Appendix A. Activities/Scenarios/L3 Requirements

Sect	Activities/Scenarios	Req. #	Req. Text
4.1	Systems Operations Management Activities		
4.1.1	Computer System Administration Activities		
4.1.1.1	Computer System Administration Backup Scenario	EOSD0500	ECS shall perform the following major functions: k. System Management
		EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the function of: a. System Management f. System Maintenance
		IMS0240	The IMS shall provide, at a minimum, data base administration utilities for: e. On-line incremental backup
4.1.2	Configuration Management Activities		
4.1.2.1	COTS HW Problem Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.
		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC4311	The SMC shall have the capability to perform fault analysis to the level of, at a minimum: a. Subsystem b. Equipment
4.1.2.2	HW Emergency Change Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.

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4.1.2.2 cont.		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
4.1.2.3	COTS SW Problem Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.
		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
4.1.2.4	Custom SW Problem Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.
		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC3390	The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions.
4.1.2.5	COTS SW Upgrade Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.
		SMC2110	The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an element's: a. Operational status b. Resource allocation c. Upgrade

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4.1.2.6	System Enhancement Scenario	EOSD0500	ECS shall perform the following major functions: k. System Management
		EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.
		SMC2110	The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an element's: a. Operational status b. Resource allocation c. Upgrade
		SMC2510	The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment.
		SMC2530	Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software.
		SMC2540	Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment.
4.1.3	Fault Management Activities		
4.1.3.1	Intermittent CPU Failure Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		IMS1760	The IMS shall send detected hardware faults to the SMC, to include at minimum: a. IMS processors b. IMS network interfaces
		SMC2210	The SMC shall coordinate with each site element in the management of off-site corrective hardware and systems software maintenance.
		SMC2220	The SMC shall monitor hardware and systems software maintenance status for off-site repair actions.
		SMC4310	The SMC shall perform fault analysis including, at a minimum: a. Isolation b. Location c. Identification d. Characterization

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		SMC4311	The SMC shall have the capability to perform fault analysis to the level of, at a minimum: a. Subsystem b. Equipment
		SMC4320	SMC shall support fault diagnosis testing to include, at a minimum: a. Software and hardware tolerance testing b. Resource-to-resource connectivity testing
		SMC4330	SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations.
4.1.3.2	User Notes Performance Degradation Scenario	EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		SMC3390	The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions.
		SMC4300	The SMC shall generate, as needed, requests for performance testing that includes, at a minimum: a. Resource to be tested b. Test purpose c. Requested test priority d. Required test environment e. Impacts to operations f. Expected test results
		SMC4310	The SMC shall perform fault analysis including, at a minimum: a. Isolation b. Location c. Identification d. Characterization
		SMC4320	SMC shall support fault diagnosis testing to include, at a minimum: a. Software and hardware tolerance testing b. Resource-to-resource connectivity testing
		SMC4330	SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations.
		EOSD0500	ECS shall perform the following major functions: j. End-to-End Fault Management
		EOSD2990*	The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system.

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		DADS1100	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
		DADS1160	Each DADS shall provide the IMS with metadata reflecting changes as a result of: c. Unexpected loss
		DADS1300	Each DADS shall display all faults to the system operators.
		DADS1310	Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.
		DADS1320	Each DADS shall provide to the SMC fault isolation information at the DADS system and subsystem levels.
		DADS1330	Each DADS shall provide information to support fault isolation between the DADS and other ECS-unique elements and external interfaces to the LSM.
		IMS0455	The IMS shall accept and validate new metadata from the DADS reflecting changes as a results of: a. Purges b. Transfers c. Unexpected loss* d. Restoration of data after recovery from loss*
		SMC2100	The SMC shall have the capability to generate and send ground operations (i.e., non-instrument related) events to sites and elements for implementation. Ground operations events include, at a minimum, action associated with: a. Configuring element resources b. Fault recovery* c. Security d. Maintenance e. Testing f. Simulations g. Logistics h. Training i. Accounting and accountability j. General request for information
4.1.4	Performance Management Activities		
4.1.4.1	Operations Support Scenario	EOSD0720	Each ECS element shall be able to validate at any time during the life-time of the ECS that the ECS element primary functional performance is consistent with pre-defined operational benchmark tests.

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		SMC3305	The LSM shall monitor its elementÕs hardware, and scientific and system software status to determine their operational states including, at a minimum : a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC3315	The LSM shall monitor its element's schedule and execution of events.
		SMC3325	The LSM shall monitor execution of ground operations events.
		SMC3335	The LSM shall compare and evaluate its element's actual schedule performance against planned schedule performance.
		SMC3355	The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance.
		SMC3375	For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: a. On/off b. Pass/fail c. Various levels of degradation
		SMC3385	The LSM shall evaluate system performance against the ESDIS project established performance criteria.
		SMC3395	The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions.
		SMC2110	The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an element's: a. Operational status b. Resource allocation c. Upgrade
		SMC3320	The SMC shall monitor execution of ground operations events.
4.1.4.2	Preparing for New Algorithm	SMC8305	The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element.
		SMC8705	The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element.

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		SMC3335	The LSM shall compare and evaluate its element's actual schedule performance against planned schedule performance.
		SMC3375	For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: a. On/off b. Pass/fail c. Various levels of degradation
		SMC3385	The LSM shall evaluate system performance against the ESDIS project established performance criteria.
		SMC3395	The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions.
		SMC3320	The SMC shall monitor execution of ground operations events.
4.1.4.3	Trending Scenario	SMC3415	The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item)
		SMC3320	The SMC shall monitor execution of ground operations events.
		SMC3330	The SMC shall compare and evaluate system-wide, site, and element actual schedule performance against planned schedule performance
		SMC3410	The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item)
4.1.4.4	Performance Test Generation Request	SMC3397	The LSM shall generate, as needed, requests for performance testing, including, at a minimum: a. Resource to be tested b. Test purpose c. Requested test priority d. Required test environment e. Impacts to operations f. Expected test results
		SMC3310	The SMC shall monitor each element's schedule and execution of events.

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		SMC3320	The SMC shall monitor execution of ground operations events.
		SMC3330	The SMC shall compare and evaluate system-wide, site, and element actual schedule performance against planned schedule performance
		SMC3350	The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as: a. Data collection b. Product generation, QA and validation c. Reprocessing d. Data delivery to DAACs and to users e. Response to user requests f. Response to TOOs g. Response to field experiments h. Response to emergency situations
4.1.4.5	Cross DAAC Problem Detection Scenario	SMC-3390	The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions.
		SMC-3395	The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions.
		ESN-0810	ESN shall provide the following fault management functions at a minimum: a. detect the occurrence of faults, b. control the collection of fault information, and c. diagnose the probable cause of a detected fault
		SMC-1000	The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for: a. Capturing, by an application, of management data b. Exchanging management data between a managed application and its management agent c. Exchanging management data between a management agent and the LSM d. Performing analyses and generating reports using management data
		SMC-3390	The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions.
		SMC-3395	The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions.

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		ESN-0810	ESN shall provide the following fault management functions at a minimum: a. detect the occurrence of faults, b. control the collection of fault information, and c. diagnose the probable cause of a detected fault
		ESN-0800	The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility.
		ESN-1710	ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following: a. Directories b. Product Orders c. Order Status d. Science Data e. Management Data
		SMC-4310	The SMC shall perform fault analysis including, at a minimum: a. Isolation b. Location c. Identification d. Characterization
		EOSD3000	The ECS shall provide for security safeguards to cover unscheduled system shutdown (aborts) and subsequent restarts, as well as for scheduled system shutdown and operational startup.
		PGS-0370	The PGS shall utilize the LSM to generate a PGS resource utilization report.
		SMC-3415	The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item)
		SMC-8860	The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum: a. Fault type and description b. Time of occurrence of fault c. Effect on system d. Status of fault resolution e. Fault statistics

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		SMC-8840	The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum: a. Resource availability b. Reason for down time c. Resource utilization d. Ability of resource to meet performance criteria e. Short and long-term trend analysis and capacity planning results
		SMC-8710	The SMC shall have the capability to generate summary configuration status reports that includes, at a minimum: a. Current status of all hardware, system and scientific software b. Reason why item not currently operational.
		ESN-0760	The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information.
		PGS-0430	The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements.
		ESN-0010	ESN shall provide the following standard services: a. Data Transfer and Management Services b. Electronic Messaging Service c. Remote Terminal Service d. Process to Process Communication Service e. Directory and User Access Control Service f. Network Management Service g. Network Security and Access Control Service h. Internetwork Interface Services i. Bulletin Board Service
		ESN-0210	The ESN management function shall have a capability to obtain status on specific data flows to assure the successful operation of ESN.
		ESN-0620	The ESN shall include a network management function to monitor and control the ESN.
		SMC-3385	The LSM shall evaluate system performance against the ESDIS project established performance criteria.
		SMC-3380	The SMC shall evaluate overall system performance.
		SMC-3335	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.

