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EOSDIS Core System Project

M&O Certification Plan for the ECS Project

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February 1998

Raytheon Systems Company
Upper Marlboro, Maryland

M&O Certification Plan for the ECS Project

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Preface

This document is a formal contract deliverable with an approval code 1. It requires Government review and approval prior to acceptance and use. This document is under ECS contractor configuration control. Once this document is approved, Contractor approved changes are handled in accordance with Class I and Class II change control requirements described in the EOS Configuration Management Plan, and changes to this document shall be made by document change notice (DCN) or by complete revision.

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Abstract

This ECS Certification Plan (DID 626/OP1) addresses the process and responsibilities for certifying selected staff in order to be qualified to operate and maintain the Version 2.0 ECS system. The certification process included in this plan identifies the operator and maintenance positions requiring certification and defines the appropriate criteria for certification. Roles and responsibilities for administering and approving certification is also addressed in this plan.

Keywords: training, certification, OJT

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1. Introduction

1.1 Identification

The M&O Certification Plan, Contract Data Requirements List (CDRL) Item 130, whose requirements are specified in Data Item Description (DID) 626/OP1, is a required deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS), Contract (NAS5-6000).

1.2 Scope

This plan defines the recommended certification requirements for ECS as it relates to the operations and maintenance of ECS. The scope of this plan addresses the process and responsibilities for certifying selected staff in order to be qualified to operate and maintain the Version 2.0 ECS system. The certification process included in this plan identifies the operator and maintenance positions requiring certification and defines the appropriate criteria for certification. Roles and responsibilities for administering and approving certification are also addressed in this plan.

This document is to be used by all members of the ECS Contractor Team.

1.3 Purpose

This plan describes the responsibilities and recommended processes for certifying M&O staff to maintain and operate the Version 2.0 ECS system and to satisfactorily accomplish the following:

- Identify positions that require certification.
- Identify the minimum formal and informal training required for each position.
- Describe the roles and responsibilities for administering and approving certification including record keeping.
- Identify positional skill catalogs.

1.4 Status and Schedule

This plan provides detailed information about the certification program for Version 2.0. A revision of this document will be submitted three months prior to the installation of future versions.

1.5 Organization

This document is organized as follows:

Section 1: Introduction—This section presents the document identification, scope, purpose, status and schedule, and organization.

Section 2: Related Documentation—This section identifies parent, applicable and information documents associated with this plan.

Section 3: Certification Program Management—This section provides a purpose and definition of certification, a recommended certification policy, and defines the process for developing and implementing a certification program.

Section 4: Version 2.0 Certification Positional Skills Catalogs— This section lists the tasks and criteria for each certifiable position.

2. Related Documentation

2.1 Parent Document

The parent document is the document from which this ECS Training Material's scope and content are derived.

423-41-01	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work

2.2 Applicable Documents

The following documents are referenced within this ECS Training Material, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this document:

420-05-03	Goddard Space Flight Center, Earth Observing System (EOS) Performance Assurance Requirements for the EOSDIS Core System (ECS)
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS)

2.3 Information Documents

2.3.1 Information Documents Referenced

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of the ECS Training Material.

609-CD-003-001	Version 2.0 Operations Tools Manual for the ECS Project
611-CD-004-001	Mission Operation Procedures for Version 2 Release 2.0 Drop 1 for the ECS Project
625-CD-001-001	ECS Project Training Material Volume 1: Course Outline
535-TIP-CPT-001	Goddard Space Flight Center, Mission Operations and Data Systems Directorate (MO&DSD) Technical Information Program Networks Technical Training Facility, Contractor-Provided Training Specification

2.3.2 Information Documents Not Referenced

The following documents, although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These documents are not binding on the content of the ECS Training Material.

305-CD-020-002	Release B SDPS/CSMS System Design Overview Specification for the ECS Project
305-CD-021-002	Release B SDPS Client Subsystem Design Specification for the ECS Project
305-CD-022-002	Release B SDPS Interoperability Subsystem Design Specification for the ECS Project
305-CD-023-002	Release B SDPS Data Management Subsystem Design Specification for the ECS Project
305-CD-024-002	Release B SDPS Data Server Subsystem Design Specification for the ECS Project
305-CD-025-002	Release B SDPS Ingest Subsystem Design Specification for the ECS Project
305-CD-026-002	Release B SDPS Planning Subsystem Design Specification for the ECS Project
305-CD-027-002	Release B SDPS Data Processing Subsystem Design Specification for the ECS Project
305-CD-028-002	Release B CSMS Communications Subsystem Design Specification for the ECS Project
305-CD-029-002	Release B CSMS System Management Subsystem Design Specification for the ECS Project
305-CD-030-002	Release B GSFC DAAC Design Specification for the ECS Project
305-CD-031-002	Release B LaRC DAAC Design Specification for the ECS Project
305-CD-033-002	Release B EDC DAAC Design Specification for the ECS Project
305-CD-034-002	Release B ASF DAAC Design Specification for the ECS Project
305-CD-035-002	Release B NSIDC DAAC Design Specification for the ECS Project
305-CD-036-002	Release B JPL PO.DAAC Design Specification for the ECS Project
305-CD-037-002	Release B ORNL DAAC Design Specification for the ECS Project
305-CD-038-002	Release B System Monitoring and Coordination Center (SMC) Design Specification for the ECS Project

