DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Product Management Plan	**DRL No.:** 1

Reference:
Space Network Project Plan, 451-MGMT-001, Paragraph 7.5

Use:
Defines the implementation contractor's planned method for managing the development of the Product.

Related Documents:
Design Planning and Interface Management, GPG 8700.1C
Systems Management Plan, 450-PG-8700.2.2A

Place/Time/Purpose of Delivery:
Draft at SRR for NASA Product Manager review.
Final 30 days after SRR for NASA Product Manager review.

Preparation Information:
The Product Management Plan shall include, as a minimum, the following:

1. Overall Management Approach:
   a. Product requirements.
   b. Concise description of Work Breakdown Structure (WBS) tasks and how they will be accomplished.
   c. Flow diagram (logic network) showing tasks, subtasks, interrelationships, and time-phasing.
   d. Milestone schedule with start and completion dates.
   e. Time-phased manloading by organization, task, and major subtask for contractor and key subcontractors.
   f. Subcontractor management and control.
   g. Product risk management, including technology, schedule, and cost risks.
   h. Life Cycle Cost (LCC) approach.
   i. Productivity approach.
   j. Approach for interfacing with NASA.
   k. Product assurance approach.
   l. System integration approach.

2. Control Organization:
   a. Prime contractor organization charts showing key personnel.
   b. Prime contractor management authority and responsibility chain.
   c. Relationship of prime contractor organization to subcontractors including lines of authority.
   d. Major subcontractor organization charts showing key personnel.

3. Hierarchy of Plans:
   a. Hierarchy of plans showing relationship of all plans and other requirements to the Management Plan.
   b. Summary of all plans to be developed including a description of how the plan will be integrated into the overall Product.

The Plan shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Configuration Management Plan	**DRL No.:** 2

Reference:
Configuration Management Procedure, 450-PG-1410.2.1B

Use:
Describes the structure of the configuration management organization and the procedures to be followed to establish Product baselines and to control changes. Also describes how Product data will be managed during the Product design, implementation, and test.

Related Documents:
Systems Management Plan, 450-PG-8700.2.2A
Standard for Product Data Packages, 500-TIP-3109
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2

Place/Time/Purpose of Delivery:
Draft at SRR for NASA Product Manager review.
Final 30 days after SRR for NASA Product Manager review.

Preparation Information:
The Plan shall describe the structure and management tools for configuration management planning and control to be used by the implementation contractor in executing the Product configuration management program. The Plan shall also describe the methods and procedures used to manage data generated by the Product implementation contractor. The Plan shall include, but not be limited to, the following:

1. The configuration management objectives.
2. The organization planned for the management of the configuration program, including the internal interfaces between the configuration management organization and the other elements of the implementation contractor's organization.
3. The contractor's plan for interfacing with NASA and subcontractors.
4. Identification of all controlled items, including items of support equipment, facilities, and critical components of these items; and the basis for which each is selected for configuration control.
5. The plans for controlling specification and drawing systems which should at any point in time accurately define the design configuration of any item to the lowest level component description.
6. The configuration control system that will assure all proposed engineering changes are fully coordinated, evaluated, and resolved in a timely manner, that only authorized changes are incorporated into the system baseline, and that incorporation per requirement is properly verified.
7. The configuration accounting system to be used to accurately record, track and record status of the as-designed and as-built hardware configurations.
8. The engineering release system for processing of all engineering changes to the drawings and specifications.
9. The subcontractor control system for extending configuration management to subcontractors and suppliers.
10. The implementation contractor's system for ensuring continued compliance with configuration management requirements.
11. The procedures for storing, revising, and updating data, to include computer software and software documentation.

The Plan shall use implementation contractor format. The implementation contractor may deliver existing corporate procedures for review by the NASA Product Manager.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Quality Assurance Plan	**DRL No.:** 3

Reference:
Mission Services Program Office (MSPO) Quality Assurance (QA) Plan, 450-PG-8730.3.1B, Paragraphs 8.1.4 and 8.2.2.1

Use:
Defines the implementation contractor's planned methods of accomplishing the tasks required to ensure that the Product conforms to requirements and is fit for use and maintenance.

Related Documents:
Systems Management Plan, 450-PG-8700.2.2A
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2

Place/Time/Purpose of Delivery:
Draft at SRR for NASA Product Manager review.
Final 30 days after SRR for NASA Product Manager review.

Preparation Information:
The Plan shall identify all elements of the quality assurance organization, describe the philosophy and approach for implementing quality assurance, and the general system of control to be used throughout design, development, fabrication and delivery of the Product.

The baseline standards for hardware workmanship, equipment installation, and software/firmware shall be those identified in Appendix A of 450-PG-8730.3.1B. Alternative standards may be used only when approved by the NASA Product Manager.