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		SMC-3330	The SMC shall compare and evaluate system-wide, site, and element actual schedule performance against planned schedule performance.
		SMC-3325	The LSM shall monitor execution of ground operations events.
		SMC-3320	The SMC shall monitor execution of ground operations events.
		SMC-3315	The LSM shall monitor its elements schedule and execution of events.
		SMC-3305	The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC-3300	The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		EOSD0500	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling b. EOS Mission Operations c. Command and Control d. Communications and Networking e. Data Input f. Data Processing g. Data Storage h. Data Distribution i. Information Management j. End-to-End Fault Management k. System Management
		EOSD0780	Each ECS element shall be capable of being monitored during testing.
		ESN-1060	The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities.

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		ESN-0790	The ESN shall include the following configuration management functions at a minimum: a. collect information describing the state of the network subsystem and its communications resources, b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected, c. store the configuration information collected, and d. display the configuration information
		SMC-3397	The LSM shall generate, as needed, requests for performance testing, including, at a minimum: a. Resource to be tested b. Test purpose c. Requested test priority d. Required test environment e. Impacts to operations f. Expected test results
		SMC-3400	The SMC shall generate, as needed, requests for performance testing that includes, at a minimum: a. Resource to be tested b. Test purpose c. Requested test priority d. Required test environment e. Impacts to operations f. Expected test results
		ESN-1000	The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical.
		SMC-3410	The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item)
		SMC-3420	The SMC shall perform short and long term trend analysis of system, site, and element performance to determine the impact on resources of, at a minimum: a. Modifying system, site, or element activity allocations b. Potential enhancements to system, site, or element

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4.1.5	Security and Accountability Activities		
4.1.5.1	Security Management Scenario	SMC6310	The SMC shall perform, as needed, security audit trails.
		SMC5305	The LSM shall maintain security policies and procedures, including, at a minimum: a. Physical security b. Password management c. Operational security d. Data classifications e. Access/privileges f. Compromise mitigation
		SMC5325	The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges.
		SMC5335	The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking.
		SMC5345	The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection.
		SMC5355	The LSM shall isolate the compromised area, detach the compromised input I/O, and the compromised areaÕs output I/O until the compromise has been eliminated
		SMC5365	The LSM shall generate recovery actions in response to the detection of compromises.
4.1.5.2	Accountability Management Scenario	PGS0310	The PGS element shall collect the management data used to support the following system management functions: c. Accounting Management d. Accountability Management
		PGS0360	The PGS shall generate a PGS processing log that accounts for all data processing activities.
		PGS0430	The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements.
		SMC6320	The SMC shall perform, as needed, data and user audit trails.
		SMC6330	The SMC shall establish, maintain, and update a data tracking system that , at a minimum: a. Tracks data transport from system input to system output b. Allows the status of all product-production activities to be determined
		SMC6340	The SMC shall track system configuration that at a minimum, audits: a. Hardware resources b. Software resource

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		SMC6360	The SMC shall maintain ESDIS project authorized billing algorithms and rates used to calculate resource utilization costs.
		SMC6370	The SMC shall make the billing algorithms available to other elements for the purpose of informing science users of the cost of ECS services.
		SMC6380	The SMC shall calculate the resource units costs associated with processing information from system input to system output.
		SMC6390	The SMC shall establish, maintain, and update resource utilization account information for, at a minimum: a. Individuals b. Groups c. Processes
		SMC7300	The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. User identifications b. Addresses c. Allowed privileges
4.1.6	Resource and Planning Activities		
4.1.6.1	Planning Production Resources Scenario	EOSD0500	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling
		EOSD1500	ECS shall interface with the EOS spacecraft and with the EOS instruments in order to perform mission operations, including planning, scheduling, commanding, and monitoring functions.
		PGS0140	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
		PGS0240	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
		PGS0250	The PGS shall schedule product generation when all inputs required to generate a Standard Product for which there is a current order (from IMS) are available. Entries in the schedule shall contain, at a minimum: a. The product to be generated b. The specific algorithms()s) and calibration coefficients to be used c. The specific data sets needed and their sizes d. Priorities and deadlines that apply to the order for the product
		PGS0260	The PGs shall schedule other functions, including, at a minimum: a. File backups b. File maintenance c. Calibration data handling

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		PGS0270	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of task e. Request and verify the staging and/or destaging of data stored in the DADS
		DADS1470	Each DADS shall manage element resource utilization.
		DADS2120	The DADS shall have access to the system wide scheduling information. Such information includes, at a minimum, ESDIS Policies and Procedures regarding instrument and ground event scheduling, other element plans and schedules, element allocations of ground event functions and capabilities, product thread information, and scheduling directives for testing, maintenance, and emergency situations.
		DADS2210	Each DADS shall provide tools for the creation and manipulation of its plans/schedules.
		DADS2220	Each DADS shall provide tools for manually overriding any of its schedules with other elements.
		DADS2230	Each DADS shall inform the collocated PGS of any anticipated resource availability conflicts.
		SMC1310	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.
		SMC1320	The SMC shall support and maintain priorities used in scheduling ground events.
		SMC1330	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information
		SMC1340	The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element integration, testing, and simulation activities.
		SMC1350	The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element maintenance activities.
4.1.6.2	Planning Ingest Resources Scenario	EOSD0500	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling
		EOSD1500	ECS shall interface with the EOS spacecraft and with the EOS instruments in order to perform mission operations, including planning, scheduling, commanding, and monitoring functions.

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		DADS2120	The DADS shall have access to the system wide scheduling information. Such information includes, at a minimum, ESDIS Policies and Procedures regarding instrument and ground event scheduling, other element plans and schedules, element allocations of ground event functions and capabilities, product thread information, and scheduling directives for testing, maintenance, and emergency situations.
		DADS2210	Each DADS shall provide tools for the creation and manipulation of its plans/schedules.
		SMC1310	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.
		SMC1320	The SMC shall support and maintain priorities used in scheduling ground events.
		SMC1330	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information
		SMC1340	The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element integration, testing, and simulation activities.
		SMC1350	The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element maintenance activities.
4.1.6.3	Schedule Adjudication Scenario	EOSD0500	ECS shall perform the following major functions: a. EOS Mission Planning and Scheduling
		EOSD1500	ECS shall interface with the EOS spacecraft and with the EOS instruments in order to perform mission operations, including planning, scheduling, commanding, and monitoring functions.
		EOSD1490	ECS elements shall interface with the resident EOS Project Scientist for resolution of conflicts between observation of equal priority.
		PGS0285	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.
		PGS0290	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.
		PGS0295	The PGS shall transmit a status message notifying the IMS of a revised completion time if processing will not complete per original schedule.
		DADS2010	Each DADS shall receive schedule adjudication directives from the SMC.

