General overview

This is a general overview of the revisions made to the original CCR to produce this Version (A) of CCR 96-1466.

A Clarification column is added to this version of the CCR with text included from the current RTM baseline. All PGS requirements were review and analyzed to improve the interpretation text where necessary. Concerns of value added to interpretation, relevance to requirement's text, and association to the Level 3 defined architecture. All references to the current architecture are replaced with references to the Level 3 defined architecture were applicable.

Item "e." for requirement PGS-0450#B is recovered.

The sentence "No specific file completeness and format correctness checks are done." **is added to the requirement PGS-0620#B since it applies to Rel B as well.**

The reference to the AM-1 platform and Instrument for Color is removed form all #B RbR requirements.

To interpret Item "c." of PGS-1130#B, the sentence "Item c. is implemented by allowing for processing instructions that will include a QA pass/fail results indicator in the metadata. Storage instructions are not implemented since all products will be stored automatically." **is added.**

The current RTB baseline (12/20/96) is used for Version A of the CCR. As a result, requirement PGS-1310#B is removed from this CCR.

All Toolkit related PGS requirements are removed from this CCR.

Interpretation text associated with the Ir1 PGS requirements applied only to Ir1 and produced no added value to the interpretation of the #B type PGS RbR requirements.

Table 2 contains only the PGS requirements with interpretation text that will be modified via this version of the CCR.

TABLE 1: Table 1 shows the Reference Table for the PGS Requirements. The requirements are arranged so that they may be easily compared. There are Rel B RbRs that do not have corresponding Rel A requirements. The issue concerning PGS-0457#B traceability to Level 3 is resolved. PGS-0457#B is traced to Level 3 PGS-0457. This Version (A) show additional interpretation text and modifications as a results of comments and additional analysis. Clarification and Segment Allocation columns are added in this version. All toolkit related PGS requirements are removed from this CCR (96-1466/A) for version (A) and will be handle in a separate CCR.

RBR_id	req_key	req category	seg alloc	req type	s_verif method	s_verif stat	a_verif method	a_verif stat	text	interpretation text	clarification
PGS-0140#A	4134	mission essential	SDPS	functional	test	un-verified	test		The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.		
PGS-0140#B	4549	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.		
PGS-0150#B	8179	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs.	ASTER GDS interfaces to EDC DAAC only. ONLY THE GSFC AND LARC DAACS WILL INTERFACE WITH EDOS. For ASTER the "data availability schedule" is called "Data Shipping Notice" (DSN).	
PGS-0160#A	6266	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.	Rel A: Under the current architecture PLS(PGS) does not receive any product generation requests from external subsystems. Product requests are entered via PLS(PGS) interface.	

PGS-0160#B	6267	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.	Rel B: Additional capability of user requests. These requests come to ~~PLS(~~PGS~~)~~ indirectly from ~~CLS(~~IMS~~)~~ through ~~DSS(~~DADS~~)~~.	
PGS-0165#A	7434	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept priority processing requests from the IMS.		Internal interfaces defined by this Level 3 is not consistent with th ecurrent ECS architecture. All Rel A Production Requests are input directly to the PDPS from an operator position, not via the "IMS".
PGS-0165#B	4559	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept priority processing requests from the IMS.		
PGS-0170#A	4141	mission essential	SDPS	functional	test	un-verified	test		The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives.	A: Schedule conflict resolution locally @ DAAC.	
PGS-0170#B	4567	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives from the SMC.		
PGS-0180#A	4143	mission essential	SDPS	functional	test	un-verified	test		The PGS shall receive a notice from DADS when data that it has received is available.	A: TRMM and applicable DAACS	

PGS-0180#B	4571	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive a notice from DADS when data that it has received is available.		
PGS-0190#A	7395	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall coordinate with the DADS on the staging of data for product generation.	A: TRMM and applicable DAACS	
PGS-0190#B	7399	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall coordinate with the DADS on the staging of data for product generation.	B: AM-1 and applicable DAACs	
PGS-0210#A	7435	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required		Release A product generation services/capabilities are based on needs made known (e.g. via design reviews) to ECS by the TRMM instruments teams. These needs do not include generation of data products with optional or alternative inputs, and data products with staging for subsetting data sets services.

PGS-0210#B	4588	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required	PGE activation rules = scripting language that is managed with the Planning Database.	
PGS-0220#A	4146	mission essential	SDPS	functional	test	un-verified	test		The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	A: TRMM - LaRC, MSFC	

PGS-0220#B	4591	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productÍs reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	B: AM-1	
PGS-0230#A	6268	mission essential	SDPS	functional	test	un-verified	test	un-verified	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	Limited (manual) Reprocessing at Rel A.; For Rel A & B, Production plans contain both standard and reprocessing requests - no separate reprocessing plan. It is listed here because requirements required to generically "build a plan" would otherwise be untraceable.	
PGS-0230#B	6269	mission essential	SDPS	functional	test	un-verified	test	un-verified	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	~~Limited (manual) Reprocessing at Rel A.; For Rel A & B,~~ Production plans contain both standard and reprocessing requests - no separate reprocessing plan. It is listed here because requirements required to generically "build a plan" would otherwise be untraceable.	

PGS-0240#A	6270	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.	Reprocessing capabilities for PRONG exist at RLS A but are not implemented until RLS B when PLANG capability for reprocessing becomes effective in RLS B. Limited (manual) Reprocessing at Rel A.; For Rel A & B, Production plans contain both standard and reprocessing requests - no separate reprocessing plan.	
PGS-0240#B	4609	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.	Production plans contain both standard and reprocessing requests - no separate reprocessing plan. Reprocessing capabilities are implemented in Rel B.	~~Reprocessing capabilities for PRONG exist at RLS A but are not implemented until RLS B when PLANG capability for reprocessing becomes effective in RLS B.~~

PGS-0250#A	4150	mission essential	SDPS	functional	test	un-verified	test		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 algorithm(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		

PGS-0250#B	4618	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 algorithm(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		
PGS-0260#A	6154	mission essential	SDPS	functional	test	un-verified	test		The PGS shall schedule other functions, including, at a minimum: a. File backups b. File maintenance c. Calibration data handling	Calibration data handling can be accomplished through a simple PGE or AI&T. File backup & maintenance handled procedurally using UNIX tools.	
PGS-0260#B	6155	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall schedule other functions, including, at a minimum: a. File backups b. File maintenance c. Calibration data handling	Calibration data handling can be accomplished through a simple PGE or AI&T. File backup & maintenance handled procedurally using UNIX tools.	

PGS-0270#A	7489	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 tasks e. Request and verify the staging and/or destaging of data stored in the DADS	A Task = PGE; "Allocation of tasks among processors" is supported through resource availablity. A: Cancel execution of tasks.	
PGS-0270#B	7411	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 tasks e. Request and verify the staging and/or destaging of data stored in the DADS	A Task = PGE; "Allocation of tasks among processors" is supported through resource availablity. B: Suspend/Resume exexution of task.	
PGS-0285#A	4156	mission essential	SDPS	functional	test	un-verified	test		The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.	Functionally, IMS is a part of OPS.	