305-CD-039-002	Release B Data Dictionary for the ECS Project Subsystem Design Specification
601-CD-001-004	Maintenance and Operations Management Plan for the ECS Project
604-CD-001-004	ECS Operations Concept for the ECS Project: Part 1 -- ECS Overview
604-CD-002-003	ECS Operations Concept for the ECS Project: Part 2B -- ECS Release B
605-CD-002-001	Release B SDPS/CSMS Operations Scenarios for the ECS Project
607-CD-001-002	Maintenance and Operations Position Descriptions for the ECS Project
220-TP-001-001	Operations Scenarios - ECS Release B.0 Impacts
500-1002	Goddard Space Flight Center, Network and Mission Operations Support (NMOS) Certification Program, 1/90

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3. Certification Program Management

This section provides a purpose and definition of certification, a recommended certification policy, and defines the process for developing and implementing a certification program.

3.1 Certification Purpose/Definition

The purpose of certification is to ensure that acceptable levels of proficiency are achieved by personnel who perform direct real-time operations and maintenance support for ECS. It is a process of verification, through performance where an individual meets the minimum level of proficiency necessary to perform the duties associated with a given position/role.

By definition, a position requiring certification is one that performs tasks that are deemed critical to the success of mission operations. The nature of the task is such that the actions of an individual are capable of having a direct and immediate impact on the progress of the mission without provision for review, approval, or direct modification. Critical tasks are defined as tasks that would result in the loss of data, damage to equipment or personal injury if the task were to be improperly executed.

By definition, a role not requiring certification is a position not performing any system critical tasks. Personnel such as management, clerical, and certain support positions will not require certification. Non-certified positions for ECS maintenance and operations (M&O) personnel would include investigators and investigator support personnel, Distributed Active Archive Center (DAAC) M&O staff not involved in the maintenance and operation of ECS, National Aeronautics and Space Administration (NASA) management, SEO technical personnel and independent verification & validation (IV&V) contractor personnel.

3.2 Recommended Certification Policy

All operator and maintenance positions that perform tasks that are deemed mission critical will be required to satisfy the certification requirements contained in this document. All Certification requirements will be met prior to an operator assuming responsibility for the defined position. Each DAAC will need to adopt a certification policy prior to the site becoming operational. This document provides a suggested M&O certification process.

3.3 Certification Program Development

The development of the ECS certification program is based on providing a user the opportunity to achieve the understanding/knowledge to satisfy the criteria for certification. From a purely philosophical standpoint, the steps to attain certification can be varied. For example, prerequisite knowledge may satisfy the criteria for certification, or possibly attendance of a training course might satisfy the criteria for certification. The key element to certification is the ability to satisfy the criteria required to perform the required system critical task.

In most case, certification will require attending the formal ECS training course as defined in the Training Plan (DID 622). Included in the training plan is the general definition/approach to certifying key operator and maintenance position for the ECS program. This approach involves providing a user enough technical knowledge through attending the ECS training course to satisfy the certification requirements for a selected position. By definition, training and certification are closely linked to each other and need to be carefully coordinated.

3.3.1 Training & Certification Development Process

Key ECS operations and maintenance personnel will be certified prior to operational assignment. Selection of the positions requiring certification will be finalized and clearly defined in this plan. Certification is the verification through written, oral and/or performance evaluation, that an individual meets the minimum level of proficiency necessary to perform the duties associated with a system, subsystem or position. Most personnel will require some training to prepare for this requirement. The training program for these personnel is designed to satisfy the certification requirement.

Figure 3-1 depicts the relationships between system design, certification and training. These relationships are described in subsequent sub-sections.