The Plan shall use implementation contractor format. The implementation contractor may deliver existing corporate procedures for review by the NASA Product Manager.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Product Schedule	**DRL No.:** 4

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.3.1.b

Use:
Documents the milestones necessary to ensure that Product requirements are met on time. Also provides detailed task information to assist NASA and implementation contractor management in assigning the necessary resources to meet the established Product milestones.

Related Documents:
None.

Place/Time/Purpose of Delivery:
Draft 45 days prior to SRR for NASA Product Manager review.
Initial delivery 30 days prior to PDR for NASA Product Manager approval.
Updated monthly and presented at the Monthly Status Review.

Preparation Information:
The Product Schedule shall be prepared and maintained as a Tracking Gantt schedule. The baseline for all tasks shall be established upon NASA Product Manager approval of the initial Schedule delivery, and shall be modified only after receiving approval from the NASA Product Manager. Changes shall be clearly shown in comparison to the baseline. Progress for each task shall be clearly shown on the Schedule.

The Schedule shall include, at a minimum:

1. Major Product milestones.
2. Product management activities.
3. Detailed design activities.
4. Detailed development activities.
5. Procurement schedules and delivery dates.
6. Shipping schedule.
7. Integration and test activities.
8. Site preparation and installation activities.
9. Training schedule.
10. Delivery milestones for all Product documentation.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Monthly Status Reviews	**DRL No.:** 5

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.5.2.2.2

Use:
Provides to the NASA Product Manager detailed technical and financial status regarding the achievement of scheduled Product milestones. Also provides recommendations for enhancing the technical and programmatic performance of the Product.

Related Documents:
Technical Review Program, GPG 8700.4C

Place/Time/Purpose of Delivery:
Monthly at a time and place designated by the NASA Product Manager.

Preparation Information:
The Monthly Status Review shall be review presented by the Product implementation contractor to the NASA Product Manager on a monthly basis. The review shall cover the significant aspects of the Product, including technical progress, schedule adherence, and resource utilization. Emphasis shall be placed on the accomplishments for the concluded reporting period, the planned Product activity for the next reporting period, and the identification and resolution of all issues and problems.

At a minimum, the following information shall be included in the Review presentation:

1. Detailed technical progress.
2. Documentation status.
3. Problem areas, to include recommendations for problem resolution.
4. Action item status.
5. Planned activities for the next reporting period.
6. Schedule adherence status.
7. Resource utilization/financial status.

The Monthly Status Review presentation shall use implementation contractor format. The Review presentation itself shall serve as the implementation contractor's monthly written progress report.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Detailed System/Subsystem Specification	**DRL No.:** 6

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.3

Use:
The system-level portion of the Specification defines how the implementation contractor's detailed system design meets the NASA requirements for the Product. The subsystem-level portion of the Specification defines the detailed functional and performance requirements of each subsystem.

Related Documents:
Design Planning and Interface Management, GPG 8700.1C
Design Development, GPG 8700.2B
Detailed Requirements Generation Process, 450-PG-1310.1.2B

Place/Time/Purpose of Delivery:
Draft at PDR for NASA Product Manager review.
Final at CDR for NASA Product Manager review.

Preparation Information:
The system portion of the Specification shall specify the implementation contractor's detailed system requirements for the Product. It shall specify the functional, performance, and interface requirements for the system, as well as the requirements for characteristics, logistics, quality factors, design, and the qualification of the system. As a minimum, the following shall be included:

1. System architecture;
2. Functional requirements;
3. Performance requirements;
4. External interface requirements;
5. Operational requirements;
6. Reliability, maintainability, and availability requirements;
7. Physical and environmental requirements;
8. Security requirements;
9. Human engineering and safety requirements;
10. Operations and maintenance requirements;
11. Integrated logistics support requirements.

The subsystem portion of the Specification shall provide an overview of the subsystems and shall allocate functional, performance, interface, and operational requirements to each subsystem. These requirements shall include those related to system performance parameters, operation, manning, maintenance functions, and logistic support to the subsystem. As a minimum, the following shall be included for each subsystem:

1. Subsystem architecture;
2. Functional requirements;
3. Performance requirements;
4. Interface requirements;

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Detailed System/Subsystem Specification (continued)	**DRL No.:** 6

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.3

Use:
The system-level portion of the Specification defines how the implementation contractor's detailed system design meets the NASA requirements for the Product. The subsystem-level portion of the Specification defines the detailed functional and performance requirements of each subsystem.

Related Documents:
Design Planning and Interface Management, GPG 8700.1C
Design Development, GPG 8700.2B
Detailed Requirements Generation Process, 450-PG-1310.1.2B

Place/Time/Purpose of Delivery:
Draft at PDR for NASA Product Manager review.
Final at CDR for NASA Product Manager review.

