

**Planning L4s with Traces to RBRs
Relative to ECS Baseline 073196
CCR 96-0968A**

Table 1 - Reference Table

L4 id	req_key	rel	clarification	text	RBR_id	req_key	text	interpretation text
S-PLS-00005	4220	A	Specific = the data products for which the site has corresponding PGE's from AI&T.	The PLANG CI shall accept priority Production Requests for the <u>running of PGEs to cause the generation of specific Data Products.</u>	IMS-1000#B	5280	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time	B: On-Demand processing interface for users.
					IMS-1000#A	5545	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time	A: Interface for Operations only.
					PGS-0165#A	4139	The PGS shall accept priority processing requests from the IMS.	
					PGS-0170#B	4567	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives from the SMC.	
					PGS-0165#B	4559	The PGS shall accept priority processing requests from the IMS.	

					PGS-0170#A	414 1	The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives.	A: Schedule conflict resolution locally @ DAAC.
S-PLS-00010	10084	A	Time window refers to the coverage time of the data set	The PLANG CI shall accept Production Requests for running PGEs to generate specific Data Products with associated time windows that are to be routinely generated.	SDPS0030#B	507 1	The SDPS shall produce Standard Products (as listed in Appendix C, including prototype products on a time-available basis) for EOS instruments based on the algorithms source code and calibration coefficients supplied by EOS scientists.	B: AM-1
					IMS-1000#B	528 0	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time	B: On-Demand processing interface for users.
					SDPS0030#A	540 0	The SDPS shall produce Standard Products (as listed in Appendix C, including prototype products on a time-available basis) for EOS instruments based on the algorithms source code and calibration coefficients supplied by EOS scientists.	A: TRMM (CERES,LIS)
					EOSD1720#A	645 7	ECS elements shall receive from the ECS user community the following types of data requests at a minimum: b. Data Distribution Requests c. Reprocessing Requests	A: b-limited to operable DAACs c-CERES/LIS for TRMM only for MSFC, LaRC
					PGS-0160#B	626 7	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).

					IMS-1000#A	554 5	The IMS shall prepare, for output to the PGS, the Product Processing Order for specifying processing and data to be used in generating a product, which shall contain the following information at a minimum: a. Identification of the product(s) to be generated b. Identification of the expected time/time window of receipt of input products, and ancillary data c. Product processing priority d. Destination(s) of product output e. Suggested earliest start time f. Suggested latest completion time	A: Interface for Operations only.
					PGS-0160#A	626 6	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.
					EOSD1720#B	624 8	ECS elements shall receive from the ECS user community the following types of data requests at a minimum: a. Data Acquisition Requests for the ASTER Instrument b. Data Distribution Requests c. Reprocessing Requests	
S-PLS-00040	4223	A		The PLANG CI shall reject a Production Request if an invalid product identifier <u>PGE</u> has been specified.	PGS-0500#A	418 5	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	487 5	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-0160#A	6266	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	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).
S-PLS-00345	10185	A	Shared allocation means a resource may be allocated to more than one event.	The PLANG CI shall provide the capability to generate a planned site resource report.	SMC-0320#B	6275	The SMC shall be capable of scheduling ground activities to a minimum of one minute resolution.	Resource Planning at DAACs and SMC; B: Shared allocation, Planned vs. Actual Reports
S-PLS-00345					SMC-0320#A	6302	The SMC shall be capable of scheduling ground activities to a minimum of one minute resolution.	Resource Planning at DAACs and SMC; A: Exclusive allocation
S-PLS-00470	4247	A	Fault tools are used to collect fault data. <u>Keep PR and DPR information for 90 days</u>	The PLANG CI shall maintain information on the following: a. current processing status of all Production Requests received, b. current processing status of all Data Processing Requests generated, c. detected processing fault data.	PGS-0360#B	4694	The PGS shall generate a PGS processing log that accounts for all data processing activities.	Data processing activities = PLANG and PRONG status logs.
					PGS-0410#B	4723	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
					PGS-0370#B	4700	The PGS shall utilize the LSM to generate a PGS resource utilization report.	