PGS-0285#B	4632	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.	Functionally, IMS is a part of OPS.	
PGS-0290#A	7437	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.		Internal interfaces defined by this Level 3 is not consistent with the current ECS architecture. All plans are stored to the Document Data Server, where subscribers (e.g. SMC) may acquire them.
PGS-0290#B	4647	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.		
PGS-0295#B	4650	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall transmit a status message notifying the IMS of a revised completion time if processing will not complete per original schedule.	Metadata associated with a plan will indicate a delay in production requests.	
PGS-0300#A	4158	mission essential	SDPS	functional	test	un-verified	test		The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.	"Current data processing schedule" = Active Plan.	

PGS-0300#B	4653	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.	"Current data processing schedule" = Active Plan.	
PGS-0310#A	7393	mission essential	SDPS | CSMS	functional	test	un-verified	test	un-verified	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.	A: No schedule mngmt provided by PRONG - PLANG only; Config. Mngmt data acquired by Openview or manual means; Accountability data provided by production status repeorting;	
PGS-0310#B	7400	mission essential	SDPS | CSMS	functional	test	un-verified	test	un-verified	The PGS element shall collect the management data used to support the following system management functions: a. Fault Management b. Configuration Management c. Accounting Management d. Accountability Management e. Performance Management f. Security Management g. Scheduling Management.		

PGS-0320#A	4161	mission essential	SDPS	functional	test	un-verified	test		The PGS shall display detected faults to the system operators.	Faults = errors such as: data staging/destaging, PGE execution queue processing, etc.	
PGS-0320#B	4658	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall display detected faults to the system operators.	Faults = errors such as: data staging/destaging, PGE execution queue processing, etc.	
PGS-0325#A	7396	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the SMC with scheduling and status information.		
PGS-0325#B	7401	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the SMC with scheduling and status information.		
PGS-0330#A	7421	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall report detected processing system faults to the SMC.	Processing system faults = errors such as data staging/destaging, PGE execution, queue processing, etc.	
PGS-0330#B	7423	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall report detected processing system faults to the SMC.	Processing system faults = errors such as data staging/destaging, PGE execution, queue processing, etc.	
PGS-0340#A	7398	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.	"PGS and its subsystems" = PDPS, LSM = MSS (MSS provides the tools used for fault detections).	
PGS-0340#B	7402	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize fault isolation tools provided by the LSM for the PGS and its subsystems.	"PGS and its subsystems" = PDPS, LSM = MSS (MSS provides the tools used for fault detections).	

PGS-0350#A	7438	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.		Internal interfaces defined by this Level 3 is not consistent with the current ECS architecture. No tools are provided by MSS. Subsystems log the events to the MSS event log and MSS performs the reporting/analysis to support this requirement.
PGS-0350#B	7403	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	Fault isolation events are logged to the IMS event log and IMS performs the reporting and analysis to support this requirement.	
PGS-0360#A	4167	mission essential	SDPS	functional	test	un-verified	test		The PGS shall generate a PGS processing log that accounts for all data processing activities.	Data processing activities = PLANG and PRONG status logs.	
PGS-0360#B	4694	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall generate a PGS processing log that accounts for all data processing activities.	Data processing activities = PLANG and PRONG status logs.	
PGS-0370#A	4169	mission fulfillment	SDPS	functional	test	un-verified	test		The PGS shall utilize the LSM to generate a PGS resource utilization report.		
PGS-0370#B	4700	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize the LSM to generate a PGS resource utilization report.		

PGS-0380#A	7426	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall monitor its internal operations and generate a status report periodically and on request.	This requirement implies automatic periodic production of status reports.	
PGS-0380#B	7427	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall monitor its internal operations and generate a status report periodically and on request.	This requirement implies automatic periodic production of status reports.	
PGS-0400#A	4174	mission essential	SDPS	functional	test	un-verified	test		The PGS shall have the capability to monitor the status of all algorithm and calibration coefficient testing and generate algorithm and calibration test reports.		
PGS-0400#B	4716	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to monitor the status of all algorithm and calibration coefficient testing and generate algorithm and calibration test reports.		
PGS-0410#A	7428	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to track the processing status of all products scheduled to be generated.		
PGS-0410#B	7429	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to track the processing status of all products scheduled to be generated.		

PGS-0420#A	7444	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide tools to analyze system performance.		PDPS logs events to the MSS event log. MSS performs the reporting/analysis to support this requirement. PGE related performance data is reported to SCFs as well via reports.
PGS-0420#B	7406	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide tools to analyze system performance.	PGS logs events to the IMS event log. IMS performs the reporting and analysis to support this requirement. PGE related performance data is reported to SCFs as well via reports.	
PGS-0430#A	4177	mission essential	SDPS	functional	test	un-verified	test		The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements.		
PGS-0430#B	4748	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements.	~~B: AM-1,EDOS~~ Rel B includes AM-1 and EDOS monitoring/accounting of data.	

PGS-0440#A	6914	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the DADS L0-L4 data products. Received information shall contain at a minimum: a. Product identification b. L0-L4 data set c. Metadata required for processing	A: TRMM (CERES) Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. Items c, d and e are not included in the current interface; PDPS provides product identification in the form of a UR to SDSRV to retreive products; any required metadata is included with the product.	
PGS-0440#B	4751	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the DADS L0-L4 data products. Received information shall contain at a minimum: a. Product identification b. L0-L4 data set c. Metadata required for processing d. Current date and time e. DADS identification	B: AM-1 PGS provides product identification in the form of a UR to DADS to retreive products.	

PGS-0450#A	6916	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the DADS ancillary data sets. Received information shall contain at a minimum: b. Ancillary data set c. Metadata required for processing	A: CERES processing Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. PDPS accesses data products from DSS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required Items a, c, d, and e are not included in the current interface; any required metadata is included with the product.	
PGS-0450#B	4755	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the DADS ancillary data sets. Received information shall contain at a minimum: a. Product identification b. Ancillary data set c. Metadata required for processing d. Current date and time e. DADS identification	B: AM-1 PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required	
PGS-0455#A	6603	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to assess the quality of spacecraft orbit and attitude (O/A) data contained in the ancillary data. QA shall be in the form of limits checking.		

PGS-0455#B	4869	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to assess the quality of spacecraft orbit and attitude (O/A) data contained in the ancillary data. QA shall be in the form of limits checking.		
PGS-0456#B	6502	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall notify the FDF, via the DADS, of orbit quality checks and request updated orbit data from the FDF when necessary.	B: APPLIES TO AM-1 ONLY	A: Early interface testing only
PGS-0457#A	6499	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall use subroutines provided by the Flight Dynamics Facility to repair orbit and attitude data when necessary	A: fully functional	
PGS-0457#B	6500	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall use subroutines provided by the Flight Dynamics Facility to repair orbit and attitude data when necessary		
PGS-0458#B	4871	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall use configuration-controlled calibration coefficients and selected engineering data to generate calibrated ancillary data products necessary as input to the generation of Level 1 Standard Products in a timeframe that assures that production schedules for all products can be met.		

