description**” field.
 - _ The “**Long Description**” field is used when the description requires more detail than the “**Short Description**” field will allow.
 - _ The “**Long Description**” field is often used when a problem exists; it can help with the resolution of Trouble Tickets.
- 9** **Enter** a **Long Description** if needed.
- 10** **Click** on the “**Contact Id.**”
- 11** Enter the **Id** (User Id) of the person who contacted User Services.
 - _ The “**Contact Id**” is not required unless a Trouble Ticket is being created from the User Contact Log.
- 12** If a **Contact Id** was entered at **Step 11**, click the “**Set Contact Information**” button; otherwise, move to **Step 13**.

- The system will automatically complete the “**Contact Name**,” “**Contact Phone**,” “**Contact E-mail**,” “**Contact Home DAAC**,” and “**Contact Organization**” fields, if the **Contact Id** has been entered.
 - If the contact is not a registered **Remedy** user, the contact fields must be manually completed.
- 13** If the contact information was not automatically entered at **Step 11**, **Click on Contact Name**.
- 14** **Enter the Contact’s Name**.
- 15** **Click on the Contact Phone** field.
- 16** **Enter the Contact’s Phone** number.
- 17** **Click on the Contact E-Mail** field.
- 18** **Enter the Contact’s E-mail** address.
- 19** **Click the Contact Home DAAC** field.
- 20** **Enter the Contact’s Home DAAC**.
- 21** **Click on the Contact Organization** field.
- 22** **Enter the Contact’s Organization**.
- 23** When all contact information has been entered, **Click on the “Receiving Operator”** field.
- 24** In the “**Receiving Operator**” field, enter the name of the operator (US Rep) who is creating the User Contact Log record.
- 25** **Click on the Category** field.
- Please see **Note 3** at the end of this procedure.
- 26** **Enter the Category**.
- 27** Click the **Apply Submit** button.
- Please see **Note 4** at the end of this procedure.
 - The User Contact Log record is created and submitted to the database.
 - A unique Id is generated for the record and entered into the “**Log Id**” field.
 - The time and date that the User Contact Log was completed is displayed in the “**Entered Time**” field.
- 28** Click the **Clear** button.
- The screen is cleared without closing the User Contact Log.
 - A new User Contact Log record can now be created.

NOTES:

Note 1: A dropdown menu can also be used to enter the contact method. To access the menu, point the mouse to the right of the “**Contact Method**” field. Select a contact method by holding the mouse down and highlighting the appropriate method. When the mouse is released, the contact method selected will be displayed in the “**Contact Method**” field. The contact methods listed in the dropdown menu are “**Phone,**” “**E-mail,**” “**Fax,**” “**US Mail,**” and “**Walk-in.**”

Note 2: The US Rep can use the “**Query**” field located at the bottom of the screen to locate existing User Contact Log records and/or Trouble Tickets associated with specific problems/subjects. When a search string is entered into the “**Query**” field, it is the “**Short Description**” field of individual records that is searched. Therefore, when you enter a short description, enter it with “search criteria” in mind.

Note 3: A dropdown menu can also be used to enter the category. To access the menu, point the mouse to the right of the “**Category**” field. Select a category by holding the mouse down and highlighting the appropriate category. When the mouse is released, the category selected will be displayed in the “**Category**” field. The categories listed in the dropdown menu are “**Data Request,**” “**Complaint,**” “**Information,**” and “**Registration Request.**”

Note 4: If you are not using the **Submit** screen, you must transfer to the submit screen now. The information you entered must be moved to the **Submit** screen before the log record can be created. This is accomplished by using the menu at the top of the screen and following menu path **Action -> Copy to Submit.** Once the information has been transferred to the **Submit** screen, click the **Apply Submit** button.

Table 19.2-2. Creating a User Contact Log - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	User Contact Log/Trouble Ticket icon	Click icon
2	File -> Open Submit	Follow menu path
3	Contact Method field	Click
4	Contact Method	Enter
5	Short Description field	Click
6	Short Description	Enter
7	Set Received Time	Click button
8	Long Description field	Click
9	Contact’s Long Description	Enter
10	Contact Id field	Click
11	Contact’s Id (User Id)	Enter
12	Set Contact Information field	Click only if Contact is a registered Remedy user
13	Contact Name field	Click
14	Contact’s Name	Enter
15	Contact Phone field	Click

Table 19.2-2. Creating a User Contact Log - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
16	Contact's Phone	Enter
17	Contact E-mail field	Click
18	Contact's E-mail	Enter
19	Contact Home DAAC field	Click
20	Contact's Home DAAC	Enter
21	Contact Organization field	Click
22	Contact's Organization	Enter
23	Receiving Operator field	Click
24	Receiving Operator's Name	Enter
25	Category field	Click
26	Category	Enter
27	Apply Submit	Click button
28	Clear	Click Button

19.2.2 Retrieve User Information

This section describes how a User Services Representative (US Rep) might retrieve a User's Profile to validate a user. When a User places a call to the US Rep, the event is logged into the User Contact Log. The US Rep then retrieves the User's profile to validate the user. The User's Profile screen contains all the vital information about the user. The User's Profile is located in the **ECS User Account Management** tool, which is located on the User Services Desktop.

The information needed from the User may vary depending on local DAAC policies. It is recommended that the US Rep verify the following fields in the event that additional information is needed to complete the order: **User Id; Name; Shipping Address** for mailing hard media; **Email Address** for an ftp pull; **Privilege Level**, if ordering restricted data; and a **Contact Phone Number**. When the User Profile screen is opened, the information contained in the five account management folders is displayed on one screen. If modifications are required, see section 19.1.4. If you are already familiar with the procedure, you may prefer to use the quick-steps table at the end of the procedure (Table 19.2-3). If you are new to the system, you should use the following detailed procedures:

- 1 **Click the ECS User Account Management icon.**
 - _ The **ECS User Account Management** window is displayed.
 - _ The window shows two folders: "**Process Account Requests**" and "**Manage Existing Accounts.**"
- 2 **Click the "Manage Existing Accounts" folder tab.**
 - _ Folders and fields applicable to existing accounts are displayed.
- 3 Retrieve the user's profile information by entering a search criteria in the "**Find**" field.

- The “**Find**” field is located to the right of the **Find** button.
- 4 Enter the Search Criteria, then press **Return**.
 - The scroll box displays a list of accounts that match the search criteria.
 - You can create a search by entering the user’s **Last Name, E-mail address, or User Id**.
 - 5 Scroll through the accounts listed until the desired account is **highlighted**, then **double click**.
 - Five folders are displayed that contain detailed information about the selected account: **Account Information, Personal Information, Shipping Address, Billing Address, and Mailing Address**.
 - 6 **Click** on the “**View Entire Profile**” option button at the bottom of the screen.
 - The User Profile screen is displayed.
 - This is a read-only screen; no changes can be made without going to each individual folder.
 - The User Profile screen, displays the information contained in the **Personal Information** folder, **Account Information** folder, **Shipping Address** folder, **Billing Address** folder, and the **Mailing Address** folder.
 - 7 **Click** the **Close** button, to exit from the User Profile screen.
 - 8 Exit the ECS User Account Management tool by following menu path **File → Exit**.

Table 19.2-3. Retrieve User Account - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	ECS User Account Management icon	Click icon
2	Manage Existing Accounts folder	Click folder tab
3	Select “Find” field	Click
4	Enter the Search Criteria	press Return
5	Highlight desired account	double click
6	Select View Entire Account options button	Click
7	Select Close button	Click
8	Follow menu path	File → Exit

19.2.3 Locate Data Via Search and Order Tool

When a User Services Representative (US Rep) receives a mail message from a user who needs help placing an order, he/she can place the order on the user's behalf. This section provides an example of how the US Rep might place an order on behalf of a user. The US Rep begins by creating a **User Contact Log** (Section 19.2.1) entry, into which he/she records that a request for help was received from the user. The Us Rep next looks up the requester’s **User Profile**

(Section 19.2.2) to verify that the person is a registered user. After looking at the mail message from the user, the US Rep decides to create a search to determine if the data is held at his/her home DAAC. The US Rep launches the IMS Search & Order tool from the ECS User Services Desktop.

Note: Use the **IMS Client Tutorial** and **EOSDIS User's Manual** as a guide to search and order data. The **IMS Client Tutorial** and **EOSDIS User's Manual** can be located by the following URL: <http://eos.nasa.gov/imswelcome>. The tutorial will contain instructions with each screen display. The **Installation Guide** is available through the WWW at http://harp.gsfc.nasa.gov:1729/eosdis_documents/binary_dist_inst_5.html. The sections that follow provide some helpful hints when using the **IMS Search and Order** tool.

The Activity Checklist, Table 19.2-4, provides an overview of the process used to locate data via the **IMS Search & Order** tool. Column One (**Order**) shows the order in which tasks should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or instruction (I) section number where details for performing the task can be found. Column five (**Completed ?**) is used as a checklist to keep track of which task steps have been completed.

Table 19.2-4. Locate Data Via Search & Order Tool - Activity Checklist

Order	Role	Task	Section	Complete ?
1	US Rep	Obtain a Spatial Summary	(I) 19.2.3.1	
2	US Rep	Obtain a Temporal Summary	(I) 19.2.3.2	
3	US Rep	Obtain a Discrete Attribute Summary	(I) 19.2.3.3	
4	US Rep	Browse the Search Results	(I) 19.2.3.4	
5	US Rep	Select Granules to Order	(I) 19.2.3.5	
6	US Rep	Request Price Estimate	(I) 19.2.4	
7	US Rep	Specify Order Details	(I) 19.2.5	

19.2.3.1 Obtain a Spatial Summary

To obtain a **Spatial Summary**, first retrieve the **IMS Search and Order** tool (see the note in section 19.2.3). All searches require a search **type** and one or more search **criteria**. The search types are **Inventory** search, **Directory** search, and **Guide** search. The search criteria for a **Spatial Summary** will be a **Geographic** location. The **Geographic** fields are located in the top right corner of the **Search for Data** screen. The **Search for Data** screen can be displayed by pressing the **Search Screen** button on the **IMS Welcome** page.

19.2.3.2 Obtain a Temporal Summary

To obtain a **Temporal Summary**, first retrieve the **IMS Search and Order** tool (see the note in Section 19.2.3). All searches require a search **type** and one or more search **criteria**. The search types are **Inventory** search, **Directory** search, and **Guide** search. The search criteria for a **Temporal Summary** will be **Date and Time**. The **Date and Time** fields are located in the

lower right corner of the **Search for Data** screen. The **Search for Data** screen can be displayed by pressing the **Search Screen** button on the **IMS Welcome** page.

19.2.3.3 Obtain a Discrete Attribute Summary

To obtain a **Discrete Attribute Summary** first retrieve the **IMS Search and Order** tool (see the note in Section 19.2.3). All searches require a search **type** and one or more search **criteria**. The search types are **Inventory** search, **Directory** search, and **Guide** search. The geographic and **Date and Time** criteria fields are located on the right side of the screen. The remaining list of criteria are on the left side of the screen. The US Rep can type criteria in the entry fields, or, if unsure of the entry, the US Rep can access a list of valid entries by clicking on the **List** button for each field. The desired valid entry is selected by highlighting it and clicking the mouse button. The valid entry is then displayed in the criteria field. The **Search for Data** screen can be displayed by pressing the **Search Screen** button on the **IMS Welcome** page.

19.2.3.4 Browse the Search Results

After data has been entered into the search **type** and **criteria** fields, select a **Search Results** screen from the three options given. The options are **Inventory Search Results**, **Directory Search Results**, and **Guide Search Results**. After the **Search Results** type has been selected, a **Selection List** screen will be displayed, showing a list of Data Sets resulting from the criteria entered. An **integrated browse** or **ftp browse** can be selected. For more detailed instructions, follow the procedures outlined in the **IMS Client Tutorial** and **EOSDIS User's Manual** (located by the following URL: <http://eos.nasa.gov/imswelcome>).

19.2.3.5 Select Granules to Order

Once the search is completed, the US Rep must mark the data for order. This can be done from many points in the system, including the **Inventory Results**, **Detailed Inventory Results**, **Selection List**, **Browse Display**, and **Coverage Map Screens**. For more detailed instructions, follow the procedures outlined in the **IMS Client Tutorial** and **EOSDIS Users Manual**, (located by the following URL: <http://eos.nasa.gov/imswelcome>).

19.2.4 Request Price Estimate

There is no charge for data at this time. If the time ever comes that NASA resources cannot meet the user demand, a standard price table shall be established across all DAACs, see (Policy #96.01). In general, the policy provides that the Federal Government should recoup only those costs associated with the dissemination of information and not those associated with its creation or collection. NASA Headquarters is responsible for specifying the policy with input from GSFC Code 170, the EOSDIS Project, and the DAACs.

When and if NASA begins charging to recoup their costs, the DAAC User Service Representative (US Rep) will be responsible for direct interaction with users regarding pricing, billing, refunds, or any other matter regarding data costs. The DAAC User Services Representatives will be able to establish single accounts, or group accounts in which a number of users are allowed to charge a common account.

For more information regarding the **Pricing and Billing Policy** see “Data and Information Policy,” published in the 1995 MTPE/EOS Reference Handbook , EOS Project Plan (5/95).

19.2.5 Specify Order Details

Once data has been marked for order, the media and format options must be selected. Select the **Package Options** button on the **Order Data** screen to display the **Media Type** and **Media Format** options screen. Each Processing Option has associated Media types and corresponding Media Format choices. Detailed instructions for selecting the media type can be found in the **IMS Client Tutorial** and the **EOSDIS Users Manual**, (located by the following URL: <http://eos.nasa.gov/imswelcome>).

19.2.6 Update User Contact Log

When a User contacts the US Rep with a request for data, the US Rep creates a User Contact Log record of the event. The User Contact Log remains open until the request has been completed, at which time the US Rep updates, then closes the log record. The User Contact Log record can be modified several times before the request is completed. Each time a Contact Log is modified, the log will display the operator that made the modification as well as the date and time of the modification.

There are four User Contact Log screens: the **Submit** screen, the **Display** screen, the **Edit** screen, and the **Entry** Screen. The **Submit** screen is used to create new User Contact Log records, the **Display** screen is used to display already existing Contact Log records and to generate reports, the **Edit** screen is used to make changes to existing User Contact Log records, and the **Entry** screen is used as a path to the previous screens. When the User Contact Log is opened, it defaults to the **Entry** screen.

To launch the User Contact Log and to retrieve/modify an individual screen, see section 19.2.2.

Two different methods can be used to retrieve accounts that require modifications. The US Rep can **Modify** an **Individual** User Contact Log record by using the menu at the top of the screen and following menu path **Query** → **Modify Individual** to obtain the “Edit” screen. Then he/she must enter the unique Log-Id, Contact Name, E-mail address, or the Short Description field to retrieve the individual User Contact Log record. If the US Rep needs to modify several log records he/she can retrieve all of the User Contact Log records created during his/her shift by following menu path **Query** → **Modify all**. The screen will default to the first User Contact Log record entered during his/her shift. At the bottom of the screen are “Previous” and “Next” action buttons, which can be used to toggle through the log records without inputting individual retrieval information. Pressing the **next** button will display the second User contact log record that was opened during the shift, and then the third, etc. Pressing the **Previous** button will go backwards, it will display the last User contact log record created during the shift. If there were 30 User Contact Log records created during the shift, the User Rep may not wish to toggle through 30 accounts; therefore, the **Modify Individual** would be more efficient.

The procedure that follows explains how to Modify a User Contact Log record. This procedure will modify an individual User Contact Log. This procedure will change the contact e-mail

address and will note in the “Comments Log” that the data requested has been shipped, then the record will be closed. If you are already familiar with the procedure, you may prefer to use the quick-step table at the end of the procedure (Table 19.2-5). If you are new to the system, you should use the following detailed procedures:

- 1** On the ECS User Services Desktop, **Click the User Contact Log/Trouble Ticket icon.**
 - _ The **User Contact Log** defaults to the **Entry** screen.
- 2** From the Menu Bar, follow menu path **Query → Modify Individual.**
 - _ The display changes from the **Entry** screen to the **Modify** screen.
 - _ The screen looks the same except for the action buttons on the bottom of the screen.
- 3** **Click** on the **Log Id** field.
- 4** **Enter the Log Id.**
 - _ The User Contact Log record for the unique **Log Id** is displayed.
- 5** **Click** on the **Contact E-Mail** field.
- 6** **Enter** the new **E-mail address.**
- 7** **Click** on the **Comment Log** field.
- 8** **Enter** a **Comment** describing update.
 - _ The comment should indicate the action taken.
 - a Changed contact e-mail address.
 - b Order for data has been completed.
- 9** **Click** on the **Apply Edits** button.
 - _ Edits are not implemented until the “Apply Edits” button is pressed.
 - _ The “Modified-date” field will display the date and time of the modification.
 - _ The “Last-Modified-by” field will display the name of the US Rep.
- 10** To close a User Contact Log record, **select** the “**Log Status**” button, while **holding** the mouse button down, drag it to **Close**, then **Release** the mouse button.
 - _ The User contact Log is now closed.

Table 19.2-5. Update User Contact Log Record - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	User Contact Log/Trouble Ticket icon	Click icon
2	Query → Modify Individual	Follow menu path
3	Log Id field	Click
4	Log Id	Enter
5	Contact E-mail field	Click
6	E-mail address	Enter
7	Comment Log	Click
8	Comment (action taken)	Enter
9	Apply Edits	Click
10	Log Status → Close	follow Log Status menu path

19.3 Cancel an Order

This section describes how a User Services Representative (US Rep) might Cancel an Order on behalf of a user. The specific order of activities may vary from what is suggested here due to Operator preference or local DAAC policy; however, the procedures themselves will be the same for any cancellation.

In the example provided here, when the user contacts the US Rep with a request to have an order canceled, the US Rep logs the request in the User Contact Log (Section 19.2.1), then launches the ECS User Account Management tool to validate the user (Section 19.2.2). Next, the US Rep launches the **ECS Data Order Tracking** tool from the User Services Desktop to track the order (Section 19.3.1). After the order has been located, the US Rep cancels the order using the Science Data Server GUI (Section 19.3.2), then notifies the user that the cancellation has been completed. The US Rep then completes the process by updating the User Contact Log record to indicate that the order has been canceled (Section 19.2.6). There are no charges for data at this time; therefore, no accounting records need to be updated.

The Activity Checklist, Table 19.3-1, provides an overview of the process used when a request for cancellation is received. Column One (**Order**) shows the order in which task should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 19.3-1. Cancel an Order - Activity Checklist

Order	Role	Task	Section	Complete ?
1	US Rep	Create User Contact Log	19.2.1	
2	US Rep	Validate a User	19.2.2	
3	US Rep	Launch ECS Data Order Tracking tool	19.3.1	
4	Us Rep	Cancel Order	19.3.2	
5	US Rep	Update User Contact Log	19.2.6	

19.3.1 ECS Order Tracking

When a user calls because data previously ordered has not been received or he/she wants to cancel an order, the **ECS Data Order Tracking** tool is used. The **ECS Data Order Tracking** tool is a view-only tool. The **ECS Data Order Tracking** tool screen has several query options that can be used to search for an existing order: the **User Name**, **Order ID**, and **Request ID**. The **User Name** displays every order submitted with the same first and last name. If there is more than one order with the same first and last name, the system will default to the **Verify User Selection** screen. The **Verify User Selection** screen is used to assist the US Rep with the verification process by displaying each user's name, e-mail address, phone number, and date the order was placed. The **Order ID** is the unique Id number generated when the order was placed. The **Request ID** is the Id number issued by the data server. If a large order was placed, the data server will partition the order, which means there can be more than one **Request ID**, with a single Order ID. When an order is retrieved using the **Request ID** the display will also indicate the unique **Order ID** for tracking purposes.

The US Rep can reduce the number of orders displayed by using the **Filter by Status** options. The status filters are: **Pending**, **Operator Intervention**, **Staging**, **Transferring**, **Not Found**, **Waiting for Shipment**, **Shipped**, **Aborted**, **Canceled**, and **Terminated**. When a filter is used, the display will list only accounts that match the filter criteria. The **Select All** button will automatically select all of the filters, and the **Deselect All** button will remove all the filters. After the filters have been selected press the **Query Orders** button to begin the search.

The orders that match the query and filter criteria are displayed in the box at the bottom of the screen. The **Order ID**, **Order Date**, **Status**, **# of Requests**, **Description** and **Start Date** for each order are displayed. Scroll through the list of orders until the desired order is highlighted, then **double click**. If the **order** has more than one **request** number, the status of each request can be viewed by pressing the **Show Requests** button.