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		DADS2120	The DADS shall have access to the system wide scheduling information. Such information includes, at a minimum, ESDIS Policies and Procedures regarding instrument and ground event scheduling, other element plans and schedules, element allocations of ground event functions and capabilities, product thread information, and scheduling directives for testing, maintenance, and emergency situations.
		DADS2230	Each DADS shall inform the collocated PGS of any anticipated resource availability conflicts.
		IMS1030	The IMS shall accept from the SMC and provide to the requester, conflict resolution, which shall contain the following information at a minimum: a. Request identification b. Data type c. Priority modifications d. Account balance modifications e. Information on when request will be serviced f. SMC contact point
		SMC1500*	The SMC shall perform schedule conflict analysis and resolution services in response to a schedule conflict involving sites, ECS elements, or external elements, agencies, or organizations, except for conflicts associated with flight operations.
4.1.6.4	Bad Data Scenario	EOSD2990	The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system.
		PGS0310	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management
		DADS2120	The DADS shall have access to the system wide scheduling information. Such information includes, at a minimum, ESDIS Policies and Procedures regarding instrument and ground event scheduling, other element plans and schedules, element allocations of ground event functions and capabilities, product thread information, and scheduling directives for testing, maintenance, and emergency situations.

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		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC2110	The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an element's: a. Operational status b. Resource allocation c. Upgrade
		SMC6390	The SMC shall establish, maintain, and update resource utilization account information for, at a minimum: a. Individuals b. Groups c. Processes
4.1.7	Resource Management and Logistics Management Activities		
4.1.7.1	Software Distribution Scenario	SMC2205	The LSM shall support on-site preventive and corrective hardware and systems software maintenance.
		SMC2505	The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element.
		SMC2515	The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system.
		SMC2535	Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software.

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		SMC2500	The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum: a. Hardware or software identification numbers b. Version numbers and dates c. Manufacturer d. Part number e. Serial number f. Name and locator information for software maintenance g. Location where hardware or software is used
		SMC2510	The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment.
4.1.7.2	Installation of SW Upgrade Scenario	SMC2105	The LSM shall convey ground operations (i.e., non-instrument related) events to sites or elements for implementation. Ground operations events include, at a minimum, actions associated with: a. Configuring element resources b. Fault recovery c. Security d. Maintenance e. Testing f. Simulations g. Logistics h. Training classes i. Accounting and accountability j. General requests for information
		SMC2115	The LSM shall convey for site or element implementation, the managerial and operational directives regarding the allocation or upgrade of any element's hardware and scientific and systems software.
		SMC2110	The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an element's: a. Operational status b. Resource allocation c. Upgrade

Sect	Activities/Scenarios	Req. #	Req. Text
		SMC2510	The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment.
		SMC2530	Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software.
		SMC2540	Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment.
4.1.7.3	Data Processing Host Routine Maintenance Scenario	DADS1470	Each DADS shall manage element resource utilization.
		IMS0250	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information
		IMS0240	The IMS shall provide, at a minimum, data base administration utilities for:
		IMS0350	The IMS shall provide the capability for authorized personnel to add, delete, or modify ECS metadata entries, individually or in groups.
		SMC2100	The SMC shall have the capability to generate and send ground operations (i.e., non-instrument related) events to sites and elements for implementation. Ground operations events include, at a minimum, action associated with: a. Configuring element resources b. Fault recovery c. Security d. Maintenance e. Testing f. Simulations g. Logistics h. Training i. Accounting and accountability j. General request for information
4.1.7.4	Tracking a Corrective Maintenance Scenario	SMC2205	The LSM shall support on-site preventive and corrective hardware and systems software maintenance.

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		SMC2515	The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system.
		SMC2535	Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software.
4.1.7.5	Adding/Updating Inventory Asset Record Scenario	SMC2505	The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element.
		SMC2515	The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system.
		SMC2535	Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software.
4.1.7.6	Cross-DAAC Software Upgrade Coordination Scenario	SMC1300	The SMC shall support and maintain the ECS policies and procedures regarding instrument and ground event scheduling, including, at a minimum: a. Mission and science guidelines b. Directives for scheduling instrument data ingest, processing, reprocessing, retrieval, and data distribution
		SMC1310	The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element.
		SMC1320	The SMC shall support and maintain priorities used in scheduling ground events.
		SMC1340	The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element integration, testing, and simulation activities.
		SMC1350	The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element maintenance activities.
		SMC1500	The SMC shall perform schedule conflict analysis and resolution services in response to a schedule conflict involving sites, ECS elements, or external elements, agencies, or organizations, except for conflicts associated with flight operations.
		SMC1600	The SMC shall receive product generation schedules from the DAACs and analyze the schedules for cross-DAAC dependencies (e.g., inputs that must be generated and provided by one DAAC before a product can be generated at another DAAC)

Sect	Activities/Scenarios	Req. #	Req. Text
		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC3305	The LSM shall monitor its element's hardware, and scientific and system software status to determine their operational states including, at a minimum : a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
4.1.7.7	Operational System and Test Activity Run in Parallel Scenario	SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC3305	The LSM shall monitor its element's hardware, and scientific and system software status to determine their operational states including, at a minimum : a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
		SMC3325	The LSM shall monitor execution of ground operations events.
4.1.7.8	Mode Management Support	EOSD0510	ECS shall be capable of being tested during all phases of its development and flight operations.
		EOSD0630	ECS shall be capable of simultaneously supporting the Independent Verification and Validation (IV & V) activities and ECS development activities, both before and after flight operations begin.
		EOSD0700	Each ECS element shall provide the following, to be used in the revalidation of its functional performance: a. Benchmark test(s) b. Standard test data sets.

Sect	Activities/Scenarios	Req. #	Req. Text
		EOSD0710	Each ECS element shall provide access to the following items used in the checkout and verification process: a. Stored data test sets. b. Stored test plans c. Stored test procedures
		SDPS0140	The SDPS shall support element, system, and subsystem test activities throughout the development phase.
4.1.8	Accounting and Billing Activities		
4.1.8.1	Billing and Invoicing a User Scenario	DADS0880	For data which it has distributed, each DADS, via the LSM, shall generate required accounting information.
		DADS0890	Each DADS shall generate resource utilization statistics (accounting data) as input to the billing process. The statistics include at a minimum: a. Standing order/data distribution request number b. Media cost c. CPU utilization d. I/O utilization e. Personnel costs f. Shipping/handling g. Networking cost h. Archival storage cost
		DADS0901	The DADS element shall collect the management data used to support the following system management functions: c. Accounting Management
		IMS1340	The IMS shall, using information provided by the SMC, provide the capability for users to preview billing costs for EOSDIS data products prior to order submission.
		IMS1350	The IMS shall provide the capability for users to preview billing costs, which are based upon MOUs with the ADC and non-EOSDIS data centers, prior to ADC and non-EOSDIS data product order submission.
		IMS1360	The IMS shall provide the capability for users to request and receive the current status of their account balance.
		IMS1370	The IMS shall present account status reports prepared by the SMC to requesters.
		SMC6400	The SMC shall generate invoices, including billing information for ECS.
		SMC6410	The SMC shall perform on a periodic basis the generation and distribution of bills.
		SMC6420	The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS.

Sect	Activities/Scenarios	Req. #	Req. Text
4.1.8.2	Receiving and Posting Science User Payments to User Accounts Scenario	SMC6420	The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS.
		IMS1360	The IMS shall provide the capability for users to request and receive the current status of their account balance.
		IMS1370	The IMS shall present account status reports prepared by the SMC to requesters.
4.2	Science Operations Activities		
4.2.1	Science Data Ingest Activities		
4.2.1.1	Automated Network Ingest Scenario	EOSD0030	ECS shall, during its lifetime, ingest, archive, distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products.
		EOSD1720	ECS elements shall receive from the ECS user community the following types of data request at a minimum: a. Data Acquisition Requests
		SDPS0020	The SDPS shall receive EOS science, engineering, ancillary, and quick-look data from the EDOS, the SDPF, and the IPs, and non-EOS data, in situ data, associated algorithms, documentation, correlative data, and ancillary data (as listed in Appendix C) from ADCs, EPDSs, and ODCs.
		DADS0475	The DADS shall provide storage for the following TRMM data: a. L0-L4 equivalent data products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms
4.2.1.2	Polling Ingest with Delivery Record Scenario	SDPS0100	The SDPS shall be responsible for delivery of EOS data and data products to the IPs, the ADCs, the ODCs, and the other science users via EOSDIS networks and on a variety of physical media.
		DADS0690	Each DADS shall support the prioritized retrieval and delivery of data based on the priority information specified in the data retrieval request.
		IMS-0670	The IMS shall provide the capability to accept, validate, and fill orders from users for periodic delivery of information stored at the IMS.
4.2.1.3	Polling Ingest without Delivery Record Scenario	EOSD0030	ECS shall, during its lifetime, ingest, archive, distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products.