PGS-0470#A	6604	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.	A: CERES	
PGS-0470#B	4872	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.	~~B: AM-1, COLOR~~	
PGS-0480#A	6606	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to perform all its processing based on priority.	A: CERES	
PGS-0480#B	4873	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to perform all its processing based on priority.	~~B: AM-1, COLOR~~	
PGS-0490#A	6265	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to access and use, for the generation of Standard Products, information such as: a. Digital terrain map databases b. Land/sea databases c. Digital political map databases		
PGS-0490#B	4874	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to access and use, for the generation of Standard Products, information such as: a. Digital terrain map databases b. Land/sea databases c. Climatology databases d. Digital political map databases		

PGS-0500#A	6917	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate Level 1 through 4 Standard Products using validated algorithms and calibration coefficients provided by the scientists.		
PGS-0500#B	4875	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate Level 1 through 4 Standard Products using validated algorithms and calibration coefficients provided by the scientists.		
PGS-0510#A	6918	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate metadata (see Appendix C) according to the algorithms provided by the scientists and associate this metadata with each Standard Product generated.		
PGS-0510#B	4876	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate metadata (see Appendix C) according to the algorithms provided by the scientists and associate this metadata with each Standard Product generated.		
PGS-0512#A	6609	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall generate unique granule IDs for all products generated at the PGS.	A: CERES	

PGS-0512#B	4877	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall generate unique granule IDs for all products generated at the PGS.	~~B: AM-1, COLOR~~	
PGS-0520#A	6989	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.	Release A product generation services/capabilities are based on needs made known (e.g., via design reviews) to ECS by the TRMM instruments teams. These do not include generation of data products with optional or alternate inputs; data products with staging for subsetting a subsampling data sets services; and processing control language constructs which enable repeatable patterns for the frequency in which algorithm's processing requests are accomplished.	
PGS-0520#B	4878	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.	B: EDOS generated L0 data is processed to produce L1 through L4a data.	
PGS-0540#B	4879	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall reprocess specified science data using original or updated algorithms provided by the scientists.	All missions cumulative through Release B include CERES, LIS, AM-1~~,~~ ~~and COLOR~~.	

PGS-0550#B	4880	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall reprocess science data using the original or updated (provided by the scientists) calibration coefficients.	All missions cumulative through Release B include CERES, LIS, AM-1~~, and COLOR~~.	
PGS-0560#A	6923	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain copies of generated products to be used as inputs to other scheduled products for processing efficiency.	A: CERES	
PGS-0560#B	4881	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain copies of generated products to be used as inputs to other scheduled products for processing efficiency.	~~B: AM-1, COLOR~~	
PGS-0590#A	6925	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to indicate the temporary status of data stored in the DADS that is awaiting QA or human interaction in product production.	A: CERES Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. Data is not stored temporarily in the DSS to await QA before being committed to storage. All data products that are produced are stored. Rel B, subsequent processing may be delayed for some period waiting for QA before continuing with processing. No need identified in Rel. A for "man-in-the-loop" QA.	

PGS-0590#B	4882	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to indicate the temporary status of data stored in the DADS that is awaiting QA or human interaction in product production.	~~B: AM-1, COLOR~~ All data products that are produced are stored. Rel B, subsequent processing may be delayed for some period waiting for QA before continuing with processing.	
PGS-0595#A	6522	mission essential	SDPS	functional	inspection	un-verified	inspection	un-verified	The PGS shall provide, to the ASTER science software, access to a relational database management system.	No operational capabilities; only acceptance and integration & test	ASTER for EOS flight AM-1 thus no operational capabilities in A
PGS-0595#B	6523	mission essential	SDPS	functional	inspection	un-verified	inspection	un-verified	The PGS shall provide, to the ASTER science software, access to a relational database management system.	Full relevance, i.e., operational	ASTER for EOS flight AM-1 thus full relevance in B
PGS-0600#B	4883	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide an algorithm and calibration test and validation environment that is fully compatible with but isolated from the operational production environment.	~~B: AM-1, COLOR~~	
PGS-0602#A	6613	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to accept POSIX-compliant science algorithms and compile algorithm source code written in a standard programming language (e.g., Fortran, C, Ada).	A: CERES	

PGS-0602#B	4884	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to accept POSIX-compliant science algorithms and compile algorithm source code written in a standard programming language (e.g., Fortran, C, Ada).	~~B: AM-1, COLOR~~	
PGS-0605#A	7494	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall process pre-launch test data and provide test data product samples for user verification.	A: CERES The science software I&T process defined for ECS (supported by AITTL CI tools) will allow for testing & integration of instrument team (IT) provided science software with IT provided test data sets.	
PGS-0605#B	4885	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall process pre-launch test data and provide test data product samples for user verification.	~~B: AM-1, COLOR~~ The science software I&T process defined for ECS will allow for testing & integration of instrument team (IT) provided science software with IT provided test data sets.	

PGS-0610#A	6928	mission essential	SDPS	functional	test	un-verified	analysis	un-verified	The PGS shall accept from the SCFs new or modified calibration coefficients to be validated in the test environment. Calibration coefficients shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values c. Author and version number d. Identification of related processing algorithm e. Start and stop date/time of applicability f. Date and time g. SCF identification h. Reasons for update	Interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	

PGS-0610#B	4886	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the SCFs new or modified calibration coefficients to be validated in the test environment. Calibration coefficients shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values c. Author and version number d. Identification of related processing algorithm e. Start and stop date/time of applicability f. Date and time g. SCF identification h. Reasons for update	Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	
PGS-0620#A	6929	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to validate received calibration coefficients for completeness and correct format.	Updated calibration files are validated through the science software I&T process, i.e., by running the science software and confirming that the results are consistent with SCF produced results. No specific file completeness and format correctness checks are done.	

PGS-0620#B	4887	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to validate received calibration coefficients for completeness and correct format.	Updated calibration files are validated through the science software I&T process, i.e., by running the science software and confirming that the results are consistent with SCF produced results. No specific file completeness and format correctness checks are done.	
PGS-0630#A	6930	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS new or modified calibration coefficients which shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values d. Identification of related processing algorithm	Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. PDPS accesses data products from DSS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required Items c, e, and f are not included in the current interface; current interface is defined by DID 311.	

PGS-0630#B	4888	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS new or modified calibration coefficients which shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values c. Author and version number d. Identification of related processing algorithm e. Start and stop date/time of applicability f. Documentation	PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required	
PGS-0640#A	6931	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the SCF new or modified Standard Product algorithms to be tested at the processing facility. This software shall be received into the test environment and shall contain the following information at a minimum : a. Algorithm identification b. Algorithm source code c. List of required inputs d. Processing dependencies e. Test data and procedures f. Algorithm documentation	Science software may include these items and much more, or be only one of the items in an update package. Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002. The test environment is the AITTL CI environment.	