Preparation Information (continued):

5. Operational requirements;
6. Reliability, maintainability, and availability requirements;
7. Physical and environmental requirements;
8. Security requirements;
9. Human engineering and safety requirements.

The subsystem requirements may be published in a single document separated from the system portion of the Specification, or as multiple subsystem-level documents.

The Specification shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Interface Control Document	**DRL No.:** 7

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.3

Use:
Defines the functional, performance, and physical characteristics of the major internal interfaces of the Product.

Related Documents:
Design Planning and Interface Management, GPG 8700.1C
Detailed Requirements Generation Process, 450-PG-1310.1.2B

Place/Time/Purpose of Delivery:
Draft at PDR for NASA Product Manager review.
Final at CDR for NASA Product Manager review.

Preparation Information:
The document shall describe the interfaces necessary to allow hardware, software, and operational service compatibility internal to the Product. The document shall include a details of operator and special purpose hardware/software system interfaces. Specific data formats shall be addressed. Drawings, schematics, and tables shall be included as necessary to define the interface characteristics.

Separate interface control documents may be prepared for each subsystem.

The document shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Software Design Documentation	**DRL No.:** 8

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4

Use:
Describes in detail the structure, organization, and interfaces of all the software used in the Product.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
NASA Software Documentation Standard, NASA-STD-2100-91, Appendix D

Place/Time/Purpose of Delivery:
Draft 90 days after CDR for NASA Product Manager review.
Final 30 days prior to ORR for NASA Product Manager review.

Preparation Information:
The Documentation shall describe the architectural and unit design for all software used in the Product, to include all interface, data, and processing characteristics of the software. The Documentation shall include a description of the compilation and code units, the design of all interfaces, and the mapping between the logical or functional design of the software and its detailed design units.

The Documentation shall include a demonstration of how existing (reuse or COTS) software is suitable for use and complies with current assurance and performance requirements.

The Documentation shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Hardware Design Drawings	**DRL No.:** 9

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4

Use:
Describes in detail the structure, organization, and interfaces of all the hardware used in the Product.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Standard for Product Data Packages, 500-TIP-3109

Place/Time/Purpose of Delivery:
Draft 90 days after CDR for NASA Product Manager review.
Final 30 days prior to ORR for NASA Product Manager review.

Preparation Information:
The Drawings shall describe the detailed design of hardware components, chassis, and racks, to include interfaces and cables (both internal and external).

The Drawings shall be prepared as described in Section 2 of the Standard for Product Data Packages, 500-TIP-3109.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Site Preparation and Installation Plan	**DRL No.:** 10

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.3.2

Use:
Outlines the sequence of events required for a smooth installation of the Product at the appropriate NASA facilities

Related Documents:
General Requirements for STDN Electronic Equipment, GSFC-STDN-SPEC-4
GSFC Specification Electronic Equipment Racks, STDN 270.5
Installation Requirements for STDN Equipment, GSFC-STDN-SPEC-6
GSFC Specification for Electronic Equipment Installation Materials, GSFC-STDN-SPEC-8
Grounding System Requirements for STDN Stations, STDN 270.7

Place/Time/Purpose of Delivery:
Draft 60 days prior to TRR for NASA Product Manager review.
Final 30 days prior to TRR for NASA Product Manager review.

Preparation Information:
The Plan shall identify the responsible organizations and outline the sequence of events necessary for an effective site preparation and installation of the Product at the appropriate NASA facilities. The following, at a minimum, shall be included in the Plan:

1. Description of the equipment to be installed;
2. Hardware rack elevation drawings and planned equipment locations;
3. Hardware facilities (power and cooling) requirements;
4. Responsible organizations;
5. Detailed task breakdowns (pre-shipment, site preparation, and installation);
6. List of tools and materials;
7. Installation schedule.

The Plan shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Acceptance Test Plan and Procedures	**DRL No.:** 11

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.4

Use:
Provides the detailed approach and schedule for accomplishing the acceptance verification program. Defines the specific tests, demonstrations, analyses, and inspections that will verify that the system complies with the Product requirements. Also provides the procedures for a failure-free acceptance test at both the system and subsystem level.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Product Processing, Inspection, and Test, GPG 5330.1C

Place/Time/Purpose of Delivery:
Draft System Test Plan at CDR for NASA Product Manager review.
Final System Test Plan 30 days after CDR for NASA Product Manager review (see note below).
Draft Subsystem Test Plan 60 days after CDR for NASA Product Manager review.
Final Subsystem Test Plan 90 days after CDR for NASA Product Manager review.
Draft Test Procedures 150 days after CDR for NASA Product Manager review.
Final Test Procedures 210 days after CDR for NASA Product Manager review (see note below).
NOTE: Plan and procedure elements that interact with the legacy system require NASA Product Manager approval.