The procedure that follows explains how to track an order using the **ECS Data Order Tracking** tool. This procedure will assume that the US Rep will use the user's name for the search, which will display more than one order, and the order selected will have more than one request number. If you are already familiar with the procedure, you may prefer to use the quick-step table at the end of the procedure (Table 19.3-2). If you are new to the system, you should use the following detailed procedures:

- 1 On the User Services Desktop, **Click** the **ECS Data Order Tracking** icon.
 _ The **ECS Data Order Tracking** window is displayed.
- 2 **Click** the **Radio Box** to the left of the **User Name**.
 _ The cursor moves to the **Last Name** field.
- 3 Enter the **Last Name**, then press **Tab**.
 _ The cursor moves to the **First Name** field.
- 4 Enter the **First Name**, then press **Tab**.
- 5 **Click** on the **Select All** button.
 _ All of the status filters are selected.
- 6 **Click** on the **Query Orders** button.
 _ More than one order is displayed; therefore, the system defaults to the **Verify User Selection** screen.
 _ A list of orders are displayed, each showing the user's **Name**, **E-mail** address, **Phone Number**, and **Date Order Placed**.
- 7 **Highlight** the desired account, then **double click**.
 _ The **Verify User Selection** window closes.
 _ The order is displayed in the box at the bottom of the **ECS Data Order Tracking** screen.
 _ The **Order ID**, **Order Date**, **Status**, **# of Requests**, **Description**, and **Start Date** are displayed.
- 8 **Click** on the **Show Requests** button if there are more than one request.
 _ Every request number relating to the highlighted Order are displayed.
 _ The **Request**, **# Files**, **Size**, **Media**, **Format**, **Status**, **Ship Date**, and **Product Description** are displayed for each request.
- 9 Exit the **ECS Data Order Tracking** tool by following menu path **File** → **Exit**.

Table 19.3-2. ECS Order Tracking - Quick-Step Procedure

Step	What to Enter or Select	Action to Take
1	ECS Data Order Tracking icon	Click icon
2	Radio Box (to the left of User Name)	Click
3	Enter Last Name	press Tab
4	Enter First Name	press tab
5	Select All button	Click
6	Query Orders button	Click
7	Highlight order	Double Click
8	Show Requests button	Click
9	Follow Menu path	File → Exit

19.3.2 Cancel an Order Via Data Server Subsystem

This section describes how a User Services Representative (US Rep) might Cancel an Order on behalf of a user. The US Rep must first locate the order using the **Data Server Subsystem** tool (DSS), located on the User Services Desktop. Section 19.3.1 explained how to track an order using the **ECS Data Order Tracking** tool, which is a read-only tool. This section will use the **DSS** tool, which allows the US Rep to edit the order.

The **DSS** tool will display seven tab widgets: **Tracking, Data Types, Usage, Events, Storage Resource, Storage Requests, and System Requests**. To track and then cancel an order the US Rep will **click** on the **Tracking** tab widget. The display box will list all of the orders currently in the system. The display box shows the **Request Id**, the **Parent Id**, the **Requester's Name**, the **Priority**, and the **State**. There can be several Request Id's associated with one Parent Id due to the partitioning of larger orders. The **Priority** levels are **low, medium, or high**. The order State can be **Pending, Active, Staging, Waiting for Shipment, and Transferring**.

The US Rep can filter the order list by using the **filter** button, which displays the **Filter Request** screen. The **Request Id** filter will display the order associated with the unique Id number. The **Requester** filter will display all orders matching the requester name. **State** filters can also be used. For example, if the US Rep wants to filter the list by state, he/she can press **Pending** to list only pending order requests, or **Active** to list only active requests. When the list is displayed the US Rep highlights the required order request and selects the **abort** button to cancel the order.

The procedure that follows explains how to track and order using the Requester and Pending filters, then canceling the order. If you are already familiar with the procedure, you may prefer to use the quick-step table at the end of the procedure (Table 19.3-3). If you are new to the system, or have not performed the procedure recently, you should use the following detailed procedures:

- 1 **On the User Services Desktop, double Click the Science Data Server icon.**
 - The **Science Data Server** window is displayed.
 - Seven tab widgets are displayed: **Tracking, Data Types, Usage, Events, Storage Resource, Storage Requests, and System Requests**.
- 2 **Click on the Filter button.**
 - The **Filter Requests** screen is displayed.
- 3 **Click on the Requester button.**
 - Cursor moves to the Requester field.
- 4 **Enter the Requester's Name.**
 - Requester filter is activated.
- 5 **Click on the Pending button.**
 - Pending filter is activated.

- 6 **Click** on the **OK** button to execute the search.
 - _ Defaults back to the Data Tracking screen.
 - _ A list of order requests matching the Requester and Pending filters are displayed.
- 7 **Click** to **highlight** the **order request** that is scheduled for cancellation.
- 8 **Click** the **View** button to verify order information.
 - _ Verify that the correct order request has been selected for cancellation.
- 9 **Click** the **Abort** button.
 - _ The order request has been deleted from the system.
- 10 Exit the **Science Data Server** tool by using menu path **File → Exit**.

Table 19.3-3. Cancel an Order Via DSS - Quick-Step Procedure

Step	What to Enter or Select	Action to Take
1	Science Data Server icon	Double Click
2	Filter button	Click
3	Requester button	Click
4	Enter Requesters Name	N/A
5	Pending button	Click
6	OK button	Click
7	Highlight desired Order Request	Click
8	View button	Click
9	Abort button	Click
10	Follow Menu path	File → Exit

19.4 Fulfilling a Subscription

This procedure cannot be written until SCDO completes the GUI interface to insert the Subscription request (no mock-ups are available).

The Activity Checklist, Table 19.4-1, provides an overview of the process used to create and fulfill a subscription. Column one (**Order**) shows the order in which tasks should be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Completed ?**) is used as a checklist to keep track of which task steps have been completed.

Table 19.4-1. Fulfilling a Subscriptions - Activity Checklist

Order	Role	Task	Section	Complete ?
1	US Rep	Fulfilling a One-Time Subscription	(P) 19.4.1	
2	US Rep	Fulfilling an Open Ended Subscription	(P) 19.4.2	
3	US Rep	Returning an List of Subscriptions	(P) 19.4.3	
4	US Rep	Editing & Canceling a Subscription	(P) 19.4.4	

19.4.1 Fulfilling a One-Time Subscription

If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow. If you are already familiar with the procedures, you may prefer to use the quick-step procedures depicted in Table 19.4-2.

- 1 TBD

Table 19.4-2. Fulfilling a One-Time Subscription - Quick-Step Procedure

Step	What to Enter or Select	Action to Take
1		
2		
3		
4		
5		
6		
7		
8		
9		

19.4.2 Fulfilling an Open Ended Subscription

If you are new to the system or have not performed this task recently, you should use the detailed procedures that follow. If you are already familiar with the procedures, you may prefer to use the quick-step procedures depicted in Table 19.4-3.

- 1 TBD

Table 19.4-3. Fulfilling an Open Ended Subscription - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1		
2		
3		
4		
5		
6		
7		
8		
9		

19.4.3 Returning a List of Subscriptions

If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow. If you are already familiar with the procedure, you may prefer to use the quick-step table depicted in Table 19.4-4.

- 1 TBD

Table 19.4-4. Returning a List of Subscriptions - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1		
2		
3		
4		
5		
6		
7		
8		
9		

19.4.4 Editing or Canceling a Subscription

If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow. If you are already familiar with the procedures, you may prefer to use the quick-step procedures depicted in Table 19.4-5.

- 1 TBD

Table 19.4-5. Editing or Canceling a Subscription - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1		
2		
3		
4		
5		
6		
7		
8		
9		

19.5 Cross-DAAC Referral Process

The following procedure is based on policy number 96-07. A User Services Representative (US Rep) receives a mail message from a user who needs help placing an order. The US Rep will create a **User Contact Log** (Section 19.2.1) entry, into which he/she records that a request for help was received from the user. The US Rep next looks up the requester’s **User Profile** (Section 19.2.2) to verify that the person is a registered user. After looking at the mail message from the user, the US Rep determines that the data the user requested is not held at the US Rep’s own DAAC, and he/she is not sure where it is held.

The US Rep will launch the **IMS Search and Order** tool (Section 19.2.3), and enter the search criteria to locate the requested data. When the search is submitted, the ECS system queries the holdings of all appropriate DAACs and affiliated non-ECS systems to locate the requested data. When the result is returned, the US Rep learns which DAAC holds the data.

The US Rep then retrieves the original e-mail message from the user and, after adding some forwarding information for the US Rep at the “Other DAAC,” sends the e-mail to the DAAC holding the data the user requested. The US Rep can also attach the desktop object containing the preliminary search and send it to the “Other DAAC,” along with the user’s Id, and the original Contact Log Id for backtracking purposes. An e-mail message is sent to the user informing him/her that his/her request for help has been forwarded to DAAC “X,” and includes a contact name and phone number. The US Rep then updates the **User Contact Log** record (Section 19.2.6) to indicate that the user’s request for help was forwarded to DAAC “X.” The user should not require any further interaction with the US Rep at the home DAAC; therefore, the User Contact Log status is closed.

The US Rep at DAAC “X” reads the e-mail message and additional forwarding information received from the home DAAC. The US Rep then opens a new **User Contact Log** record in which he/she records receiving the referral and retrieves the user’s User Profile. Based on the information provided by the user’s e-mail message, he/she adds additional search parameters to the preliminary search (Section 19.2.3). If more information is needed, the US Rep contacts the user.

When the order has been completed, the US Rep returns to the **User Contact Log** and retrieves the original record into which he/she logged the referral. He/she updates the record to indicate that the user's order is completed, sends an e-mail to the user and closes the User Contact Log record.

19.6 Guide Authoring and Maintenance

The Guide Document Creation Manual can be accessed at the following URL: **http://harp.gsfc.nasa.gov:1729/guide/Creation_manual.html**. This document is intended for use by the Guide authors. It describes the various Guide Documents in both structure and content, communicates the requirements (especially the minimum level of required information in the guide), provides instructions on how to create the text, identifies potential sources of Guide information, describes the Guide Author Toolkit, and describes how to use the author tools to create and load Guide Documents into the server.

20. Library Administration

20.1 SEO Document Maintenance

20.1.1 Authoring Documents

20.1.2 Formatting Documents

20.1.3 Importing Documents

20.1.4 Exporting Documents

20.1.5 Metadata Maintenance

20.2 On-Site Document Maintenance

20.2.1 Authoring Documents

20.2.2 Importing Documents

20.2.3 Formatting Documents

20.2.4 Searching for a Document

20.2.5 Metadata Maintenance

20.3 Preparing Documents for Insertion into the DDSRV

20.4 Maintenance of Document Inventory Records and Links to Configuration Items in Baseline Manager

20.5 Document Metadata Insertion Subscription

20.6 Document Repository Maintenance

20.7 Document Access Control

20.8 Retrieval of HTTP Formatted Documents

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21. COTS Hardware Maintenance

Hardware for the ECS Project consists of commercial-off-the-shelf (COTS) hardware procured especially for the ECS Project and, potentially, Government furnished equipment (GFE). As of June 30, 1996, the Government had not provided GFE for use and support by the ECS Contractor. Therefore, M&O support (maintenance) tasking for only COTS hardware is discussed in this section. The discussion is based on: 194-602-OP1-001, "Property Management Plan for the ECS Project"; 423-41-02, "Functional and Performance Requirements Specifications"; 501-CD-001, "ECS Performance Assurance Implementation Plan"; 601-CD-001, "Maintenance and Operations Management Plan"; 613-CD-002-001, "Release A COTS Maintenance Plan for the ECS Project"; 616-CD-001-002, "Release A Integrated Support Plan for the ECS Project"; 532-CD-001-001, "Environmental Control Plan for the ECS Project."

21.1 COTS Hardware Support - General

COTS hardware support consists of preventive maintenance and corrective maintenance accomplished in compliance with procedures and guidance contained in this section. Preventive maintenance and corrective maintenance may be accomplished by the warranty support provider, COTS hardware support provider contracted for post-warranty support, or the local maintenance coordinator (LMC) using local DAAC resources. COTS hardware support is available from the COTS hardware support provider during the specified principal period of maintenance (PPM) or on a time-and-materials (T&M) basis, in accordance with the terms of the appropriate support contract. The LMC ensures that requirements of this section are complied with by all COTS hardware support providers and that information entered in the electronic trouble ticket is accurate.

The integrated logistics support (ILS) maintenance coordinator is a staff position in the ILS office, which is under the ILS manager in the maintenance and operations (M&O) manager's area of responsibility. The ILS maintenance coordinator is available during normal work hours to provide assistance to the LMC in obtaining COTS hardware support and to receive information from the LMC. The ILS maintenance coordinator may be reached via the Internet, telephone, or FAX with the Internet being the preferred method. The Internet address is ilsmaint@eos.hitc.com; the telephone number is 1-800-ECS-DATA, option #1, and ask for the ILS maintenance coordinator. The FAX number is 1-301-925-0438.

21.1.1 Corrective Maintenance

Corrective maintenance is the unscheduled repair of equipment and includes fault detection, diagnosis, isolation, and resolution through line replaceable units (LRU) replacement. COTS hardware corrective maintenance will be documented using procedures in Section 8.1, Trouble Ticket System Procedures; Section 9, Configuration Management; and the safety requirements of Section 21.1.4, COTS Hardware Support Safety.

21.1.2 Preventive Maintenance

The only Release A hardware that requires scheduled preventive maintenance is the EMASS robot. Preventive maintenance will be scheduled by the LMC, in conjunction with the responsible maintenance organization and the using organization to coincide with corrective maintenance whenever possible, or at other times to minimize operational impact. Preventive maintenance will be documented by preparing a trouble ticket using procedures in Section 8.1, Trouble Ticket Process Procedures.

21.1.3 Configuration Management

Configuration Management (CM) requirements are addressed in Section 9. Ensuring compliance with Section 9 procedures during COTS hardware support by a COTS hardware support provider or local site support personnel is the responsibility of the LMC.

21.1.4 COTS Hardware Support Safety

COTS hardware support will be accomplished using safety procedures to protect personnel and equipment from harm. Guidance for establishment of safety practices, standards, and procedures is found in Section 6 of the ECS Performance Assurance Implementation Plan (PAIP), 501-CD-001-004. The LMC will ensure that these safety procedures, as well as applicable local safety requirements, are known and observed during COTS hardware support by local site support personnel or COTS hardware support providers.

COTS hardware safety practices include electrostatic discharge (ESD) protection; safe dissipation of static electricity; work place common grounding requirements; and parts handling and protection while in storage, outside the manufacturer's protective packaging, and being readied for installation or removal. When not being worked on or when outside protected areas, electronic parts and assemblies are to be covered by an ESD protective covering or packaging. During installation or removal of electronic parts or LRUs, a common ground will be established between the technician, worktable/area, the part/LRU, and the equipment it is to be installed in/removed from. The ESD program will be locally developed by the LMC using the Environmental Control Plan, 609-CD-001-001 for guidance.

It is the responsibility of the LMC to ensure compliance with these safety procedures by the COTS hardware support provider or local site support personnel.

21.2 COTS Hardware Support - Contract Information

The ECS procurement organization is located at the ECS development facility (EDF) and is responsible for obtaining initial warranty support and post-warranty support where appropriate. Questions or comments concerning COTS hardware support are to be directed to the ILS maintenance coordinator using procedures contained in Section 21.1, COTS Hardware Support - General.

21.2.1 Management of COTS Hardware Support Contracts

COTS hardware is typically procured with a twelve-month extended on-site warranty from the original equipment manufacturer (OEM). Some resellers provide two or three years of return-to-depot warranty support instead of on-site support. At the conclusion of the warranty period a support contract for one or more years is purchased. In arriving at a support decision for a COTS hardware item, the ECS ILS office considers operational availability (A_0) and mean down time (MDT) requirements, operational commitments, and costs. Once maintenance terms are determined, the ILS maintenance coordinator directs the ECS procurement office to procure follow-on (post-warranty) COTS hardware maintenance support. Based on support considerations, OEM support is typically procured. However, cost and support considerations may result in support being provided by a third party provider. The support provider's identity and maintenance terms are entered into the Hardware Support bulletin board (see Table 21.2-1) and the maintenance fields in the ILS database (see Table 21.2-3) by the ILS maintenance coordinator.

Table 21.2-1. Hardware Support Bulletin Board Fields

1	2	3	4	5	6
hardware <u>OEM</u>	Product <u>Description</u>	Maintenance <u>Provider's Name</u>	Provider's <u>Telephone Number</u>	Maintenance <u>Access Code Rqmt</u>	Contract Maintenance <u>Terms</u>
		7	8	9	10
		<u>GSFC Contacts</u>	<u>EDC Contacts</u>	<u>LaRC Contacts</u>	<u>Comments</u>

21.2.2 Contract Maintenance Terms

Warranty maintenance is provided by the OEM/vendor during the first year. Typically post-warranty support is provided by the same OEM/vendor that provided the warranty support. Equipment types, their maintenance support provider, and other information relating to their support is contained in Table 21.2-2, Maintenance Contractor's Support Terms. The LMC can determine the appropriate maintenance support provider by referring to the COTS Hardware Support bulletin board.

Table 21.2-2. Maintenance Contractor's Support Terms

Equipment OEM	Maintenance Contractor	Type of Support	Response Time	Contractor's PPM
Bay Networks	McBride	Return-to-Depot	Next day advance parts replacement	10-7 EST M-F
Cabletron	McBride	Return-to-Depot	Next day advance parts replacement	10-7 EST M-F
Cisco	Cisco	Return-to-Depot	Next day advance parts replacement	9-9 EST M-F 24 hr net-down
DEC	DEC	Full Spt on-call	4 hr on-site	8-5 Local Time M-F
EMASS	EMASS	Full Spt on-call	4 hr on-site	8-5 Local Time M-F
Exabyte	McBride	Return-to-Depot	Next day advance parts replacement	10-7 EST M-F
Fore	Fore	Return-to-Depot	4 hr advance parts replacement	24 hrs a day
HP	DEC	Full Spt on-call	4 hr on-site	8-5 Local Time M-F
IBM	DEC	Full Spt on-call	4 hr on-site	8-5 Local time M-F
NCD	McBride	Return-to-Depot	Next day advance parts replacement	10-7 EST M-F
SGI	SGI	Full Spt on-call	4 hr on site	8-5 Local Time M-F
SUN	SUN	Full Spt on-call	4 hr on-site	8-5 Local Time M-F

21.2.3 COTS Hardware Database

Information related to COTS hardware support contracts is maintained in an ILS database and used by the ECS ILS office to manage COTS hardware support contracts. Maintenance fields contained in the ILS database are shown in Table 21.2-3. During Release A, the LMC can obtain maintenance contract information via Internet on the M&O bulletin board, "COTS hardware Support." Information fields are updated periodically by the ILS maintenance coordinator. At Release B this information will be available through the Inventory, Logistics, and Maintenance (ILM) management tool.

Table 21.2-3. Maintenance Database Fields

Field Name	Information
PO number	Purchase order number
Vendor	Name of the firm that sold the COTS product
Vendor Code	Abbreviated vendor name
ECS Equip name	ECS name given to a major hardware item
Status	Status as to received, installed, consumable item, out for maintenance, or archived
Parent ID Number	EIN assigned to a major hardware item by the property administrator
Part ID Number	EIN applied to a subordinate hardware item by the property administrator
Part Number	OEM's part number
Serial Number	OEM's assigned serial number
Cost of Unit	Purchase order cost
Product's Name	Name of the item as stated on vendor purchase order
Model or Version	Model or version of the item
OEM's Initials	Initials of the OEM or software developer
OEM's name	Full name of the OEM or software developer
Date hardware Received	Date item received by ECS (generally at the EDF)
Received by	Name of person receiving the COTS product from the vendor
Receiver's Phone	Phone number of person that received the products
hardware Installation Date	Date item was first installed (which is also the date the warranty period begins).
Date Support Ends	ECS COTS hardware or software warranty or support expiration date
User of the hardware	Name of the person assigned responsibility for the ECS COTS product
User's Phone	Phone number of the person assigned responsibility for the ECS COTS product
Location	Site where the product is located (E. G., GSFC, SMC, EOC, etc.)
Building	Building in which the product is located
Room	Specific room in which the product is located
Maintenance Contract	The contract number or maintenance vendor's access authorization information
Maintenance Code	Initials of the maintenance support provider
Maintenance Vendor	The name of the firm providing maintenance support
Maint Provider's Phone	Phone number for the maintenance vendor's technical support desk or help desk
hardware or software	Identification of the product as hardware or software
Comment	For any remarks to be added that are not included in other fields

The LMC can obtain specific COTS hardware information from the ILS database by requesting the ILS maintenance coordinator to run a special query. The LMC should be specific in identifying the information wanted. If the information requested is too voluminous to provide to the LMC telephonically, it will be incorporated into an Excel spreadsheet and emailed to the requester. The request for hardware support information should be made using procedures in Section 21.1. The time it takes for the ILS maintenance coordinator to provide a reply will vary with the criticality and complexity of the request.