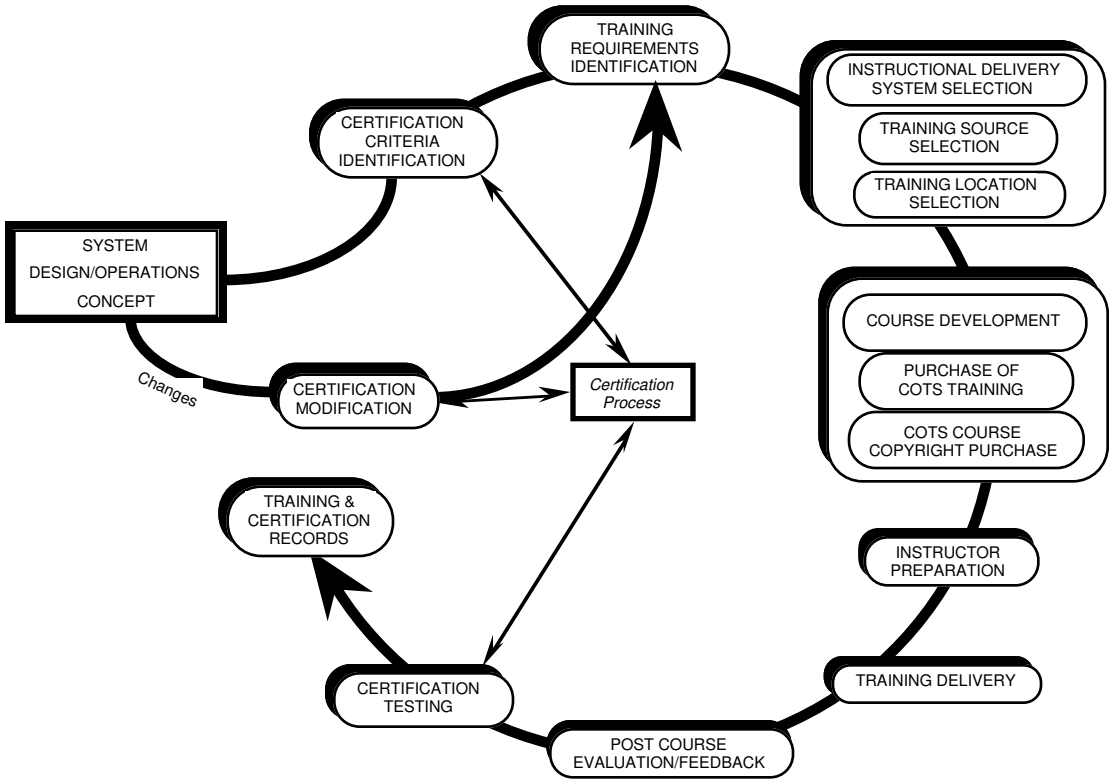

Figure 3-1. M&O Training and Certification Process

The certification process is an important component of the M&O training process. The steps of the certification process are depicted in Figure 3-2.

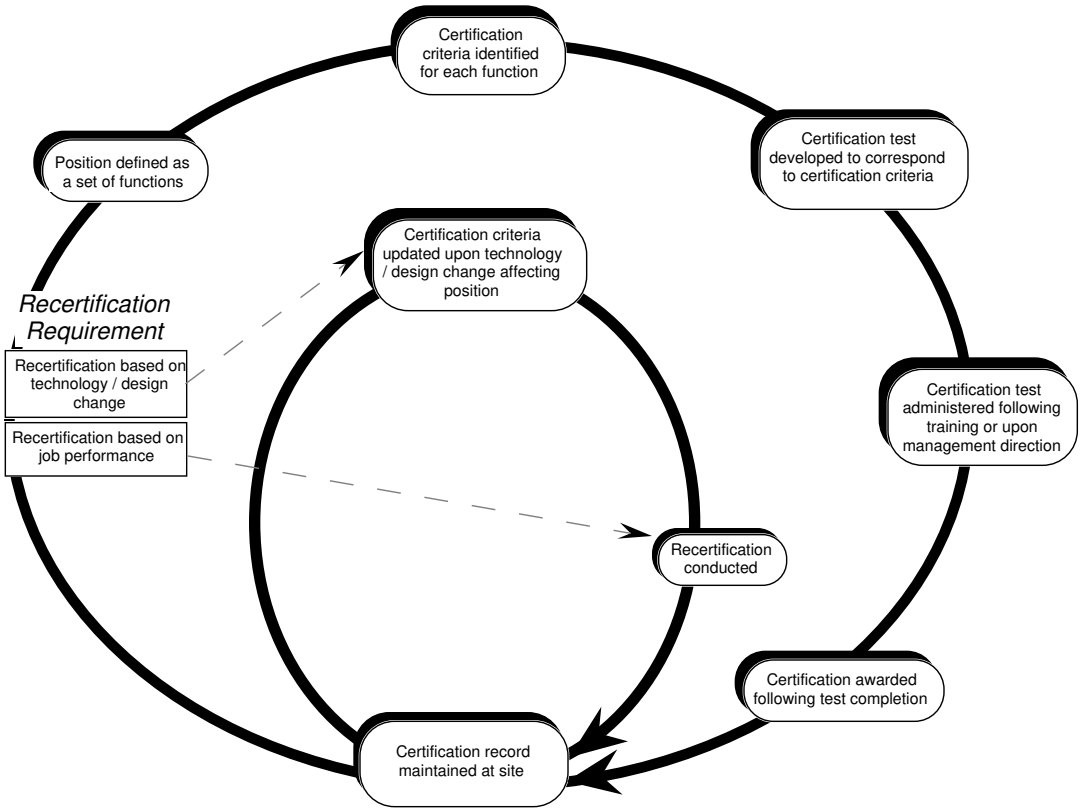

Figure 3-2. M&O Certification Process

3.3.1.1 Certification Criteria Identification

Detailed descriptions of operations and maintenance tasks serve as the basis for identifying certification criteria. Most M&O positions will have at least one of these lists, but in cases where a position encompasses more than one function, additional lists will be developed.