Preparation Information:
The Plan portion of the document shall delineate the tests, demonstrations, analyses, and inspections and acceptance criteria to be used to verify Product requirements at both the system and subsystem level. The Plan shall also include the schedule for the tests and demonstrations. The process for regression testing shall be included in the Plan.

The system-level portion of the Plan shall provide detailed descriptions of all aspects of system-level verification, covering such items as:

1. Purpose of each test/demonstration/analysis/inspection;
2. Definition of each test/demonstration/analysis/inspection;
3. Sequence of tests/demonstrations;
4. Hardware/software to be tested;
5. Test support requirements/environments;
6. Facility requirements;
7. Criteria for acceptance/rejection;
8. Schedule of tests/demonstrations;
9. Verification management.

The subsystem-level portion of the Plan shall provide detailed descriptions of all aspects of subsystem-level verification, covering the same items as those noted above for system-level verification.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Acceptance Test Plan and Procedures (continued)	**DRL No.:** 11

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.4

Use:
Provides the detailed approach and schedule for accomplishing the acceptance verification program. Defines the specific tests, demonstrations, analyses, and inspections that will verify that the system complies with the Product requirements. Also provides the procedures for a failure-free acceptance test at both the system and subsystem level.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Product Processing, Inspection, and Test, GPG 5330.1C

Place/Time/Purpose of Delivery:
Draft System Test Plan at CDR for NASA Product Manager review.
Final System Test Plan 30 days after CDR for NASA Product Manager review (see note below).
Draft Subsystem Test Plan 60 days after CDR for NASA Product Manager review.
Final Subsystem Test Plan 90 days after CDR for NASA Product Manager review.
Draft Test Procedures 150 days after CDR for NASA Product Manager review.
Final Test Procedures 210 days after CDR for NASA Product Manager review (see note below).
NOTE: Plan and procedure elements that interact with the legacy system require NASA Product Manager approval.

Preparation Information (continued):
The Test Procedures portion of the document shall define the specific objectives, event sequences, support requirements, configuration identification, and step-by-step procedures for each test/demonstration to be performed during Acceptance Testing at both the system and subsystem level. It shall include detailed descriptions of pretest requirements, input data, test limitations, expected results, and the overall test schedule (test schedule includes pretest briefing, formal conduct of the test/demonstration, and debriefing).

The Test Procedures shall identify the requirements for the item or unit under test and shall follow the outline of the Plan. Individual requirements shall be verified in such a manner that expedites review of the acceptability of the item under test. The Test Procedures shall be written such that they are concise, easily understood by testing personnel, and establish definitive accept/reject criteria for the items under test. As a minimum, the following information shall be included in the Test Procedures:

1. Nomenclature and identification of the test article or material. Identification of test configuration and any differences from the as-designed configuration;
2. Identification of objectives and criteria to be inspected or tested, including values, with tolerances, for acceptance or rejection;
3. Characteristics and design criteria to be inspected or tested, including values, with tolerances, for acceptance or rejection;
4. Description, in sequence, of steps and operations to be taken;
5. Identification of system resources and computer software required;

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Acceptance Test Plan and Procedures (continued)	**DRL No.:** 11

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.4

Use:
Provides the detailed approach and schedule for accomplishing the acceptance verification program. Defines the specific tests, demonstrations, analyses, and inspections that will verify that the system complies with the Product requirements. Also provides the procedures for a failure-free acceptance test at both the system and subsystem level.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Product Processing, Inspection, and Test, GPG 5330.1C

Place/Time/Purpose of Delivery:
Draft System Test Plan at CDR for NASA Product Manager review.
Final System Test Plan 30 days after CDR for NASA Product Manager review (see note below).
Draft Subsystem Test Plan 60 days after CDR for NASA Product Manager review.
Final Subsystem Test Plan 90 days after CDR for NASA Product Manager review.
Draft Test Procedures 150 days after CDR for NASA Product Manager review.
Final Test Procedures 210 days after CDR for NASA Product Manager review (see note below).
NOTE: Plan and procedure elements that interact with the legacy system require NASA Product Manager approval.

Preparation Information (continued):

6. Identification of measuring, test, and recording equipment to be used, specifying range, accuracy, and type;
7. Certification that required computer test programs, support equipment and test software have been verified prior to use with hardware under test;
8. Any special instructions for operating data recording equipment or other automated test equipment as applicable;
9. Layouts, schematics, or diagrams showing identification, location, and interconnection of test equipment, test articles, and measuring points;
10. Identification of hazardous situations or operations;
11. Precautions and safety instructions to insure safety of personnel and to prevent degradation of test articles and measuring equipment;
12. Constraints on inspection or testing;
13. Special instructions for nonconformances and anomalous occurrences or results;
14. Specification for facility, equipment maintenance, housekeeping, certification, inspection, safety and handling requirements before, during, and after the test activity;
15. Detailed procedures for data reduction and analysis of test results;
16. Detailed identification/description of input data and resultant data flows.