Generally, COTS hardware support providers require an access code and/or the serial number of the host equipment item to verify that the item is under support contract (e.g., support requested for a computer monitor or keyboard problem, the parent workstation or server serial number would be provided as the access code). The ILS maintenance coordinator determines what information is needed by the maintenance providers to verify support is authorized. For some equipment, names of authorized contact persons are required by the COTS hardware support provider. The ILS maintenance coordinator arranges, within the limits imposed by the COTS hardware maintenance provider and the needs of individual DAACs, for specified personnel to become authorized contact persons. The ILS maintenance coordinator will include the authorized contact person list in the appropriate maintenance provider's comments field in the COTS Hardware Support bulletin board. Changes to the names of authorized contacts are to be provided to the ILS maintenance coordinator by the LMC for updating the COTS Hardware Support bulletin board. The LMC is to identify changes to the authorized contact list as a permanent or temporary change and, if temporary, the inclusive dates of the change. A temporary change may occur when the authorized contact person is ill, on vacation, in training, or other short-term change of work availability status has occurred or is expected to occur. The LMC is to provide the ILS maintenance coordinator the change information as soon as it is known, using procedures in Section 21.1.

21.3 Hardware Repairs - Standard

The LMC is the DAAC's focal point for directing and coordinating corrective maintenance of ECS hardware.

21.3.1 Hardware Problem Reporting

COTS hardware problems are tracked by the LMC from the initial reporting of the problem through its successful repair. The vehicle for this tracking is the trouble ticket described in Section 8.1. The opening of a trouble ticket and/or recording of events associated with the problem is performed by M&O personnel involved in the COTS hardware repair. Part numbers, serial numbers, and corrective maintenance information is documented on a second level trouble ticket screen. It is accessed by clicking on the hardware information button located on the first level (primary) trouble ticket screen. The LMC will ensure that the procedures of Section 8.1 are followed.

The first person experiencing or observing a potential COTS hardware problem [an operator, LMC, system administrator (SA), network administrator (NA), or responsible engineer (RE)] will initiate a trouble ticket. The trouble ticket is forwarded to the SA, NA, or RE in accordance

with Subsection 8.1.4. Information provided by the maintenance contractor’s technical support center, as well as the results of using that information, is to be annotated on the trouble ticket .

The LMC will ensure that the trouble ticket contains an accurate sequence of events and is correctly entered into the trouble ticketing system. The trouble ticket’s sequence of events includes stating the applications that were running and the commands given immediately prior to the apparent COTS hardware problem. Include on the trouble ticket the troubleshooting accomplished and embedded diagnostics that were exercised. The corrective actions taken are also to be recorded in the trouble ticket.

21.3.2 Initial Troubleshooting/Diagnostics

Once failure occurs, the operator, SA, and/or NA will perform diagnostics to isolate the problem to its source (i.e., Operating System, COTS software, ECS software, science software, network, or COTS hardware) using the actions in Table 21.3-1, Initial Troubleshooting/Diagnostics Procedures:

Table 21.3-1. Initial Troubleshooting/Diagnostics Procedures

Step	Occurrence	Action
1	System problem discovered.	<ul style="list-style-type: none"> a. Review error message against the applicable hardware/software operator manual. Record the error message on a trouble ticket. b. Verify that power, network, and interface cables are properly connected and functioning properly. c. Run internal systems and/or network diagnostics. d. Review system logs for evidence of previous related problems or configuration changes that may be contributing to the problem. e. Attempt to reboot the system. f. Report software related problem to the SA/Sustaining Engineering Organization (SEO) (refer to Section 22, Software Maintenance) g. If the problem is hardware related notify the LMC.

21.3.3 Hardware Corrective Maintenance Actions

The hardware problem is reported to the LMC if the initial troubleshooting does not resolve the problem. The LMC will attempt to identify the cause of the problem and employ DAAC resources to resolve the problem using procedures of Table 21.3-2, Hardware Corrective Maintenance Actions. If unable to correct the problem using DAAC resources, the LMC arranges for maintenance vend on-site support in accordance with Section 21.3.4, Contract On-Site hardware Support.

Table 21.3-2. Hardware Corrective Maintenance Actions

Step	Occurrence	Action
1	COTS hardware problem not resolved by initial troubleshooting.	a. Individual performing the initial troubleshooting notifies LMC of the problem status through the trouble ticket.
2	LMC attempts to identify cause of problem..	a. LMC reviews the trouble ticket. b. LMC contacts SA or NA to assist in troubleshooting, as necessary. c. LMC, SA, and/or NA accomplish the following: 1) Performs initial troubleshooting, including that described in the COTS hardware manuals. 2) Record all actions and results on the trouble ticket.
3	Problem resolved by local staff.	a. If no hardware replaced. 1) Correct problem, verify resolution. 2) Close trouble ticket, annotating actions taken. b. hardware replaced with maintenance spare 1) Failed LRU is replaced. 2) CM requirements are accomplished following procedures in Section 9. 3) Failed LRU replacement ordered in accordance with Section 21.4.1. 4) Failed LRU routed in accordance with Sections 21.3.5 or 21.4.3. c. LMC closes trouble ticket noting actions taken to resolve the problem
4	Hardware problem is not resolved by staff.	a. SA/NA notifies the LMC that hardware problem remains open. Maintenance contract support is needed.

21.3.4 Contract On-Site Hardware Support

The LMC will notify the applicable maintenance contractor and request assistance in diagnosing the problem or dispatch of a maintenance engineer to the site if local DAAC resources can not resolve the problem. The call for support will be documented in the trouble ticket by the LMC, noting the time the contractor was called. Table 21.3-3 identifies the steps associated with obtaining contract maintenance support.

Table 21.3-3 Obtaining On-Site Hardware Support (1 of 2)

Step	Occurrence	Action
1	Local support effort did not resolve the problem.	<ul style="list-style-type: none"> a. LMC gathers information needed to obtain contract maintenance support. <ul style="list-style-type: none"> 1) Make, model, serial number, and location of failed systems (from hardware database). 2) Description of problem and symptoms (from trouble ticket). 3) Criticality of the COTS hardware experiencing the problem. b. Using the COTS hardware Support bulletin board the LMC determines: <ul style="list-style-type: none"> 1) Name and telephone number of maintenance provider 2) Access code needed to obtain support 3) Telephone number of the support provider's technical support center. 4) Site authorized contact person c. LMC records the information in a and b, above, into the trouble ticket.
2	LMC calls the appropriate support provider's technical support center to obtain on-site assistance.	<ul style="list-style-type: none"> a. Provides information from Step 1 above to the support provider to establish a need for on-site support. b. Obtains the reference case number from the COTS hardware support provider. c. Updates the trouble ticket to reflect time and date of the call and case reference number. d. Notifies problem originator that contractor is on the way.
3	Maintenance technician arrives at the site.	<ul style="list-style-type: none"> a. LMC arranges for site access using local established procedures. Records arrival time. b. LMC escorts maintenance technician to the hardware. c. LMC assists the maintenance technician in resolving the problem. This includes: <ul style="list-style-type: none"> 1) Arranging for the equipment to be shut down. 2) Demonstrating the problem. 3) Obtaining site available technical references, when needed.

Table 21.3-3 Obtaining On-Site Hardware Support (2 of 2)

Step	Occurrence	Action
4	Maintenance technician corrects the problem.	<ul style="list-style-type: none"> a. If a part is replaced, LMC: <ul style="list-style-type: none"> 1) Obtains from the failed part: <ul style="list-style-type: none"> a) serial number b) Equipment identification number (EIN) (the number on the silver label) 2) Obtains from the new part: <ul style="list-style-type: none"> a) part number b) serial number c) manufacturer's model number (if different from part removed, a configuration change request [CCR] is required for CM) 3) Updates the trouble ticket with following information: <ul style="list-style-type: none"> a) actions taken to correct the problem. b) part number of the new item. c) serial number of the old and new item. d) EIN assigned to the new item, (if applicable) e) replacement LRU's model number f) name of the item replaced. g) any delay time experienced in completing the repairs and reason for delay. h) start and completion time. b. If no parts were replaced the LMC updates the trouble ticket with: <ul style="list-style-type: none"> 1) Actions taken to correct the problem. 2) Delay time experienced in completing the repairs: <ul style="list-style-type: none"> a) start and stop times c) reason for each delay

21.3.5 Return-to-Depot Support

In some cases (e.g., X terminals) on-site support is not provided by the OEM. Instead, a return-to-depot support is provided whereby an advance replacement LRU is requested from the vendor by the LMC prior to returning the failed repair. The vendor ships the requested part and provides a return materials authorization (RMA) number for the return of the failed LRU. When the replacement unit arrives, it is placed in spares inventory using the procedures in Section 23, Property Administration, if an on-site spare was used to replace the failed unit. Otherwise, the new LRU is installed in the equipment. The failed unit is returned to the vendor using procedures in Section 21.4.3.

21.4 Maintenance Spares

Replacement LRUs are provided by the organization performing the maintenance support (i.e., the OEM or vendor for warranty maintenance, the COTS hardware support provider for post-warranty maintenance support, or the ECS Project for self-maintenance support by local DAAC

M&O staff.) Replacement LRUs provided by the OEM/vendor/COTS hardware maintenance support provider will typically be obtained from within the metropolitan area where the DAAC is located, and will seldom be stocked on the DAAC site.

The ECS ILS manager may elect to procure selected maintenance spares to provide a more rapid return to service for failed critical units. These spares may be centrally stocked at GSFC, stored on-site in the DAAC property room, or as installed spares in equipment. Maintenance spares will be identified by the ILS maintenance coordinator and provided to the DAAC LMC in an Excel spreadsheet prior to Release A becoming operational. Maintenance spares are procured, replenished, and managed by the ILS Office using the process identified in Paragraphs 4.6.3 and 4.6.4 of Release A COTS Maintenance Plan, document 613-CD-002-001; Section 23, Property Administration; and appropriate local DAAC policies and procedures.

21.4.1 Installed Maintenance Spares

Some COTS hardware items have extra LRUs installed to provide hot-swappable spares or excess capability so that a failure does not bring the system down. Such spares include RAID disks, power supplies, network cards and tape drives.

When a maintenance spare fails, the LMC, after returning the system to an operational status, contacts the appropriate hardware support provider, vendor, or OEM, as appropriate, and arranges for an advance replacement to be shipped to the DAAC. The LMC also obtains an RMA number for the return of the failed LRU. The LMC uses the information from the COTS Hardware Support bulletin board or obtained from a database query discussed in Section 21.2.3, to determine the appropriate maintenance support provider to contact. The advanced replacement part from the maintenance support provider is air-shipped to the DAAC. The LMC will return the failed item to the location specified on the RMA using the carton in which the advanced replacement part was received. The RMA number will be prominently displayed on the carton and on the failed item. The receipt, installation, and return of the LRU is accomplished using procedures of Section 23, Property Management; Section 8.1, Trouble Ticket System Procedures; Section 9, Configuration Management; and local procedures.

21.4.2 Use of Maintenance Spares

The LMC will control the use of on-site maintenance spares. Centrally stocked spares can be requested from the ILS coordinator using procedures in Section 21.1. Replacement or repair of maintenance spares is performed by the COTS hardware maintenance provider using procedures in Section 21.3.

21.4.3 Return of Failed LRUs

During the warranty period and subsequent maintenance contract, the failed unit belongs to the support provider who is responsible for repairing or replacing the failed LRU. The LMC is responsible for the return of the failed LRUs if either site spares or advanced replacement LRUs (e.g., systems under return-to-depot support) are used to replace the failed LRU. After a failed LRU that is to be returned by the LMC is removed it will be tagged and processed for return to a maintenance facility for repair or replacement. The LMC will use the RMA number provided

with the advance replacement LRU or request an RMA number from the appropriate site spare provider if a site spare was used. The failed unit is returned to the vendor (unless the vendor specifies another location) using the same carton in which the replacement unit was shipped. The RMA number will be prominently displayed on the outside of the return carton and on the tag attached to the failed item. The LMC will ensure that replacement of LRUs is documented in the trouble ticket.

21.5 Non-standard Hardware Support

Non-standard COTS hardware support consists of maintenance support outside the PPM (support incurring time and materials charges) or escalated support actions by the maintenance support provider.

21.5.1 Escalation of COTS Hardware Support Problem

Hardware support providers have escalation policies based on elapsed time from start of the corrective effort. The escalation policies direct increased management attention and/or resources to the problem, which is relatively invisible to the DAACs. Escalation of a hardware support provider's efforts may also be requested anytime the corrective effort is not progressing satisfactorily. The LMC may request escalation by calling the maintenance contractor's technical support center and providing the case number generated when the problem was first reported. The LMC can also contact the ILS maintenance coordinator for assistance in obtaining a satisfactory resolution.

21.5.2 Time and Material (T&M) Hardware Support

T&M support is expensive and generally exceeds \$150/hour, two-hour minimum. It is to be used only as a last resort for mission critical repairs. The LMC will obtain authorization from the ILS maintenance coordinator or the System Monitoring and Coordination Center (SMC) in his/her absence, for T&M support. Once T&M support is approved, the ILS maintenance coordinator calls the appropriate COTS hardware provider's technical support center and requests T&M support. The LMC will verify the time of arrival and departure of T&M technicians; delay time; travel times; replaced LRU part number, serial number, name; and total dollar charge. This information and a legible photo copy of the completed T&M work order are to be sent to the ILS maintenance coordinator within one business day.

22. Software Maintenance

The ECS organization provides maintenance and operations for ECS hardware, software, and firmware systems delivered under the ECS contract at the ECS sites. The functions performed by each of the M&O organizations are described in the M&O Management Plan, CDRL 601-CD-001-001.

In general, ECS organizations procure, produce, deliver, and document the corrections, modifications, adaptations and enhancements made to ECS software, firmware, and hardware. No custom firmware has been identified to be part of the ECS program. Commercial off-the-shelf software (SW), firmware, and hardware will be maintained in accordance with the COTS Maintenance Plan, CDRL 613-CD-001-001. The Project maintenance philosophy for software is to provide ECS centralized support for developed items and vendor-directed support for COTS SW.

Specific SW support procedures will be discussed in this section. ECS Project software consists of COTS software, custom-developed software, and science software. Science software developed for use on the ECS project is the responsibility of the scientific community (see section 22.3). Staffing requirements are discussed in the ECS Operations Plan, CDRL 608-CD-001-002. Training is discussed in the ECS Training Plan, CDRL 622-CD-001-002. Specific schedules of programmed activities are contained in the Intermediate Logic Network Diagrams, CDRL 108-CD-tbd.

SW maintenance includes:

- COTS support contract with the SW vendor for license to use, telephone assistance in resolving COTS software problems, obtaining patches and obtaining upgrades.
- Resources, including equipment, software tools and personnel to maintain ECS in accordance with specified functional, performance, and availability requirements.
- Services required to produce, deliver, integrate, install, test, validate and document corrections and modifications of existing ECS software and firmware. The maintenance activity includes: software configuration management (CM) including support for change control, configuration status accounting, audit activities, and software quality assurance (QA). Each site is the CM authority over its own resources subject to ESDIS delegation of roles for ECS management.

The site's Local Maintenance Coordinator, System Administrator, Network Administrator, and Integrated Logistic Support (ILS) Maintenance Coordinator handle COTS software problem administration, issues concerning upgrade installation, troubleshooting, and vendor liaison. The ECS Sustaining Engineering Office (SEO) provides assistance when COTS software issues

exceed the capabilities of the Local Maintenance Coordinator, System Administrator, or the Network Administrator to resolve. M&O tasks for COTS software support are described Section 22.1, based on 613-CD-002-001, “Release A COTS Maintenance Plan for the ECS Project” and 194-602-OP1-001, “Property Management Plan for the ECS Project.”

Custom software is maintained by the SEO, FOS M&O, and ECS developers. SEO acts as the configuration manager for the M&O master software library (ECS operational baseline) and distributes copies of this library to each center to provide both a distributed backup and local availability of the library. The SEO Configuration Management Administrator, SEO software maintenance engineer, and the ECS-site (DAAC, EOC, and SMC CM Administrators and software maintenance engineers) implement changes to the ECS baseline. M&O tasks for custom software maintenance are described in Section 22.2, based on 614-CD-001-003, “Developed Software Maintenance Plan”; 102-CD-001-002, “M&O Configuration Management Plan”; ECS#301-CD-003-001, “System Implementation Plan for ECS Turnovers”; 605-CD-001-003, “Operations Scenarios for the ECS Project: Release A”; and 194-602-OP1-001, “Property Management Plan for the ECS Project.”

22.1 COTS Software Maintenance

Installation of upgrades and patches and software problem isolation is accomplished by M&O personnel at the site. COTS software procured for the ECS Contract is supported by the COTS software vendor through a support contract. (Note: The term software vendor refers to the company having the legal right to authorize software use and to modify the software code.) COTS software vendor support consists of telephone support for resolution of usage and interface problems, access to an on-line solution database, providing upgrades and patches, escalation of support, and resolving COTS software code problems.

The Activity Checklist table that follows provides an overview of COTS Software Support procedures. Column one (**Order**) shows the order in which tasks might be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 22.1-1. COTS Maintenance - Activity Checklist

Order	Role	Task	Section	Complete?
1	Site Local Maintenance Coordinator	Software Problem Administration	(I) 22	
2	ILS Maintenance Coordinator	Manage COTS Software Maintenance Contracts	(I) 22.1.1	
3	Property Administrator	Manage Software Licenses	(I) 22.1.2	
4	Property Administrator	Distribute Software	(I)22.1.3	
5	System Administrator	Install COTS Software	(I) 22.1.3	

6	Network Administrator	Install COTS Software	(I) 22.1.3	
7	Sustaining Engineering Office	Interface with CCB	(I) 22.1.3	
8	Authorized Site Personnel	Obtain COTS Software Support	(P) 22.1.4	

22.1.1 Management of COTS Software Maintenance Contracts

COTS software vendor support is contracted by the ECS procurement office at the EDF. After the first year of warranty support, support is contracted for a period of one or more years and extended or modified as operationally required. Information related to COTS software support contracts is maintained in a database used by the ECS ILS office to monitor/track the expiration dates and contract terms.

During Release A the database will be in a Sybase application and access gained through Sybase's Gain Momentum Graphical Users Interface. At Release B, the database will interface with the Inventory, Logistics, and Maintenance (ILM) management tool. As a COTS software vendor support requirement nears its expiration date, the ECS ILS office determines, through consultation with the site local Maintenance Coordinator, the need for continued COTS software support. Once a determination is made to continue COTS software support, the ECS ILS office coordinates with the ECS procurement office for extension/modification of the support contract. Requested changes to COTS software support contracts should be provided by the site Local Maintenance Coordinator to the ILS Maintenance Coordinator. The ILS Maintenance Coordinator may be contacted by email at ilsmaint@eos.hitc.com at 1-800-ECS-DATA, Option #1, then request the ILS Maintenance Coordinator.

22.1.2 Management of COTS Software Licenses

COTS software licenses vary by the type of software and the software vendor's policies. COTS software license types include: per seat, per site, specific number of concurrent users, unlimited users, and lifetime use without regard to number of users or location. The quantity and type of COTS software licenses initially required are identified to the ECS procurement office by segment managers or DAAC managers based on the projected users. COTS software licenses are received and entered into the property database. The ECS Property Administrator maintains the master copy of COTS software license agreements and a COTS software license database, and provides the COTS software to the SEO for distribution to the DAACs.

22.1.3 COTS Software Installation

The COTS software upgrades are subject to CCB approval before they may be loaded on any platform. The ECS SEO, using procedures contained in Section 9, "Configuration Management," notifies the CCB of the upgrade that has been received. The ECS Property Administrator distributes the COTS software upgrade as directed by the CCB. The site Software Maintenance Engineer, Network Administrator, and the System Administrator are responsible for upgrading the software on the host machine and providing follow-up information to the

Configuration Management Administrator (CMA) and the ECS Property Administrator. The site Local Maintenance Coordinator will notify the appropriate personnel (Release Installation Team, System Administrator, Network Administrator, Software Maintenance Engineer) when the COTS software is received and approved by the CCB for installation.

