

MWI 7120.2

REVISION A

EFFECTIVE DATE: August 16, 1999

EXPIRATION DATE: August 16, 2004

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# **MARSHALL WORK INSTRUCTION**

**ED01**

## **DATA REQUIREMENTS IDENTIFICATION/ DEFINITION**

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<b>Marshall Work Instruction ED01</b>		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 2 of 47</b>

**DOCUMENT HISTORY LOG**

<b>Status (Baseline/ Revision/ Canceled)</b>	<b>Document Revision</b>	<b>Effective Date</b>	<b>Description</b>
Baseline		5/14/99	
Revision	A	8/16/99	Organizational change to reflect systems engineer versus chief engineer in paragraph 6.3. Words added to paragraph 5.2.15 to clarify verification data category.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 3 of 48

## 1. PURPOSE

The purpose of this work instruction is to establish detailed instructions for identification and definition of data requirements for programs/projects in accordance with MPG 7120.3, "Data Management, Programs/Projects," for Marshall Space Flight Center (MSFC) Data Management and other Center institutional activities.

## 2. APPLICABILITY

These instructions apply to all MSFC organizational elements. These data may be generated by and/or acquired from contractors, principal investigators, in-house MSFC organizations, other National Aeronautics and Space Administration (NASA) centers, or other Government organizations.

## 3. APPLICABLE DOCUMENTS

- a. NPG 1441.1, "NASA Records Retention Schedules (NRRS)"
- b. MPG 7120.3, "Data Management, Programs/Projects"
- c. MPG 1440.2, "MSFC Records Management Program"
- d. FAR, Federal Acquisition Regulation
- e. NFS, NASA Federal Acquisition Regulation Supplement

## 4. REFERENCES

None

## 5. DEFINITIONS AND DATA CATEGORIES

### 5.1 Terms

5.1.1 Center Data Requirements Manager (CDRM). A specific organization or individual appointed to carry out the Center's responsibility for development and maintenance of Center data requirements. The CDRM has the requisite authority to coordinate internal MSFC data requirement activities.

5.1.2 Contract. A mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them. It includes all types of commitments that obligate the Government to an expenditure of appropriated funds and that, except as

<b>Marshall Work Instruction</b> <b>ED01</b>		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 4 of 48</b>

otherwise authorized, are in writing. In addition to bilateral instruments, contracts include (but are not limited to) awards and notices of awards; job orders or task letters issued under basic ordering agreements; letter contracts; orders, such as purchase orders, under which the contract becomes effective by written acceptance or performance; and bilateral contract modifications.

5.1.3 Contractor. An entity, i.e., individual, partnership, company, corporation, or association having a product or services contract with a procuring activity.

5.1.4 Data Approval Levels for In-House Activities. Data Approval Levels will be applied to each Data Requirements Description (DRD). The Data Approval Level defines the level of control and approval for the specific data requirement. Data approval levels are defined by the individual projects in the project data management plan.

5.1.5 Data Manager (DM). An individual appointed by directors or managers of MSFC organizations to establish and administer the implementation of organizational data management activities for a specific program, project, activity, or contract.

5.1.6 Data Procurement Document (DPD). A compilation of all documents that describe the data requirements of a particular task or project for contractual efforts.

5.1.7 Data Requirements Description (DRD). A detailed description of a required data item, including purpose, contents, format, maintenance requirements, and submittal requirements.

5.1.8 Data Requirements List (DRL). A list of DRD's applicable to a specific contract or center activity.

5.1.9 Data Types for Contractual Efforts. The types of data and their contractually applicable requirements for approval and delivery are:

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 5 of 48

Data Type      Description

- 1      All issues and interim changes to those issues require written approval from the requiring organization prior to formal release for use or implementation.
  
- 2      MSFC reserves a time-limited right to disapprove in writing any issues and interim changes to those issues. Data shall be submitted to procuring activity for review not less than 45 calendar days prior to its release for use or implementation. The contractor shall clearly identify the release target date in the "submitted for review" transmittal. If the contractor has not been notified of any disapproval prior to the release target date, the data shall be considered approved. To be an acceptable delivery, disapproved data shall be revised to remove causes for the disapproval before its release.
  
- 3      These data shall be delivered by the contractor as required by the contract and do not require MSFC approval. However, to be a satisfactory delivery, the data must satisfy all applicable contractual requirements.
  
- 4      These data are produced or used during performance of the contract and are retained by the contractor. They shall be delivered when MSFC requests it according to instructions in the request. The contractor shall maintain a list of these data and shall furnish copies of the list to MSFC when requested to do so.
  