The Test Procedures shall be prepared in a logical format. The format may provide blank forms for recording test results and narrative comments in order that the completed Procedure serve as part of the Test Report.

The document shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Performance Verification Matrix	**DRL No.:** 12

Reference:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2, Paragraph 12.4

Use:
Documents the verification method(s) and verification case(s) to be used to verify each Product requirement, and documents the trace from NASA system-level requirements to implementation contractor system-level and subsystem-level requirements. Also documents the final verification status of each Product requirement.

Related Documents:
None.

Place/Time/Purpose of Delivery:
Updated throughout verification program.
Final 15 days after verification program completion for NASA Product Manager approval.

Preparation Information:
This Performance Verification Matrix shall be developed for the entire Product verification program. It shall be maintained as a database and shall be the primary tool for tracking requirement verification and traces to lower-level requirements. The matrix shall be controlled and updated as needed to ensure that all approved changes are correctly included in the database.

The matrix shall provide the following for each requirement to be verified in the Product verification program:

1. Requirement Number – Requirement identification number, unique for each requirement, based on the specification section or paragraph number from which the requirement is taken. Each requirement identification number will reference only one "shall" from the appropriate specification.
2. Requirement Source/Reference – Identification of the requirement specification from which the requirement is taken. If all requirements in the matrix are from the same document, this information may be stated in an introductory section. If more than one source applies, a code or summary method may be used to differentiate.
3. Requirement – Full text of the requirement.
4. Method – Method to be used to verify the requirement (test, demonstration, inspection, or analysis). If the requirement is to be verified by using more than one method, use a separate line for each method and add an explanatory note.
5. Verification Document Reference – Identification of the section(s) of the Test Plan and Procedures document where the verification(s) that apply to this requirement are defined.
6. Verification Case(s) – The identification number(s) of the verification case(s) (e.g., Test Case 1, Analysis Case 2, Inspection Case 3, etc.) to be performed to verify this requirement.
7. Test Number – The identification number(s) of the test(s) to be performed for any requirement allocated to a test case (e.g., Test 1.1, Test 1.2 [of Test Case 1]).
8. Verification Status – The final status of the verification case(s) used to verify the requirement (e.g., Pass or Fail).
9. Verification Report Number – The identification number of the document in which the verification results for the requirement are documented.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Performance Verification Matrix (continued)	**DRL No.:** 12

Reference:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2, Paragraph 12.4

Use:
Documents the verification method(s) and verification case(s) to be used to verify each Product requirement, and documents the trace from NASA system-level requirements to implementation contractor system-level and subsystem-level requirements. Also documents the final verification status of each Product requirement.

Related Documents:
None.

Place/Time/Purpose of Delivery:
Updated throughout verification program.
Final 15 days after verification program completion for NASA Product Manager approval.

Preparation Information (continued):

10. Requirement Status – The final status of the requirement (e.g., Verified, Waived, Deviated, etc.).
11. NASA Approval Status – Documents that NASA has approved the final status of the requirement.
12. Comments – Comments or additional information.

The NASA system-level requirements shall be populated into the Performance Verification Matrix database and assigned verification methods by the systems engineering support contractor no later than 30 days following SRR. Detailed system-level and subsystem requirements developed by the implementation contractor shall be populated into the database by the implementation contractor no later than CDR. Allocation of requirements to verification cases shall be accomplished by the implementation contractor 60 days after CDR. Changes to verification data shall be made by the implementation contractor during the course of the Product verification program only upon approval by NASA. The final PVM shall be delivered 15 days after the completion of the verification program.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Acceptance Test Report	**DRL No.:** 13

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.4

Use:
Documents the results of Acceptance Testing.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Design Validation, GPG 8700.3A

Place/Time/Purpose of Delivery:
Draft 15 days after completion of Testing for NASA Product Manager review.
Final at ORR for NASA Product Manager review.

Preparation Information:
The Acceptance Test Report shall document the results of the formal system and subsystem Acceptance Testing. It shall contain a test log recording the exact history of the testing. It shall contain the name and number of all tests and the results of each test/demonstration. It shall describe in detail any deviations from the Test Procedures and shall provide a detailed test history. It shall contain an overall evaluation of the functional capabilities of the system/subsystem as demonstrated by the test. It shall include any deficiencies, limitations, or constraints inherent in the system/subsystem that were detected during testing.