COTS software patches may be provided by the COTS software vendor in response to a DAAC's call requesting assistance in resolving a COTS software problem. The problem may or may not exist at other locations. When a COTS software patch is received directly from a COTS software vendor (this includes downloading the patch from an on-line source), the DAAC's CCB will be informed via CCR prepared by the requesting Operator, System Administrator, Network Administrator, or site Software Maintenance Engineer. It is the responsibility of the Operator, System Administrator, Network Administrator, or site Software Maintenance Engineer to notify the CCB of the patch's receipt, purpose, and installation status, using procedures contained in Section 9, "Configuration Management," and to comply with the CCB decisions. The Operator, System Administrator, Network Administrator, or site Software Maintenance Engineer installs COTS software patches as directed by the CCB.

In addition to providing patches to resolve problems at a particular site, the software vendor will periodically provide changes to COTS software to improve the product; these changes are issued as part of the software maintenance contract. Upgrades are issued to licensees of the basic software package. Therefore, the COTS software upgrades will be shipped to the ECS Property Administrator, who receives and enters them into inventory.

22.1.4 Obtaining COTS Software Support

COTS software support involves both site capability and contracted support. Site support is provided by the System Administrator, Network Administrator, and site Software Maintenance Engineer. Contracted support is provided by the COTS software vendor. When the System Administrator, Network Administrator, or site Software Maintenance Engineer confirm a problem is attributed to the COTS software, the COTS software vendor's technical support center/help desk is contacted by authorized personnel at the site.

The software vendor's technical support center/help desk will verify contract support authorization and then assist in pinpointing the COTS software problem to provide a recommended solution. The solution may include a patch, a work-around, or may include the fix in a future release. If a patch exists to correct the problem, the patch will be identified and provided by the software vendor over the Internet or mailed to the requester. If a patch is required but not available, the user and vendor together determine the seriousness of the problem. If the problem is critical, a temporary patch or work-around may be provided. The solution to the software problem may be scheduled by the software vendor to be incorporated in a future update or release. (Note: The DAAC and Project CCBs must authorize the patch to be installed as a permanent installation. This decision may be made after-the-fact. That is, if the patch is needed to continue to operate, notify the CCB of the requirement in accordance with Section 9, "Configuration Management." Applicable requirements of Section 8.1, "Trouble Ticket System Procedures," must be followed.)

The ECS ILS office obtains the support authorization codes from the vendors and arranges, within the limits imposed by the vendor and the needs of individual DAACs, for specified personnel to become an authorized contact person. The software vendor's technical support center/help desk telephone numbers, the names of personnel authorized (by site and software) to contact the vendor, and the authorization/access codes will be provided to the site's Local Maintenance Coordinator by the ILS office through a ccMail Bulletin Board titled "COTS Software Support." The fields in this Bulletin Board will be as indicated below:

software Product	software Vendor	software Vendor's email address	Help Desk Telephone	Support Hours	Spt Access Code	# of Auth Contacts	Contacts at ASF	Contacts at EDC
			Contacts at GSFC		Contacts at JPL	Contacts at LaRC	Contacts at NSIDC	Contacts at ORNL

Changes to the information in the "COTS Software Support" bulletin board are to be provided to the ECS ILS office for periodic updating of the Bulletin Board. Specifically, the need to originally identify or replace the authorized contact person must be provided by the local Maintenance Coordinator to the ECS ILS office. E-mail is the preferred notification method. The local Maintenance Coordinator will follow these steps:

1. Send e-mail to ecsprop@eos.hitc.com or to ilsmaint@eos.hitc.com.
2. If e-mail is not available, call 1-800-ECS-DATA, Option 1; ask for the ECS Property Administrator or the ILS Maintenance Coordinator.
3. Identify the change as either a permanent or temporary change. A temporary change may occur when the authorized contact person is ill, on vacation, in training, or other short-term change of work availability status has occurred or is expected to occur.
4. Provide the ECS ILS office the change information as soon as it is known. The address of the on-line (i.e., web site) solutions database is obtained from the software vendor's technical support center/help desk.

22.1.4.1 COTS Software Problem Reporting

The first person experiencing or observing a potential COTS software problem (an Operator, site Local Maintenance Coordinator, System Administrator, Network Administrator, or the site Software Maintenance Engineer) will initiate a trouble ticket according to the procedures found in Section 8.1, "Trouble Ticket System Procedures." The site Local Maintenance Coordinator forwards the trouble ticket to the System Administrator, Network Administrator, or the site Software Maintenance Engineer as appropriate and in accordance with Subsection 8.1.4.

22.1.4.2 Troubleshooting COTS Software

The initial troubleshooting/diagnostics procedures are accomplished by the site's engineering staff. The Operator, System Administrator, Network Administrator, or the site Software Maintenance Engineer will attempt to isolate the source of the problem to hardware, COTS software, science software, or custom software.

If it is confirmed to be a COTS software problem, the System Administrator, Network Administrator, or the site Software Maintenance Engineer contacts the contracted COTS software technical support center/help desk for assistance. Information on contacting the software vendor's technical support center/help desk is in Section 22.1.4.1, "COTS Software Problem Reporting."

One avenue to troubleshooting the COTS software problem is to scan the software vendor's web site's solutions database to learn of any solutions for similar problems. The software vendor's web site address can be obtained as stated in Section 22.1.4, above. Another avenue to troubleshooting the COTS software problem is to exercise any software diagnostic routine embedded or down-loadable that will determine the status of the COTS software on the equipment. As part of this effort, the System Administrator, Network Administrator, or the site Software Maintenance Engineer reviews the troubleshooting-diagnostics and corrective actions taken to date. Additional troubleshooting/diagnostic procedures and problem isolation techniques may be performed. These troubleshooting, diagnostics, and/or isolation procedures/techniques may be contained in the software/hardware vendor's operational/technical manuals or in locally devised troubleshooting/diagnostic procedures.

COTS software problems that cannot be corrected using site and contracted software support may be escalated to the ECS SEO. SEO is staffed with senior systems engineers knowledgeable on COTS software and can assist in diagnosing the problem. The site Local Maintenance Coordinator may go directly to the software vendor or to the ILS Maintenance Coordinator to obtain an escalation of software vendor support if the software vendor's efforts have not produced satisfactory results in a reasonable period of time. The escalation may result in increased vendor management review of the problem resolution, the assignment of additional resources to resolve the problem, and/or a more highly qualified technician assigned to resolve the software problem.

22.1.4.3 Corrective Action Reporting

COTS software corrective action reporting follows the procedures contained in Section 8, "Problem Management" and the configuration control requirements contained in Section 9, "Configuration Management," when a configuration item is removed and/or replaced with a different version or release.

The appropriate site engineer (System Administrator, Network Administrator, or site Software Maintenance Engineer) will record the solution and results provided by the COTS software vendor's technical support center/help desk on the trouble ticket. The site Local Maintenance Coordinator verifies that trouble tickets contain accurate sequence of events and are correctly entered into the trouble ticket management system. The trouble ticket's sequence of events

includes stating the applications that were running and the commands given immediately prior to the apparent COTS software problem. Include on the trouble ticket all troubleshooting accomplished and any embedded/down-loaded diagnostics software that were exercised. Also note on the trouble ticket, the corrective actions resulting from the troubleshooting/diagnostics efforts.

22.2 Custom Software Maintenance

Multiple baselines may exist throughout the ECS contract. After Release A is operational, the M&O organization may need to modify the configuration as established at each center. The M&O master library was delivered by the release development organization at RRR. The Software Change Manager (ClearCase) provides the vehicle to store and maintain the library. The governing policies and minimum developed software component level that may be removed from or reintroduced to (checked-out for maintenance) master library are defined by the developers' determination of code modules. This topic is detailed in the description of the Software Change Manager and Baseline Manager (XRP-II) tools, (Sections 9.6 and 9.9 of this document, respectively). Software changes are distributed on the basis of Software Configuration Items to the sites' copy of the Software Change Manager and recorded in the sites' copy of Baseline Manager following configuration management procedures defined in the M&O CM Plan (102-CD-001-002) and Section 9 of this document.

Maintenance changes to the ECS baseline may come from any of several sources, e.g.,

- ESDIS CCB directed changes
- Site-level CCB directed changes to Configuration Items (CIs)-- ESDIS will delegate or define which items are to be under site-level control and to what extent those parameter can be changed.
- Developer scheduled modifications or upgrades.
- User or operator initiated Trouble Tickets.

Trouble Tickets (TTs) are written by ECS users, operators, and system administration to address any level of problem they may encounter with a minimum required level of documentation. This topic is addressed in more detail by the ECS Developed SW Maintenance Plan (614-CD-001-002) at section 4.3 and in this document at section 8 "Problem Management." Most of these problems will be fixed locally with minimum overhead requirements for tracking and analysis. The TT Telecon will be used by the SEO to discuss system-level issues that may

- (a) coordinate groups of TTs,
- (b) affect more than a single site,
- (c) will be referred back to the ESDIS Project Office and the ECS development organization,
- (d) and will be worked-off with the necessary coordination and formality of multi-site changeimplementation.

The Software Maintenance Engineer records all actions to resolve a problem on the associated trouble ticket within the TT System tool (Remedy). ClearCase serves as the Software Change Manager, providing utilities to maintain a software master library (the operational baseline) and supporting CM functions for version control. The Software Maintenance Engineer can check-out software components for maintenance and check them in for baselining. The Software Change Manager tracks versions of software used in builds as well as provides a tool to perform builds.

Updates to baselined custom software are submitted with the Version Description Documents (VDD) and go through the CCB review process. The software also goes through M&O testing prior to installation. All changes to the operational baseline are recorded and tracked in the Baseline Manager by the CM Administrator (see Section 9 of this document).

The Activity Checklist table that follows provides an overview of Custom Software Support procedures. Column one (**Order**) shows the order in which tasks might be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 22.2-1. Custom Software Maintenance - Activity Checklist

Order	Role	Task	Section	Complete?
1	Software Maintenance Engineer/CMA	Implementation of Modifications	(I) 22.2.1	
2	SEO	Test Plans & Procedures	(I) 22.2.2	
3	M&O Test Team	Custom SW Installation	(I) 22.2.3	
4	CCB	Scheduling the Release	(I) 22.2.3.1	
5	CMA	Operations & User Notification	(I) 22.2.3.2	
6	SW Maintenance Engineer	Maintenance Changes to the SW Change Manager (ClearCase) Library	(I) 22.2.3.3	
7	SW Maintenance Engineer	Creating SW Build Using the SW Change Manager	(I) 22.2.3.4	
8	CMA & SW Maintenance Engineer	Promoting SW Using the SW Change Manager	(I) 22.2.3.5	
9	SW Maintenance Engineer	Installing the New Release	(I) 22.2.3.6	
10	M&O Team	Obtaining SW Support	(I) 22.2.4	
11	User Services, CMA, Operators	SW Problem Reporting	(I) 22.2.4.1	
12	Problem Investigator	Troubleshooting	(I) 22.2.4.2	
13	SW Maintenance Engineer	Corrective Action Reporting	(I) 22.2.4.3	
14	Science SW Team	Resolve problems, as required	(I) 22.2.5	

22.2.1 Implementation of Modifications

Implementation of changes is performed using a controlled build procedure. For each build, each ECS organization selects a responsible engineer (RE). The SEO RE establishes the set of CCRs to be included in the system build. The ECS On-Site, SMC and EOC REs determine which, if any, site-unique extensions are to be applied to the system build. Schedules for implementation, integration, and test at the system and center levels are established. The SEO RE maintains the integrated system and center-specific CCR list and schedule.

The SEO RE maintains the Version Description Document (VDD) that contains:

- The CCRs incorporated into the build and their operational and/or user features
- The build schedule,
- ECS external interfaces affected by the build,
- ECS CIs affected by the build,
- List of ECS documentation (e.g., design documents, procedures, help files, etc.) affected by the build,
- Test program results summary, and
- Test team recommendation.

The initial VDD is provided at RRR by the Independent Acceptance Test Organization. It is then maintained by the Sustaining Engineering Office (SEO) as described in the Developed SW Maintenance Plan, 614-CD-001-003 at Sections 4.3.6 and 4.3.7. It contains not only the as-built documentation, but is supplemented by the as-tested, verified, and accepted documentation as discussed in the Acceptance Testing Management Plan. The document is described in the System Implementation Plan for ECS Turnovers, ECS #301-CD-003-001 which addresses the overall ECS system turnover process (HW, SW, and documents). The SEO RE updates depend on authorized changes.

Appendixes are added as necessary to the system level VDD by each center's RE to describe any center-unique additions/modifications to the build. The VDD is published in draft form well in advance of the build using ECS bulletin boards and electronic distribution. Updates are published as information is gathered. The final VDD is published just prior to installation of the new build into operations.

For a given CCR, the RE (or designated team) to whom implementation of the CCR is assigned uses the configuration controlled local library to obtain the correct version of the source code/files. Using ECS-provided editors, compilers, and build procedures, the RE implements the change, performs programmer testing, and updates the documentation including design, interface, and procedure documents.

The RE may discover that the approved incorporation schedule cannot be met because of unforeseen complexity, changes in priority, or conflicting assignments. Revised implementations, priorities and schedules are brought to the CCR Telecon for discussion. If

necessary, a revised CCR and/or incorporation schedule is forwarded to the ESDIS CCB for impact assessment. Typical CCR discussion topics are outlined in Figure 22.2-1.

<p><u>CCR Discussion Topics</u></p> <ul style="list-style-type: none">• Review and prioritize each CCR opened at each center• Review and re-prioritize older CCRs (as required)• Review status of open CCRs• Review distribution of CCRs by organization, status, priority and age• Recommend new/revised assignments of CCRs to organizations/centers• Discuss CCR issues with development organizations
--

Figure 22.2-1. Typical CCR Telecon Agenda

Upon completion of the modification, the revised source files, data bases/ structures, and documentation are impounded and controlled by the Integration and Test organization at the RE's site using the CM tool. The impounded material is forwarded (if developed at a DAAC, the SMC or EOC) to the SEO for system integration and test. In the case of FOS SW CIs, system integration and test is performed within the EOC.

The golden copy of ECS SW is maintained by SMC. Required access to the golden copy as well as changes will be guaranteed by logging changes and backup of modifications for later access as required by users, developers, and maintenance personnel under CM guidelines delineated by the ECS CM Plan. SW will also be maintained by local CM at the DAACs.

22.2.2 Test Plans and Procedures

The objective of the test program is to ensure that the CCRs are properly implemented and that defects have not been introduced as a result of the changes. Therefore, both feature (has the CCR been properly implemented) and regression (revalidation of proper operation of the CI and system) testing at both the system and center levels are critical parts of the test program.

The test function exists within each of the M&O organizations. In the larger organizations, individuals may be dedicated to testing of M&O builds. In the smaller organizations, testing may be performed by personnel who have additional assignments. The test team can include maintenance programmers, vendors, users — any personnel who reported the problem that initiated the upgrade or who use the software. Regardless, the guiding principle is that the maintenance programmer who made a change is not allowed to be the only person who revalidates the program or provides feature testing.

The methodology employed in testing includes:

- Inspection — formal verification by examination of the assembled CI and its design documentation.

- Analysis — formal verification by examination and study of the CI/data base/data structure design and coding.
- Demonstration — formal verification by operating the computer program.
- Review of test data — review of test records and data after the execution of the computer program.

These are categories of testing procedures. The specifics cannot and should not be pre-determined, but rather should be responsive to the individual requirements determined by the extent/ impact of changes made to the original CI. M&O testing shall consist of recreating in whole or in-part the same scenarios used in the original acceptance testing.

Using the information in the Version Description Document (VDD) described in Section 22.2.1, the system and center test teams develop test plans for the build. The plans describe:

- The CCRs to be tested;
- The CM baseline(s) to be used;
- The requirements and features to be verified;
- The method of verification including identification of test cases/data sets;
- Acceptance criteria;
- Resource requirements; and
- Schedule of testing.

that are to be used for both feature and regression testing. Test procedures provide the detailed scenarios and test cases/data sets, steps, operator/user actions, analyses, etc., that implement the test plan.

Feature testing is performed through either the development of new test cases and data or the modification of existing test cases and data. Regression testing is performed using standard test cases with expected test results. When possible, the same test cases and data as were used when the program was originally developed are used. Test cases developed for prior feature testing are also used as part of the test program.

When possible, center-specific testing of system-level change builds will be performed in conjunction with the system test. If this is not possible, center-specific testing will precede the system level testing to allow a controlled increase in complexity during the test program. Should center-specific modifications to the system build be required, center level testing will be performed at the center first and then included in either the initial or follow-on system-level testing.

Test results and analyses which are developed by the test organization(s) are provided to the SEO and center REs. Unacceptable performance during the test program may result in delaying of the entire build or removal of a CCR from the build. Because the test team functions as an independent assessment of the build, it provides its recommendation on the quality and

performance of the build to the SEO. A summary of the test program and the test team's recommendation are added to the VDD.

The SEO RE is responsible for review of the test plans and procedures to ensure the adequacy of the test program. Center REs support the SEO RE in this assessment. Status of the test program is also provided to ECS and center management at the weekly status meetings described in Appendix B of the Maintenance and Operations Management Plan.

22.2.3 Custom Software Installation

The Version Description Document (VDD) provides the summary documentation package for each build. The material in the VDD is presented by the ECS M&O test function to the appropriate individual(s) within ESDIS. The VDD material is also presented by the ECS M&O test organization to the appropriate individual(s) within each operational center. If required by ESDIS or the center, results of IV&V or center-unique testing results will be presented by the appropriate organization. Upon review and approval by ESDIS and center management, the build as baselined in the center-specific VDD is authorized for system-wide and center operations.

The following sequence then occurs:

- The VDD undergoes final updates for system and center-specific material identified by ESDIS or the operational centers (e.g., IV&V test results and recommendations, center by center operational installation schedule, etc.).
- The final VDD is published.
- In accordance with the installation schedule, the build is installed at each center along with operational and user documentation updates.
- Controlled Document updates are provided to Document Maintenance and entered into the CM system.
- The CM system is updated to indicate the M&O system and center-specific baselines.

22.2.3.1 Scheduling the Release

Scheduled maintenance should be emphasized as a method of controlling the maintenance function in which the new-release concept already applied to systems is also applied to typical application programs. Emergency fixes are applied as required, but all other repairs or changes are assessed for the determination of an appropriate new-release schedule. There are several benefits to this approach:

--By consolidating the changes to be made to a CI, modifications can be performed more efficiently, e.g., documentation is updated only once, minimizes unnecessary disruptions to ops, decreases costs, etc.

--Since users know their changes will not be acted on immediately, they can give more consideration to which changes they actually need.

--Batched changes can be assessed holistically and more thoroughly evaluated.

--Knowing which applications will be maintained during the monthly/yearly cycle enables management to more effectively prioritize maintenance projects

--Positive control of baseline management between the M&O and Development organizations

22.2.3.2 Operations and User Notification

The Version Description Document (VDD) is the vehicle for communicating the contents, status, feature, schedule, and test results to the ECS stake holders. It is supplemented by test plans, test procedures and test results. Draft and final versions of the VDD and test program documentation are published and distributed to interested organizations internal (e.g., the ECS Development Offices, System Management Office, Quality Office, Science Office, etc.) and external (e.g., ESDIS, DAAC, other Customer, external systems, IV&V contractor, SCFs, user groups, etc.) to the ECS Contractor using ECS bulletin boards and electronic distribution.

22.2.3.3 Maintenance Changes to the On-Site SW Change Manager Library

The golden copy of ECS custom software is maintained at the SMC by the SEO CM Administrator. Required access to the golden copy as well as changes will be guaranteed by logging changes and backup of modifications for later access as required by users, developers, and maintenance personnel under CM guidelines delineated by the M&O CM Plan. Custom software will also be maintained by the CMA at the ECS deployment sites.

The Software Maintenance Engineer (SME) will use the Software Change Manager (ClearCase) to install and configure the software after testing has been successfully completed. The CMA and SME will maintain the records in Baseline Manager so that they are synchronized with the Software Change Manager maintenance changes.