					PGS-0325#A	416 2	The PGS shall provide the SMC with scheduling and status information.	
					PGS-0325#B	466 5	The PGS shall provide the SMC with scheduling and status information.	
					PGS-0340#B	468 4	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-0370#A	416 9	The PGS shall utilize the LSM to generate a PGS resource utilization report.	
					PGS-0410#A	417 5	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
					PGS-0360#A	416 7	The PGS shall generate a PGS processing log that accounts for all data processing activities.	Data processing activities = PLANG and PRONG status logs.
					PGS-0340#A	416 5	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).
S-PLS-00475	4248	A	Candidate plan = proposed plan; Active plan = candidate plan chosen and invoked by the operator. <u>Keep plans for 90 days beyond last applicability.</u>	The PLANG CI shall maintain information on all <u>retain generated</u> Candidate and Active Plans generated.	PGS-0220#A	414 6	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each product's reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	A: TRMM - LaRC, MSFC
					PGS-0250#B	461 8	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-0220#B	459 1	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each product's reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	
					PGS-0380#A	417 3	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-0250#A	415 0	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-0380#B	470 7	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.
S-PLS-00680	4259	A		The PLANG CI shall provide the capability to generate multiple Candidate Plans through the <u>selection of alternate sets of Production Requests.</u>	PGS-0140#A	413 4	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.	
					PGS-0140#B	454 9	The PGS shall provide tools to help the PGS staff create and modify SDPS plans, schedules, and lists.	

S-PLS-00710	4262	A	PLANG capabilities are listed because they are incorporated in Standard Processing.	The PLANG CI shall create a Candidate Plan based on the following: 1. Outstanding production requests, their priorities and estimated runtimes, 2. Ground events, their priority and estimated duration, 3. Planning production rules, 4. Mutual PGE accessibility of shared data <u>Data Processing Request</u> dependancies, 5. Completion notification status messages from Data Processing Requests.	PGS-0260#A	6154	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.
					SDPS0016#B	6307	The SDPS shall coordinate and resolve schedule conflicts between IMS, DADS and PGS.	Planning confirms as a part of production scheduling that Ingest and Data Server are available.
					PGS-0240#A	6270	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-0230#B	6269	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#A	6268	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-0260#B	6155	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-0220#A	4146	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each product's reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	A: TRMM - LaRC, MSFC
				PGS-0250#B	4618	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-0240#B	4609	The PGS shall perform reprocessing according to the PGS reprocessing plan and the availability of resources.	
				PGS-0220#B	4591	The PGS shall create a reprocessing plan containing at a minimum: a. A list of processing tasks needed to carry out each product's reprocessing b. Estimated schedule for each task c. The order in which tasks will be executed	
				PGS-0560#A	4189	The PGS shall maintain copies of generated products to be used as inputs to other scheduled products for processing efficiency.	A: CERES, LIS
				PGS-0480#A	4183	The PGS shall have the capability to perform all its processing based on priority.	A: CERES, LIS
				PGS-0470#A	4182	The PGS shall have the capability to produce each Standard Product as specified in that product's Standard Product specification.	A: CERES, LIS
				PGS-0250#A	4150	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-0470#B	4872	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-0560#B	4881	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-0480#B	4873	The PGS shall have the capability to perform all its processing based on priority.	B: AM-1, COLOR