The Acceptance Test Report shall adequately summarize the results of verification tests/demonstrations and shall be prepared in such a manner that relates the test results to the verification requirements for each item under test. As a minimum, the following shall be included in the Report:

1. Test Identification. Identify the specific test as shown in the Test Procedures.
2. Identification of the requirements to be verified.
3. Identification of the software and hardware versions used.
4. References. Applicable Test Plan and Test Procedures.
5. Test Results, to include:
    a. Identification of those planned objectives for which actual test results were identical with the expected results as specified in the Test Procedures or for which variation between actual and expected results were within specified tolerance. For the latter case, test results shall be shown;
    b. Identification of those planned objectives for which actual test results differ from expected results beyond specific limits;
    c. Identification of any planned test objective for which actual results were not obtained. Reasons for not fulfilling such objectives shall be stated;
    d. Identification of any false or aberrant behavior noted during the test or subsequent analysis. Note that any such behavior that can prevent the system or subsystem from accomplishing its mission objectives can be a basis for rejection.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Acceptance Test Report (continued)	**DRL No.:** 13

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.4

Use:
Documents the results of Acceptance Testing.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Design Validation, GPG 8700.3A

Place/Time/Purpose of Delivery:
Draft 15 days after completion of Testing for NASA Product Manager review.
Final at ORR for NASA Product Manager review.

Preparation Information (continued):

6. Recommendations. Recommendations for subsequent action shall be stated, based on the test results, and may include:
   a. Redesign of a particular hardware or software component to enable the system or subsystem to meet a specific requirement which was not fulfilled;
   b. Revision to the System Requirements Specification or the Detailed System/Subsystem Specification in cases where the test results disclose ambiguity or conflicting requirements.
   c. Conducting additional tests to fulfill objectives for which results were not accepted.
7. Test Plan and Procedure Changes. Any deviations from the approved Test Plan/Procedures that were followed during the official conduct of the test shall be documented as revision pages to the affected documents and shall be appended to the Report.

The Report shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Inspection and Analysis Report	**DRL No.:** 14

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.4.4

Use:
Documents the results of inspection and analysis verification performed outside the scope of the Acceptance Test Procedures.

Related Documents:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2
Design Validation, GPG 8700.3A

Place/Time/Purpose of Delivery:
Draft 15 days after completion of Testing for NASA Product Manager review.
Final at ORR for NASA Product Manager review.

Preparation Information:
The Inspection and Analysis Report shall document the results of the inspection and analysis verification performed at both the system and subsystem level which are not documented in the of the Acceptance Test Report. The Inspection and Analysis Report shall describe in detail the results of the analyses and inspections conducted in accordance with the inspection and analysis portions of the Acceptance Test Plan. As a minimum, the following shall be included in the Report;

1. Analysis/Inspection Identification. Identify the specific analysis or inspection case number as shown in the Acceptance Test Plan.
2. Identification of the requirements to be verified.
3. Objective of the analysis/inspection;
4. References. Documents referenced during the conduct of the analysis or inspection.
5. Analysis/Inspection Results, to include:
   a. Detailed description of the analysis/inspection performed;
   b. Analysis/inspection results, and explicit confirmation that the applicable requirement was verified or not.
6. Recommendations. Recommendations for subsequent action shall be stated, based on the analysis/inspection results, and may include:
   a. Redesign of a particular hardware or software component to enable the system or subsystem to meet a specific requirement which was not fulfilled;
   b. Revision to the System Requirements Specification or the Detailed System/Subsystem Specification in cases where the analysis/inspection results disclose ambiguity or conflicting requirements.
   c. Conducting additional analysis/inspection to fulfill objectives for which results were not accepted.

The Report shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Deviation and Waiver Requests	**DRL No.:** 15

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraphs 4.5.3 and 4.5.4

Use:
Prior to manufacture of an item, the implementation contractor may submit a deviation request to the NASA Product Manager to depart from a particular performance or design requirement of a specification, drawing, or other document. A waiver request may be submitted to the NASA Product Manager by the implementation contractor for an item which is found to depart from specified requirements, but is still considered suitable for use "as is."

Related Documents:
Configuration Management, MIL-STD-973
Corrective and Preventive Action, GPG 1710.1E

Place/Time/Purpose of Delivery:
Deviation requests submitted at CDR for NASA Product Manager approval.
Waiver requests submitted with the draft Acceptance Test Report and draft Inspection and Analysis Report for NASA Product Manager approval.