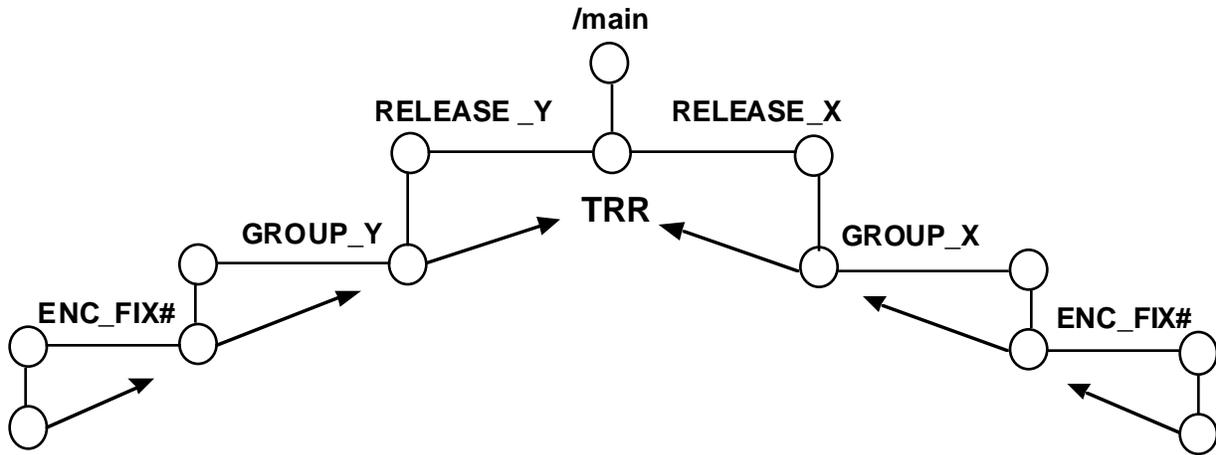
SMC provides the upgraded or new custom software to the sites. Each site specifies a temporary directory (a ClearCase VOB) that will receive the software. The site CCB must approve the installation of the software into the site's master library.

When notified by the CMA that the source code has been received and baselined, the Software Maintenance Engineer creates branches in the Software Change Manager, which are created for bugfixes, enhancements, and new development that are under CM control. The Software Maintenance Engineer also sets the configuration specification for the operational environment. Lastly, the Software Maintenance Engineer merges the files.

The procedures must be followed in sequential order beginning with the Section 22.2.3.3.1, "Branching Approach." The procedures are based on ECS Project Instruction CM-1-016.

22.2.3.3.1 Branching Approach

The following diagram depicts the branching approach at the file level in ClearCase.



Legend:
 ENC_FIX# - Development branch for enhancements
 GROUP_Y - Development group baseline
 RELEASE_Y - Development release group baseline

Figure 22.2-2. Branching Approach at the File-Level in ClearCase

Step 1. Create a branch type.

The Software Maintenance Engineer is responsible for creating branch types. Before creating a branch type the user must:

- a. Create a view
- b. Set the view.
- c. Change to the VOB directory.

If you are not familiar with the ClearCase command for creating and setting a view, refer to the ClearCase User's Manual or see CM for help.

The command for creating a branch type is:

```
cleartool mibrtype BRANCH-NAME
```

Examples:

```
cleartool mibrtype R_DSS_Phase1
```

```
cleartool mibrtype G_FUI_A1
```

```
cleartool mibrtype NCR_ECS1233
```

Step 2. Create a branch.

The branch is created automatically to the file by the config spec of the view. If the branch needs to be created manually use the following command:

```
cleartool mkbranch BRANCH-NAME FILE-NAME
```

Examples:

```
cleartool mkbranch R_DSS_Phase1 hello.c
```

```
cleartool mkbranch G_FUI_A1 hello.h
```

Step 3. Verify creation of the new branch.

Display the list of available branch types. Use the following command:

```
cleartool lstype -brtype
```

22.2.3.3.2 Configuring the Operational Environment

Step 1. Set the config spec of your view to the Operations spec. See Section 22.2.3.3.4, below, Setting Configuration Specifications.

Note:

CM has created a script called “setcs” located in the directory `/ecs/cm/triggers` that allows you to set the config spec of your view to the development spec. Make sure you have access to the setcs script created by CM. Create an alias on your `.cshrc` file or include `/ecs/cm/triggers` in your path.

Step 2. Run the setcs script:

To run the setcs script:

a. Set your ClearCase view. Use the following command:

```
cleartool setview VIEW-NAME,
```

where VIEW-NAME is the name of your view.

b. Change directory to the VOB directory. Development work will be performed where your subsystem is located in ClearCase. All subsystems are located in the `/ecs/formal` directory.

Example: `cd /ecs/formal/fos/fui`

c. Run the setcs script:

```
setcs development
```

The script will ask you for the name of the *RELEASE* branch, *GROUP* branch, and *ENC-FIX#* branch. These branch names should have been created by the lead engineer. If you do not see the branch names contact your lead engineer before continuing. Refer to Section 22.5.3, below, for branch naming conventions.

d. Checkout files and continue with regular activities in ClearCase.

Step 3. After completion of the development activities:

- a. Compile the changes.
- b. Test changes and notify the lead engineer of completion.
- c. Check in all files.
- d. Continue with other development activities.

Note: Only run the setcs script when the config spec (view) needs to be changed in ClearCase.

22.2.3.3.3 Performing Merge Activities

The Software Maintenance Engineer decides when to perform the merge to the Group branch or Release Branch following the completion of development activity.

22.2.3.3.3.1 Merge Development Activities (ENC_FIX#) to the Group Branch

Step 1. Set your ClearCase view.

To merge development activities to the Group branch, use the setcs script to set the config spec of your view to the Group Merge Spec. See Section 22.2.3.3.4, below, [Configuration Specifications](#) for setting 'Group Merge Spec.'

Step 2. Change to the VOB directory of your subsystem.

Step 3. Run the setcs script:

```
setcs gmerge
```

The script will ask for the name of the Release branch, and the Group branch.

Note: The names should have been created already.

*Step 4. Verify that all files are checked in on the branch you are **merging from**.*

From the parent directory where you want to perform the merge list all files checked out on the branch you are merging from by using:

```
cleartool lsco -r -brtype BRANCH-NAME
```

This command will list all files checked out on the BRANCH-NAME (if any).

*Step 5. Verify that all files are checked in on the branch you are **merging to**.*

From the parent directory where you want to perform the merge, list all files checked out on the branch you are merging to by using:

```
cleartool lsco -r -brtype BRANCH-NAME
```

This command will list all files checked out on the BRANCH-NAME (if any).

CAUTION

All files must be checked in before proceeding with the merge process.

Step 6. Run the findmerge utility located in the /ecs/cm/triggers.

```
findmerge group ENC_FIX#
```

You need to know the branch you want to merge from and the branch you want to merge to. Since your ClearCase view is already set to look at the Group branch, you need to know only the branch name you will merge from.

For example, suppose you want to merge NCR_1234 branch into the Group branch. The findmerge utility would be run in the following manner: `findmerge group NCR_1234`. The findmerge utility would check all files in the NCR_1234 branch and see if they need to be merged with the GROUP branch that is defined in your config spec. If this is the case, the merge will be performed and the names of the files that need merging are displayed, and a log file created.

Most ClearCase merges are automatic. Conflicts usually occur when performing a merge because two or more people worked in the same file and they changed something where ClearCase could not determine which change was correct. In this case, the merge utility will ask the person whose performing the merge to decide which is the correct change. Consult with the persons who worked on the file to help resolve the conflict. Verify the merge after conflicts are resolved.

Once the merge is performed all files that went through the merge process will be checked out in the Group branch. Compile and test files before check in.

Step 7. Check in the files in the Group branch.

```
cleartool ci -nc `cleartool lsco -r -me-short`
```

Note: A recursive check-in is performed.

Step 8. Set the config spec of your view to the Group spec or Development spec.

Do this to keep from corrupting the baseline of the group branch. The Group spec does not allow any checkouts, and the Development spec only allows checkouts on the ENC-FIX# branches. Use the setcs script as discussed earlier in *Setting to the Operational Environment*, Step 2.

22.2.3.3.2 Merge the Group Branch to the Release Branch

Step 1. Set your ClearCase view.

To merge Group branch activities to the Release branch, use the setcs script to set the config spec of your view to the Release Merge Spec. See Section 22.2.3.3.4, below, [Configuration Specifications](#) for setting 'Release Merge Spec.'

Step 2. Change to the VOB directory of your subsystem.

Step 3 Run the setcs script:

```
setcs rmerge
```

The script will ask for the name of the Release branch.

Note: The names should have been created already.

*Step 4. Verify that all files are checked in on the branch you are **merging from**.*

From the parent directory where you want to perform the merge, list all files checked out on the branch you are merging from by using:

```
cleartool lsco -r -brtype BRANCH-NAME
```

This command will list all files checked out on the BRANCH-NAME (if any).

*Step 5. Verify that all files are checked in on the branch you are **merging to**.*

From the parent directory where you want to perform the merge, list all files checked out on the branch you are merging to by using:

```
cleartool lsco -r -brtype BRANCH-NAME
```

This command will list all files checked out on the BRANCH-NAME (if any).

CAUTION

All files must be checked in before continuing with the merge process.

Step 6. Run the `findmerge` utility located in `/ecs/cm/triggers`.

```
findmerge release GROUP
```

You need to know the branch you want to merge from and the branch you want to merge to. Since your ClearCase view is already set to look at the Release branch, you only need to know the name of the branch you will merge from.

For example, suppose you want to merge G_FUI_A1 branch into the Release branch. Run the `findmerge` utility in the following manner: `findmerge release G_FUI_A1`. The `findmerge` utility would check all files in the G_FUI_A1 branch and see if they need to be merged with the Release branch that is defined in your config spec. If this is the case, the merge will be performed and the names of the files that need merging are displayed, and a log file created.

Most ClearCase merges are automatic. Conflicts usually occur when performing a merge because two or more people worked in the same file and they changed something were ClearCase could not determine which change was correct. In this case, the merge utility will ask the person whose performing the merge to decide which is the correct change. Consult with the persons who worked on the file to help resolve the conflict. Verify the merge after conflicts are resolved.

Once the merge is performed all files that went through the merge process will be checked out in the Release branch. Compile and test files before check in.

Step 7. Check in the files in the Release branch.

```
cleartool ci -nc `cleartool lsco -r -me-short`
```

Note: A recursive check-in is performed.

Step 8. Set the config spec of your view to the Release spec or Development spec.

Do this to keep from corrupting the baseline of the Release branch. The Release spec does not allow any checkouts, and the Development spec only allows checkouts on the ENC_FIX# branches. Use the setcs script as discussed earlier in *Setting to the Operational Environment*, Step 2.

22.2.3.3.3 Merging the Release Branch to the Main Branch

Note: Merging to the Main Branch is performed by CM only.

22.2.3.3.4 Configuration Specifications

Default Configuration Specification:

```
element * CHECKEDOUT
```

```
element * /main/LATEST
```

Development Spec:

```
element * CHECKEDOUT
```

```
element * /main/RELEASE/GROUP/ENC-FIX#/LATEST
```

```
element * /main/RELEASE/GROUP/LATEST -mkbranch ENC-FIX#
```

```
element * /main/RELEASE/LATEST -mkbranch GROUP
```

```
element * /main/LATEST -mkbranch RELEASE
```

Group Spec:

```
element * CHECKEDOUT
```

```
element * /main/RELEASE/GROUP/LATEST -nocheckout
```

```
element * /main/RELEASE/LATEST -nocheckout
```

```
element * /main/LATEST -nocheckout
```

Release Spec:

```
element * CHECKEDOUT
```

element * /main/RELEASE/LATEST -nocheckout

element * /main/LATEST -nocheckout

Group Merge Spec:

element * CHECKEDOUT

element * /main/RELEASE/GROUP/LATEST

element * /main/RELEASE/LATEST -nocheckout

element * /main/LATEST -nocheckout

Release Merge Spec:

element * CHECKEDOUT

element * /main/RELEASE/LATEST

element * /main/LATEST -nocheckout

22.2.3.3.5 Branch Naming Conventions

1. Release Branch

Release Branches should be created by the lead engineer for that subsystem. The following naming convention should be applied:

R_SUBSYSTEM-NAME_RELEASE-NAME

Examples:

R_DSS_Phase1

R_FOS_A1

R_CLS_Phase2

Note: All release name branches will start with an “R_”.

2. Group Branch

Group Branch names should be created by the lead engineer for that subsystem. The following naming convention should be applied:

G_GROUP-NAME_RELEASE-NAME

Examples:

G_FUI_A1

G_FUI_A2

G_AIT_Phase1

Note: All group branches will start with a “G_”.

3. ENC-FIX# Branch

ENC-FIX# branch names should be created by the lead engineer for that subsystem. The names are determined by the type of change being performed on the file(s). There are four types of changes that can occur: NCR fix, enhancement, new functionality, and further development.

- NCR fix type changes should be named in the following manner:

NCR_DDTS NUMBER

Example:

NCR_ECS1234

- Enhancement type changes should be named in the following manner:

CCR_CCR-NUMBER

Example:

CCR_96-0013

- New functionality type changes, should be named in the following manner:

RTM_req_source_id

Example:

RTM_EOSD1500

- For those changes not covered by NCR fix, enhancement, or new functionality, the naming convention is:

DEV_#####

where # represents alphanumeric characters.

22.2.3.4 Creating the SW Build Using SW Change Manager (ClearCase)

This section needs to be coordinated with the DID 609 ClearCase tool description and CM-1-023 SW Build Process which is being rewritten (review copy due in September 1996). The following is a place holder that describes the SW build process that is now in place.

DEFINITION Versioned Object Base (VOB), - ClearCase data to be shared by the development team is stored in VOBs. This includes: data files, directories, links, version labels, etc.

Subsystem - A group of software components combined to perform a single function.

Computer Software Configuration Item (CSCI) - A collection of software elements treated as a unit for the purpose of configuration management.

Computer Software Component (CSC) - A functional or logically distinct part of a computer software configuration item. Computer software components may be top-level or lower level.

Computer Software Unit (CSU) -The smallest logical entity specified in the design of a computer software component and the actual physical entity in code that implements a testable aspect of the requirements. This is the smallest unit for which documentation may be required.

Makefile - used to maintain, update, and regenerate groups of programs. A makefile can contain four different kinds of lines: target lines, shell command lines, macro definitions, and include lines.

SCOPE

This procedure provides the instructions necessary for successfully building ECS-related software that is under Configuration Management control. It guides software managers, lead engineers, and developers. Others who may have no knowledge of how the system is built can use this procedure to perform a software build.

It is critical that the process of building software be as simple as possible. Keep in mind that other engineers may want to use your software when setting up the software development tree. The following list contains information relevant to the build process:

- The user must be familiar with ClearCase. For example, the user must be able to create a view and set the view.
- The process of building software is the same on any machine, independent of the architecture of that machine.
- The process of building software is the same across ECS subsystems.
- The build process is designed so that one can build the software without having to know about environment variables or how the makefiles are set up.

This procedure is divided into the following sections:

(1) Directory Structure

(2) Software Build Process

(3) Labeling Software

(4) Follow-up to Software Build

(5) Generating .i files

(6) CM's Role in the Build Process

PROCEDURES

(1) Directory Structure

Use the directory structure pictured in figure 22.2.3-3 as a guide when setting up directories in ClearCase for the ECS software. The directory and file definitions are provided in CM-1-023, Attachment A.

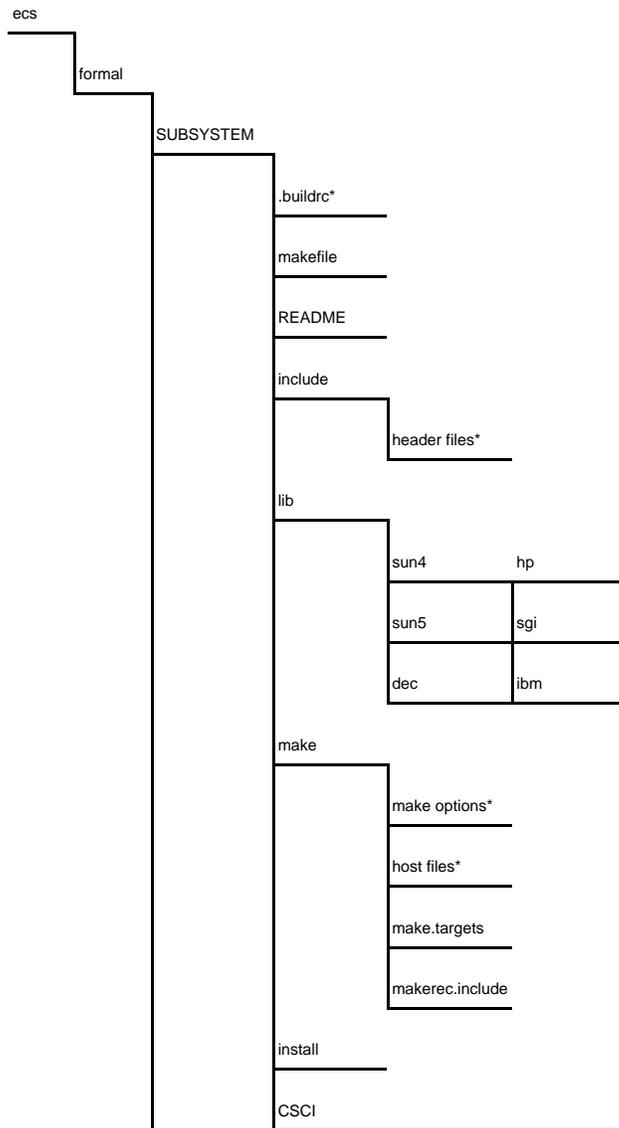


Figure 22.2-3. Directory Structure (1 of 3)