S-PLS-00740	10109	A B	Support for parallel Planning and Data Processing capability to be provided for AIT Support for <u>completely parallel operations and AIT testing not available until Rel. A.1.</u>	The PLANG CI shall have the capability to schedule algorithm test Data Processing Requests that do not interfere with the operational production environment.	PGS-0870#A	627 1	The PGS shall have the capability to schedule algorithm test resources that do not interfere with the operational production environment.	-A: LaRC, MSFC, not production environments
S-PLS-00740					SDPS0140#A	420 8	The SDPS shall support element, system, and subsystem test activities throughout the development phase.	
S-PLS-00740					PGS-0870#B	4892	The PGS shall have the capability to schedule algorithm test resources that do not interfere with the operational production environment.	
S-PLS-00780	4268	A		The PLANG CI shall generate Data Processing Request cancellations against previously submitted Data Processing Requests (if so directed by the operations staff), or upon plan cancellation activation of a new plan that no longer requires those requests.	PGS-0270#A	415 3	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 availability. A: Cancel execution of tasks.
					PGS-0270#B	463 0	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 availability. B: Suspend/Resume execution of task.

S-PLS-00790	4269	A		The PLANG CI shall send a Data Processing Request cancellation to the instance of the PRONG CI that received the original Data Processing Request.	PGS-0270#A	4153	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 availability. A: Cancel execution of tasks.
S-PLS-00790					PGS-0270#B	4630	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 availability. B: Suspend/Resume execution of task.
S-PLS-00830	4274	A	Planning may need to check Q/A metadata before using input data. Input data may be subjected to Q/A before it is used on a case by case basis.	The PLANG CI shall send release Data Processing Requests that <u>have been relayed to PRONG CI through activation of a plan (specified in an Active Plan)</u> to a processing resource that can perform the processing, if the following applies: a. All required input data (including metadata) is available b. Its input data has passed quality assurance (if applicable)	PGS-0250#A	4150	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-1100#A	4246	The PGS shall have the capability to accept product quality data input.	This requirement supports manual and automatic QA.

					PGS-0250#B	4618	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-1100#B	4968	The PGS shall have the capability to accept product quality data input.	This requirement supports manual and automatic QA.
					PGS-1170#B	5001	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.	
S-PLS-00840	4275	A		The PLANG CI shall send electronic copies of the Active Plan and corresponding metadata to the designated local Data Server for storage and distribution.	SMC-3315#A	6296	The LSM shall monitor its elements schedule and execution of events.	A: Performed by M&O staff using manual or semi-automated performance management tools. Also MSS monitors event logs.
					SMC-3315#B	6297	The LSM shall monitor its elements schedule and execution of events.	
					DADS2120#B	3596	The DADS shall have access to the system wide scheduling information. Such information includes, at a minimum, ESDIS Policies and Procedures regarding instrument and ground event scheduling, other element plans and schedules, element allocations of ground event functions and capabilities, product thread information, and scheduling directives for testing, maintenance, and emergency situations.	B: Automated
					SMC-3335#B	4921	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.	B: Full capability (through use of various performance management and scheduling tools)

					PGS-0290#A	4157	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.	
					SMC-3335#A	4297	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.	A: Performed by M&O staff using performance management and scheduling tools
					PGS-0290#B	4647	The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.	
					DADS2120#A	4447	The DADS shall have access to the system wide scheduling information. Such information includes, at a minimum, ESDIS Policies and Procedures regarding instrument and ground event scheduling, other element plans and schedules, element allocations of ground event functions and capabilities, product thread information, and scheduling directives for testing, maintenance, and emergency situations.	A: Manual
<u>S-PLS-00840</u>					<u>PGS-0325#B</u>	4665	The PGS shall provide the SMC with scheduling and status information.	
<u>S-PLS-00840</u>					<u>PGS-0325#A</u>	4162	The PGS shall provide the SMC with scheduling and status information.	
<u>S-PLS-00840</u>					<u>SDPS0010#A</u>	4127	The SDPS shall provide CSMS with operational, data processing, and data quality.	A: No accounting
<u>S-PLS-00840</u>					<u>SDPS0010#B</u>	5051	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.	
<u>S-PLS-00871</u>	<u>NEW</u>	A		The PLANG CI shall provide the capability to submit Data Subscriptions for PGE input data to the Data Server.	<u>PGS-0190#A</u>	4144	The PGS shall coordinate with the DADS on the staging of data for product generation.	A: TRMM and applicable DAACS
<u>S-PLS-00871</u>					<u>PGS-0190#B</u>	4576	The PGS shall coordinate with the DADS on the staging of data for product generation.	