Certification criteria are the skills and knowledge required to reach minimum acceptable performance standards. The Certification Skills Catalog provides a list of skills suggested for M&O Certification. All training and testing will be based on these criteria.

3.3.1.2 M&O Training Requirements Identification

For certain operator positions on the ECS M&O staffs, key tasks will be identified as system critical and will be included in the course training requirements as well as defined in this plan. For personnel in support positions, training requirements will be determined based on job descriptions and the characteristics of the design (i.e. specific subsystem functions and system

components related to the position). Personnel without the requisite skills will attend appropriate training as required.

3.3.1.2.1 Recommended Training Path to Certification

Using the certification criteria and the training requirements identified, a recommended training path to certification will be created for each ECS operations and maintenance position requiring certification. This path will list the lessons recommended to provide the skills necessary to become certified. Not all the lessons in the list will be required for everyone; for instance, an experienced system administrator may not require any training to pass the certification test, while another may require several lessons. The recommended path is intended to assist managers in determining training solutions on an individual basis.

3.3.2 Certification Organization

The certification organization consists of elements of the M&O and DAAC ECS operations staffs. Figure 3-3 below depicts this organization.

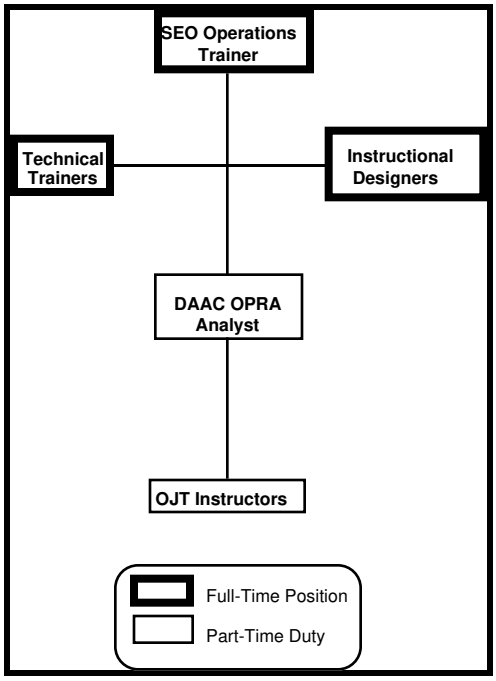

Figure 3-3. Certification Organization

3.3.2.1 SEO Operations Trainer

The SEO Operations Trainer is responsible for the management of the ECS training program. Four full-time positions will provide information and support to this individual. Responsibilities for this position include the following:

- Develop certification skills documentation and plan.
- Implement and manage operator certification as defined in the certification plan.
- Develop curriculum.
- Interface with system development and operations Engineers to obtain technical information.
- Schedule training course conduct.
- Conduct scheduled training courses.
- Supervise the training staff (three to four full time instructors).
- Coordinate all training activities with the DAAC ORPA analysts and SMC management.
- Manage COTS training.

3.3.2.2 DAAC Operations Readiness and Performance Assurance (ORPA) Analyst

The Operations Readiness and Performance Assurance (ORPA) Analyst from each DAAC ECS operations staff will coordinate the training/certification program at the DAAC site with the SEO Operations Trainer. The certification coordination responsibilities of the DAAC (ORPA) Analyst include the following:

- Collecting training requirements for all DAAC ECS operations personnel based on training and certification requirements identified.
- Identifying OJT instructors on the DAAC ECS operations staff and providing them with OJT materials from the SEO ECS training organization.
- Coordinating training classes to be held on site, including arranging classroom space, materials and training equipment; coordinating the use of training equipment consistent with operational requirements, and; compiling class rosters.
- Maintaining training and certification records for DAAC ECS operations personnel and inputting them into ECS.
- Providing student evaluations of training to the SEO ECS Operations Trainer.
- Providing any recommendations from DAAC management for improvements in the training program.

3.3.2.3 Instructional Designers/Trainers

The ECS training organization will include four instructional designers/trainers. Their responsibilities are the following:

- Identify training requirements for instructing ECS M&O functions.
- Develop training materials using instructional system design processes by NASA standards.
- Develop recommended Certification Skills Catalog used by the DAACs to certify operations and hardware maintenance positions.
- Develop course evaluations.
- Develop training and certification tests.
- Assist the SEO Operations Trainer in writing training plans.
- Provide technical instruction.