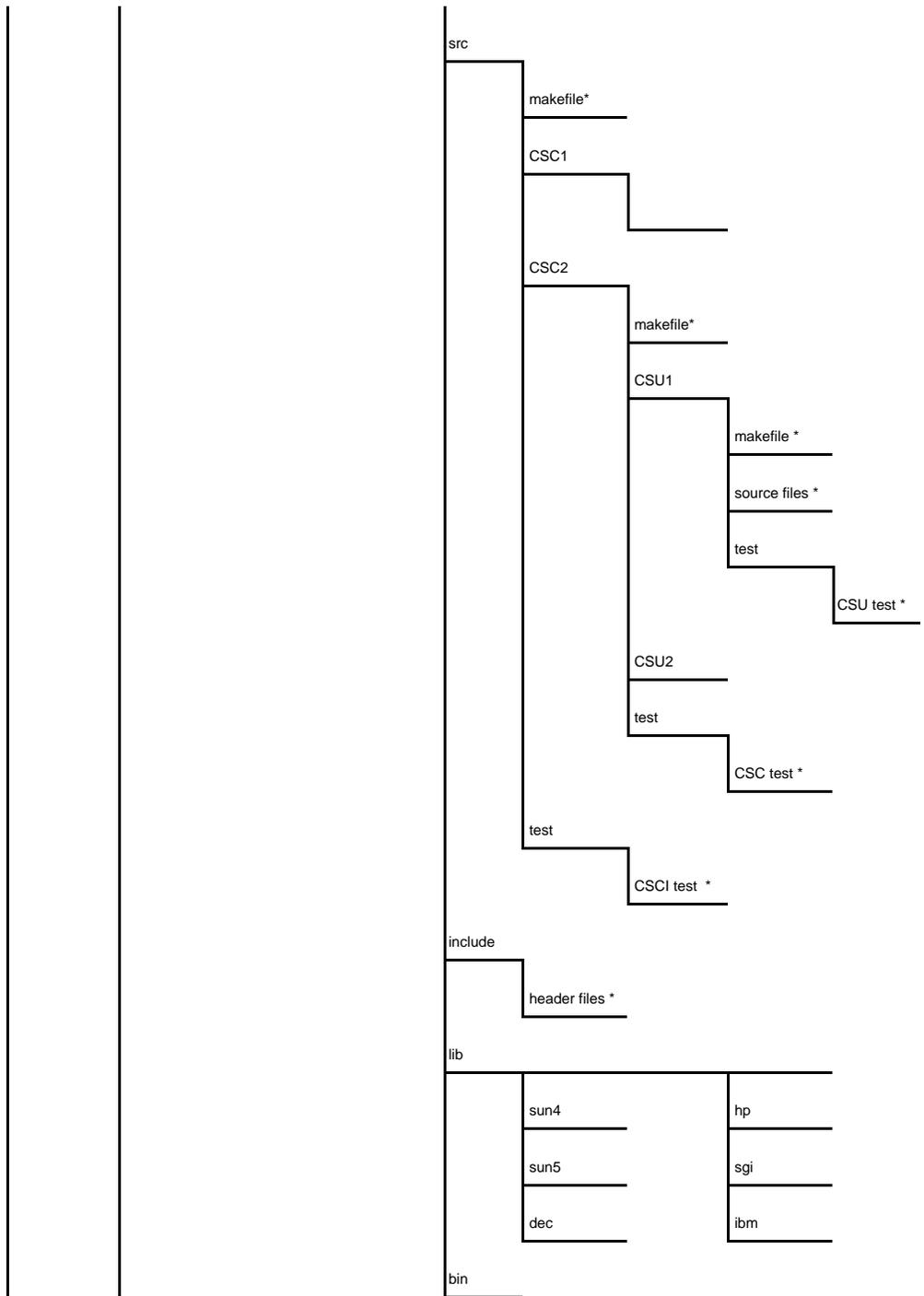
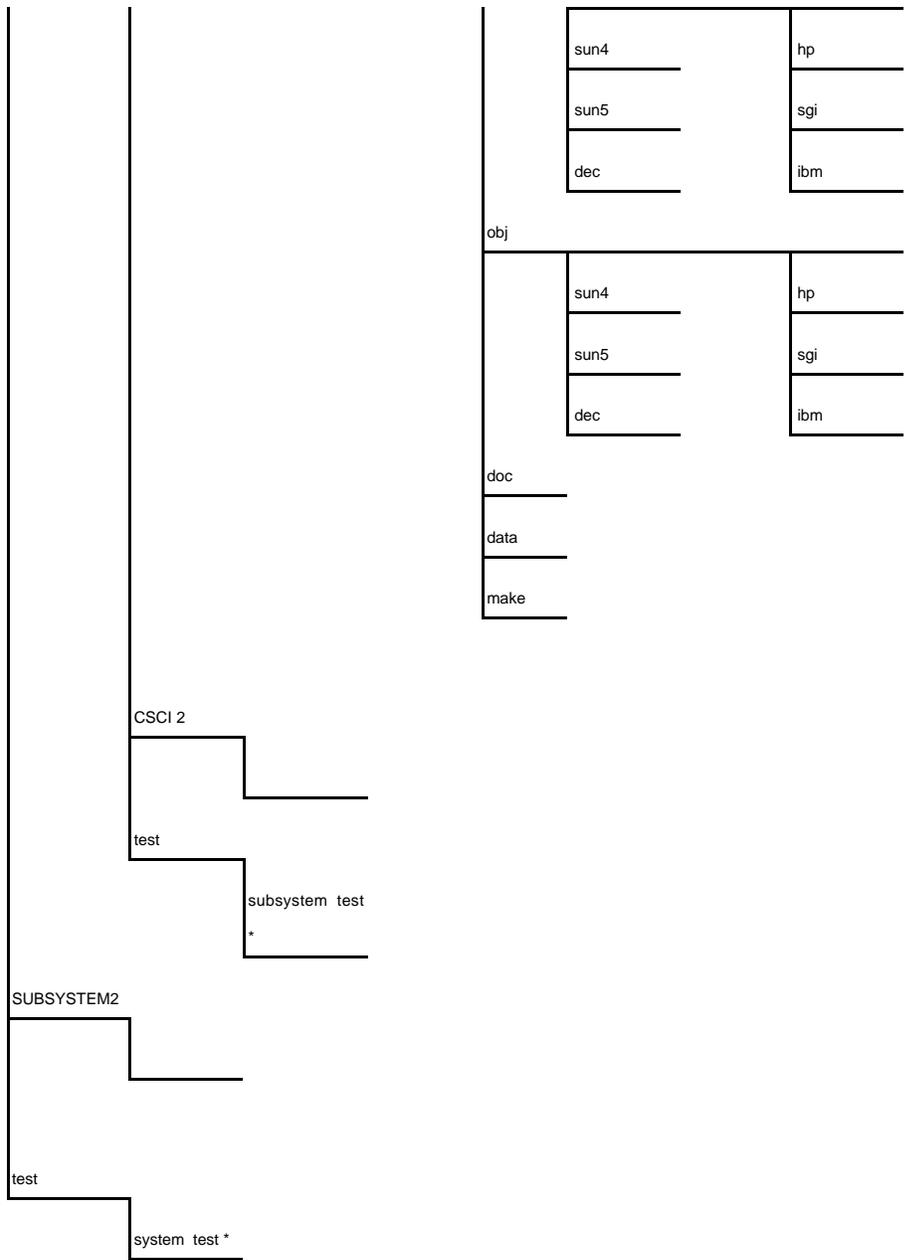


Figure 22.2-3. Directory Structure (2 of 3)



* Indicates file(s)

Figure 22.2-3. Directory Structure (3 of 3)

(2) Software Build Process

Before starting the build process the user must be capable of creating a view and setting the view.

(2.1) Locations to Perform Specified Builds

The build process can take place at the CSU level, CSC level, CSCI level, and subsystem levels.

- CSU level is used for building the CSU software.
- CSC level is used for building all of its CSU components.
- CSCI level is used for building all of its CSC components.
- SUBSYSTEM level is used for building all of its CSCI components.

Example:

To perform a build at the SUBSYSTEM level change the directory to that subsystem.

```
cd /ecs/formal/SUBSYSTEM_name
```

Note:

The view must be created and set prior to changing to the subsystem directory.

(2.2) Setup the Shell Environment

Use the .buildrc file when building software on any subsystem level. Refer to Attachment B for a description of the .buildrc file and the template location. The following procedure sets up the shell environment for building the software.

```
source .buildrc (C shell command)
```

Note: In this example the command used is shell dependent.

(2.3) Performing Build

Change the directory to the build level where the build is performed, use the Make command (MAKECMD) to perform the build.

```
$(MAKECMD)
```

The \$(MAKECMD) is used for the purpose of compatibility across all architecture. Currently the command is "clearmake -C gnu".

Clearmake reads the makefile and any included build option files and starts the build process. Refer to Attachment B for descriptions of the makefile, build option file and location of these templates. If the concurrent build options were defined in the .buildrc file, by default clearmake attempts to perform a concurrent build on the hosts defined in the Host file in the user's home directory. See Attachment D for additional information on concurrent build. The concurrent build is overridden by setting the environment variable "CLEARCASE_BLD_CONC" to 0. Object files and binary files should reside in the respective architecture directories for the view being used with a successful build. For a description of the object files and binary files refer to CM-1-023, Attachment B.

(3) Labeling software

When clearmake is used to build software it creates a configuration record of the build. For information on the configuration record, refer to the *ClearCase User's Manual*. The configuration record is used to label all the files used during the build process.

(3.1) Create a ClearCase Label.

Use the following command to create the label type:

```
cleartool mklbtype LABEL
```

(3.2) Perform Labeling Process

The label target in the makefiles is used to perform the labeling process. It uses the environment variable *LABEL* as the holding place for the label name.

- To label a file after you have created the label type, use the following command:

```
cleartool mklable LABEL FILE
```

- To label all the files associated with a binary or library file that have been built using clearmake, use the following command:

```
cleartool mklable -config BINARY|LIBRARY LABEL
```

Note:

Remember to include the \$(MAKEFILE) macro in the build target of the makefile, so that the makefile gets included in the configuration record of the target being built. When labeling based on the configuration record is performed, the makefile also gets labeled.

- Create a makefile environment variable that can be used to include files that are not part of the build itself in the configuration record of a binary or library file. This variable can be used to include the .buildrc file and the host files used to build the software. To find out more about this makefile environment variable, refer to the "Environment Variable" in Attachment B. This variable would be included in the makefile target as a dependency. It is called CR_DEPENDENCY.

(4) Follow-up to Build Process

Compile and test the software, if no fixes are necessary prepare to turnover the software to CM. This preparation should include:

- a. Notify lead engineers that the software is ready for test.
- b. Identify the software being built. Use the label created when the software was actually built.
- c. Create the label. (*See* the heading "Labeling Software" for further details).
- d. Set the LABEL environment variables

```
setenv LABEL label name
```

- e. Use the label targets in the makefile to label the software, i.e.,

```
$(MAKECMD) label
```

(5) Generating .i files

The .i files are discussed here because these files can only be generated after a successful build. The source files created during the subsystem build are processed within ClearCase to generate the .i files. Generating .i files is optional. These .i files are needed to run the McCabe tool. Modification to the build environment (such as the make files) needed to run the McCabe tool have already been completed. See PI Q0-1-001 for additional information on the McCabe tool. The following procedure explains how to generate .i files:

- a. Log in (use the machine where the build was performed)
- b. Set your view

```
cleartool setview <view name>
```

- c. Change the config spec of the view to what you want to see. To edit the config spec type:

```
cleartool edcs
```

- d. Change to the subsystem directory where the code is located

```
cd /...
```

- e. Set up the environments

```
source .buildrc
```

- f. Invoke clearmake to generate the .i files

```
clearmake -C gnu mccabe
```

(6) CM's Role in the Software Build Process

CM only starts the build process after the Software Turnover Form is received and the Test Organization authorizes the software build. See section 9 for the build procedures adhered to by CM.

22.2.3.5 Promoting Software Using SW Change Manager (ClearCase)

Tables of SW states (Table 22.2-2 for ECS SW and Table 22.2-5 for Science SW); valid SW state transitions (Table 22.2-3 for ECS SW and Table 22.2-6 for Science SW); and SW promotion levels (Table 22.2-4 for ECS SW and Table 22.2-7 for Science SW) govern the promotion of ECS custom and science SW from developer or maintenance engineering activities into operational strings. SW Change Manager (ClearCase) scripts execute the transition queries, notification and changes under CM control as explained in Sections 22.2.3.5.1 and 22.2.3.5.2.

22.2.3.5.1 "Change State Script" Description

The Change State script is designed to provide configuration management support of software undergoing change. Software versions will have a state attribute assigned to facilitate the tracking of a version as it proceeds through its lifecycle stages. This script will give its user the capability to change the value of the state attribute of a file version as the version proceeds from one state to another. This script checks the entered state attribute value and allows only valid state values to be processed. It checks the user's identification and allows only designated user(s) to change the state attribute value. It checks to ensure that the entered state value is a valid transition from the file version's current state attribute's value, informs the user of unexpected transitions, and gives the user the option to proceed with the transition, anyway. It notifies appropriate personnel that the version is ready for system test, acceptance test, or production. It will also assign a state value of ready for supersession and superseded for those versions of files that are being or have been replaced. Valid state values, valid state transitions, personnel authorized to change state values, and personnel to be notified of state changes are stored in files.

22.2.3.5.2 Promotion_level Script Description

The Promotion_level script is designed to provide configuration management support of software undergoing change. Software versions will have a Promotion Level attribute assigned to facilitate the tracking of a version as it proceeds through its lifecycle stages. This script will give its user the capability to change the value of the Promotion Level attribute of a file version as the version proceeds from one promotion level to another. It checks the entered Promotion Level attribute value and allows only valid promotion level values to be processed. Maintenance, system test, acceptance test, and Production are the valid promotion level values. This script also checks the user's identification and allows only designated user(s) to change the promotion level attribute value. It allows the designated user to promote the software version and it sets the initial state attribute value for the entered promotion level value. Valid promotion level values and personnel authorized to change these values are stored in files.

Table 22.2-2. ECS Software Oriented Tables State Table

State	Authority to Change State	Person to be Notified	In Promotion Level
In_Work	Developer		Maintenance
Ready for Inspection	Developer	Lead Engineer	Maintenance
Inspected	Lead Engineer		Maintenance
Ready for System Test	Lead Engineer	Tester	Maintenance
In Sys_Testing	Tester		System_Test
Sys_Tested	Tester		System_Test
Ready for Acceptance Test	Tester	Accept. Tester	System_Test
In_Accept_Testing	Accept. Tester		Accept_Test
Accept_Tested	Accept. Tester		Accept_Test
Ready for Release	Accept. Tester CM_Admin	CM_Admin	Accept_Test
Released	CM_Admin		Accept_Test
Ready for Production	CM_Admin	Sys_Admin	Accept_Test
In_Production	Sys_Admin		Production
Ready for Supersession	CM_Admin,		Production
Superseded	CM_Admin		

Table 22.2-3. Valid State Transitions

Current State	New State
In_Work	Ready for Inspection
Ready for Inspection	Inspected
Inspected	Ready for Sys_Test
Ready for Sys_Test	In_Sys_Testing
In_Sys_Testing	Sys_Tested
Sys_Tested	Ready for Accept_Test
Ready for Acceptance_Test	In_Acceptance_Test
In_Acceptance_Test	Acceptance_Tested
Accept_Tested	Ready for Release
Ready for Release	Released
Released	Ready for Production
Ready for Production	In_Production
In_Production	Ready for Superseding
Ready for Superseding	Superseded
Superseded	(No Transition)

Table 22.2-4. Valid State Assignment Given Current Promotion Level

Promotion Level	State
Maintenance	In_Work
Maintenance	Ready for Inspection
Maintenance	Inspected
Maintenance	Ready for System Test
Sys_Test	In_Sys_Testing
Sys_Test	Sys_Tested
Maintenance Sys_Test	Ready for Accept_Test
Accept_Test	In_Accept_Testing
Accept_Test	Accept_Tested
Accept_Test Sys_Test Maintenance	Ready for Release
Accept_Test As_Delivered	Released
As_Delivered Accept_Test Sys_Test Maintenance	Ready for Production
Production	In_Production
As_Delivered Production Accept_Test Sys_Test Maintenance	Ready for Supersession
Production	Superseded

Table 22.2-5. Science Software Oriented State Table

State	Authority to Change State	Person to be Notified	In Promotion Level
in work	SDPS/W		maintenance
ready for stand-alone test	SDPS/W	SDPS/W	maintenance
in stand-alone testing	SDPS/W		stand-alone test
stand-alone tested	SDPS/W		stand-alone test
ready for integrated test	SDPS/W	SSI&T	stand_alone test
in integrated testing	SSI&T		received by DAAC
integration tested	SSI&T		received by DAAC
ready for acceptance	SSI&T	CM_admin	received by DAAC
impounded for acceptance	CM_admin		delivered from SSI&T
ready for production	CM_admin		delivered from SSI&T
in commissioning	CM_admin		production
in full production	CM_admin		production
ready for superseding	CM_admin		production
superseded	CM_admin		production

Table 22.2-6. Science Software Oriented Valid State Transitions

Current State	New State
in work	ready for stand-alone test
ready for stand-alone test	in stand-alone testing
in stand-alone testing	stand-alone tested
stand-alone tested	ready for integrated test
ready for integrated test	in integrated testing
in integrated testing	integration tested
integration tested	ready for acceptance
ready for acceptance	impounded for acceptance
impounded for acceptance	ready for production
ready for production	in commissioning
in commissioning	in full production
in full production	ready for superseding
ready for superseding	superseded
superseded	(no transition)

Table 22.2-7. Science Software Oriented Promotion Table

Promotion Level	Authority to Promote	State
from SCF	CM_admin or SDPS/W	
maintenance	SDPS/W (checkout & checkin)	in work ready for stand-alone test in stand-alone testing ready for integrated test in integrated testing ready for acceptance ready for production
stand-alone test	SDPS/W	in stand-alone testing stand-alone tested ready for integrated test ready for acceptance ready for production
received by DAAC	SSI&T	in integrated testing integration tested ready for acceptance ready for production
delivered from SSI&T	CM_admin	impounded for acceptance ready for production
production	CM_admin	in commissioning in full production ready for supersession superseded

22.2.3.6 Installing the New Release

This procedure describes the steps that are executed to perform a SW upgrade on an ECS Host. The personnel involved are Sustaining Engineer (SE), Resource Manager (RM), Production Monitor (PM), and Host Operator (HO). The RM notifies the affected operators that there is an upgrade scheduled and the resources will be coming down for the installation activity. The RM then checks with the production monitor to begin unloading the target resources (if Autosys has already scheduled this event, it will happen automatically). The Production Monitor then checks the current load on target resources and informs the RM that the production jobs are complete. The RM then takes the initiative to shut down any processes that may still be running and begins shut-down procedures. Then by monitoring HP OpenView, the RM and SE are notified that the host has gone off-line. The SE uses the install script to install the upgrade, verifies the path and directory structures, and runs all diagnostic tests. The SE then informs the RM that the installation is complete. The RM then initiates the host start-up commands. HP OpenView then indicates that the host is back on line.

The assumptions underlying this procedure are as follows:

- (1) The upgrade has been previously scheduled and noted in the resource plan.
- (2) The SW upgrade package was obtained from FTP and tar tapes for Release A (Tivoli Courier in Release B) including any associated install script/makefile, is in ClearCase at the site.
- (3) The detailed steps for installation have been provided in the VDD accompanying the SW package.
- (4) The reconfiguration to minimize impact to existing operational resources has been defined.

The following table contains detailed steps of the on-site SW installation procedure.

Table 22.2-8. Detailed Steps of SW Installation

Step	Operator Action	System
1	Resource Manager composes an information message to the affected operators stating that the affected resources will be taken down as scheduled.	
2		Displays information message on consoles.
3	RM asks production monitor to verify that the production has completed on the resource as planned.	
4	PM checks current load on target resources.	Provides display of current jobs running on requested production resources.
5	PM informs RM that production jobs are complete.	
6	RM now takes control and shuts down any processes still running on impacted host(s).	
7	RM begins shut down procedures to take host off-line.	The host receives the command and goes off-line.
8		HP OpenView detects the change and changes the state to "off-line."
9		HP OpenView sends a status message to all of the affected operators indicating that the host has gone down and changes the corresponding icon to the down state.
10	RM receives a message from HP OpenView indicating that the desired host has gone off-line. All operators monitoring the host receive a message from HP OpenView indicating that the designated host has gone off-line. Sustaining Engineer receives a message from HP OpenView indicating that the designated host has gone off-line.	

Table 22.2-8. Detailed Steps of SW Installation (continued)

Step	Operator Action	System
11	RM views the change in HP OpenView and notifies the Sustaining Engineer that the host is available for upgrade.	
12	SE uses the developers' install script stored in SW Change Manager (Clearcase).	ClearCase executes the named install script which applies controlled file system changes to the specified host.
13	SE verifies that all of the paths and directories structures have been created and are correct.	Host lists its file system contents.
14	SE runs all of the diagnostic tests to verify that the new upgrade is operating as expected.	
15	SE informs the RM that the upgrade is completed	
16	RM acknowledges the message from the SE that the installation is completed.	
17	RM initiates the host start-up commands.	Host receives the commands and begins start-up.
18		Start-up completed.
19		HP OpenView detects the state change and changes the icon to the up status and sends a status message to all users indicating that the host is back on-line.
20	RM, Operators, and SE receives message from HP OpenView indicating that the host is back on-line.	

22.2.4 Obtaining Software Support

The Baseline Manager tool will contain the list of Responsible Engineers for the SW CIs. On-site Maintenance Engineers will consult with experts from the Sustaining Engineering Organization who perform system-level SW maintenance activities and REs who will lead troubleshooting activities of specific CIs. This point of contact information will be currently maintained in the databases. Prioritized Trouble Tickets will be used to coordinate this activity and provide emergency fixes and related Configuration Change Requests will sponsor permanent changes.

22.2.4.1 SW Problem Reporting

Anomalies, the apparent incorrect execution of an ECS CI, and inefficiencies, sub-optimal use of system resources, are documented using TTs. A TT may be submitted by users, operations, customer, analysis, maintenance and management staff. At the time of TT submittal, supporting information and data is captured by the ECS staff. SW problems will be reported via the Trouble Ticket system discussed in Section 8.

22.2.4.2 Troubleshooting

Troubleshooting will be conducted on an ad hoc basis. The site-level activity will be initiated by the Operations Supervisor assigning a Trouble Ticket to the Problem Investigator as discussed in section 8.2 Problem Resolution procedures. This process is supported by SEO Maintenance Programmers, REs, and ECS Developers at the ECS Development Facility (EDF). The EDF will have the same SW and computer equipment variants available at the sites. They may be capable of duplicating anomalies experienced in the on-site's system to derive effective resolutions and/ or work-arounds as required until a permanent resolution is implemented.

At the TT telecon, the TT is prioritized and assigned by the Failure Review Board to an organization for work-off. A Responsible Engineer (RE) is assigned to work-off the TT. Using the captured data, a technical investigation is performed to attempt to isolate the source of the reported anomaly or inefficiency.

If the problem is caused by a non-ECS element (e.g., an interface problem with an external system, poor resource usage by a science algorithm, poor performance by a non-ECS service, etc.), the TT and supporting material is provided to the maintainer of that element. An ECS CCR may also be proposed to protect ECS from potential threats of future problems identical or similar to that documented in the TT. CCRs are discussed in detail at section 9 of this document.