<u>S-PLS-00873</u>	<u>NEW</u>	<u>A</u>		The PLANG CI shall provide the capability to submit Data Subscriptions for PGE input data to the Ingest Subsystem.	<u>PGS-0190#A</u>	414 4	The PGS shall coordinate with the DADS on the staging of data for product generation.	A: TRMM and applicable DAACS
<u>S-PLS-00873</u>					<u>PGS-0190#B</u>	457 6	The PGS shall coordinate with the DADS on the staging of data for product generation.	
<u>S-PLS-00885</u>	<u>NEW</u>	<u>A</u>		The PLANG CI shall provide the capability to cancel Data Subscriptions for PGE input data to Data Server and Ingest Subsystems.	<u>PGS-0190#A</u>	414 4	The PGS shall coordinate with the DADS on the staging of data for product generation.	A: TRMM and applicable DAACS
<u>S-PLS-00885</u>					<u>PGS-0190#B</u>	457 6	The PGS shall coordinate with the DADS on the staging of data for product generation.	
<u>S-PLS-01000</u>	4283	<u>A</u>		The PLANG CI shall receive a Data Processing Request Response message, acknowledging acceptance of the Data Processing Request forwarded to the PRONG CI.	<u>PGS-0410#A</u>	417 5	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
<u>S-PLS-01000</u>					<u>PGS-0410#B</u>	472 3	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
<u>S-PLS-01010</u>	4284	<u>A</u>		The PLANG CI shall receive "Complete Notification" status messages, indicating the completion status of Data Processing Requests.	<u>PGS-0410#A</u>	417 5	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	

S-PLS-01010					PGS-0410#B	472 3	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
S-PLS-01020	4285	A		The PLANG CI shall receive responses to Data Processing Request cancellations indicating the completion status of the cancellation requests.	PGS-0410#A	417 5	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
S-PLS-01020					PGS-0410#B	472 3	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
S-PLS-01030	10112	A		The PLANG CI shall update the Active Plan with the received status of each Data Processing Request listed <u>when performing a replan.</u>	PGS-0410#A	417 5	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
					PGS-0410#B	472 3	The PGS shall have the capability to track the processing status of all products scheduled to be generated.	
S-PLS-01260	4295	A		The PLANG CI shall support the capability to generate <u>log Planning processing events to the MSS managed event log to support generation of system reports (periodically and on request) for a specified time period.</u>	PGS-0360#A	416 7	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	469 4	The PGS shall generate a PGS processing log that accounts for all data processing activities.	Data processing activities = PLANG and PRONG status logs.
S-PLS-01300	4299	A		The PLANG CI shall support the capability to generate PLANG CI processing workload and processing turnaround time reports (periodically and on request).	PGS-0380#A	417 3	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.
S-PLS-01300					PGS-0380#B	470 7	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.
S-PLS-01400	4304	A		The PLANG CI shall accept the fault isolation tools for the PLANG CI.	PGS-0340#A	416 5	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).
S-PLS-01400					PGS-0350#B	469 1	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	
S-PLS-01400					PGS-0340#B	468 4	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).
S-PLS-01400					PGS-0350#A	416 6	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	
S-PLS-01410	10171	A		The PLANG CI shall report PLANG error/fault events to MSS.	PGS-0330#A	416 3	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.
					SMC-3335#A	429 7	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.	A: Performed by M&O staff using performance management and scheduling tools