3.4 Implementation

The certification data will be developed and maintained by the SEO Operations Trainer who will also be responsible for coordinating all training/certification activity with the DAACs OPRA Analyst. The maintenance and operation roles selected for certification will be required to comply with all certification test requirements. The DAACs OPRA Analyst will be responsible for implementing and recording the results for each selected operator.

3.4.1 Certification Testing Policies and Procedures

In most cases, the certification test for an area will be a practical application administered following each training course. Certification testing may additionally be administered by site ORPA. These same tests will be used to determine if M&O personnel are experienced enough to place out of certain training.

3.4.1.1 Recertification

Recertification will be required in the following cases:

- Change in technology or design that impacts operator procedures previously certified (i.e. new system release).
- Demonstrated deficiency in executing an assigned function.

Management will have the option of recertifying without retesting in cases where an individual has been performing adequately in a function, and there has not been any significant design change impacting job duties.

3.4.1.2 Training & Certification Records

DID 525 requires that training and certification records be maintained by the DAAC and made available for NASA inspection. Local site management will be responsible for maintaining the original records of all training and certification conducted. Consolidated course and certification materials will be made available for NASA inspection at the SMC.

3.4.2 ECS Certification Plan Schedule

Delivery and updating the Certification Plan will coincide with delivery of a release. Figure 3-4 reflects projected revision cycles for the Certification Plan.

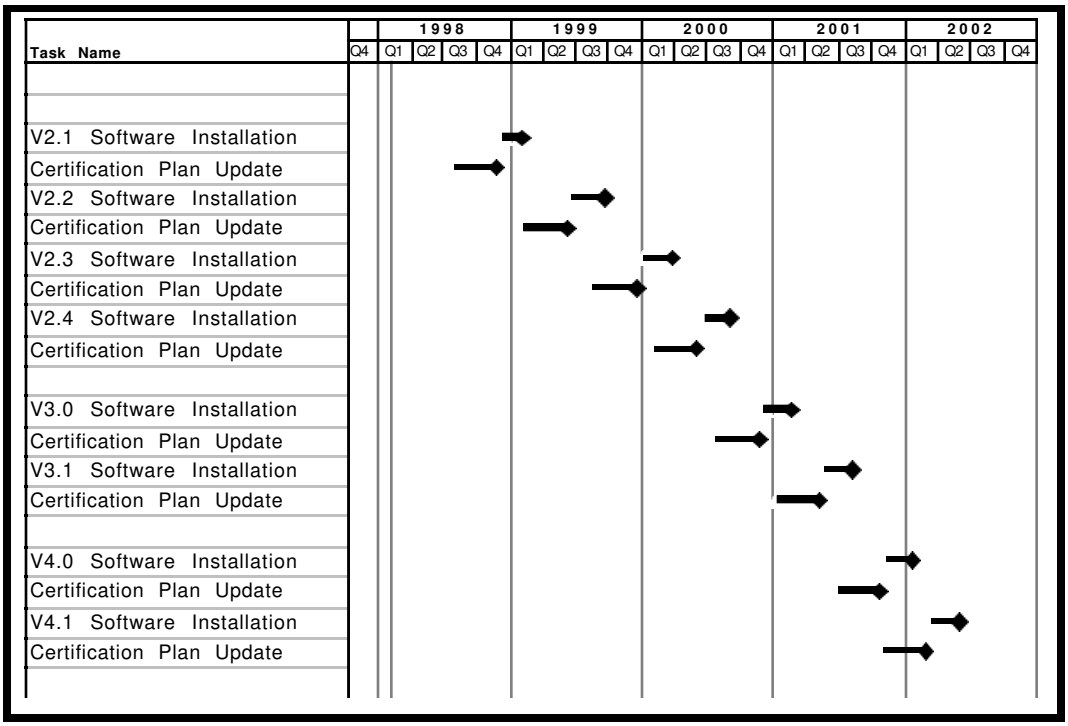

Figure 3-4. Certification Plan Update Schedule

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4. Certification Skills Catalogs

4.1 Certification Skills Catalog Description

This section describes the tasks that are required in order to certify a given operator position. You will notice that each operator skills catalog will list the Skill, Certification Required (Yes or No), Certification Method (Training Course/Performance Test), Date Accomplished, and a place for successful completion of the skill to be initialed by both the administrator and the trainee.

4.1.1 Certification Skills Catalog Criteria

Skill selection and certification method for each selected task will be based on the critical nature of the task. Guidelines for skill selection will adhere to the concept of mission critical. If the skill is deemed critical to the success of the mission because the nature of that skill is such that the actions of an individual operator are capable of having a direct and immediate impact on the progress of the mission, then this skill will be selected for certification. The following guideline questions will be used to determine whether or not the listed task is to be deemed "critical to the success of the mission":

- Will the performance or non-performance of an assigned task result in damage to the equipment?
- Will the performance or non-performance of an assigned task result in loss of data?
- Will the performance or non-performance of an assigned task result in injury to personnel?