PGS-0640#B	4889	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the SCF new or modified Standard Product algorithms to be tested at the processing facility. This software shall be received into the test environment and shall contain the following information at a minimum : a. Algorithm identification b. Algorithm source code c. List of required inputs d. Processing dependencies e. Test data and procedures f. Algorithm documentation	Science software may include these items and much more, or be only one of the items in an update package. Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002. B: Adding ~~MSS~~ IMS interface and the capability to execute chains.	

PGS-0650#A	6616	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to validate required operational algorithm characteristics prior to scheduling algorithm test time. These characteristics shall be include at a minimum: a. Language b. Operational impacts (e.g., algorithm software size, required resources) c. Algorithm documentation d. Data handling standards as appropriate e. Units and models used f. Operational compatibility g. Required metadata outputs		

PGS-0650#B	4890	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to validate required operational algorithm characteristics prior to scheduling algorithm test time. These characteristics shall be include at a minimum: a. Language b. Operational impacts (e.g., algorithm software size, required resources) c. Algorithm documentation d. Data handling standards as appropriate e. Units and models used f. Operational compatibility g. Required metadata outputs		
PGS-0860#A	6620	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.	A: Manual scheduling.	
PGS-0860#B	4891	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.	B: Automatic scheduling.	

PGS-0870#B	7407	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to schedule algorithm test resources that do not interfere with the operational production environment.		
PGS-0900#A	7495	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send test products to the SCF for analysis. These shall contain the results of algorithm testing and shall contain the following information at a minimum: a. Algorithm identification b. Test time(s) c. Processor identification d. Test results	Interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	
PGS-0900#B	4893	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send test products to the SCF for analysis. These shall contain the results of algorithm testing and shall contain the following information at a minimum: a. Algorithm identification b. Test time(s) c. Processor identification d. Test results	Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	
PGS-0910#A	6622	mission essential	SDPS	functional	analysis	un-verified	test	un-verified	The PGS shall have the capability to support analysis of algorithm test results.		

PGS-0910#B	4896	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to support analysis of algorithm test results.		
PGS-0915#A	6414	mission fulfillment	SDPS	functional	demo	un-verified	test	un-verified	The PGS shall support remote science software integration and test activities at the DAACs including: a. executing code checkers, compiling, linking, debugging code, file comparison and science software resource profiling from the SCF. b. Interactive remote access to a job scheduling tool for defining and executing jobs.		
PGS-0915#B	6415	mission fulfillment	SDPS	functional	demo	un-verified	test	un-verified	The PGS shall support remote science software integration and test activities at the DAACs including: a. executing code checkers, compiling, linking, debugging code, file comparison and science software resource profiling from the SCF. b. Interactive remote access to a job scheduling tool for defining and executing jobs.		

PGS-0920#A	6933	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.		

PGS-0920#B	6407	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.	~~B: AM-1, COLOR~~ Transfer of algorithm implies verifying proper resource utilization resources.	
PGS-0925#A	6151	mission essential	SDPS	procedural	test	un-verified	test		The PGS shall validate algorithms used for conversions, calibrations and transformations of EOS engineering data.	Algorithms used for converting EOS engineering data into HDF-EOS format will undergo normal I&T procedures for validation.	
PGS-0925#B	6152	mission essential	SDPS	procedural	test	un-verified	test	un-verified	The PGS shall validate algorithms used for conversions, calibrations and transformations of EOS engineering data.	Algorithms used for converting EOS engineering data into HDF-EOS format will undergo normal I&T procedures for validation.	

PGS-0930#A	6934	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to transfer validated algorithm software and calibration coefficients from the test environment to the operational environment to be used in the production of Standard Products.	A: TRMM	
PGS-0930#B	4902	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to transfer validated algorithm software and calibration coefficients from the test environment to the operational environment to be used in the production of Standard Products.	~~B: AM-1, COLOR~~ Transfer of algorithm implies verifying proper resource utilization resources.	
PGS-0940#A	6935	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide storage for all candidate algorithms' software executables and calibration coefficients.	The science processing systems including storage used for ordinary science processing will also be used for science software I&T. These resources will be allocated from the science processor pool for this purpose.	

PGS-0940#B	4905	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide storage for all candidate algorithms' software executables and calibration coefficients.	The science processing systems including storage used for ordinary science processing will also be used for science software I&T. These resources will be allocated from the science processor pool for this purpose.	
PGS-0950#A	6991	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall interface to maintain configuration control of all algorithms and calibration coefficients used in operational Standard Product production. Controlled information shall contain at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data, and results c. Date and time of operational installation d. Compiler identification and version e. Final algorithm documentation		

PGS-0950#B	8385	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall interface to the SMC to maintain configuration control of all algorithms and calibration coefficients used in operational Standard Product production. Controlled information shall contain at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data, and results c. Date and time of operational installation d. Compiler identification and version e. Final algorithm documentation		

PGS-0960#A	6936	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS new or modified algorithms. This delivery shall contain the following information at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data and results c. Date and time of operational installation d. Final algorithm documentation e. Calibration coefficient values	A: CERES Science software to be inserted to the SDSRV may include these items and much more, or be only one of the items in an update package. Interfaces do not include Date and Time of operational installation. Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	
PGS-0960#B	4909	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS new or modified algorithms. This delivery shall contain the following information at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data and results c. Date and time of operational installation d. Final algorithm documentation e. Calibration coefficient values	~~B: AM-1, COLOR~~ Science software to be inserted to the SDSRV may include these items and much more, or be only one of the items in an update package Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	

PGS-0970#A	6626	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide file access subroutines that enforce compliance with the adopted standard ECS formats.		
PGS-0970#B	8386	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide file access subroutines that enforce compliance with the adopted standard ECS formats.		
PGS-0980#A	6627	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide job control routines that provide all required task parameters to the Standard Product software.		
PGS-0980#B	4920	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide job control routines that provide all required task parameters to the Standard Product software.		
PGS-0990#A	6628	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide error logging subroutines for use by Standard Product software in notifying the system operators of conditions requiring their attention.		
PGS-0990#B	4924	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide error logging subroutines for use by Standard Product software in notifying the system operators of conditions requiring their attention.		

PGS-1000#A	6629	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide error logging subroutines for use by Standard Product software in notifying users of conditions requiring their attention.		
PGS-1000#B	4926	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide error logging subroutines for use by Standard Product software in notifying users of conditions requiring their attention.		
PGS-1010#A	6937	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide mass storage allocation subroutines that provide algorithms with a means for dynamic allocation of storage for temporary files.		
PGS-1010#B	4928	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide mass storage allocation subroutines that provide algorithms with a means for dynamic allocation of storage for temporary files.		