				PGS-0330#B	4670	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.
				SMC-3335#B	4921	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.	B: Full capability (through use of various performance management and scheduling tools)
				SMC-1330#A	6285	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information	MSS collection and handling of product specific tracking data. MSS maintains log files.
				SMC-1330#B	6286	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information	MSS collection and handling of product specific tracking data. MSS maintains log files.
				SMC-3315#A	6296	The LSM shall monitor its elements schedule and execution of events.	A: Performed by M&O staff using manual or semi-automated performance management tools. Also MSS monitors event logs.
				SMC-3315#B	6297	The LSM shall monitor its elements schedule and execution of events.	
<u>S-PLS-01410</u>				<u>SDPS0010#A</u>	4127	The SDPS shall provide CSMS with operational, data processing, and data quality.	A: No accounting
<u>S-PLS-01410</u>				<u>PGS-0350#B</u>	4691	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	
<u>S-PLS-01410</u>				<u>PGS-0340#B</u>	4684	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).

<u>S-PLS-01410</u>				<u>PGS-0310#B</u>	465 5	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.	
<u>S-PLS-01410</u>				<u>PGS-0350#A</u>	416 6	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	
<u>S-PLS-01410</u>				<u>PGS-0340#A</u>	416 5	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).
<u>S-PLS-01410</u>				<u>PGS-0310#A</u>	416 0	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.	<u>A: No schedule mngmt provided by PRONG - PLANG only; Config. Mngmt data acquired by Openview or manual means;</u> <u>Accountability data provided by production status reporting;</u>
<u>S-PLS-01410</u>				<u>SDPS0010#B</u>	505 1	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.	

S-PLS-01430	10090	A	<p><u>PLANG CI reports on performance of PLANG. This includes information such as:</u></p> <ul style="list-style-type: none"> -<u>number of subscription notifications received</u> - <u>number of notifications that don't match a granule required in a DPR</u> - <u>number of DPRs released</u> -<u>Memory Utilization</u> -<u>In RPC counter</u> -<u>Out RPC counter</u> -<u>In RPC Packets counter</u> -<u>Out RPC Packets counter</u> -<u>Number Of Threads</u> -<u>Disk IO</u> 	The PLANG CI shall report PLANG performance events to the MSS.	SMC-3335#A	4297	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.	A: Performed by M&O staff using performance management and scheduling tools
					PGS-0325#B	4665	The PGS shall provide the SMC with scheduling and status information.	
					SDPS0010#A	4127	The SDPS shall provide CSMS with operational, data processing, and data quality.	A: No accounting
					PGS-0325#A	4162	The PGS shall provide the SMC with scheduling and status information.	
					SMC-3335#B	4921	The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance.	B: Full capability (through use of various performance management and scheduling tools)
					SDPS0010#B	5051	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.	

				SMC-1330#A	628 5	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information	MSS collection and handling of product specific tracking data. MSS maintains log files.
				SMC-3315#A	629 6	The LSM shall monitor its elements schedule and execution of events.	A: Performed by M&O staff using manual or semi-automated performance management tools. Also MSS monitors event logs.
				SMC-3315#B	629 7	The LSM shall monitor its elements schedule and execution of events.	
				SMC-1330#B	628 6	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information	MSS collection and handling of product specific tracking data. MSS maintains log files.
<u>S-PLS-01430</u>				<u>PGS-0310#A</u>	416 0	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: <u>No schedule mngmt provided by PRONG - PLANG only; Config. Mngmt data acquired by Openview or manual means; Accountability data provided by production status reporting;</u>
<u>S-PLS-01430</u>				<u>PGS-0310#B</u>	465 5	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.	