Sect	Activities/Scenarios	Req. #	Req. Text
		SDPS0020	The SDPS shall receive EOS science, engineering, ancillary, and quick-look data from the EDOS, the SDPF, and the IPs, and non-EOS data, in situ data, associated algorithms, documentation, correlative data, and ancillary data (as listed in Appendix C) from ADCs, EPDSs, and ODCs.
		DADS0475	The DADS shall provide storage for the following TRMM data: a. L0-L4 equivalent data products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms
4.2.1.4	Hard Media Ingest Scenario	SDPS0100	The DPS shall be responsible for delivery of EOS data and data products to the IPs, the ADCs, the ODCs, and the other science users via EOSDIS networks and on a variety of physical media.
		SDPS0020	The SDPS shall receive EOS science, engineering, ancillary, and quick-look data from the EDOS, the SDPF, and the IPs, and non-EOS data, in situ data, associated algorithms, documentation, correlative data, and ancillary data (as listed in Appendix C) from ADCs, EPDSs, and ODCs.
		DADS0070	Each DADS shall provide the capability of scanning or digitizing hardcopy input for the purpose of archiving documents.
		DADS0250	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
4.2.1.5	Interactive Network Ingest Scenario	IMS0260	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
		IMS0740	The IMS shall provide the capability for users to generate and update requests for one-time orders or standing orders for the DADS to distribute DADS archive holdings to include, at a minimum, Standard Products, Standard Product software, EOC historical data, spacecraft housekeeping and ancillary data, and engineering data.
		IMS0750	The IMS shall provide the capability for the user to order Standard Product software and associated documentation in accordance with EOSDIS distribution criteria.

Sect	Activities/Scenarios	Req. #	Req. Text
4.2.1.6	Version 0 Data Ingest Scenario	SDPS0020	The SDPS shall receive EOS science, engineering, ancillary, and quick-look data from the EDOS, the SDPF, and the IPs, and non-EOS data, in situ data, associated algorithms, documentation, correlative data, and ancillary data (as listed in Appendix C) from ADCs, EPDSs, and ODCs.
		SDPS0085	The SDPS shall support data products transitioned from V0 at a level of service equal to or greater than the level of service provided for those same data products by V0. The levels of service are defined in Appendix C of the ESDIS Project Level 2 Requirements, Volume 5 EOSDIS Version 0.
		DADS0465	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms
4.2.1.7	Bad Data Scenario	PGS0320	The PGS shall display detected faults to the system operators.
		PGS-0330	The PGS shall report detected processing system faults to the SMC.
		PGS-0340	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
		PGS-0350	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
		DADS1300	Each DADS shall display all faults to the system operators
		DADS1320	Each DADS shall provide to the SMC fault isolation information at the DADS system and subsystem levels.
		DADS1330	Each DADS shall provide information to support fault isolation between the DADS and other ECS-unique elements and external interfaces to the LSM.
4.2.1.8	Document Ingest Scenario	DADS0070	Each DADS shall provide the capability of scanning or digitizing hardcopy input for the purpose of archiving documents.
		DADS0250	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
4.2.1.9	Document Modification Scenario	DADS0070	Each DADS shall provide the capability of scanning or digitizing hardcopy input for the purpose of archiving documents.

Sect	Activities/Scenarios	Req. #	Req. Text
		DADS0465	The DADS shall provide storage for the following Version 0 data: a. Standard products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		EOSD0050	ECS shall perform the following major functions: e. Data Input g. Data Storage
		DADS0405	Each DADS shall provide the capability to archive multiple versions of selected archive data.
		DADS0410	Each DADS shall archive the current version of a product, making the preceding version of a product eligible for deletion.
		DADS0412	Each DADS shall notify users when a product becomes eligible for deletion via direct notification and via the ECS Bulletin Board. The product eligible for deletion shall be deleted after six months unless the DADS is directed otherwise by appropriate authority.
		DADS0430	Each DADS shall provide its operations personnel the capability to manually alter the routing of data sets to physical storage locations.
4.2.2	Science Data Archive Activities		
4.2.2.1	Data Insertion Scenario (nominal)	EOSD0500	ECS shall perform the following major functions: e. Data Input g. Data Storage
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		SDPS0080	The D\SDPS shall archive, manage, quality check, and account for all science and ancillary data received from the IPs, the EPDSs, the SCFs, the ADCs, the ODCs, other DAACs, PIs and the other EOS science users.
		DADS0487	Each DADS shall be capable of storing EDOS production data sets (Level 0) for at least one year from the date they are ingested.
		DADS0488	Each DADS shall archive the EDOS production data sets (Level 0) received from EDOS, or the equivalent Level 1A data.

Sect	Activities/Scenarios	Req. #	Req. Text
4.2.2.2	Data Insertion Scenario (fault)	EOSD0500	ECS shall perform the following major functions: e. Data Input g. Data Storage j. End-to-End Fault Management
		EOSD2990	The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system.
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		SDPS0080	The D\SDPS shall archive, manage, quality check, and account for all science and ancillary data received from the IPs, the EPDSs, the SCFs, the ADCs, the ODCs, other DAACs, PIs and the other EOS science users.
		DADS1300	Each DADS shall display all system faults to the system operators.
		DADS1310	Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.
		DADS1320	Each DADS shall provide to the SMC fault isolation information at the DADAS system and subsystem levels.
		DADS1330	Each DADS shall provide information to support fault isolation between the DADS and other ECS-unique elements and external interfaces to the LSM.
		DADS1340	Each DADS shall use tools to analyze system performance.
		DADS1400	Each DADS shall notify the originating source of the need to retransmit data in the event of transmission difficulties.
		IMS0455	The IMS shall accept and validate new metadata from the DADS reflecting changes as a results of: a. Purges b. Transfers c. Unexpected loss d. Restoration of data after recovery from loss
4.2.2.3	Data Archive Configuration Maintenance - Media Refresh	SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		SDPS0080	The SDPS shall archive, manage, quality check, and account for all science and ancillary data received from the IPs, the EPDSs, the SCFs, the ADCs, the ODCs, other DAACs, PIs and the other EOS science users.

Sect	Activities/Scenarios	Req. #	Req. Text
		DADS0405	Each DADS shall provide the capability to archive multiple versions of selected archive data.
		DADS0410	Each DADS shall archive the current version of a product, making the preceding version of a product eligible for deletion.
		DADS0412	Each DADS shall notify users when a product becomes eligible for deletion via direct notification and via the ECS Bulletin Board. The product eligible for deletion shall be deleted after six months unless the DADS is directed otherwise by appropriate authority.
		DADS0430	Each DADS shall provide its operations personnel the capability to manually alter the routing of data sets to physical storage locations.
		DADS0435	At each DADS operations personnel shall be able to add new physical volumes and eject physical volumes from the archive for off-line of off-site permanent storage.
		DADS1850	Each DADS shall utilize the configuration management toolkit provided by the SMC.
		DADS1860	Each DADS shall, in conjunction with the SMC, provide configuration management for its internal resources.
4.2.2.4	Data Archive Configuration Maintenance Scenario - Lost	DADS0130	Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Quick-look data
		DADS1100	Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.
		DADS1160	Each DADS shall provide the IMS with metadata reflecting changes as a result of: a. Purges b. Transfers to other site(s) c. Unexpected loss d. Updates
		DADS1300	Each DADS shall display all faults to the system operators.
		DADS1310	Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.
		DADS1450	Each DADS shall be capable of screening its archive holdings of Level 1A or Level 0 data, and if a product(s) is found to be lost or unreadable, generate a request for a replacement product from EDOS, dispatch the request, and ingest the replacement product.