PGS-1015#A	6630	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide ancillary data access subroutines that provide Standard Product software access to ephemeris data (e.g., solar, lunar, and satellite ephemeris), Earth rotation data, and time and position measurement data. These subroutines shall perform operations such as: a. Interpolation b. Extrapolation c. Coordinate system conversion		
PGS-1015#B	4932	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide ancillary data access subroutines that provide Standard Product software access to ephemeris data (e.g., solar, lunar, and satellite ephemeris), Earth rotation data, and time and position measurement data. These subroutines shall perform operations such as: a. Interpolation b. Extrapolation c. Coordinate system conversion		

PGS-1020#A	6938	mission essential	SDPS	functional	test	un-verified	inspection	un-verified	The PGS shall provide mathematical libraries including: a. Linear algebra and analysis (e.g., LINPAC, IMSL) b. Statistical calculations (e.g., SAS, SPSS)		
PGS-1020#B	4937	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide mathematical libraries including: a. Linear algebra and analysis (e.g., LINPAC, IMSL) b. Statistical calculations (e.g., SAS, SPSS)		
PGS-1025#A	7736	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide a Science Processing Library containing routines such as: a. Image processing routines b. Data visualization routines c. Graphics routines		
PGS-1025#B	4940	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide a Science Processing Library containing routines such as: a. Image processing routines b. Data visualization routines c. Graphics routines		
PGS-1030#A	6939	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide a toolkit to the SCF containing versions of the routines specified in requirements PGS-0970 to PGS-1020.		

PGS-1030#B	4945	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide a toolkit to the SCF containing versions of the routines specified in requirements PGS-0970 to PGS-1020.		
PGS-1050#A	6632	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the capability to perform both automatic and manual QA of generated products.		
PGS-1050#B	4948	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the capability to perform both automatic and manual QA of generated products.		
PGS-1060#A	6634	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to perform automatic QA of generated products utilizing algorithms provided by the scientists.		
PGS-1060#B	4951	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to perform automatic QA of generated products utilizing algorithms provided by the scientists.		
PGS-1080#A	6636	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide an inventory and review copy of generated products to the data product quality staff before the product is sent to the DADS for storage.		

PGS-1080#B	4954	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide an inventory and review copy of generated products to the data product quality staff before the product is sent to the DADS for storage.		
PGS-1090#A	7496	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide the data product quality staff with the algorithms, calibration coefficient tables, input data sets, or other information related to product processing for the purpose of reviewing and analyzing the quality of production.		
PGS-1090#B	7497	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide the data product quality staff with the algorithms, calibration coefficient tables, input data sets, or other information related to product processing for the purpose of reviewing and analyzing the quality of production.		
PGS-1100#A	6640	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to accept product quality data input.	This requirement supports manual and automatic QA.	
PGS-1100#B	4968	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to accept product quality data input.	This requirement supports manual and automatic QA.	

PGS-1110#A	6642	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to associate data quality with a generated product.		
PGS-1110#B	4973	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to associate data quality with a generated product.		
PGS-1120#A	6644	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 Approval field c. Other metadata		
PGS-1120#B	4976	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 Approval field c. Other metadata		

PGS-1130#A	6940	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive product QA from the SCF which shall describe the results of the scientists product quality review at an SCF. Product QA shall contain the following information at a minimum: a. Identification of product b. QA results	A: CERES Metadata = Product ID, QA results, Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. PDPS accesses data products from DSS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required Item c is not included in the current interface; current interface is defined by DID 311. SCF QA is intended to describe scientific quality of data.	

PGS-1130#B	8387	mission essential	SDPS	functional	test	un-verified	test	un-verified	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	PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required SCF QA is intended to describe scientific quality of data. Item c. is implemented by allowing for processing instructions that will include a QA pass/fail results indicator in the metadata. Storage instructions are not implemented since all products will be stored automatically.	Metadata = Product ID, QA results, Product Storage and Processing Instructions
PGS-1140#A	7498	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide the data product quality staff with the Product QA data from the SCF.	A: CERES The QA Metadata Update interface will allow SCF staff to peruse and modify the Science Quality Flag. The Automatic and Operational Quality Flags will also be displayed along with expanitory text.	

PGS-1140#B	4994	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide the data product quality staff with the Product QA data from the SCF.	The QA Metadata Update interface will allow SCF staff to peruse and modify the Science Quality Flag. The Automatic and Operational Quality Flags will also be displayed along with expanitory text.	
PGS-1150#A	6941	mission essential	SDPS	functional	test	un-verified	test	un-verified	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.	Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. All data successfully produced by a PGS will be stored to SDSRV.	
PGS-1150#B	4996	mission essential	SDPS	functional	test	un-verified	test	un-verified	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.	All data successfully produced by a PGS will be stored to DADS.	
PGS-1160#B	4999	mission essential	SDPS	functional	test	un-verified	test	un-verified	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.		

PGS-1170#B	5001	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to identify data products awaiting QA that have not been reviewed within the amount of time allocated for QA.		
PGS-1175#B	5005	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain a list of products requiring QA by SCF or the PGS.		
PGS-1180#B	5010	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to update the processing status of a given product as a result of a QA timeout.		
PGS-1190#A	6942	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to log the identification of all non-stored products or suspended processing directed by the data product quality staff to support the maintenance of performance statistics.	Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. All data successfully produced by a PGS will be stored to SDSRV. No need identified in RelA for "man-in-loop" QA. Processing using a particular PGE may be halted by removing these jobs from the plan. Normal production reports will provide the required identification.	

PGS-1190#B	5014	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to log the identification of all non-stored products or suspended processing directed by the data product quality staff to support the maintenance of performance statistics.	All data successfully produced by a PGS will be stored to DADS. Normal production reports will provide the required identification.	
PGS-1200#A	6943	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate a data quality assessment report including a description of the quality of each processed product as well as the quality of each of the products input data sets.	Reporting concept is to provide key data in the databases and let M&O define and develop needed reports using COTS report writing tools. All products can have quality indicator metadata. All standard products also contain references to products used in their generation.	
PGS-1200#B	8388	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate a data quality assessment report including a description of the quality of each processed product as well as the quality of each of the product's input data sets.	Reporting concept is to provide key data in the databases and let M&O define and develop needed reports using COTS report writing tools. All products can have quality indicator metadata. All standard products also contain references to products used in their generation.	
PGS-1210#A	6647	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall coordinate the disposition of PGS data stored temporarily in the DADS.		

PGS-1210#B	5022	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall coordinate the disposition of PGS data stored temporarily in the DADS.		
PGS-1220#A	6273	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to receive GFE databases and associated tools, including COTS and public domain databases, and maintain them as required as inputs to product generation: Example databases are: a. Digital terrain map databases b. Land/sea databases c. Digital political map databases		
PGS-1220#B	5025	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to receive GFE databases and associated tools, including COTS and public domain databases, and maintain them as required as inputs to product generation: Example databases are: a. Digital terrain map databases b. Land/sea databases c. Climatology databases d. Digital political map databases		

PGS-1230#B	5027	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept special data sets from the DADS. Received information shall contain at a minimum: a. Product identification b. Special data set c. Metadata required for processing d. Current date and time e. DADS identification	B: SCF non-standard data sets	
PGS-1240#A	6944	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the generated Level 1 to Level 4 Standard Products to the DADS. These products shall contain the following information at a minimum: a. Product identification b. L1-L4 data set e. Associated metadata	A: TRMM Internal interfaces defined by Level 3s are not necessarily consistent with the current ECS architecture. PDPS accesses data products from DSS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required Items c and d are not included in the current interface; the current interface is defined by DID 311.	