- 5      These data are incidental to contract performance and are retained by the contractor in those cases where contracting parties have agreed that delivery is not required. However, the Contracting Officer or his representative shall have access to and can inspect this data at its location in the contractor's or subcontractor's facilities.

5.1.10 Functional Data Category. A category of data that has a defined scope based on the functional use of the data.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 6 of 48

5.1.11 In-House Data Requirements Document (IDRD). A compilation of all documents that describe the data requirements of a particular in-house activity.

5.1.12 Office of Primary Responsibility (OPR). A unique engineering/management discipline designated responsibility for defining a particular data requirement, i.e., safety, logistics, configuration management, manufacturing, test.

5.1.13 Solicitation. As used herein, includes Request for Proposal (RFP), Request for Offer (RFO), Request for Quotation (RFQ), or Invitation for Bid (IFB).

5.1.14 Standard Data Requirements Description (DRD). A data requirement that has been identified for repetitive use, either in-house or on contracts, shall be designated a standard.

5.1.15 Statement of General Requirements (SGR). An integral section of the DPD and IDR that contains the table of contents, introduction, and those general requirements applicable to the preparation, maintenance, and delivery of data that are better defined in aggregate than in the individual DRD's.

5.2 Data Categories. The following definitions of broad functional management categories are to be used for classification of data requirements and apply to contractual and in-house activities:

5.2.1 Contractual Data (CD). This category includes the definition of data delivery requirements contained in applicable procurement and regulatory procedures incorporated in or referenced by contractual instruments.

5.2.2 Configuration Management (CM). This category includes the data that is required for a uniform system of configuration identification, status accountability, and control. This data should include all data down to that level of detail necessary to identify and ensure integrity of the configuration. This category essentially covers the engineering management system to define how and by whom the configuration of the system is controlled. It includes the data that is necessary and primary in controlling hardware, firmware, and software.

5.2.3 Design and Development Engineering (DE). This category includes the definition of specific engineering requirements; hardware design, analyses, and solutions to implement specifications; analytical and test verification programs necessary to assure design solution adequacy; design,

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 7 of 48

manufacturing and assembly documentation; and controls to ensure design performance reproducibility.

5.2.4 Environmental Engineering (EE). Data within this category describes the procedures, controls, analytical methods, test methods, and reporting needed to ensure the environmentally compliant handling, processing, and disposal of all hazardous materials and pollutants of a specific project. The data identifies all potential hazards, required restrictions and controls, and mandated limits from concept through project termination in both ground and flight operations.

5.2.5 Logistics/Support (LS). This category includes the data necessary to perform the logistics function, including spare parts analyses and lists of spares. It reflects the logistics plans, programming, analysis, handling, storage, supply, maintenance, support facilities, packaging, Government property management, and schedules.

5.2.6 Management (MA). This category includes that portion of the management system that interfaces with the other data categories and ensures that they are properly integrated. This category includes the data required to plan, review, manage, and control a specific MSFC project. These data also include the management structure supporting the specific program and financial information, performance measurement, progress reporting, make or buy plans, and training plans.

5.2.7 Materials and Processes (MP). This category includes the definition of specific engineering selections, necessary functional properties, material and hardware-level processing criteria, and controls necessary to attain functional property assurance, manufacturing planning, and implementation procedures to assure repeatable and controlled operations.

5.2.8 Operations (OP). Data within this category includes the requirements, plans, procedures, and activities required for ground and mission operations from delivery of system hardware at the launch site through recovery and post-flight operations. It reflects such areas as long-range plans for tracking network and Department of Defense (DOD) support, prelaunch and postlanding support, as well as specific mission requirements such as launch trajectories, specific mission objectives, and personnel requirements.

5.2.9 Orbital Servicing (OS). This category includes data related to the on-orbit servicing and maintenance of orbiting facilities, such as integrated systems analyses, support

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 8 of 48

requirement analyses, orbital replacement units (ORU) characteristics, ORU inventory/quality control/maintenance, orbital servicing quality control, maintainability/servicing assessments, maintenance and refurbishment logistics, orbital contamination control, hardware simulation, and storage plans.

5.2.10 Quality Engineering (QE). This category includes data used in planning, controlling, supporting, and reporting quality activities, data associated with internal program management systems, and procedures used in applying quality functions to ensure that design and production of end items comply with QE requirements. Quality Engineering ensures that items delivered fulfill requirements by auditing the processes that minimize variability and provide conformity.