Sect	Activities/Scenarios	Req. #	Req. Text
		DADS1530	Each DADS shall maintain a file directory of all files under its control.
		DADS1790	Each DADS shall periodically verify that all data sets are present and accounted for.
		DADS1795	Each DADS shall update internal file directories with the unique Data set ID.
		DADS1800	Each DADS shall maintain data storage inventories defining the physical location of files.
		IMS-0455	The IMS shall accept and validate new metadata from the DADS reflecting changes as a result of: a. Purges b. Transfers c. Unexpected loss d. Restoration of data after recovery from loss
4.2.2.5	Data Type Service Modification Scenario	SDPS0025	The SDPS shall accept scientific and non-scientific investigator supplied dataset specific data transformations.
		SDPS0026	The SDPS shall provide the capability for performing dataset specific data transformations.
		DADS0590	Each DADS shall support the capability for subsetting, and subsampling data products ordered via the IMS.
		DADS0740	Each DADS shall provide the capability to subset, subsample, or average data within a granule based on defined criteria to include: a. Geographic location (x, y, z) (spatial with rectangular boundaries) b. Spectral band c. Time
		DADS0780	Each DADS shall have the capability to incorporate additional ingest and data distribution formats and conversion software.
		DADS1860	Each DADS shall, in conjunction with the SMC, provide configuration management for its internal resources.
		IMS-0130	The IMS shall verify that a user is authorized to access a particular IMS service before providing the service to the user.
		IMS-0720	The IMS shall provide the capability to request data products which are processed ad hoc in response to user requests for subsetting, subsampling, or averaging within a granule based on defined criteria to include: a. Geographical location (x, y, z - spatial with rectangular boundaries) b. Spectral band c. Time

Sect	Activities/Scenarios	Req. #	Req. Text
4.2.2.6	Bad Data Scenario	PGS-0550	The PGS shall reprocess science data using the original or updated (provided by the scientists) calibration coefficients.
		DADS1085	Each DADS shall maintain a data access log.
		DADS1110	Each DADS shall maintain a data distribution log.
		DADS0610	Each DADS shall support reprocessing.
		DADS1010	Each DADS shall send to the requesting PGS or IMS, staging status of requests for retrieval of data products.
		DADS1180	Each DADS shall provide the collocated PGS with data storage and retrieval capabilities.
		DADS1210	Each DADS shall prepare, for output to the collocated PGS, data availability notices.
		DADS1230	Each DADS shall be capable of providing temporary storage for a collocated PGS.
		DADS2170	Each DADS shall maintain a list/schedule of retrospective orders.
		DADS2330	Each DADS shall send to the PGS, at a minimum, the following: a. Production data (L0) received from EDOS b. L0-L4 c. Quick-look data d. Metadata e. Ancillary data f. Calibration data g. Algorithms h. Schedules i. Status j. Spacecraft and instrument logs k. Special data sets l. Non-EOS science data from ADCs/ODCs
		IMS-1645	The IMS shall accept from the users and output to the SMC, user feedback information, which shall contain the following at a minimum: a. Product data quality assessment b. Schedule performance assessment c. Evaluation of quality of ECS service
4.2.2.7	Data Server Startup/Shutdown	SDPS0120	The SDPS shall be capable of operating in a 24-hour a day, 7-day a week mode.
		SDPS0010	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.
		DADS0100	Each DADS shall receive management directives from the SMC.

Sect	Activities/Scenarios	Req. #	Req. Text
		DADS1320	Each DADS shall provide to the SMC fault isolation information at the DADS system and subsystem levels.
4.2.3	Science Data Distribution Activities		
4.2.3.1	Network Data Distribution (Pull) Scenario (nominal)	EOSD0500	ECS shall perform the following major functions: h. Data Distribution
		EOSD1720	ECS elements shall receive from the ECS user community the following types of data request at a minimum: a. Data Acquisition Requests
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		SDPS0080	The SDPS shall archive, manage, quality check, and account for all science and ancillary data received from the IPs, the EPDSs, the SCFs, the ADCs, the ODCs, other DAACs, PIs and the other EOS science users.
		DADS0600	Each DADS shall accept requests from the IMS to distribute data archived in the DADS to requesting users.
		DADS2100	Each DADS shall receive time windows and priorities requested by the user for incorporation into and modification of its schedule.
		DADS2370	Each DADS shall send to the user, at a minimum, the following: a. L0-L4 b. Special products (L1-L4) c. Metadata d. Ancillary data e. Calibration data f. Correlative data g. Documents
		DADS2530	The DADS shall be capable of distributing by physical media to meet user demand.
		IMS0030	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
		IMS0150	The IMS shall supply a uniform user interface for access to the following at a minimum: a. Heterogeneous data sets b. Communications networks c. Data bases that are geographically dispersed d. Multi-disciplined directories and inventories

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS0270	IMS shall maintain information on the science processing library holdings and provide the capability for users to search for and order science processing library software.
		IMS0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSÕs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats
		IMS0700	The IMS shall provide the capability for users to request subsetted, subsampled, and summary data products, which have been processed at the PGS during the routine production processing and archived at the DADS, whenever associated inventory information is displayed.
		IMS0720	The IMS shall provide the capability to request data products which are processed ad hoc in response to user requests for subsetting, subsampling, or averaging within a granule based on defined criteria to include: a. Geographical location (x, y, z - spatial with rectangular boundaries) b. Spectral band c. Time
		IMS0730	The IMS shall, using information supplied by the DADS, provide the user an estimate of how long it will take before subsetted, subsampled, and summary data products are ready for visualization.
		IMS0740	The IMS shall provide the capability for users to generate and update requests for one-time orders or standing orders for the DADS to distribute DADS archive holdings to include, at a minimum, Standard Products, Standard Product software, EOC historical data, spacecraft housekeeping and ancillary data, and engineering data.
		IMS0750	The IMS shall provide the capability for the user to order Standard Product software and associated documentation in accordance with EOSDIS distribution criteria.
		IMS0760	The IMS shall access distribution criteria for each data product and data product software and compare the distribution criteria to the requester's data access rights to verify that the data and software can be distributed as requested.

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS0770	The IMS shall allow users to formulate a data order based on any combination of the inventory core metadata attributes and geophysical parameters at a minimum.
		IMS0780	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
		IMS0790	The IMS shall determine the location of requested data products and submit the product order to the data center where the data are archived.
		IMS0800	The IMS shall determine the amount of data expected to be returned as the result of the product order and provide the information to the requester.
		IMS0810	The IMS shall prepare, for output to the DADS, product orders to retrieve specified data from the archive and distribute it, which contains the following information at a minimum: a. Requester identification b. Data type c. Data set identifier d. Data set subsetting instructions e. Data formats f. Distribution instructions, including media requirements g. Request priority h. Suggested earliest start time i. Suggested latest completion time
		IMS0820	The IMS shall provide to the user product order status information from the DADS to confirm or reject an order, which contains the following information at a minimum: a. Requester identification b. Request identification c. Request status d. If rejection, then the reason for the rejection e. If delayed longer than latest completion time specified by user, adjusted start and completion times.
		IMS0830	The IMS shall, using information provided by the DADS, notify users when products will not be distributed within the estimated time, and provide the reason for the delay and modified arrival times.
		IMS0840	The IMS shall provide the capability to receive data order status from the DADS when the ordered data has been shipped to the user.
		IMS0880	The IMS shall provide an interface to the ADC and ODC archives for ordering data to be delivered directly to the user or to a DADS.