If the TT is properly written against an ECS element, one or more of the following actions are taken:

- Describe the source of the problem and the recommended design/implementation change. Procedure modifications may also be appropriate.
- Modify procedures. Describe the source of the problem and modify procedures to eliminate or reduce the number of occurrences of the documented problem. Modifications may be temporary (i.e., work-arounds) or permanent. If the change is permanent, the TT can be closed and/or a User Recommendations Data Base (URDB) input generated.
- Track. The technical investigation focuses on collection of additional data from new occurrences to support additional analyses into the root of the problem and/or the frequency of occurrence. As a result of tracking, further technical investigations may result in any of the other actions.
- Re-prioritize. Describe the results of the technical investigation and recommend a priority change at the TT Telecon. A lowered priority may result in the TT going into backlog status or being closed. A higher priority may result in additional resources being applied to the technical investigation.
- Close with URDB input. The technical investigation may discover that what is being reported as a problem is actually the proper implementation of the feature based on the requirements baseline. A URDB input documents a recommended requirements change.
- Close TT into existing TT or CCR. If the TT documents a known problem for which no solution has been identified, the new TT can be closed into the existing TT. Supporting material from the new TT is added to that previously collected. The TT may also be

closed into a CCR that has been previously written but not yet installed into the operational baseline.

The originator of the TT is kept informed throughout the process via minutes from the TT telecon and voice/ e-mail status reports from the RE.

22.2.4.3 Corrective Action Reporting

Trouble Tickets will be used to document SW problems as noted in Section 22.2.4.2. The results are tallied against SW Configuration Items to determine critical maintenance concerns related to frequency of occurrence, criticality level, and the volume of problems experienced. The maintainability analysis will guide critical changes, volume and type of support components to be utilized, and focus of further ECS release development.

22.2.5 Science Software

The maintenance of science software and data items provided by the Science Computing Facilities (SCFs) is not the responsibility of the ECS on-site maintenance engineers. Problem resolutions and changes to science software sponsored by the SCFs shall be introduced under the auspices of local DAAC configuration management activities and the Earth Science Data and Information System (ESDIS) (GSFC Code 505) CCB in the same manner as new releases to baselined science software. On-site changes or updates shall be integrated and tested by the Science Software Team. Ongoing CM of ECS integrated science software will be accomplished by the same tool set used for ECS developed software as explained in the Developed SW Maintenance Plan at Section 3.3 *Standardization of Support Procedures* under local DAAC control.

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23. Property Management

This section describes procedures for the receipt, control, and accountability of ECS property at ECS sites during Release A. The “Property Management Plan for the ECS Project” is the base document that addresses the process and policies regarding how ECS property is to be managed throughout the Project. This section supplements the information contained in that plan. Personnel assigned responsibility for site property administration functions should be thoroughly familiar with the contents and policies contained within that document.

Personnel designated as site Property Administrators are responsible for the day-to-day receipt, inspection, storage, issue, inventory, recording, accounting, and reporting of ECS property at ECS sites. Property Administrators will follow the process and policies approved in the Property Management Plan, procedures contained herein, and ECS-approved local procedures developed between site Property Administrators and local facility property control offices. Locally developed procedures will be forwarded to and reviewed by the ECS ILS Manager to ensure that they are in conformance with provisions of the ECS Property Management Plan and are conducive to the maintenance of control and accountability of ECS property at the site.

The Activity Checklist table that follows provides an overview of Property Management. Column one (**Order**) shows the order in which tasks might be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 23.1-1. Property Management - Activity Checklist (1 of 2)

Order	Role	Task	Section	Complete?
1	Property Administrator	Receive equipment and software	(I) 23.1	
2	Property Administrator	Tag equipment	(I) 23.2	
3	Property Administrator	Maintain site property records	(I) 23.3.1	
4	Property Administrator	Compile and submit inventory reports	(I) 23.3.2	
5	Property Administrator	When necessary, report lost, damaged, or destroyed property	(I) 23.3.3	
6	Property Administrator	When appropriate, submit information for Relief From Accountability in a timely manner	(I) 23.3.4	

Table 23.1-1. Property Management - Activity Checklist (2 of 2)

Order	Role	Task	Section	Complete?
7	Property Administrator	Prepare and submit all reports for equipment relocation	(I) 23.4	
8	Property Administrator	Perform scheduled inventories and audits	(I) 23.5	
9	Property Administrator	Ensure secure storage facilities	(I) 23.6	
10	Property Administrator	Ensure timely preparation of pre-shipping activities	(I) 23.7	

23.1 Receipt of Equipment and Software

Upon receipt of ECS equipment the site Property Administrator will perform a receiving inspection to verify correctness of delivery and quantity received, and to determine if there is evidence of damage during shipment. The Property Administrator will verify the number of pieces received against the carrier’s shipping document and the condition of the material. On both the carrier’s and site’s copy of the shipping document, the receiving individual will note any damages or shortages to the shipment and will sign the documents, thereby acknowledging receipt of the shipment. The signature of the carrier’s representative will be obtained when container shortages, damages, and other transit-related discrepancies are identified.

Property received will be promptly moved from the loading dock to a controlled inventory area for unpacking, inspection, detailed component level inventory, and preparation of a Receiving/ Inspection Record. Items received will be reconciled against purchase orders, shipping documents, packing lists, or related documents to ensure accountability for all items, attachments, and accessories. Item identification, configuration, and quantity will be matched against the vendor’s packing list, the purchase order, and/or the detailed configuration list (if supplied by the Purchasing Office). Receiving/Inspection Records will contain the following information:

- Dates of receipt and inspection.
- Names of shipper and carrier.
- Shipper’s bill of lading number and/or carrier’s shipping document number.
- Purchase order number or Return Maintenance Authorization (RMA) number (if indicated on shipping documents).
- List of items received (shipper’s document or packing list can be referenced, if attached, and annotated to indicate receipt of items).
- Serial numbers of serially numbered items.
- Model/version numbers (shipper’s document or packing list can be referenced if models/versions received are same as indicated on the shipper’s document/packing list).

- Equipment identification numbers (EIN) or equipment control numbers (ECN) of tagged items. [Note: EINs are assigned to ECS-purchased reportable equipment and ECNs apply to government-furnished property (GFP).]
- Condition of shipment (note all damages to materiel).
- Shipment discrepancies (include shortages, overages, and incorrect items/quantities/models).

The Receiving/Inspection Record will be forwarded electronically (i.e., fax or Internet) to the ECS Property Administrator within one day of receipt of the shipment (fax #301-925-0438, internet rbyrnes@eos.hitc.com). The Receiving/Inspection Record will be attached to the shipping document and retained in the site’s property files as a permanent record of the property received. Such documents will be retained until accountability is transferred to the Government.

Received property will be secured and protected from electrostatic discharge (ESD) during movement, storage, and while awaiting assembly and issue. Access to the property storage areas will be controlled at all times to prevent unauthorized entry. Returnable and reusable containers will be controlled and accounted for, if applicable.

23.2 Equipment Tagging

ECS equipment (e.g., contractor-acquired and GFP) that is separately identifiable and/or meets the criteria for controlled equipment (described in the Property Management Plan) will be tagged with ECS property tags containing an ECS equipment identification number (EIN). (Figure 23.2-1 illustrates ECS property tags.) ECS equipment shipped to the EDF for staging and subsequent shipment to the sites is tagged by the ECS Property Administrator. Tags will be supplied by the ECS Property Administrator. ECS equipment shipped directly from the vendor to the site will be tagged by the site Property Administrator immediately upon receipt. Tags will be placed on the equipment in an area so that they are visible and easily accessible by bar-code scanners. Vendor-loaned and HITS capital equipment will not be tagged with ECS property tags.

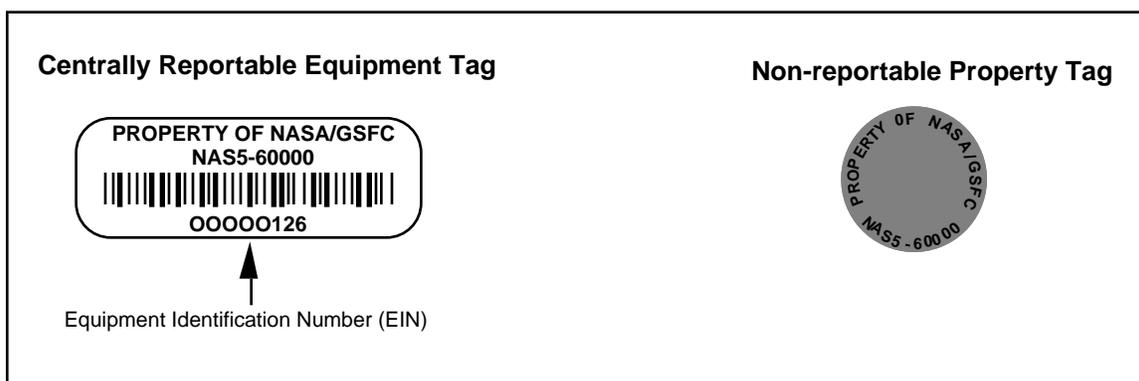


Figure 23.2-1. ECS Property Tags (actual size)

Components of major equipment that are not separately identifiable or stocked for use as spares/repair parts for a higher assembly (i.e., workstations, servers, data storage devices and major communications equipment) will not be assigned an EIN, but will be tagged with the round non-reportable property tag (e.g., mice, keyboards, or other devices that can be moved and have a value of less than \$1,000.00). Such components will be controlled as inventory items and reported by manufacturer, description, model/version, serial number (if assigned), stock location, condition code, quantity, and, when installed as a component of centrally reportable equipment, by next higher assembly.

Property tags of loaned GFP equipment containing a NASA equipment control number will not be removed by the site Property Administrator. At the time of receipt of such property, the Property Administrator will affix an ECS property tag with EIN next to the government tag. The NASA ECN will be recorded in the property record and cross referenced to the EIN.

Prior to disposing of ECS equipment (or prior to returning it to the Government), ECS property tags will be removed. Removed ECS property tags will be retained with the property turn-in document by affixing the tag to the document or to a blank sheet attached to the turn-in document. Turn-in documents will be forwarded to the ECS Property Administrator for retention in the accountable records.

23.3 Property Records and Reporting

The ECS Project uses a UNIX database management system (described in the Property Management Plan) to support the property management, control and reporting functions for Contractor-acquired and GFP equipment. Property records are created and maintained in this system by the ECS Property Administrator. Site Property Administrators support the ECS Property Administrator in the maintenance of these records through accurate and timely reporting of changes to ECS equipment at the site. At Release B, ECS property records will be accessible via the Inventory, Logistics, and Maintenance (ILM) system. In the interim, site Property Administrators must manage property records using a locally maintained Excel spreadsheet, providing updates to the ECS Property Administrator as they occur.

At a minimum, site property records will contain the following fields:

- Manufacturer.
- Item description.
- EIN [for controlled equipment (see Section 23.2)].
- Parent EIN (for components of equipment having an EIN; this is the EIN of the next higher assembly).
- Date received.
- Location (e.g., GSFC, EDC).
- Building Number.
- Room Number.
- Serial Number.
- Model/Version Number.

– Purchase Order Number.

Site property records will be sorted as follows: 1) by parent EIN, 2) by component EIN (if applicable), 3) by date received. Property records will contain a line for each item having an EIN (e.g., workstation, server, monitor, printer) and each of its major components (e.g., network interface cards, RAM chips, graphics card, hard drive, tape drive, CD ROM, SCSI card, operating system, COTS applications, RAID drives). For an example of the level of detail required, refer to the Installation Receipt Report provided at the time of site installation. It is the sole responsibility of the site Property Administrator to keep all site property records current and to inform the ECS Property Administrator of changes as they occur.

23.3.1 Maintaining Property Records

Site Property Administrators will update local property records within eight business hours of property changes, including the following: receipt and/or installation of new equipment, relocation's, dispositions, and component configuration changes.

Support documentation used to post changes to property records will be retained by the site Property Administrator to provide complete, current, and auditable accountability data. Some of the documents to be used for posting changes to property records include the following:

- **Receiving/Inspection Record** -- Prepared by the site Property Administrator at the time equipment is received. It is used to record the physical condition of property received, quantities received, shipping data, date received, and the name of the persons who received and inspected the property.
- **Installation Receipt Report** -- This report is provided by the installation team at the time equipment is installed. Used to record receipt of equipment installed at the site. Can be used to update site property records with installed location, date, and name of the person accepting receipts.
- **Inventory Report** -- Prepared by the site Property Administrator and used to report the results of 100 percent annual inventories required to be conducted of ECS equipment and GFP.
- **Trouble Tickets** -- Prepared by the site LMC and used to update property record with equipment changes resulting from maintenance or relocation actions (e.g., serial/model changes, component replacements, and relocation at the site).
- **Disposition Record** -- Prepared by the site Property Administrator and used to record the disposition of ECS equipment. Includes the identification of ECS equipment disposed of as a result of disposition actions approved by the NASA Property Administrator (i.e., DCMAO).

23.3.2 Property Reporting

The site Property Administrator will submit following reports to the ECS Property Administrator:

- **Inventory Change Report (ICR)** -- Forwarded within one business day of receipt/inspection of additional ECS property at the site or of inventory changes resulting from maintenance actions, relocation, or reconfigurations that will result in changes to the ECS property records maintained by the ECS Property Administrator.

- **Annual Inventory Report** -- Forwarded upon completion of the annual property inventory conducted in accordance with the ECS Property Management Plan. Site Property Administrator should receive an Inventory Reconciliation Report from the ECS Property Administrator 15 days prior to the commencement of their inventory. Annual Inventory Reports will identify dates of the inventory, person(s) conducting the inventory, discrepancies noted, and actions taken to resolve the discrepancies.

23.3.3 Reporting Loss, Theft, Damage or Destruction

If ECS or GFP property at the site is lost, stolen, damaged, or destroyed, the site Property Administrator will notify the ECS Property Administrator and supply the following information:

- Description of items lost, stolen, damaged, or destroyed.
- Cost of property lost, stolen, damaged, or destroyed and cost of repairs in instances of damage (if actual costs are not known, reasonable estimates will be given).
- Date, time, and cause of the loss, theft, damage, or destruction.
- Actions taken by Contractor to prevent further loss, theft, damage, or destruction and to prevent repetition of similar incidents.
- Other facts or circumstances relevant to the determination of liability and responsibility for repair or replacement.
- Statement that no insurance costs or other means of covering loss, theft, damage, or destruction of Government property were charged to the contract, if applicable.
- Statement that, in the event the Contractor was or will be reimbursed or compensated for loss, damage, or destruction of Government property (e.g., reimbursement by a subcontractor, the Government will receive equitable reimbursement).

The ECS Property Administrator will provide this information without delay to the HITS ECS Contracts Manager, who will immediately notify the Government Property Administrator (e.g., DCMAO).

23.3.4 Obtaining Relief from Accountability

The ECS Property Administrator will provide all pertinent information (e.g., type of equipment, reasons for obtaining relief from accountability) without delay to the HITS ECS Contracts Manager, who will immediately notify the Government Property Administrator (e.g., DCMAO).

23.4 Equipment Relocation

This section provides instructions for equipment relocation within a DAAC (intra-site relocation); between ECS sites, and between ECS sites and non-ECS sites (inter-site relocation); to a vendor (off-site relocation); and transfer to outside the contract (external transfer).

23.4.1 Intra-site Relocation

Requirements for equipment reallocations within the facility or between facilities at the same site will be processed through the site Property Administrator to maintain control and accountability of equipment inventories. A Trouble Ticket will be used to document and forward the relocation request to the site Property Administrator. The site Property Administrator will approve the

request and schedule the relocation. Configuration management authorization is required prior to reconfiguring equipment or software within a DAAC. When completed, the Trouble Ticket will be closed by the site Property Administrator and the new location entered into the property record.

23.4.2 Inter-site Relocation

Requests to relocate equipment to another ECS site (or to a non-ECS site) will be forwarded by the losing site's Property Administrator to the ECS Property Administrator. Such requests will identify by EIN and equipment description what is to be moved, where and when it is to be moved, and the reason for the relocation. The ECS Property Administrator will coordinate the relocation resources and schedule between the losing and gaining Property Administrators. Once completed, the gaining Property Administrator will report completion of the relocation to the ECS Property Administrator via the Installation/Receipt Report, who will update the property record with the new location and date of the action. Any loss or damage to the equipment will be reported using the procedure described in section 23.3.3 when it occurs or is first discovered. Configuration management authorization is required prior to reconfiguring equipment or software between DAACs. Inter-site relocations will be reported in Monthly Installation Reports by the ECS Property Administrator.

23.4.3 Relocation Off-site for Vendor Repairs

For equipment returned to a maintenance vendor for repair, the repair document will be retained in a "pending actions" file until the item is returned. The repair document will identify RMA number, date of shipment, expected return date, and vendor point of contact. Status code "O" (out for repair) will be entered into the site property record. Property tags will not be removed. Once returned, the date of return will be recorded on the repair document, and the serial number and EIN will be verified. The equipment status code in the property record will be changed to reflect status "R" (received) or "I" (installed). In the event the original equipment is replaced by the vendor because it is beyond repair, the Property Administrator will recover the property tag from the vendor, and record the item as unserviceable/non-repairable. If a component is non-repairable and must be replaced via another procurement action, the site administrator should initiate actions described in section 23.3.4 to obtain relief from accountability.

23.4.4 External Transfers

Transfers of ECS property outside the contract must be approved by the ECS Contracting Officer. Upon approval by the ECS Contracting Officer, transfers of ECS property to the Government or to other contracts will be as directed in written instructions provided by the ECS Property Administrator.

23.5 Inventories and Audits

Site Property Administrators will complete a 100 percent physical inventory of controlled ECS property and GFP at the site not later than August 30 annually. Notification of the scheduled date of the inventory will be provided to the ECS Property Administrator 30 days prior to the

inventory start date, who will advise the Government Property Administrator of the site inventory schedules. ECS personnel responsible for maintaining property records will not assist in the conduct of these inventories. Inventories will be designed to achieve the following objectives:

- _ Verify that accountable equipment is still on hand.
- _ Confirm or determine current locations and custodial responsibility for equipment and material.
- _ Identify unrecorded equipment which qualifies for control.
- _ Locate or identify missing equipment.
- _ Identify unused or underutilized equipment and equipment or material in need of repair or rehabilitation.

The site Property Administrator will, at the time of completion of the annual inventory, forward a marked up copy of the Inventory Reconciliation Report to the ECS Property Administrator. The Inventory Report will be signed by the site's ECS Manager attesting that a 100 percent inventory was conducted and that all equipment is accounted for except for those indicated as not on hand. All discrepancies will be explained.

23.6 Storage

ECS property will be stored in clean, orderly, and secure areas conforming to the environmental controls for temperature, humidity, and electrostatic discharge (ESD) specified in the ECS Environmental Control Plan. Access will be limited to authorized personnel and controlled by the site Property Administrator. ECS property tags will appear on all COTS equipment to distinguish contractor-acquired and vendor-loaned equipment from GFP. Material will be inspected to determine serviceability before being stored. Material that is unserviceable will be segregated and disposed of following procedures described in the ECS Property Management Plan, Section 19.

23.6.1 Segregation Requirements

Contractor-owned and vendor-loaned property will be segregated from Government-owned property during storage. Site Property Administrators will ensure that storage areas are kept in a clean, orderly manner. Material will be stored on shelves, in bins or drawers as appropriate, and its storage location entered into the site property record. Special storage areas or controls will be provided for items subject to corrosion, humidity, and temperature. Such items will be inspected semi-annually by the site Property Administrator.

23.6.2 Stock Rotation

Material designated as "stock," such as computer tapes and CD's, will be distributed on a first-in, first-out basis.

23.6.3 Physical Security

ECS property will be stored in secured areas where access will be limited to authorized personnel and controlled by the site Property Administrator.

23.7 Packing and Shipping

Ten working days prior to shipping centrally reportable equipment to the EDF or other ECS sites, the site Property Administrator will report intent-to-ship to the ECS Property Administrator. The report will identify the expected shipment date, carrier, shipping document number, estimated weight and cube, number of pieces, shipper and ship-to-address. Prior to shipment, a pre-shipment inspection will be performed to verify the following:

- Correct identification of equipment on packing lists and shipping documents including configurations, serial numbers, number of containers, and ship-to address.
- Adherence to packaging and marking standards.
- Inclusion of appropriately prepared documents within shipping containers.