S-PLS-01430					PGS-0420#A	4176	The PGS shall provide tools to analyze system performance.	
S-PLS-01430					PGS-0420#B	4742	The PGS shall provide tools to analyze system performance.	
S-PLS-01440	4305	A		The PLANG CI shall collect Fault Management Data and provide it to the MSS.	SDPS010#A	4127	The SDPS shall provide CSMS with operational, data processing, and data quality.	A: No accounting
S-PLS-01440					PGS-0350#B	4691	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	
S-PLS-01440					PGS-0340#B	4684	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).
S-PLS-01440					PGS-0330#B	4670	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.
S-PLS-01440					PGS-0310#B	4655	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.	
S-PLS-01440					PGS-0350#A	4166	The PGS shall utilize tools provided by the LSM to support fault isolation between the PGS and external interfaces.	
S-PLS-01440					PGS-0340#A	4165	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).
S-PLS-01440					PGS-0330#A	4163	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.

S-PLS-01440					PGS-0310#A	4160	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.	
S-PLS-01440					SDPS0010#B	5051	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.	
S-PLS-01470	10091	A		The PLANG CI shall report PLANG Accountability events to the MSS.	SMC-1330#A	6285	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information	MSS collection and handling of product specific tracking data. MSS maintains log files.
					SMC-1330#B	6286	The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum: a. Product information b. Product generation information c. Product delivery information	MSS collection and handling of product specific tracking data. MSS maintains log files.
					PGS-0310#A	4160	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.	<u>A: No schedule mngmt provided by PRONG - PLANG only; Config. Mngmt data acquired by Openview or manual means; Accountability data provided by production status reporting;</u>

					PGS-0310#B	4655	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.	
<u>S-PLS-01470</u>					<u>SDPS010#A</u>	4127	The SDPS shall provide CSMS with operational, data processing, and data quality.	A: No accounting
<u>S-PLS-01470</u>					<u>SDPS010#B</u>	5051	The SDPS shall provide CSMS with operational, data processing, data quality and accounting status.	
S-PLS-01480	4309	A		The PLANG CI shall collect Performance Management Data and provide it to the MSS.	PGS-0420#B	4742	The PGS shall provide tools to analyze system performance.	
S-PLS-01480					PGS-0310#A	4160	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.	
S-PLS-01480					PGS-0420#A	4176	The PGS shall provide tools to analyze system performance.	
S-PLS-01480					PGS-0310#B	4655	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.	

S-PLS-01490	4310	A		The PLANG CI shall collect Security Management Data and provide it to the MSS.	PGS-0310#A	416 0	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.	
S-PLS-01490					PGS-0310#B	465 5	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.	

Table 2 - Level 4 Requirements Changes

L4 id	req_key	rel	req_ty pe	req_st atus	ver_m ethod	ver_st atus	CCR	clarification	text
S-PLS-00005	4220	A	function al	approv ed	demo			Specific = the data products for which the site has corresponding PGE's from AI&T.	The PLANG CI shall accept priority Production Requests for the <u>running of PGEs to cause the generation of specific Data Products.</u>
S-PLS-00010	10084	A	function al	approv ed	demo			Time window refers to the coverage time of the data set	The PLANG CI shall accept Production Requests for <u>running PGEs to generate specific Data Products with associated time windows that are to be routinely generated.</u>
S-PLS-00040	4223	A	function al	approv ed	demo				The PLANG CI shall reject a Production Request if an invalid product-identifier <u>PGE</u> has been specified.
S-PLS-00345	10185	A	function al	approv ed	test			Shared allocation means a resource may be allocated to more than one event.	The PLANG CI shall provide the capability to generate a planned site resource report.
S-PLS-00470	4247	A	function al	approv ed	demo			Fault tools are used to collect fault data. <u>Keep PR and DPR information for 90 days</u>	The PLANG CI shall maintain information on the following: a. current processing status of all Production Requests received, b. current processing status of all Data Processing Requests generated, c. <u>detected processing fault data.</u>
S-PLS-00475	4248	A	function al	approv ed	demo			Candidate plan = proposed plan; Active plan = candidate plan chosen and invoked by the operator. <u>Keep plans for 90 days beyond last applicability.</u>	The PLANG CI shall maintain information on <u>all retain generated</u> Candidate and Active Plans generated.
S-PLS-00680	4259	A	function al	approv ed	demo				The PLANG CI shall provide the capability to generate multiple Candidate Plans <u>through the selection of alternate sets of Production Requests.</u>
S-PLS-00710	4262	A	function al	approv ed	demo			PLANG capabilities are listed because they are incorporated in Standard Processing.	The PLANG CI shall create a Candidate Plan based on the following: 1. Outstanding production requests, their priorities and estimated runtimes, 2. Ground events, their priority and estimated duration, 3. Planning production rules, 4. <u>Mutual PGE accessibility of shared data Data Processing Request dependancies,</u> 5. <u>Completion notification status messages from Data Processing Requests.</u>