PGS-1240#B	5029	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the generated Level 1 to Level 4 Standard Products to the DADS. These products shall contain the following information at a minimum: a. Product identification b. L1-L4 data set c. Product processing priority d. Current date and time e. Associated metadata	~~B: AM-1, COLOR~~ PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers.	
PGS-1250#A	6945	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS the calibrated ancillary data.	Calibrated ancillary data products are like any data product and can be stored to the Data Server	
PGS-1250#B	5031	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS the calibrated ancillary data.	~~AM-1, Color~~ Calibrated ancillary data products are like any data product and can be stored to the Data Server	

PGS-1270#A	7172	mission fulfillment	SDPS	evolvable	analysis	un-verified	analysis	un-verified	The PGS design and implementation shall have the flexibility to accommodate PGS expansion up to a factor of 3 in the processing capacity with no changes to the processing design, and up to a factor of 10 without major changes to the processing design. Such expansion in capacity or capability shall be transparent to existing algorithms or product specifications. This requirement shall apply to the system at all phases of contract performance, including the final system, as well as the at-launch system.		

PGS-1270#B	7188	mission fulfillment	SDPS	evolvable	analysis	un-verified	analysis	un-verified	The PGS design and implementation shall have the flexibility to accommodate PGS expansion up to a factor of 3 in the processing capacity with no changes to the processing design, and up to a factor of 10 without major changes to the processing design. Such expansion in capacity or capability shall be transparent to existing algorithms or product specifications. This requirement shall apply to the system at all phases of contract performance, including the final system, as well as the at-launch system.		

PGS-1300#A	8237	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	Each PGS shall provide a processing capacity as shown in Table C-5 of Appendix C. It shall be possible to effectively utilize the entire reprocessing capacity at each site on computers with similar architectural design (e.g., parallel processors), for a single algorithm or any mix of algorithms normally run at that site. This processing capacity accounts for: a. normal processing demands b. reprocessing demands c. algorithm integration and test demands, production of prototype products, and ad hoc processing for "dynamic browse" or new search and access techniques developed by science users.	Release A Processing capacity provided is equal to 1.2X normal processing for CERES on TRMM and .3X normal processing for AM-1 instruments. This will be provided only at the GSFC, LaRC and EDC DAACs. Totals provided as derived from the August, 1995 Technical Baseline (Release A procurement baseline) in MFLOPS is @ LaRC: 7125; @ GSFC: 3467, and @ EDC: 1086. These capacities include the 25% efficiency required by PGS-1301#A	

PGS-1300#B	8238	mission critical	SDPS	performance	analysis	un-verified	analysis	un-verified	Each PGS shall provide a processing capacity as shown in Table C-5 of Appendix C. It shall be possible to effectively utilize the entire reprocessing capacity at each site on computers with similar architectural design (e.g., parallel processors), for a single algorithm or any mix of algorithms normally run at that site. The four times processing capacity accounts for: a. normal processing demands b. reprocessing demands c. algorithm integration and test demands, production of prototype products, and ad hoc processing for "dynamic browse" or new search and access techniques developed by science users.	RQMT will be phased so that processing capacity will be provided following 2 years after MSN launch.	
PGS-1301#A	6947	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	The effective CPU processing rates used for sizing purposes in PGS-1300 shall not be greater than 25% of peak-related CPU capacity.	A: TRMM	

PGS-1301#B	5040	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	The effective CPU processing rates used for sizing purposes in PGS-1300 shall not be greater than 25% of peak-related CPU capacity.	~~B: AM-1, COLOR~~	
PGS-1315#A	6648	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	Each PGS shall have the capacity to support I/O to temporary and intermediate storage or multiple passes over input products as required by individual science algorithms.	A: TRMM	
PGS-1315#B	5045	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	Each PGS shall have the capacity to support I/O to temporary and intermediate storage or multiple passes over input products as required by individual science algorithms.	~~B: AM-1, COLOR~~	
PGS-1400#A	8205	mission fulfillment	SDPS	functional	test	un-verified	inspection	un-verified	The PGS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development and integration of new algorithms developed at each DAAC to support DAAC value-added production.		

PGS-1400#B	5047	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development and integration of new algorithms developed at each DAAC to support DAAC value-added production.		
PGS-1410#B	5049	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the capability for each DAAC to add to the data production environment toolkit DAAC-developed software required to support discipline specific needs.		

TABLE 2: Table 2 show the updates and modifications that shall be made via this CCR. All requirements in this table have changes that are to be made in RTM.

RBR_id	req_key	req category	seg alloc	req type	s_verif method	s_verif stat	a_verif method	a_verif stat	text	interpretation text	clarification
PGS-0140#B	4549	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.		
PGS-0160#B	6267	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive standing orders, changes to standing orders, and product requests from the IMS.	Rel B: Additional capability of user requests. These requests come to ~~PLS(~~PGS~~)~~ indirectly from ~~CLS(~~IMS~~)~~ through ~~DSS(~~DADS~~)~~.	
PGS-0165#B	4559	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept priority processing requests from the IMS.		
PGS-0170#B	4567	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives from the SMC.		
PGS-0180#B	4571	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall receive a notice from DADS when data that it has received is available.		
PGS-0190#B	7399	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall coordinate with the DADS on the staging of data for product generation.	B: AM-1 and applicable DAACs	

PGS-0210#B	4588	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain an algorithm processing control language capable of constructs (e.g., if-then-else) based on the complexities of the PGS. This control language shall be utilized in conjunction with a database of product specifications that contains the recipe for the generation of all Standard Products allocated to that PGS including, at a minimum: a. The algorithm(s) to be used b. The order in which algorithms are to be executed c. The input data sets required d. Time and other processing resources required	PGE activation rules = scripting language that is managed with the Planning Database.	
PGS-0220#B	4591	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each productís reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	B: AM-1	

PGS-0230#B	6269	mission essential	SDPS	functional	test	un-verified	test	un-verified	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	~~Limited (manual) Reprocessing at Rel A.; For Rel A & B,~~ Production plans contain both standard and reprocessing requests - no separate reprocessing plan. It is listed here because requirements required to generically "build a plan" would otherwise be untraceable.	
PGS-0240#B	4609	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.	Production plans contain both standard and reprocessing requests - no separate reprocessing plan. Reprocessing capabilities are implemented in Rel B.	~~Reprocessing capabilities for PRONG exist at RLS A but are not implemented until RLS B when PLANG capability for reprocessing becomes effective in RLS B.~~

PGS-0250#B	4618	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 algorithm(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		
PGS-0260#B	6155	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall schedule other functions, including, at a minimum: a. File backups b. File maintenance c. Calibration data handling	Calibration data handling can be accomplished through a simple PGE or AI&T. File backup & maintenance handled procedurally using UNIX tools.	
PGS-0285#B	4632	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall transmit to the IMS a status message to confirm or reject a processing order. The reason for rejection shall be included.	Functionally, IMS is a part of OPS.	
PGS-0290#B	4647	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.		