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS0915	The IMS shall provide an interface to the Version 0 system for ordering data products to be delivered directly to the user, or as specified in ICDs.
		IMS1070	The IMS shall provide the capability for users to construct DARS for collection of EOS data which shall contain the following information at a minimum: a. Observation number b. Experimenter identification c. Experimenter address d. Investigation identification e. Scientific discipline f. Observation repetition period g. Tolerance in observation time h. User priority i. Scheduling priority and target of opportunity flag j. Descriptive text k. Location data expressed in terms of longitude and latitude as earliest start coordinates and latest stop coordinates l. Earliest start time m. Latest stop time n. Minimum coverage required o. Maximum coverage desired p. Number of instruments involved in the investigation q. Which instruments are involved in the investigation
		IMS1071	The IMS shall provide the capability for users to construct a Product Order associated with a Data Acquisition Request.
		IMS1072	The IMS shall provide the capability for users to construct a Product Processing Order associated with a Data Acquisition Request.
4.2.3.2	Network Data Distribution (Push) Scenario (nominal)	EOSD0500	ECS shall perform the following major functions: h. Data Distribution
		EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: d. Data Archive/Distribution
		EOSD1720	ECS elements shall receive from the ECS user community the following types of data requests at a minimum: b. Data Distribution Requests
		EOSD1740	ECS elements shall send the following types of data at a minimum to the ECS user community: a. Metadata b. Browse data c. Science data

Sect	Activities/Scenarios	Req. #	Req. Text
		EOSD1770	ECS elements shall exchange the following types of data at a minimum with the IPs: b. Science data
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		DADS2480	Each DADS shall distribute data based upon entries in the standing and the retrospective order distribution list.
		DADS2450	Each DADS shall distribute data to elements of EOSDIS and approved non-EOSDIS data destinations.
		DADS2460	Each DADS shall have a manual override function capable of altering the priority of a distribution request.
4.2.3.3	Network Data Distribution (Push) Scenario (fault)	EOSD0500	ECS shall perform the following major functions: h. Data Distribution
		EOSD1720	ECS elements shall receive from the ECS user community the following types of data request at a minimum: b. Data Distribution Requests
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		PGS0320	The PGS shall display detected faults to the system operators.
		PGS0340	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
		PGS0350	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
		DADS1300	Each DADS shall display all system faults to the system operators.
		DADS1310	Each DADS shall track and report to the SMC problems such as missing or corrupted files requiring restoration or regeneration of data.
		DADS1320	Each DADS shall provide to the SMC fault isolation information at the DADAS system and subsystem levels.
		DADS1330	Each DADS shall provide information to support fault isolation between the DADS and other ECS-unique elements and external interfaces to the LSM.
		DADS1340	Each DADS shall use tools to analyze system performance.
		DADS1400	Each DADS shall notify the originating source of the need to retransmit data in the event of transmission difficulties.

Sect	Activities/Scenarios	Req. #	Req. Text
4.2.3.4	Physical Distribution Scenario	EOSD0500	ECS shall perform the following major functions: h. Data Distribution
		SDPS0100	The SDPS shall be responsible for delivery of EOS data and data products to the IPs, the ADCs, the ODCs, and the other science users via EOSDIS networks and on a variety of physical media.
		DADS0250	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media
		DADS2490	Each DADS shall distribute data using a variety of approved high density storage media such as : a. 8 mm tape b. 4 mm DAT c. 3480/3490 tape d. CD ROM e. 6250 tape
		DADS2510	Each DADS shall copy data to the class of physical media specified in the product order from the IMS.
		DADS2530	The DADS shall be capable of distributing by physical media to meet user demand.
4.2.3.5	Network Data Distribution (Pull) Scenario (flood of requests)	DADS0110	Each DADS shall receive from the IMS, at a minimum, the following: a. Documents b. Product status dialog c. Product orders
		IMS-0100	The IMS shall support, at a minimum: a. Interactive sessions b. Non-interactive remote sessions c. Client-server interface d. Simulated sessions for training purposes
		DADS1085	Each DADS shall maintain a data access log.
		DADS1110	Each DADS shall maintain a data distribution log.
		DADS1470	Each DADS shall manage element resource utilization.
		DADS2170	Each DADS shall maintain a list/schedule of retrospective orders.
		EOSD0500	ECS shall perform the following major functions: h. Data Distribution
		EOSD1720	ECS elements shall receive from the ECS user community the following types of data request at a minimum: a. Data Acquisition Requests

Sect	Activities/Scenarios	Req. #	Req. Text
		SDPS0050	The SDPS shall archive, manage, quality check, and account for the generated data products, and distribute the data products to the appropriate destinations as required.
		SDPS0080	The SDPS shall archive, manage, quality check, and account for all science and ancillary data received from the IPs, the EPDSs, the SCFs, the ADCs, the ODCs, other DAACs, PIs and the other EOS science users.
		DADS0600	Each DADS shall accept requests from the IMS to distribute data archived in the DADS to requesting users.
		DADS2100	Each DADS shall receive time windows and priorities requested by the user for incorporation into and modification of its schedule.
		DADS2370*	Each DADS shall send to the user, at a minimum, the following: a. L0-L4 b. Special products (L1-L4) c. Metadata d. Ancillary data e. Calibration data f. Correlative data g. Documents
		DADS2530	The DADS shall be capable of distributing by physical media to meet user demand.
		IMS0030	The IMS shall provide from each ECS access node, access to the full range of services spanning the whole of ECS, including data and services available from all DAACs without requiring that the user know the physical location of the data.
		IMS0150	The IMS shall supply a uniform user interface for access to the following at a minimum: a. Heterogeneous data sets b. Communications networks c. Data bases that are geographically dispersed d. Multi-disciplined directories and inventories
		IMS0270*	IMS shall maintain information on the science processing library holdings and provide the capability for users to search for and order science processing library software.

		IMS0550	The IMS shall allow a user to locate and identify desired data without detailed knowledge of the ECSÕs: a. Architecture b. Data Base management system c. Data Base structure d. Query languages e. Data formats

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS0700*	The IMS shall provide the capability for users to request subsetted, subsampled, and summary data products, which have been processed at the PGS during the routine production processing and archived at the DADS, whenever associated inventory information is displayed.
		IMS0720*	The IMS shall provide the capability to request data products which are processed ad hoc in response to user requests for subsetting, subsampling, or averaging within a granule based on defined criteria to include: a. Geographical location (x, y, z - spatial with rectangular boundaries) b. Spectral band c. Time
		IMS0730	The IMS shall, using information supplied by the DADS, provide the user an estimate of how long it will take before subsetted, subsampled, and summary data products are ready for visualization.
		IMS0740	The IMS shall provide the capability for users to generate and update requests for one-time orders or standing orders for the DADS to distribute DADS archive holdings to include, at a minimum, Standard Products, Standard Product software, EOC historical data, spacecraft housekeeping and ancillary data, and engineering data.
		IMS0750	The IMS shall provide the capability for the user to order Standard Product software and associated documentation in accordance with EOSDIS distribution criteria.
		IMS0760	The IMS shall access distribution criteria for each data product and data product software and compare the distribution criteria to the requester's data access rights to verify that the data and software can be distributed as requested.
		IMS0770	The IMS shall allow users to formulate a data order based on any combination of the inventory core metadata attributes and geophysical parameters at a minimum.
		IMS0780	The IMS shall accept and validate from the ECS users, IPs, ADCs, and ODCs requests for ECS archival data products.
		IMS0790	The IMS shall determine the location of requested data products and submit the product order to the data center where the data are archived.
		IMS0800	The IMS shall determine the amount of data expected to be returned as the result of the product order and provide the information to the requester.

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS0810	The IMS shall prepare, for output to the DADS, product orders to retrieve specified data from the archive and distribute it, which contains the following information at a minimum: a. Requester identification b. Data type c. Data set identifier d. Data set subsetting instructions e. Data formats f. Distribution instructions, including media requirements g. Request priority h. Suggested earliest start time i. Suggested latest completion time
		IMS0820	The IMS shall provide to the user product order status information from the DADS to confirm or reject an order, which contains the following information at a minimum: a. Requester identification b. Request identification c. Request status d. If rejection, then the reason for the rejection e. If delayed longer than latest completion time specified by user, adjusted start and completion times.
		IMS0830	The IMS shall, using information provided by the DADS, notify users when products will not be distributed within the estimated time, and provide the reason for the delay and modified arrival times.
		IMS0840	The IMS shall provide the capability to receive data order status from the DADS when the ordered data has been shipped to the user.
		IMS0880	The IMS shall provide an interface to the ADC and ODC archives for ordering data to be delivered directly to the user or to a DADS.
		IMS0900	The IMS shall provide an interface to the IPs for ordering data to be delivered directly to the user or to a DADS.
		IMS0915	The IMS shall provide an interface to the Version 0 system for ordering data products to be delivered directly to the user, or as specified in ICDs.