S-PLS-00740	10109	<u>A</u> <u>B</u>	functional	approved	demo			Support for parallel Planning and Data Processing capability to be provided for AIT <u>Support for completely parallel operations and AIT testing not available until Rel. A.1.</u>	The PLANG CI shall have the capability to schedule algorithm test Data Processing Requests that do not interfere with the operational production environment.
S-PLS-00780	4268	A	functional	approved	demo				The PLANG CI shall generate Data Processing Request cancellations against previously submitted Data Processing Requests (if so directed by the operations staff), or upon plan cancellation activation of a new plan that no longer requires those requests.
S-PLS-00790	4269	A	functional	approved	demo				The PLANG CI shall send a Data Processing Request cancellation to the instance of the PRONG CI that received the original Data Processing Request.
S-PLS-00830	4274	A	interface	approved	demo			Planning may need to check Q/A metadata before using input data. Input data may be subjected to Q/A before it is used on a case by case basis.	The PLANG CI shall send release Data Processing Requests <u>that have been relayed to PRONG CI through activation of a plan (specified in an Active Plan)</u> to a processing resource that can perform the processing, if the following applies: a. All required input data (including metadata) is available b. Its input data has passed quality assurance (if applicable)
<u>S-PLS-00871</u>	<u>NEW</u>	A	<u>functional</u>	<u>approved</u>	<u>demo</u>				The PLANG CI shall provide the capability to <u>submit Data Subscriptions for PGE input data to the Data Server.</u>
<u>S-PLS-00873</u>	<u>NEW</u>	<u>A</u>	<u>functional</u>	<u>approved</u>	<u>demo</u>				The PLANG CI shall provide the capability to <u>submit Data Subscriptions for PGE input data to the Ingest Subsystem.</u>
<u>S-PLS-00885</u>	<u>NEW</u>	<u>A</u>	<u>interface</u>	<u>approved</u>	<u>demo</u>				The PLANG CI shall provide the capability to <u>cancel Data Subscriptions for PGE input data to Data Server and Ingest Subsystems.</u>
S-PLS-01000	4283	A	interface	approved	demo				The PLANG CI shall receive a Data Processing Request Response message, acknowledging acceptance of the Data Processing Request forwarded to the PRONG CI.
S-PLS-01010	4284	A	interface	approved	demo				The PLANG CI shall receive "Complete Notification" status messages, indicating the completion status of Data Processing Requests.

S-PLS-01020	4285	A	interfa ce	approv ed	demo				The PLANG CI shall receive responses to Data Processing Request cancellations indicating the completion status of the cancellation requests.
S-PLS-01030	10112	A	functio nal	approv ed	demo				The PLANG CI shall update the Active Plan with the received status of each Data Processing Request listed <u>when performing a replan</u> .
S-PLS-01260	4295	A	functio nal	approv ed	demo				The PLANG CI shall support the capability to generate <u>log Planning processing events to the MSS managed event log to support generation of system reports (periodically and on request) for a specified time period</u> .
S-PLS-01300	4299	A	functio nal	approv ed	demo				The PLANG CI shall support the capability to generate PLANG CI processing workload and processing turnaround time reports (periodically and on request).
S-PLS-01400	4301	A	functio nal	approv ed	demo				The PLANG CI shall accept the fault isolation tools for the PLANG CI.
S-PLS-01440	4305	A	interfa ce	approv ed	demo				The PLANG CI shall collect Fault Management Data and provide it to the MSS.
S-PLS-01480	4309	A	interfa ce	approv ed	demo				The PLANG CI shall collect Performance Management Data and provide it to the MSS.
S-PLS-01490	4310	A	interfa ce	approv ed	demo				The PLANG CI shall collect Security Management Data and provide it to the MSS.