Preparation Information:
Deviation Requests. A deviation request shall be submitted when the implementation contractor desires prior to manufacture of an item (either software or hardware) to depart from a particular performance or design requirement of a specification, drawing, or other document for a specific number of units or a specific period of time. A deviation differs from an engineering change in that an approved change requires a corresponding revision of the documentation defining the affected item, whereas a deviation does not contemplate revision of the applicable specification or drawing.

Waiver Requests. A waiver request shall be submitted by the implementation contractor for an item (either hardware or software) which is found to depart from specified requirements during production or after having been submitted for inspection, but nevertheless is considered suitable for use "as is" or after rework by an approved method.

Each deviation and waiver request shall be prepared as a form. The request form's blocks shall be numbered and titled exactly as shown below:

Header: "Request for DAS Deviation – DAS-Dxx" (xx = 01 to 99, as needed) or "Request for DAS Waiver – DAS Wxx" (x = 01 to 99, as needed)

1. Contract: DAS contract number
2. Program: DAS
3. Submitted by: Name of submitting engineer.
4. Date Submitted: Self-explanatory
5. Title: Title of deviation or waiver request
6. Description: Detailed description of the requirement, to include the requirement number, for which the request is being made.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Deviation and Waiver Requests (continued)	**DRL No.:** 15

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraphs 4.5.3 and 4.5.4

Use:
Prior to manufacture of an item, the implementation contractor may submit a deviation request to the NASA Product Manager to depart from a particular performance or design requirement of a specification, drawing, or other document. A waiver request may be submitted to the NASA Product Manager by the implementation contractor for an item which is found to depart from specified requirements, but is still considered suitable for use "as is."

Related Documents:
Configuration Management, MIL-STD-973
Corrective and Preventive Action, GPG 1710.1E

Place/Time/Purpose of Delivery:
Deviation requests submitted at CDR for NASA Product Manager approval.
Waiver requests submitted with the draft Acceptance Test Report and draft Inspection and Analysis Report for NASA Product Manager approval.

Preparation Information:

7. Need: Detailed information regarding the reasons for the request.
8. System Impact: Detailed description of the impact on the system.
9. Identify any adverse impact to cost and/or schedule: Self-explanatory.
10. Implementation Contractor Product Manager's Signature: Self-explanatory.
11. Date: Date of Implementation Contractor Product Manager's signature.
12. NASA Manager's Assessment: Approved, Disapproved, or Deferred (to be checked by the NASA Product Manager)
13. NASA Product Manager's Signature: Self-explanatory.
14. Date: Date of NASA Product Manager's signature.

Multiple requirements may be contained in the same request when the reason for the request is the same for all requirements.

Sample deviation and waiver request forms are attached.

[Implementation Contractor Name or Logo]

DAS Product
[Implementation Contractor Name and Address]

Request for DAS Deviation – Waiver # DAS-D--			
1. Contract:		**2. Program:**	**DAS**
3. Submitted by:		**4. Date Submitted:**	
5. Title:			
6. Description:			
7. Need:			
8. System Impact:			
9. Identify any adverse impact to cost and/or schedule:			
10. Implementation Contractor Product Manager's Signature:		**11. Date:**	
12. NASA Product Manager's Assessment: **Approved:** _____ **Disapproved:** _____ **Deferred:** _____		**13. NASA Product Manager's Signature:** **14. Date:**	

[Implementation Contractor Name or Logo]

DAS Product
[Implementation Contractor Name and Address]

Request for DAS Waiver – Waiver # DAS-W--			
1. Contract:		**2. Program:**	**DAS**
3. Submitted by:		**4. Date Submitted:**	
5. Title:			
6. Description:			
7. Need:			
8. System Impact:			
9. Identify any adverse impact to cost and/or schedule:			
10. Implementation Contractor Product Manager's Signature:		**11. Date:**	
12. NASA Product Manager's Assessment: **Approved: _____** **Disapproved: _____** **Deferred: _____**		**13. NASA Product Manager's Signature:** **14. Date:**	

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Reliability, Maintainability, and Availability Analysis Report	**DRL No.:** 16

Reference:
Mission Assurance Guidelines (MAG) for Tailoring to the Needs of GSFC Projects, 300-PG-7120.2.2, Paragraphs 8.2.1, 12.10.2, and 12.11.3

Use:
Documents all reliability, maintainability, and availability analyses performed in support of verifying the system reliability, maintainability, and availability requirements.

Related Documents:
Reliability Prediction of Electronic Equipment, MIL-HDBK-217F
Designing and Developing Maintainable Products and Systems, MIL-HDBK-470A
Maintainability Prediction, MIL-HDBK-472

Place/Time/Purpose of Delivery:
Draft at PDR for NASA Product Manager review.
Final at CDR for NASA Product Manager review.