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS1070	The IMS shall provide the capability for users to construct DARS for collection of EOS data which shall contain the following information at a minimum: a. Observation number b. Experimenter identification c. Experimenter address d. Investigation identification e. Scientific discipline f. Observation repetition period g. Tolerance in observation time h. User priority i. Scheduling priority and target of opportunity flag j. Descriptive text k. Location data expressed in terms of longitude and latitude as earliest start coordinates and latest stop coordinates l. Earliest start time m. Latest stop time n. Minimum coverage required o. Maximum coverage desired p. Number of instruments involved in the investigation q. Which instruments are involved in the investigation
		IMS1071	The IMS shall provide the capability for users to construct a Product Order associated with a Data Acquisition Request.
		IMS1072	The IMS shall provide the capability for users to construct a Product Processing Order associated with a Data Acquisition Request.
4.2.3.6	Network Data Distribution (push) Scenario (Request from Hell)	IMS0830	The IMS shall, using information provided by the DADS, notify users when products will not be distributed within the estimated time, and provide the reason for the delay and modified arrival times.
		EOSD0500	ECS shall perform the following major functions: h. Data Distribution
		EOSD1720	ECS elements shall receive from the ECS user community the following types of data request at a minimum: b. Data Distribution Requests
		DADS0250	Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications network c. Hardcopy media

Sect	Activities/Scenarios	Req. #	Req. Text
		SDPS0100	The SDPS shall be responsible for delivery of EOS data and data products to the IPs, the ADCs, the ODCs, and the other science users via EOSDIS networks and on a variety of physical media.
4.2.4	Production Planning Activities		
4.2.4.1	Routine Production Planning Scenario	PGS0140	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.
		DADS2210	Each DADS shall provide tools for the creation and manipulation of its plans/schedules.
		PGS0325	The PGS shall provide the SMC with scheduling and status information.
4.2.4.2	Replanning Production Scenario	IMS0260	The IMS shall provide interactive and batch information management capabilities for authorized users to add, update, delete, and retrieve information from the IMS data bases.
		PGS0300	The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.
4.2.4.3	On-Demand Request Scenario	DADS0680	Each DADS shall have the capability to support all required requests and shall grow as demand expands.
		IMS0720	The IMS shall provide the capability to request data products which are processed ad hoc in response to user requests for subsetting, subsampling, or averaging within a granule based on defined criteria to include: a. Geographical location (x, y, z - spatial with rectangular boundaries) b. Spectral band c. Time
4.2.4.4	Planning Reprocessing Requests Scenario	PGS-0220	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each product's reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed
		PGS-0230	The PGS shall base the PGS reprocessing plan on, at a minimum: a. Requests received from the IMS b. SMC directives c. The Standard Product specifications
		PGS-0240	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.
4.2.4.5	Add Hot Job Scenario	PGS0480	The PGS shall have the capability to perform all its processing based on priority.

Sect	Activities/Scenarios	Req. #	Req. Text
		PGS0170	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives from the SMC.
4.2.5	Production Processing Activities		
4.2.5.1	Production Processing Job Anomaly Scenario	EOSD0500	ECS shall perform the following major functions: f. Data Processing
		SDPS0030	The SDPS shall produce Standard Products for EOS instruments based on the algorithms source code and calibration coefficients supplied by EOS scientists.
		SDPS0035	The SDPS shall produce derived ancillary products as Standard Products for EOS investigators based on algorithms and coefficients for conversion, calibration, and transformation of selected engineering/housekeeping data parameters.
		SDPS0115	The SDPS shall accept notification of the possible future availability of out-of-sequence data by the EDOS and shall schedule processing accordingly.
		PGS0320	The PGS shall display detected faults to the system operators.
		PGS0340	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
		PGS0350	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
		PGS0470	The PGS shall have the capability to produce each Standard Product as specified in that productÕs Standard Product specification.
		PGS0970	The PGS shall provide file access subroutines that enforce compliance with the adopted standard ECS formats.
		PGS0980	The PGS shall provide job control routines that provide all required task parameters to the Standard Product software.
		PGS0990	The PGS shall provide error logging subroutines for use by Standard Product software in notifying the system operators of conditions requiring their attention.
		PGS1000	The PGS shall provide error logging subroutines for use by Standard Product software in notifying users of conditions requiring their attention.
		PGS1150	The PGS shall have the capability to accept the identification of products that are not to be stored in the DADS due to inferior quality or other reasons. The reason for all such actions shall also be specified.

Sect	Activities/Scenarios	Req. #	Req. Text
		PGS1160	The PGS shall have the capability to accept from the product quality staff commands to suspend specified production processing due to inferior quality or other reasons in line with SMC guidelines. The reasons for all such actions shall also be specified.
		IMS0455	The IMS shall accept and validate new metadata from the DADS reflecting changes as a results of: a. Purges b. Transfers c. Unexpected loss d. Restoration of data after recovery from loss
4.2.5.2	Production Processing Job Abnormal Termination Scenario	EOSD0500	ECS shall perform the following major functions: f. Data Processing
		SDPS0030	The SDPS shall produce Standard Products for EOS instruments based on the algorithms source code and calibration coefficients supplied by EOS scientists.
		SDPS0035	The SDPS shall produce derived ancillary products as Standard Products for EOS investigators based on algorithms and coefficients for conversion, calibration, and transformation of selected engineering/housekeeping data parameters.
		PGS0320	The PGS shall display detected faults to the system operators.
		PGS0340	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.
		PGS0350	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.
		PGS0470	The PGS shall have the capability to produce each Standard Product as specified in that productÕs Standard Product specification.
		PGS0970	The PGS shall provide file access subroutines that enforce compliance with the adopted standard ECS formats.
		PGS0980	The PGS shall provide job control routines that provide all required task parameters to the Standard Product software.
		PGS0990	The PGS shall provide error logging subroutines for use by Standard Product software in notifying the system operators of conditions requiring their attention.
		PGS1000	The PGS shall provide error logging subroutines for use by Standard Product software in notifying users of conditions requiring their attention.

Sect	Activities/Scenarios	Req. #	Req. Text
		PGS1150	The PGS shall have the capability to accept the identification of products that are not to be stored in the DADS due to inferior quality or other reasons. The reason for all such actions shall also be specified.
		PGS1160	The PGS shall have the capability to accept from the product quality staff commands to suspend specified production processing due to inferior quality or other reasons in line with SMC guidelines. The reasons for all such actions shall also be specified.
4.2.5.3	Quality Assurance Scenario	PGS1100	The PGS shall have the capability to accept product quality data input.
		PGS1110	The PGS shall have the capability to associate data quality with a generated product.
		PGS1120	The PGS shall send the DADS updated metadata provided by the data product quality staff relating to product QA review. This QA review metadata shall contain the following information at a minimum. a. Product ID b. QA Approved field c. Other metadata
		PGS1130	The PGS shall receive product QA from the SCF which shall describe the results of the scientist's product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results c. Product storage and processing instructions
		PGS1140	The PGS shall have the capability to provide the data product quality staff with the Product QA data from the SCF.
4.2.6	User Services Activities		
4.2.6.1	Order Tracking Scenario	EOSD0500	ECS shall perform the following major functions: d. Communications and Networking k. Information Management
		EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a. System Management b. Science Algorithm Integration c. Product Generation d. Data Archive/Distribution e. User Support Services f. System Maintenance

Sect	Activities/Scenarios	Req. #	Req. Text
		DADS0660	Each DADS shall maintain a database of orders which shall include at a minimum: priorities, distribution directions, and all other details necessary to process orders including standing and multi-DADS orders,
		DADS0910	Each DADS shall notify the SMC and IMS in the event that data required in connection with an on-demand request does not arrive.
		DADS1070	The DADS shall send data check and storage status to the provider of ingest data.
		IMS0280	The IMS shall maintain DAR generation information, for example, instrument information received from the ICC and spacecraft information received from the EOC, in a data base which will be accessible during the DAR planning and submittal process.
		IMS1270	IMS shall maintain information on the science processing library holdings and provide the capability for the users to search for and order science processing library software.
		IMS1300	The IMS shall be capable of responding to user inquiries for status of user-initiated requests, and user request history.
4.2.6.2	Standard Procedures (login) Scenario	EOSD0500	ECS shall perform the following major functions: d. Communication and Networking i. Information Management k. System Management
		EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a. System Management b. Science Algorithm Integration c. Product Generation d. Data Archive/Distribution e. User Support Services f. System Maintenance
		IMS0040	The IMS shall verify user authorization by validation of inputs with information as supplied by the SMC.
		IMS0060	The IMS shall, when creatingECS user accounts, request registration approval, user account priorities, and authorizied user services from the SMC.
		IMS0070	The IMS shall provide the user with initial system access procedures, priority information, and authorized services as mantained in the SMC.
		IMS0080	The IMS shall maintain a list of authorized ECS services for each user and shall update the list with information supplied by the SMC.
		IMS0085	The IMS shall provide unregistered user access to ECS services as authorized by the SMC.