If a skill is selected for certification, the path for certification will always include attendance of the appropriate training lesson and successful completion of a test. The test will always be performance oriented. In other words, the trainee will be asked to perform the task while being monitored by the site Operation Readiness and Performance Assurance Analyst (ORPA).

4.1.2 Certification Skills Catalog

DAAC ARCHIVE MANAGER SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Start the AMASS tape archive system.	No				
2. Operate the AMASS in manual mode.	No				
3. Monitor the progress of inserting new data into the archive.	No				
4. Monitor retrieval of data from the archive.	No				
5. Perform automatic and manual loading of archive storage cartridges.	Yes	Training/ Perform Task			
6. Perform back up of AMASS.	Yes	Training/ Perform Task			
7. Replace a full Backup Volume.	Yes	Training/ Perform Task			
8. Manually create a replacement backup for an archive tape.	Yes	Training/ Perform Task			
9. Restore archive data by inserting a backup copy cartridge.	No				
10. Display contents of the AMASS queue.	No				
11. Display AMASS errors log.	No				

DAAC COMPUTER OPERATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Conduct system performance monitoring	No				
2. Perform problem analysis and system troubleshooting to include analysis and troubleshooting of the system, analysis and troubleshooting of COTS hardware and COTS and custom software.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs.	No				
c. Shut down and restart servers.	Yes	Training/ Perform Task			
3. Set up and manage trouble ticket processing, including administrative set-up of user accounts and privileges in Remedy.	No				
4. Diagnose network communication problems.	Yes	Training/ Perform Task			

DAAC CONFIGURATION MANAGEMENT ADMINISTRATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. List the CCBs involved in ECS CM, identify their inter-relationships, and list their responsibilities and functions in ECS CM.	No				
2. Execute the procedure to record, report, document, and distribute a change request.	No				
3. Prepare a request for impact analysis.	No				
4. Execute the procedure to record, report, document, and distribute a software change.	No				
5. Execute the procedure to record, report, document, and distribute a hardware change.	No				
6. Execute the procedure to record, report, document, and distribute a change to the baseline.	No				

DAAC DATABASE ADMINISTRATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Start and shutdown the SQL server.	Yes	Training/ Perform Task			
2. Create user accounts.	No				
3. Grant and revoke access privileges for data retrieval, insertion, deletion and update of objects.	Yes	Training/ Perform Task			
4. Grant and revoke roles for SQL server users groups.	Yes	Training/ Perform Task			
5. Perform database security and auditing.	No				
6. Perform database integrity monitoring.	No				
7. Perform database backups.	Yes	Training/ Perform Task			
8. Perform database recovery.	Yes	Training/ Perform Task			
9. Make database size estimates.	No				
10. Prepare database-unique attributes.	No				
11. Prepare database reports.	No				
12. Perform database tuning and performance monitoring design and indexing.	No				

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
13. Perform database tuning and performance monitoring by responding to queries.	No				
14. Perform database tuning and performance monitoring by monitoring and boosting performance.	No				
15. Maintain the interface file to the SQL server.	No				

DAAC INGEST/DISTRIBUTION TECHNICIAN SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Launch ingest applications.	No				
2. Monitor ingest requests by using the Monitor/Control screen (including suspend/resume, cancel or change priority of ingest requests).	Yes	Training/ Perform Task			
3. View the ingest history log by using the History Log screen.	No				
4. Modify external data provider information.	Yes	Training/ Perform Task			
5. Modify Ingest Subsystem parameters.	Yes	Training/ Perform Task			
6. Transfer files using the Ingest File Transfer screen.	No				
7. Perform troubleshooting and recovery from data ingest failure.	Yes	Training/ Perform Task			
8. Perform hard media ingest from a 4mm or 8mm cartridge.	Yes	Training/ Perform Task			
9. Perform hard media ingest from a D3 tape cartridge.	Yes	Training/ Perform Task			
10. Submit an ingest request using the HTML form.	No				

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
11. Scan a document for document ingest .	No				
12. Launch data distribution applications.	No				
13. Monitor data distribution requests:					
a. Change the priority of distribution requests.	No				
b. Suspend/resume requests.	No				
c. Cancel distribution requests.	No				

DAAC MAINTENANCE COORDINATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Conduct system performance monitoring	No				
2. Perform problem analysis and system troubleshooting to include analysis and troubleshooting of the system, analysis and troubleshooting of COTS hardware and COTS and custom software.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs	No				
c. Shut down and restart servers.	Yes	Training/ Perform Task			
d. Analyze and test hardware connections.	Yes	Training/ Perform Task			
e. Isolate failure to defective part; remove and replace defective part with on-site spare.	Yes	Training/ Perform Task			
f. Install/reinstall COTS software.	No				
3. Set up and manage trouble ticket processing, including administrative set-up of user accounts and privileges in Remedy.	No				
4. Diagnose network communication problems.	Yes	Training/ Perform Task			