ECS property being shipped from vendors and the EDF will be shipped to the DAAC facility to the attention of the site Property Administrator. Local policy at some sites may require delivery to a site central receiving point. In such cases, written procedures will be developed between the site Property Administrator and the site's central receiving office regarding notification of receipts, documentation required, and provisions for local delivery to the DAAC facility. The delivery of ECS equipment to site central receiving points versus direct delivery to the DAAC facility will be determined based on agreements and procedures established between the host facility and the DAAC.

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24. Installation Planning

The ECS Facilities Plans (DID 302) and the Installation Plans developed for each ECS release are the products of the facility and installation planning process. DAAC Facilities Plans are distributed 30 days after each Release Critical Design Review (CDR). These plans identify space, power, and cooling requirements based on design information available at CDR. The Installation Plans are distributed two months prior to installation of equipment at each ECS Release. As such, the Facilities Plan identifies facility preparation requirements and general installation planning that is based on final design information. The Installation Plans provide the detailed planning required by installation teams and the sites to make final preparation for installing Release equipment. Both documents are provided in draft to the DAACs for review and comment prior to publication.

24.1 Responsibilities

Installation planning and coordination is the responsibility of the ECS Installations Planner, who is part of the Integrated Logistics Support (ILS) Office within M&O. Using information obtained during site surveys, the Installations Planner prepares the Facility Plans and the Installation Plans and coordinates actions needed to prepare for and conduct the installations. DAAC M&O personnel support the Installations Coordinator by providing information to complete the Site Survey Questionnaire; reviewing the Facility Plan and the Installation Plan; ensuring that site preparations/coordination are completed on schedule; facilitating receipt and installation of the hardware; and accepting installation of the hardware and software by signing the Installation Receipt Report.

24.2 Process Description

DAAC site surveys have been previously conducted to obtain DAAC-specific information needed to begin the installation planning process. This information was documented in a Survey Questionnaire prepared for each DAAC and is used in the preparation of the Facility Plans and the Installation Plans. This information, plus design and equipment specifications, is used to prepare the Facilities Plans, which project facility requirements and provide a preliminary plan for the placement of systems within the DAACs. DAACs review this information and provide requested changes, which are considered in the preparation of the Installation Plans.

Three months prior to the installation of hardware, a detailed Installation Plan is produced to identify the planned placement of hardware in the facility and how the hardware will be configured and networked, and to identify site preparations necessary to support the installation. Installation teams use the Installation Plan to install the systems and networks. After the equipment is installed and tested, the installation team leader obtains the DAAC Manager's signature on the Installation Receipt Report, which details the locations and equipment that have been installed and networked. Within two weeks following the installation, the Installations Planner will update the facility diagrams and network diagram to reflect the as-installed

configuration at the site. These diagrams are submitted to the ECS CCB and, when approved, become part of the operations baseline for the site. The baselined diagrams are provided to the site and are the responsibility of the LMC to update as changes occur.

24.3 Maintenance of Facility and Network Diagrams

Facility and network diagrams reflect the as-installed configuration. The baseline version of these diagrams is maintained by the ECS Installations Coordinator. As changes to these diagrams occur (e.g., relocation of equipment within the site, additions/deletions to the LAN), the LMC will inform the ECS Installations Coordinator by redlining the diagrams. The Installations Coordinator will update the CAD system to reflect the change(s) and provide an updated facility drawing to the site's LMC.

24.4 Maintenance of LAN Cable Management Schema

Within two weeks of the completed hardware installation, a LAN Cable Management Schema is supplied to the DAAC LMC by the ECS Installations Coordinator. This matrix will identify the cable number, type, length, decibel loss rating, and location of cables installed; and will identify the IP addresses of the equipment connected by the cables. The LMC will update this matrix as LAN changes occur.

25. COTS Training

The procedures to request COTS training have been developed based on these sources: DID 622 ECS Training Plan, DID 525 Training and Certification Records, DID 626 M&O Certification Plan, and DID 607 M&O Manual for the ECS Project. The site Operations Readiness & Performance Assurance (ORPA) Analyst arranges for COTS training by working with the COTS Training Coordinator, the ILS Contractor Manager, as well as the potential students.

The Activity Checklist table that follows provides an overview of these procedures. Column one (**Order**) shows the order in which tasks might be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 25.1-1. COTS Training - Activity Checklist

Order	Role	Task	Section	Complete?
1	Site ORPA Analyst	Submit request for COTS Training	(P) 25.1	
2	COTS Training Coordinator	Forward request to ILS Manager	(P) 25.2	
3	Site ORPA Analyst	Arrange for equipment and classroom space	(P) 25.2	
4	Site ORPA Analyst	Ensure that initial registration will be filled or arrange for cancellation without penalty	(I) 25.3	
5	Site ORPA Analyst	Maintain COTS training records	(I) 25.4	
6	Site ORPA Analyst	Monitor DAAC COTS training budget	(I) 25.5	

25.1 Requesting COTS Training

The site ORPA Analyst must request training to initiate the following procedures **at least 30 days prior** to the desired training date. The procedures are accomplished in the following order:

- 1 The site ORPA Analyst requests training using COTS Training Request Format via e-mail to the COTS Training Coordinator; includes the following information:
 - Student(s) name and position/role
 - Training need
 - COTS course requested (if known)
 - Dates preferred

- 2 COTS Training Coordinator verifies that the training requested meets the following criteria:

- Relates to an ECS M&O function
 - Relates to COTS product in the ECS system design
 - Is cost effective and within budget constraints
- 3 COTS Training Coordinator determines the proposed training details, including the following:
 - Training vendor
 - Individual or group training, based on cost effectiveness
 - On-site or off-site class location
 - Available vendor training dates
 - 4 COTS Training Coordinator forwards the training request to the ILS Contractor Manager. The ILS Contractor Manager will either approve or deny the request.
 - 5 COTS Training Coordinator maintains record of approval of training purchase.

25.2 Coordinating COTS Training

If the ILS Manager approves the request for COTS training, the COTS Training Coordinator will provide all vendor training details to the COTS Purchasing Manager. The COTS Purchasing Manager produces the purchase order and provides a copy to the COTS Training Coordinator, who will then order the training from the vendor. The procedures to coordinate training are accomplished in the following order:

- 1 When approved, the COTS Training Coordinator submits all training details to the COTS Purchasing Manager.
- 2 The COTS Training Coordinator orders training from the vendor.
- 3 Purchasing Manager processes the purchase order and provides a copy to the COTS Training Coordinator.
- 4 The COTS Training Coordinator forwards the purchase order to the vendor to reserve training.
- 5 The COTS Training Coordinator generates a notice to students that includes training vendor, course, date(s), other relevant information.
- 6 For on-site training, site ORPA Analyst makes necessary arrangements for classroom space and equipment configuration; coordinates use of any operational equipment required for course, with on-going operations; forwards site location details to vendor instructor.
- 7 Students attend training.
- 8 In cases when COTS training is found to be substandard or ineffective, the site ORPA Analyst forwards detailed complaint to COTS Training Coordinator; specifies whether site desires replacement training for inadequate course.

- 9 Depending on the site ORPA Analyst's request, the COTS Training Coordinator seeks refund, replacement training seat, or training credit from vendor.
- 10 The site ORPA Analyst maintains training records at site in accordance with DIDs 622 and 525. Required record fields include: student name, vendor name, course name and part number, course dates, and location.
- 11 The site ORPA Analyst will forward a copy of the training record to the SEO ECS Operations Trainer in format specified by DID 622.

25.3 Canceling/Rescheduling COTS Training

COTS training vendors generally withhold all or part of registration fees for course seats canceled too close to the start date of training. The deadline for cancellation without penalty varies between vendors, **but the maximum deadline is three weeks prior to course start date.** In order to preserve ECS COTS training funds, any cancellations of COTS training by ECS personnel must be made within three weeks of the start date to avoid these financial penalties.

If student(s) need to cancel after this three-week deadline, the site ORPA Analyst will be responsible for substituting an equally qualified individual to attend the course, and for notifying the COTS Training Coordinator to ensure proper record keeping and registration with the vendor.

25.4 Maintenance of COTS Training Records

The site ORPA Analyst will maintain records of all training accomplished as specified in DID 622. For COTS training, these records will include the following fields:

- _ Student name
- _ Vendor name
- _ Course title and number
- _ Course location
- _ Course duration
- _ Dates attended
- _ Certification (if applicable)

The site ORPA Analyst will submit training record information to the SEO ECS Operations Trainer for DID 525 as specified in DID 622.

25.5 Contractor COTS Training Funds Accounting

COTS training funds will be allocated to each ECS M&O organization, based upon staffing levels and functions performed at the site. The ECS M&O staffs to be allocated funds for COTS training are as follows:

- _ DAACs
- _ SMC
- _ SEO
- _ ILS
- _ Flight Operations Team
- _ ECS Development Facility operations

While the coordination and purchasing responsibilities for COTS training fall primarily with the ECS COTS Training Coordinator, the site ORPA Analysts will be responsible to DAAC management for spending their allocations of the COTS training budget judiciously.

Travel funds are not included in the COTS training budget. These must be secured from the organization to which each student belongs.

The COTS Training Coordinator will distribute quarterly balance reports to site ORPA Analysts for planning purposes.

26. Interoperability Subsystem Administration

Currently, the Interoperability Subsystem (IOS) has one computer software configuration item (CSCI), the Advertising Service. The Advertising Service requires administration of its database (see Section ____); the maintenance of its Distributed Computing Environment (DCE) server (see Section __); administration of its Netscape Commerce Server (see section __); the Earth Science On-line Directory (ESOD) (see Sections 26.2 and 26.3, below); and maintenance of advertising-specific configuration files (see *Release A Operations Tools*, 609-CD-002-001, Section 4.11.5, "About the Custom Advertising Tool").

ESOD provides the Advertising Service interface. It is the medium through which scientists can advertise data and services specific to the Earth Science discipline. ESOD receives entries over the Web from external users and internal entries from the Data Server Subsystem (DSS). After it receives and stores data, DSS automatically generates an entry and forwards it to the Advertising Service. DSS entries advertise data and Data Server Services.

The Advertising Service accepts five types of entries: data advertisements, Web service advertisements, non-Web service advertisements, installable service advertisements, and provider registry (for example, organizations such as NOAA and JPL). ESOD also permits users to query the on-line directory over the World Wide Web. Through a series of easy-to-use HyperText Markup Language (HTML) pages (also referred to as screens), researchers submit requests to create an entry, update an entry, and delete an entry, and register as a provider (moderation group). In addition, users can download an advertised service directly to their supported Unix workstations.

NOTE: Special care should be taken to guard against computer viruses when accepting installable advertised services.

Moderation Groups are areas of interest to the ECS community; for example, Air-Sea Interaction and Biological Oceanography. The ESOD Administrator (DAAC System Administrator) assigns a Moderator (Data Specialist) to each Moderation Group. The Moderator reviews contributors' requests, ensuring that all required information is included, and taking into consideration any other requirements established for his or her DAAC ESOD and for the Moderation Group. The Moderator will accept or reject a request, and ESOD will automatically forward an email to the contributor notifying him or her that his/her request is accepted or rejected.

A variety of security features — such as routers, DCE, Netscape — ensure only authorized access to DCE servers and updates to the IOS database. DCE is the software system that enables ECS components, including Common Gateway Interface (CGI), to access the Advertising Service from a variety of computer operating systems located at different sites. DCE also allows more than one user to access the same Moderation Group at the same time. Access is carefully controlled. Moderators are assigned access through DCE. They operate from workstations with IP addresses authorized through the Network Commerce Server. The Netscape Commerce Server Administrator is responsible for maintaining ID filtering. Every moderator must be listed

on the DCE resource access control lists, which includes the name of the moderator and level of authorized activity; for example, read and write privileges. The ESOD Administrator maintains Moderation Groups and links them through the group resource to the DCE security system.

M&O is responsible for ESOD Administration and Moderation to ensure that ESOD runs smoothly, that users can access the information they want as well as submit requests to be shared throughout the ECS community.

The Activity Checklist table that follows provides an overview of M&O procedures for administering IOS. Column one (**Order**) shows the order in which tasks might be accomplished. Column two (**Role**) lists the Role/Manager/Operator responsible for performing the task. Column three (**Task**) provides a brief explanation of the task. Column four (**Section**) provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found. Column five (**Complete?**) is used as a checklist to keep track of which task steps have been completed.

Table 26.1-1. IOS Administration - Activity Checklist

Order	Role	Task	Section	Complete?
1	Moderator (Data Specialist)	Approve a Request	(P) 26.2	
2	Moderator (Data Specialist)	Reject a Request	(P) 26.2	
3	DAAC System Administrator	Create Moderation Group	(P) 26.3.1	
4	DAAC System Administrator	Update Moderation Group	(P) 26.3.2	
5	DAAC System Administrator	Delete Moderation Group	(P) 26.3.3	

26.1 Accessing ESOD

Access to Moderation and Administration requires a World Wide Web Browser that supports HTML 2.0 and is Secure Socket Layer (SSL)-enabled and supports tables, such as Netscape Navigator. As stated previously, access is controlled by the site administrator of the Netscape Commerce Server. Once running your Web server, you will select the ESOD Universal Resource Locator (URL), which might be similar to the following:

<http://ecs1.DAAC-NAME.nasa.gov>

From most pages, you can return to the ESOD Home page, Administration, Moderation, Get General Help, or Help for the page you are on, by clicking on the appropriate button on the bottom of your screen.

Fields with a red check mark next to them are required fields. Any attempt to perform a function while leaving required fields blank, will result in an error message. The error message will list the fields left blank and request that they be filled in before you can continue.

If you want to return to a previous page, click on **Back**, at the top left of the page. Clicking on **Forward**, also at the top left, will take you to the next page, if you have been there previously.

26.2 ESOD Moderation

An ESOD Moderator reviews each submitted request to create an entry or to modify an existing entry. The Moderator will either accept or reject the request. The Moderator can edit the request before he or she accepts it, or leave it in the queue for later action. The Moderator must be on the DCE resource access control list defined for that group. Each action requires that Moderator Verification Information be entered: ECS Username and ECS password. (This is the DCE user name and password.)

To process a request, perform the following:

- 1 On the ESOD Administration and Moderation HTML page, click on **Moderation**.
- 2 On the Moderation page, click on the **Moderation Group** whose request list is to be evaluated (moderated). Note that the number of requests to be moderated is provided next to each group name.
- 3 Enter Moderator Verification Information:
 - a. ECS Username
 - b. ECS Password
- 4 Click on **Display Requests** or **Reset Form**. **Reset Form** will clear the user name and password.
- 5 Selecting **Display Requests** will list all requests (that is, records) in the selected Moderation Group that are awaiting moderation. These requests are either new submissions for acceptance as entries, or changes to existing entries, or requests to delete entries.
 - a. Select request, and click on **Display selected request**.
 - b. **IF** the request is a change to an existing advertisement, you may get the **Obsolete** page. This page lists all other requests which concern the same request that you have selected. Should you accept the selected request, all other requests will be rejected automatically. At this point you can review any of the requests listed and decide whether to continue with your original selection or select one of those listed.
 - c. Whether the request is to create a new entry or to modify or delete an existing one, you will access the applicable Moderate screen via the **Display selected request**.

NOTE: What is displayed on the next screen depends on the type of entry being moderated. The descriptions provided in this Step 5, part c, reflect a Provider entry. If it were an Installable Service Entry or Web Service entry, for example, you would have additional fields, such as Provider ID, Product ID, Installable Service ID, Service URL, FTP URL for Package Service, to name a few. What is included here is relevant to other entry displays as well.

You will see Comments to Moderator, if the Contributor included any; Title; Description of the entry, if included. You can edit the description field, or you can import another file through FTP to be inserted into the description field. To import data, you must input the path and file name into the FTP field. For example:

ftp://sabrina/pub/ceresad.html

If the description is very long and, therefore, not easily edited in the description box, you can download the description to your PC, edit it, then move it to a public FTP area. In the Moderate page, input the public FTP area path in the FTP field to import the edited description.

Next, the Moderation Group is identified, having been selected by the Contributor. The field "Valid for another" indicates how long the Contributor has specified that this advertisement will be valid. The Moderator can modify the date. (The system will automatically delete the advertisement on the specified date.) Also on the page are the Contributor's e-mail address (required) and phone number (optional). The field "Comments to contributor" is the last field to be filled in by the Moderator; for example, to identify cross references to this topic, if any; if rejected, to state that no valid provider exists for this entry; to inform the contributor that this entry is being linked to related entries.

- d. At the bottom of the page, these options are available:
 1. **Preview request.** Moderator can view the request as the user will see it.
 2. **Save request.** Save changes and store record for later consideration.
 3. **Accept Request.** Accept the record and send e-mail to the contributor notifying him or her that the request is accepted; Moderator comments and Advertisement ID are included in the e-mail.
 4. **Reject Request.** Delete request and send e-mail to Contributor, notifying him or her that the request is rejected; includes Moderator comments.
 5. **Reset Form.** Cancel changes and store record for later consideration.
- e. When the entry is accepted, a screen pops up to notify you that the "Request has been successfully accepted." The Contributor's name and email address are included as well as advertisement ID. A similar screen pops up when you reject the entry.

26.3 ESOD Administration

The DAAC System Administrator as the authorized ESOD administrator can create, update, and delete moderation groups. The administrator must have a DCE account with write access to the applicable DCE resource; for example, "ESODAdmin." Each action requires that Administrator Verification Information be entered: ECS Username and ECS password. (This is the DCE user name and password.)

26.3.1 Create a Moderation Group

- 1 On the ESOD Administration and Moderation HTML page, click on **Administration**.
- 2 On the Administration page, click on **Create Moderation Group**.
- 3 Fill in the following information:
 - a. Name of Moderation group.
 - b. Description of subject.

- c. Moderator's name. (The Moderator identified on this page is the primary moderator. More than one moderator can be identified for the DCE resource access control list. The system is flexible to ensure adequate staff backup.)
 - d. Moderator's e-mail address (must be current).
 - e. DCE resource required to moderate the group.
 - f. Notify the DCE Administrator that the Moderation Group has been created and provide the Resource (such as, "atmosModeration"), a list of moderator names, their e-mail addresses, and the privileges to be included in the group's DCE resource access control lists.
- 4 Enter Administrator Verification Information:
 - a. ECS Username
 - b. ECS Password
 - 5 Click on **Submit** or **Reset Form**.
 - a. Click on **Submit** to submit the newly created moderation group. A screen will pop up stating that "New moderation group successfully created"; and that the Moderator has been notified, via email, that the group has been created. When the Submit fails, the screen will indicate the reason for failure, such as fields that need information or that such a group already exists.
 - b. Click on **Reset Form** to clear the fields.

26.3.2 Update a Moderation Group

- 1 On the ESOD Administration and Moderation HTML page, click on **Administration**.
- 2 On the Administration page, click on **Update Moderation Group**.
- 3 Currently active Moderation Groups are listed.
- 4 Select the group you want to update and click on the **Display Update Form** button. The Update ["Group Name"] page is accessed.
- 5 Modify any of the following information:
 - a. Name of Moderation group.
 - b. Description of subject.
 - c. Moderator's name.
 - d. Moderator's e-mail address (must be current).
 - e. DCE Resource required.
- 6 Enter Administrator Verification Information:
 - a. ECS Username
 - b. ECS Password
- 7 Click on **Submit** or **Reset Form**.
 - a. Click on **Submit** to accept the updates. A screen will pop up stating that an e-mail has been sent to inform the Moderator of the changes, or, if the Moderator has been changed, an e-mail has been sent to the old and new Moderators informing them of the change.
 - b. Click on **Reset Form** to cancel the changes.

26.3.3 Delete a Moderation Group

- 1 On the ESOD Administration and Moderation HTML page, click on **Administration**.
- 2 On the Administration page, click on **Delete Moderation Group**.
- 3 Currently active Moderation Groups are listed.
- 4 Select the group you want to delete and click on **Display Form**.
- 5 The Delete Modernization Group ["Group Name"] page is accessed.

NOTE: A warning message tells you the number of entries that will be deleted when you delete the group. Be sure to review the information carefully to be certain you want to delete this group.

- 6 Enter Administrator Verification Information:
 - a. ECS Username
 - b. ECS Password
- 7 Click on **Submit** or **Reset Form**.
 - a. Click on **Submit** to delete the group and all associated advertisements and requests. A screen pops up, identifying the record that has been deleted and that a message has been sent to notify the Moderator.
 - b. Click on **Reset Form** to cancel the delete.

NOTE: You will be unable to delete a group if the group has providers in it who are used by other groups. You will have to change the providers (reassign them) and then try to delete the group again.

Appendix A. Additional Material

A.1 Appendix Heading

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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