Preparation Information:
The Reliability, Maintainability, and Availability Analysis Report shall be prepared for all reliability, maintainability, and availability analyses performed. These analyses shall provide input to detailed maintenance and support planning, determine the achievement of maintainability and availability requirements, and provide inputs into the design approach.

Reliability predictions are required to support availability analysis, design trade-offs, maintainability, and logistic analysis efforts and shall be provided down to a hardware or functional level at which failures may be postulated, necessary to identify redundancy. Vendor-supplied reliability data may be used for established COTS. Where vendor-supplied reliability data at the purchased-hardware unit level are not available, or in the case of custom-designed hardware, the implementation contractor shall make the reliability predictions.

The Report shall include a Failure Mode and Effects Analysis (FMEA).

Maintainability predictions shall be prepared in accordance with MIL-HDBK-472 or NASA-approved contractor methods. Maintainability predictions shall emphasize estimation of the time-to-restore at the LRU-level considering:

1. Diagnostic time to detect and fault isolate to the defective LRU;
2. Time required to remove and replace the defective LRU; and
3. Time required to complete checkout and restore operational status.

The Report shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Operations and Maintenance Manual	**DRL No.:** 17
Reference: Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.2.2	
Use: Provides the procedures and information necessary to initiate, operate, monitor, and maintain the Product.	
Related Documents: Content Specification for Operation and Maintenance Manuals, 500-TIP-2111	
Place/Time/Purpose of Delivery: Draft 30 days prior to TRR for NASA Product Manager review. Final at TRR for NASA Product Manager review.	
Preparation Information: A single Operations and Maintenance Manual shall be prepared for the Product. The Manual shall provide detailed procedures for both system operators and maintenance personnel. The operations portion of the Manual shall describe in detail every control, readout, or display associated with operator function. The maintenance portion of the Manual shall provide step-by-step procedures that will direct maintenance personnel from a symptom of the failure to the cause to detailed instructions for the repair action to be performed. The Manual shall use implementation contractor format.	

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Training Plan and Materials	**DRL No.:** 18

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.2.2

Use:
The Plan defines the training required to prepare the appropriate personnel to support the operation and maintenance of the Product. The Materials support the training of operations and maintenance personnel, an consist of all visual and instructional material for all areas of Product operation and maintenance.

Related Documents:
Employee Training and Qualification, GPG 3410.2E

Place/Time/Purpose of Delivery:
Draft Plan 30 days prior to TRR for NASA Product Manager review.
Final Plan at TRR for NASA Product Manager review.
Draft Materials at TRR for NASA Product Manager review.
Final Materials 30 days after TRR for NASA Product Manager review.

Preparation Information:
The Plan shall contain, as a minimum, the following information:

1. Training organization and responsibilities.
2. Necessary implementation contractor and Government training facilities.
3. A description of the overall training approach, whether formal, informal self-study, or on-the-job type training.
4. A training objectives vs. training resources requirements matrix which shows unique training provisions or equipments.
5. The knowledge, skills, prerequisites, and proficiency levels required of each student.
6. A detailed training schedule.
7. Test and certification procedures.

Training materials shall consist of the following:

1. Instructor handbook.
2. Textbook.
3. Display book.
4. Student workbook.
5. Academic and performance tests.
6. Training aids.

The Plan and Materials shall use implementation contractor format.

DEMAND ACCESS SYSTEM (DAS) DATA ITEM DESCRIPTION (DID)
AND DELIVERABLE REQUIREMENT LIST (DRL)

Title: Integrated Logistics Support Plan	**DRL No.:** 19

Reference:
Systems Management Plan, 450-PG-8700.2.2A, Paragraph 4.2.2

Use:
Documents the maintenance support baseline for the Product and serves as the integrating document of the entire Product Integrated Logistics Support (ILS) program.

Related Documents:
Program and Project Logistics Policy, NPD 7500.1
Handling, Storage, Packaging, Marking, Preservation, and Transportation, GPG 6400.1B

Place/Time/Purpose of Delivery:
Draft at PDR for NASA Product Manager review.
Final at CDR for NASA Product Manager review.

Preparation Information:
The Plan shall describe the programmatic and management structure, the management tools (planning, controls, and information system) and the reporting to be used by the implementation contractor in the implementation, integration, and execution of the Product ILS program.

The Plan shall include, but not be limited to, the following:

1. Organization and management, to include a schedule of ILS activities.
2. The Product maintenance concept, to include a list of Product Line Replaceable Units (LRUs).
3. A detailed description of the levels and types of maintenance for the Product.
4. Reliability, maintainability, and availability requirements.
5. Product sparing analysis and spare parts provisioning list, to include a Critical Items List.
6. A summary of the plan for handling technical data and documentation, and training.
7. Specific requirements regarding packaging, handling, storage, and transportation.

The Plan shall use implementation contractor format.