DAAC PRODUCTION MONITOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Configure Autosys runtime options.	No				
2. Configure Autosys hardware groups.	No				
3. Review hardware status.	No				
4. Review data processing request (DPR) dependencies.	No				
5. Review DPR timelines.	No				
6. Review and configure AutoSys alarms.	Yes	Training/ Perform Task			
7. Review job activities and job selection criteria.	No				
8. Modify job priority.	Yes	Training/ Perform Task			
9. Modify job status.	Yes	Training/ Perform Task			
10. Review activity and job dependency logs.	No				
11. Generate standard production reports.	No				
12. Generate custom production reports.	No				
13. Generate AutoSys reports.	No				
14. Define and run the browsers.	No				
15. Change database maintenance time.	No				

DAAC PRODUCTION PLANNER SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Create a new production request.	Yes	Training/ Perform Task			
2. Modify an existing production request.	Yes	Training/ Perform Task			
3. Define a production strategy.	No				
4. Create a new production plan.	Yes	Training/ Perform Task			
5. Review data processing requests.	No				
6. Review a production timeline.	No				

DAAC RESOURCE MANAGER SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Prepare a resource reservation request.	No				
2. Edit a resource reservation request.	No				
3. Validate or reject a resource reservation request.	No				
4. Approve resource reservation request.	No				
5. Commit a resource reservation request.	No				
6. Delete a resource reservation request.	No				
7. Review a resource timeline.	No				
8. Generate resource planning reports.	No				
9. Add resources to the resource planning list.	No				
10. Modify resources on the resource planning list.	No				
11. Delete resources from the resource planning list.	No				
12. Synchronize resource listings	No				

DAAC RESOURCE PLANNER SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Prepare a resource reservation request.	No				
2. Edit a resource reservation request.	No				
3. Validate or reject a resource reservation request.	No				
4. Approve resource reservation request.	No				
5. Commit a resource reservation request.	No				
6. Delete a resource reservation request.	No				
7. Review a resource timeline.	No				
8. Generate resource planning reports.	No				
9. Add resources to the resource planning list.	No				
10. Modify resources on the resource planning list.	No				
11. Delete resources from the resource planning list.	No				
12. Synchronize resource listings	No				

DAAC SYSTEM ADMINISTRATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Startup/shutdown entire ECS. a. Shutdown and restart a single subsystem.	Yes	Training/ Perform Task			
2. Label and index a tape cartridge	Yes	Training/ Perform Task			
3. Backup Administrative data. a. Incremental b. Full	Yes Yes	Training/ Perform Task Training/ Perform Task			
4. Restore Administrative data.	No				
5. Review and modify system logs.	No				
6. Create, modify, delete user accounts	No				
7. Check, assign, modify access privileges	No				
8. Install, configure and test a new workstation.	No				
9. Determine and resolve a security breach.	No				
10. Install, configure, and test DCE software.	No				
11. Identify the major elements of the local network topology.	No				

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
12. Start and end Network Node Manager	No				
13. Add/delete objects from the network map.	No				
14. View current network and system configuration	No				
15. Configure the agent system to display fault status, monitor system performance, generate reports, and provide alerts	No				
16. Conduct system performance monitoring	No				
17. Perform problem analysis and system troubleshooting.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs	No				
c. Shut down and restart servers.	Yes	Training/ Perform Task			
d. Analyze and test hardware connections.	Yes	Training/ Perform Task			
e. Install/reinstall COTS software.	No				
18. Add users to Remedy.	No				
19. Diagnose network communication problems.	Yes	Training/ Perform Task			

DAAC SCIENCE COORDINATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Acquire and unpack a DAP.	No				
2. Put text files under configuration management using ClearCase.	No				
3. Prepare ESDTs for use on ECS.	No				
4. Operate the SSIT GUI.	No				
5. Verify source files are compliant with the ESDIS Data Production Software standards and guidelines document.	No				
6. Compile PGEs and link to the SCF/DAAC version of the SDP toolkits.	No				
7. Run a PGE executable in a simulated SCF environment.	No				
8. Examine the PGE produced log files from the run in the simulated SCF environment.	No				
9. Perform HDF, ASCII and binary comparison using the SSIT GUI and or hdiff.	No				

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
10. Update the PDPS by inserting Science ESDT metadata, science PGE metadata, and operational metadata into the PDPS Database.	No				
11. Subscribe to input and output data granules	No				
12. Submit a production request to run a PGE.	No				
13. Schedule and activate a PR.	No				
14. Monitor a PGE using AutoSys.	No				
15. Locate and examine data products and production history files.	No				