PGS-0295#B	4650	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall transmit a status message notifying the IMS of a revised completion time if processing will not complete per original schedule.	Metadata associated with a plan will indicate a delay in production requests.	
PGS-0300#B	4653	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.	"Current data processing schedule" = Active Plan.	
PGS-0320#B	4658	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall display detected faults to the system operators.	Faults = errors such as: data staging/destaging, PGE execution queue processing, etc.	
PGS-0350#B	7403	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	Fault isolation events are logged to the IMS event log and IMS performs the reporting and analysis to support this requirement.	
PGS-0360#B	4694	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall generate a PGS processing log that accounts for all data processing activities.	Data processing activities = PLANG and PRONG status logs.	
PGS-0370#B	4700	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize the LSM to generate a PGS resource utilization report.		
PGS-0400#B	4716	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to monitor the status of all algorithm and calibration coefficient testing and generate algorithm and calibration test reports.		

PGS-0420#B	7406	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide tools to analyze system performance.	PGS logs events to the IMS event log. IMS performs the reporting and analysis to support this requirement. PGE related performance data is reported to SCFs as well via reports.	
PGS-0430#B	4748	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements.	~~B: AM-1,EDOS~~ Rel B includes AM-1 and EDOS monitoring/accounting of data.	
PGS-0440#B	4751	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the DADS L0-L4 data products. Received information shall contain at a minimum: a. Product identification b. L0-L4 data set c. Metadata required for processing d. Current date and time e. DADS identification	B: AM-1 PGS provides product identification in the form of a UR to DADS to retreive products.	
PGS-0450#B	4755	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the DADS ancillary data sets. Received information shall contain at a minimum: a. Product identification b. Ancillary data set c. Metadata required for processing d. Current date and time e. DADS identification	B: AM-1 PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required	

PGS-0455#B	4869	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to assess the quality of spacecraft orbit and attitude (O/A) data contained in the ancillary data. QA shall be in the form of limits checking.		
PGS-0458#B	4871	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall use configuration-controlled calibration coefficients and selected engineering data to generate calibrated ancillary data products necessary as input to the generation of Level 1 Standard Products in a timeframe that assures that production schedules for all products can be met.		
PGS-0470#B	4872	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.	~~B: AM-1, COLOR~~	
PGS-0480#B	4873	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to perform all its processing based on priority.	~~B: AM-1, COLOR~~	
PGS-0490#B	4874	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to access and use, for the generation of Standard Products, information such as: a. Digital terrain map databases b. Land/sea databases c. Climatology databases d. Digital political map databases		

PGS-0500#B	4875	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate Level 1 through 4 Standard Products using validated algorithms and calibration coefficients provided by the scientists.		
PGS-0510#B	4876	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate metadata (see Appendix C) according to the algorithms provided by the scientists and associate this metadata with each Standard Product generated.		
PGS-0512#B	4877	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall generate unique granule IDs for all products generated at the PGS.	~~B: AM-1, COLOR~~	
PGS-0520#B	4878	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate data products from any single data input or combination of data inputs according to the algorithms provided by the scientists.	B: EDOS generated L0 data is processed to produce L1 through L4a data.	
PGS-0540#B	4879	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall reprocess specified science data using original or updated algorithms provided by the scientists.	All missions cumulative through Release B include CERES, LIS, AM-1~~,~~ ~~and COLOR~~.	
PGS-0550#B	4880	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall reprocess science data using the original or updated (provided by the scientists) calibration coefficients.	All missions cumulative through Release B include CERES, LIS, AM-1~~,~~ ~~and COLOR~~.	

PGS-0560#B	4881	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain copies of generated products to be used as inputs to other scheduled products for processing efficiency.	~~B: AM-1, COLOR~~	
PGS-0590#B	4882	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to indicate the temporary status of data stored in the DADS that is awaiting QA or human interaction in product production.	~~B: AM-1, COLOR~~ All data products that are produced are stored. Rel B, subsequent processing may be delayed for some period waiting for QA before continuing with processing.	
PGS-0600#B	4883	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide an algorithm and calibration test and validation environment that is fully compatible with but isolated from the operational production environment.	~~B: AM-1, COLOR~~	
PGS-0602#B	4884	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to accept POSIX-compliant science algorithms and compile algorithm source code written in a standard programming language (e.g., Fortran, C, Ada).	~~B: AM-1, COLOR~~	

PGS-0605#B	4885	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall process pre-launch test data and provide test data product samples for user verification.	~~B: AM-1, COLOR~~ The science software I&T process defined for ECS will allow for testing & integration of instrument team (IT) provided science software with IT provided test data sets.	
PGS-0610#B	4886	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the SCFs new or modified calibration coefficients to be validated in the test environment. Calibration coefficients shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values c. Author and version number d. Identification of related processing algorithm e. Start and stop date/time of applicability f. Date and time g. SCF identification h. Reasons for update	Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	

PGS-0620#B	4887	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to validate received calibration coefficients for completeness and correct format.	Updated calibration files are validated through the science software I&T process, i.e., by running the science software and confirming that the results are consistent with SCF produced results. No specific file completeness and format correctness checks are done.	
PGS-0630#B	4888	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS new or modified calibration coefficients which shall contain the following information at a minimum: a. Identification of coefficient data set b. Calibration coefficients values c. Author and version number d. Identification of related processing algorithm e. Start and stop date/time of applicability f. Documentation	PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required	

PGS-0640#B	4889	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept from the SCF new or modified Standard Product algorithms to be tested at the processing facility. This software shall be received into the test environment and shall contain the following information at a minimum : a. Algorithm identification b. Algorithm source code c. List of required inputs d. Processing dependencies e. Test data and procedures f. Algorithm documentation	Science software may include these items and much more, or be only one of the items in an update package. Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002. B: Adding ~~MSS~~ IMS interface and the capability to execute chains.	

PGS-0650#B	4890	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to validate required operational algorithm characteristics prior to scheduling algorithm test time. These characteristics shall be include at a minimum: a. Language b. Operational impacts (e.g., algorithm software size, required resources) c. Algorithm documentation d. Data handling standards as appropriate e. Units and models used f. Operational compatibility g. Required metadata outputs		
PGS-0860#B	4891	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to schedule and coordinate algorithm and calibration coefficient test time in the test environment with the appropriate SCF.	B: Automatic scheduling.	

PGS-0900#B	4893	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send test products to the SCF for analysis. These shall contain the results of algorithm testing and shall contain the following information at a minimum: a. Algorithm identification b. Test time(s) c. Processor identification d. Test results	Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	
PGS-0910#B	4896	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to support analysis of algorithm test results.		
PGS-0920#B	6407	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 compilation and linkage of the source code and testing to verify proper software execution in the operational environment based on indicated data and test results provided by the SCF and the investigator, but shall not include scientific validation of products.	~~B: AM-1, COLOR~~ Transfer of algorithm implies verifying proper resource utilization resources.	