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS0180	The IMS shall extract relevant data from the user profile information and display as default values.
4.2.6.3	System Status Scenario	EOSD0500	ECS shall perform the following major functions: d. Communications and Networking k. System Management
		EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a. System Management b. Science Algorithm Integration c. Product Generation d. Data Archive/Distribution e. User Support Services f. System Maintenance
		IMS0800	The IMS shall determine the amount of data expected to be returned as the result of the product order and provide the information to the requester.
		IMS0830	The IMS shall, using information provided by the DADS, notify users when products will not be distributed within the estimated time, and provide the reason for the delay and modified arrival times.
		IMS0840	The IMS shall provide the capability to receive data order status from the DADS when the ordered data has been shipped to the user.
		IMS1040	The IMS shall, using information provided by the PGS, notify users when processing will not be completed within the estimated time, and provide the reason for the delay and modified arrival time.
		IMS1050	The IMS shall provide the capability to notify the user community if data has been reprocessed.
		IMS1650	IMS operations data shall contain information on: a. System utilization b. Outstanding data distribution requests c. Outstanding processing requests d. Outstanding data acquisition requests
		IMS1660	The IMS shall provide to the SMC a full and complete history of all IMS resources used by science investigators including, at a minimum: a. CPU utilization b. Amount of user storage c. Connect time d. Session time
		IMS1665	The IMS shall provide to the SMC, IMS services usage by each ouser (to include at a minimum user name, IMS service identification, date/time stamp, time expended, facilities used) for later reporting and determination of access patterns.

Sect	Activities/Scenarios	Req. #	Req. Text
		IMS1680	The IMS status monitoring function shall provide the capability to distribute reports on a periodic basis to a predefined list of receipients.
		IMS1690	The IMS status monitoring function shall provide the capability to disseminate reports on-l;ine electonically and off-line on either paper or electronic media.
		IMS1700	The IMS shall provide the capability to generate reports on: a. The backlog of data distribution requests b. The backlog of processing requests c. The backlog of data acquisitons requests d. Data quality assessment e. Daily IMS operations summeries f. IMS performance summaries
		IMS1710	The IMS shall provide the capability to produce reports that correlate science data to associated: a. Calibration data b. Navigation data c. Instrument engineering data
		IMS1720	The IMS shall provide the capability to produce reports that relate data sets to: a. Processing algorithms used for data generation at the PGS b. Software used for data generation at the PGS c. Parameters used for data generation at the PGS d. Data recipients
		IMS1730	The IMS shall provide the capability to produce reports that trace the data product back to the source instrument
		IMS1740	The IMS shall produce cross reference reports (by user and data set) of processing performed, data sets produced, supporting data used, and data recipient.
		SMC3300	The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode
4.2.6.4	Place an Order for a Potential User Scenario	EOSD0040	ECS shall provide users without prior approved accounts access to the system for descriptive information about ECS and the types of data it contains.

Sect	Activities/Scenarios	Req. #	Req. Text
		EOSD0500	ECS shall perform the following major functions: i. Information Management k. System Management
		IMS0085	The IMS shall provide unregistered user access to ECS services as authorized by the SMC.
		IMS0130	The IMS shall verify that a user is authorized to access a particular IMS service before providing ther service to the user.
		IMS0280	The IMS shall maintain DAR generation information, for example, instrument information received from the ICC and spacecraft information received from the EOC, in a data base which will be accessible during the DAR planning and submittal process.
4.2.6.5	Trouble Ticket Report Scenario	EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a. System Management b. Science Algorithm Integration c. Product Generation d. Data Archive/Distribution e. User Support Services f. System Maintenance
		DADS0925	Each shall, in the event of noncomliance (e.g., non-arrival of scheduled data) forward a description of noncompliance to the SMC.
4.2.6.6	Lost User Password Scenario	EOSD0500	ECS shall perform the following major functions: i. Information Management k. System Management
		EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a. System Management b. Science Algorithm Integration c. Product Generation d. Data Archive/Distribution e. User Support Services f. System Maintenance
		SMC5300*	The SMC shall, in conjunction with sites and elements, establish, support, maitain, and update security policies and proceedures to include, at minimum: a. Physical securty b. Password management c. Operational security d. Data security e. Privileges f. Network security

Sect	Activities/Scenarios	Req. #	Req. Text
		SMC5320	The SMC shall establish, maintain and authenticate access privledges for ECS scientific users.
		SMC7300	The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privleges
4.2.6.7	Referrals to Other Agencies Scenario	EOSD1703	ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a. System Management b. Science Algorithm Integration c. Product Generation d. Data Archive/Distribution e. User Support Services f. System Maintenance
4.2.7	Science Software Integration and Test Activities		
4.2.7.1	Transitioning To and From Testing Scenario	PGS0600	The PGS shall provide an algorithm and calibration test and validation environment that is fully compatible with but isolated from the operational production environment.
4.2.7.2	Production Calibration-Validation Scenario	PGS0870	The PGSshall have the capability to schedule and coordinate algotithm and calibration coefficient teat time in the environment with the approiate SCF.
		PGS0910	The PGS shall have the capability to support analysis of algorithm test results.
		PGS0920	The PGS shall have the capability to validate, through testing, that SCF processing algorithms will execute properly in the operational environment. Validation shall include final complia
4.2.8	Information Management		
4.2.8.1	LIM/DIM Schema Maintenance Scenario	IMS0240	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema
4.2.8.2	Database Administration	IMS0250	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information

Sect	Activities/Scenarios	Req. #	Req. Text
4.2.8.3	Management of Advertising Service Scenario	IMS0240	The IMS shall provide, at a minimum, data base administration utilities for: a. Modifying the data base schema b. Performance monitoring c. Performance tuning d. Administration of user access control e. On-line incremental backup f. On-line recovery g. Export/import of data
		IMS0455	The IMS shall accept and validate new metadata from the DADS reflecting changes as a result of: a. Purges b. Transfers c. Unexpected loss d. Restoration of data after recovery from loss
4.2.8.4	V0 Valids Migration Scenario	IMS0120	The IMS shall provide, dependent upon the userÕs display device capabilities, a user-friendly interface with the following features at a minimum: c. Valid lists for all variables
		IMS0625	The IMS shall provide bi-directional interoperability between ECS and V0 for access to the inventory metadata, guide information, and browse products via level III catalog interoperability as specified in ICDs.
4.2.8.5	Subscription Maintenance Scenario	IMS0920	The IMS shall provide the capability for users to construct and submit standing orders and one-time requests for processing of ECS data by pre-existing processes
		IMS0250	The IMS shall provide required maintenance of the IMS data bases, to include at a minimum: a. Capability to restructure the data base b. Capability to interrupt a maintenance session and restart the session without loss of information.
4.2.8.6	Server Saturation Scenario (flood of requests)	IMS-0020	The IMS shall always be accessible to users and informational status message describing the current availability status of ECS services and the predicted time for resumption of services which are temporarily unavailable shall be provided.