Table 3 - RBR Requirements Changes

RBR_id	req_key	req_category	segment	req_type	s_verif_method	s_verif_stat	a_verif_method	a_verif_stat	CCR	text	interpretation text
PGS-0310#A	4160	mission essential	SDP S CSM S	functional	test	un-verified	test			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: <u>No schedule mngmt provided by PRONG - PLANG only; Config. Mngmt data acquired by Openview or manual means; Accountability data provided by production status reporting;</u>
PGS-0870#A	-6274	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.	-A: LaRC, MSFC, not production environments

Table 4 - Link Changes: Additions

RBR id	L4 id
PGS-0190#A	S-PLS-00871
PGS-0190#A	S-PLS-00873
PGS-0190#A	S-PLS-00885
PGS-0190#B	S-PLS-00871
PGS-0190#B	S-PLS-00873
PGS-0190#B	S-PLS-00885
PGS-0310#A	S-PLS-01410
PGS-0310#A	S-PLS-01430
PGS-0310#B	S-PLS-01410
PGS-0310#B	S-PLS-01430
PGS-0325#A	S-PLS-00840
PGS-0325#B	S-PLS-00840
PGS-0340#A	S-PLS-01410
PGS-0340#B	S-PLS-01410
PGS-0350#A	S-PLS-01410
PGS-0350#B	S-PLS-01410
PGS-0420#A	S-PLS-01430
PGS-0420#B	S-PLS-01430
PGS-0870#B	S-PLS-00740
SDPS0010#A	S-PLS-00840
SDPS0010#A	S-PLS-01410
SDPS0010#A	S-PLS-01470
SDPS0010#B	S-PLS-00840
SDPS0010#B	S-PLS-01410
SDPS0010#B	S-PLS-01470

Table 5 - Link Changes: Deletions

RBR id	L4 id
PGS-0270#A	S-PLS-00790
PGS-0270#B	S-PLS-00790
PGS-0310#A	S-PLS-01440
PGS-0310#A	S-PLS-01480
PGS-0310#A	S-PLS-01490
PGS-0310#B	S-PLS-01440
PGS-0310#B	S-PLS-01480
PGS-0310#B	S-PLS-01490
PGS-0330#A	S-PLS-01440
PGS-0330#B	S-PLS-01440
PGS-0340#A	S-PLS-01400
PGS-0340#A	S-PLS-01440
PGS-0340#B	S-PLS-01400
PGS-0340#B	S-PLS-01440
PGS-0350#A	S-PLS-01400
PGS-0350#A	S-PLS-01440
PGS-0350#B	S-PLS-01400
PGS-0350#B	S-PLS-01440
PGS-0380#A	S-PLS-01300
PGS-0380#B	S-PLS-01300
PGS-0410#A	S-PLS-01000
PGS-0410#A	S-PLS-01010
PGS-0410#A	S-PLS-01020
PGS-0410#B	S-PLS-01000
PGS-0410#B	S-PLS-01010
PGS-0410#B	S-PLS-01020
PGS-0420#A	S-PLS-01480
PGS-0420#B	S-PLS-01480
PGS-0870#A	S-PLS-00740
SDPS0010#A	S-PLS-01440
SDPS0010#B	S-PLS-01440
SDPS0140#A	S-PLS-00740
SMC-0320#A	S-PLS-00345
SMC-0320#B	S-PLS-00345