PGS-0925#B	6152	mission essential	SDPS	procedural	test	un-verified	test	un-verified	The PGS shall validate algorithms used for conversions, calibrations and transformations of EOS engineering data.	Algorithms used for converting EOS engineering data into HDF-EOS format will undergo normal I&T procedures for validation.	
PGS-0930#B	4902	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to transfer validated algorithm software and calibration coefficients from the test environment to the operational environment to be used in the production of Standard Products.	~~B: AM-1, COLOR~~ Transfer of algorithm implies verifying proper resource utilization resources.	
PGS-0940#B	4905	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide storage for all candidate algorithms' software executables and calibration coefficients.	The science processing systems including storage used for ordinary science processing will also be used for science software I&T. These resources will be allocated from the science processor pool for this purpose.	

PGS-0960#B	4909	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS new or modified algorithms. This delivery shall contain the following information at a minimum: a. Source code including version number and author b. Benchmark test procedures, test data and results c. Date and time of operational installation d. Final algorithm documentation e. Calibration coefficient values	~~B: AM-1, COLOR~~ Science software to be inserted to the SDSRV may include these items and much more, or be only one of the items in an update package Concepts for SSI&T and associated interfaces are described in "Software Developer's Guide to Preparation, Delivery, Integration and Test with ECS" Document No. 205-CD-002-002.	
PGS-0980#B	4920	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide job control routines that provide all required task parameters to the Standard Product software.		
PGS-0990#B	4924	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide error logging subroutines for use by Standard Product software in notifying the system operators of conditions requiring their attention.		
PGS-1000#B	4926	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide error logging subroutines for use by Standard Product software in notifying users of conditions requiring their attention.		

PGS-1010#B	4928	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide mass storage allocation subroutines that provide algorithms with a means for dynamic allocation of storage for temporary files.		
PGS-1015#B	4932	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide ancillary data access subroutines that provide Standard Product software access to ephemeris data (e.g., solar, lunar, and satellite ephemeris), Earth rotation data, and time and position measurement data. These subroutines shall perform operations such as: a. Interpolation b. Extrapolation c. Coordinate system conversion		
PGS-1020#B	4937	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide mathematical libraries including: a. Linear algebra and analysis (e.g., LINPAC, IMSL) b. Statistical calculations (e.g., SAS, SPSS)		

PGS-1025#B	4940	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide a Science Processing Library containing routines such as: a. Image processing routines b. Data visualization routines c. Graphics routines		
PGS-1030#B	4945	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide a toolkit to the SCF containing versions of the routines specified in requirements PGS-0970 to PGS-1020.		
PGS-1050#B	4948	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the capability to perform both automatic and manual QA of generated products.		
PGS-1060#B	4951	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to perform automatic QA of generated products utilizing algorithms provided by the scientists.		
PGS-1080#B	4954	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide an inventory and review copy of generated products to the data product quality staff before the product is sent to the DADS for storage.		
PGS-1100#B	4968	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to accept product quality data input.	This requirement supports manual and automatic QA.	

PGS-1110#B	4973	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to associate data quality with a generated product.		
PGS-1120#B	4976	mission essential	SDPS	functional	test	un-verified	test	un-verified	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 Approval field c. Other metadata		

PGS-1130#B	8387	mission essential	SDPS	functional	test	un-verified	test	un-verified	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	PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers. No other information is required SCF QA is intended to describe scientific quality of data. Item c. is implemented by allowing for processing instructions that will include a QA pass/fail results indicator in the metadata. Storage instructions are not implemented since all products will be stored automatically.	Metadata = Product ID, QA results, Product Storage and Processing Instructions
PGS-1140#B	4994	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to provide the data product quality staff with the Product QA data from the SCF.	The QA Metadata Update interface will allow SCF staff to peruse and modify the Science Quality Flag. The Automatic and Operational Quality Flags will also be displayed along with expanitory text.	

PGS-1150#B	4996	mission essential	SDPS	functional	test	un-verified	test	un-verified	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.	All data successfully produced by a PGS will be stored to DADS.	
PGS-1160#B	4999	mission essential	SDPS	functional	test	un-verified	test	un-verified	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.		
PGS-1170#B	5001	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to identify data products awaiting QA that have not been reviewed within the amount of time allocated for QA.		
PGS-1175#B	5005	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall maintain a list of products requiring QA by SCF or the PGS.		
PGS-1180#B	5010	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to update the processing status of a given product as a result of a QA timeout.		

PGS-1190#B	5014	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to log the identification of all non-stored products or suspended processing directed by the data product quality staff to support the maintenance of performance statistics.	All data successfully produced by a PGS will be stored to DADS. Normal production reports will provide the required identification.	
PGS-1200#B	8388	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to generate a data quality assessment report including a description of the quality of each processed product as well as the quality of each of the product's input data sets.	Reporting concept is to provide key data in the databases and let M&O define and develop needed reports using COTS report writing tools. All products can have quality indicator metadata. All standard products also contain references to products used in their generation.	
PGS-1210#B	5022	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall coordinate the disposition of PGS data stored temporarily in the DADS.		

PGS-1220#B	5025	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall have the capability to receive GFE databases and associated tools, including COTS and public domain databases, and maintain them as required as inputs to product generation: Example databases are: a. Digital terrain map databases b. Land/sea databases c. Climatology databases d. Digital political map databases		
PGS-1230#B	5027	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall accept special data sets from the DADS. Received information shall contain at a minimum: a. Product identification b. Special data set c. Metadata required for processing d. Current date and time e. DADS identification	B: SCF non-standard data sets	
PGS-1240#B	5029	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the generated Level 1 to Level 4 Standard Products to the DADS. These products shall contain the following information at a minimum: a. Product identification b. L1-L4 data set c. Product processing priority d. Current date and time e. Associated metadata	~~B: AM-1, COLOR~~ PGS accesses data products from DADS by providing a UR that defines the product. Metadata is included in the product headers.	

PGS-1250#B	5031	mission essential	SDPS	functional	test	un-verified	test	un-verified	The PGS shall send the DADS the calibrated ancillary data.	~~AM-1, Color~~ Calibrated ancillary data products are like any data product and can be stored to the Data Server	
PGS-1301#B	5040	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	The effective CPU processing rates used for sizing purposes in PGS-1300 shall not be greater than 25% of peak-related CPU capacity.	~~B: AM-1, COLOR~~	
PGS-1315#B	5045	mission essential	SDPS	performance	analysis	un-verified	analysis	un-verified	Each PGS shall have the capacity to support I/O to temporary and intermediate storage or multiple passes over input products as required by individual science algorithms.	~~B: AM-1, COLOR~~	
PGS-1400#B	5047	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall be developed with configuration-controlled application programming interfaces (APIs) that will be capable of supporting development and integration of new algorithms developed at each DAAC to support DAAC value-added production.		
PGS-1410#B	5049	mission fulfillment	SDPS	functional	test	un-verified	test	un-verified	The PGS shall provide the capability for each DAAC to add to the data production environment toolkit DAAC-developed software required to support discipline specific needs.		