DAAC USER SERVICES REPRESENTATIVE SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Perform user account management.	No				
a. Retrieve a user account.					
b. Create a user account	No				
c. Create an account from URL registration	No				
d. Edit/modify an existing account.	Yes	Training/ Perform Task			
e. Delete an ECS account.	Yes	Training/ Perform Task			
f. Cancel an ECS account.	Yes	Training/ Perform Task			
g. Change an ECS user's password.	No				
2. Process an order:					
a. Create a user contact log entry.	No				
b. Retrieve user information.	No				
c. Locate data using the search and order tool.	No				
d. Confirm the order.	Yes	Training/ Perform Task			
e. Order the data.	Yes	Training/ Perform Task			

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
f. Update the user contact log.	Yes	Training/ Perform Task			
3. Perform the functions required to cancel an order.	No				
4. Perform the functions required to support fulfilling subscriptions:					
a. Fulfill a one-time subscription	No				
b. Fulfill an open-ended subscription.	No				
c. Returning a list of subscriptions.	No				
d. Canceling a subscription.	No				
5. Perform a cross-DAAC referral.	No				
6. Perform a cross-DAAC order tracking.	No				
7. (EDC Only) Perform operations related to creation and modification of a Data Acquisition Request (DAR):					
a. Prepare and submitting a DAR.	Yes	Training/ Perform Task			
b. Modifying an existing DAR.	Yes	Training/ Perform Task			

SMC SYSTEM ADMINISTRATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Startup and shutdown entire ECS. a. Shutdown and restart a single subsystem.	Yes	Training/ Perform Task			
2. Label and index a tape cartridge	Yes	Training/ Perform Task			
3. Backup Administrative data. a. Incremental b. Full	Yes	Training/ Perform Task			
4. Restore Administrative data.	No				
5. Review and modify system logs.	No				
6. Create, modify, delete user accounts	No				
7. Check, assign, modify access privileges	No				
8. Install, configure and test a new workstation.	No				
9. Determine and resolve a security breach.	No				
10. Install, configure, and test DCE software.	No				
11. Identify the major elements of the local network topology.	No				
12. Start and end Network Node Manager	No				

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
13. Add/delete objects from the network map.	No				
14. View current network and system configuration	No				
15. Configure the agent system to display fault status, monitor system performance, generate reports, and provide alerts	No				
16. Conduct system performance monitoring	No				
17. Perform problem analysis and system troubleshooting.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs	No				
c. Shut down and restart servers.	Yes	Training/ Perform Task			
d. Analyze and test hardware connections.	Yes	Training/ Perform Task			
e. Install/reinstall COTS software.	No				
18. Add users to Remedy.	No				
19. Diagnose network communication problems.	Yes	Training/ Perform Task			

SMC COMPUTER OPERATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Conduct system performance monitoring	No				
2. Perform problem analysis and system troubleshooting.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs.	No				
c. Shut down and restart servers.	Yes	Training/ Perform Task			
3. Add users to Remedy.	No				
4. Diagnose network communication problems.	Yes	Training/ Perform Task			

SMC FAULT MANAGER SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Conduct system performance monitoring	No				
2. Perform problem analysis and system troubleshooting.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs	No				
c. Use HP OpenView and Tivoli, view error and fault notifications, view resource status, use log browser to view history log, and run diagnostics and view results.	No				
d. Shut down and restart servers.	Yes	Training/ Perform Task			
e. Analyze and test hardware connections.	Yes	Training/ Perform Task			
f. Install/reinstall COTS software.	No				
3. Add users to Remedy.	No				
4. Diagnose network communication problems.	Yes	Training/ Perform Task			

SMC MAINTENANCE COORDINATOR SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Conduct system performance monitoring	No				
2. Perform problem analysis and system troubleshooting.					
a. Perform system reboot.	Yes	Training/ Perform Task			
b. Retrieve and review system logs	No				
c. Shut down and restart servers.	Yes	Training/ Perform Task			
d. Analyze and test hardware connections.	Yes	Training/ Perform Task			
e. Isolate failure to defective part; remove and replace defective part with on-site spare.	Yes	Training/ Perform Task			
f. Install/reinstall COTS software.	No				
3. Add users to Remedy.	No				
4. Diagnose network communication problems.	Yes	Training/ Perform Task			

SMC NETWORK ANALYST SKILLS CATALOG

SKILL	CERT. REQUIRED (Yes or No)	CERT. METHOD	DATE	CERT. INITIAL	TRAINEE INITIAL
1. Start and end Network Node Manager	No				
2. Add/delete objects from the network map.	No				
3. View current network and system configuration	No				
4. Configure the agent system to display fault status, monitor system performance, generate reports, and provide alerts	No				
5. Conduct system performance monitoring	No				
6. Perform problem analysis and system troubleshooting.					
a. Retrieve and review system logs	No				
b. Use HP OpenView, view error and fault notifications, view resource status, use log browser to view history log, and run diagnostics and view results.	No				
c. Analyze and test hardware connections.	Yes	Training/ Perform Task			
7. Diagnose network communication problems.	Yes	Training/ Perform Task			

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