5.2.11 Reliability and Maintainability (RM). This category includes control and review procedures to ensure that component, subsystem, system and software design, manufacture, assembly, and testing will produce items that meet the established specifications. It includes reliability and maintainability plans, reliability assessments, reliability status reports, manufacturing process control plans, quality control and inspection plans, and production acceptance testing documents. It includes development, qualification and reliability demonstration testing, reliability assessment of test results, tests of a statistical sampling nature, and manufacturing verification tests to obtain quality assurance.

5.2.12 Safety (SA). Data within this category describes the procedures, controls, methods, studies, and reporting needed to ensure the safety, health, and environment of all operations of a specific MSFC project and identifies all potential hazards from concept through project termination in both ground and flight operations. It assumes the existence of safety considerations within other appropriate categories and is concerned with integrating and controlling these safety considerations through a central safety program.

5.2.13 Systems Engineering (SE). This category encompasses the overall systems/subsystems/equipment mission definitions, systems specification, and system-level requirements for reliability, maintainability, transportability, integration, operations, technical studies, system level analyses, and evaluations, etc., necessary for system technical description and specification(s).

5.2.14 Software (SW). This category includes data used throughout the life cycle to plan, manage, control, and support activities involved in development, testing (including software

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 9 of 48

verification and validation) and use of software products. Software data also includes the product description, product requirements, and validation of software compliance with requirements.

5.2.15 Verification (VR). This category includes data that is used to document planned verification activities, support equipment, and facilities. It also includes data that is used to document verification requirements definition, traceability, compliance to requirements, testing (including hardware validation) and results of verification activities.

## 6. INSTRUCTIONS

### 6.1 General

6.1.1 Standard DRD Development and Maintenance. The CDRM maintains a set of standard DRD's based on an examination of data requirements used throughout the Center's history. The standard DRD's are verified and approved by the cognizant OPR. The CDRM numbers each DRD and enters each DRD into the standards database. Issuance of new management directives or regulations, the identification of new requirements, or maturity in functional disciplines may necessitate the creation of new standard DRD's.

See Figure 1 for the process of developing a new or revising an existing standard DRD. See Appendix A for a sample standard DRD.

The CDRM shall solicit appointment of individuals to serve as OPR designees for each standard DRD.

The CDRM maintains and controls approved standard and tailored DRD's. These DRD's are generated, reviewed, and approved by their applicable OPR's for technical completeness and integrity. The CDRM ensures proper format, administrative compliance, and applicability to a particular category(ies).

Standard DRD's shall be identified using an alpha identifier. The initial three characters shall be "STD" followed by two alpha characters representing the appropriate functional data category, e.g., MA, SA, LS, etc., and ending with the assignment of three or four characters representing the title or subject of the description, e.g., STD/CD-NTR, STD/CM-CMP, etc. Revisions of standard DRD's are controlled by date. The CDRM is responsible for assigning a standard DRD identifier.

Standard DRD's are maintained in Microsoft Word and provided to the web site in Portable Document Format (PDF) format.

<b>Marshall Work Instruction</b> <b>ED01</b>		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 10 of 48</b>

### 6.1.2 DPD/IDRD Logs Development and Maintenance

6.1.3 Data Requirements Web Site. The following web site address, <http://masterlist.msfc.nasa.gov/iso9000/drd/data reqs.taf>, includes the standard DRD's in PDF format, a generic SGR, a matrix of those requirements available by DRD number, by title, by OPR, and OPR designee, and a link to data management procedures and work instructions. For Microsoft Word versions of any formats, see the CDRM.

6.2 Identification/Definition of Data Requirements for Procurements. In those instances where five or more deliverable items are requested, a Data Procurement Document (DPD) will be required. In cases of less than five deliverables, the DPD is optional or a Reports of Work format may be used. See Appendix B for a sample DPD and Appendix C for Sample Reports of Work.

6.2.1 Data Procurement Document Development. Preparation of the DPD shall be accomplished in two phases: preparation of a draft DPD and a formal DPD. The draft DPD shall contain a DPD cover page, a Table of Contents, an Introduction, a Statement of General Requirements (SGR), a Data Requirements List (DRL), and associated Data Requirements Descriptions (DRD's), and shall be used until mutual agreement on its content is negotiated between the data-requiring organization and the respondent. After completion of negotiations, the formal DPD shall be prepared for incorporation into the contract. In addition to the contents of the draft DPD, the formal DPD shall contain a Document Change Log (DCL) and a Page Revision Log (PRL). See Appendix B for a sample DPD.

The DPD shall be assembled in the order given in the paragraph above, with the data requirements filed in alphanumeric order by functional data category and DRD number as shown on the DRL. The DPD identification number and issue symbol shall be entered on each form as prescribed in the preparation of each form. The three to four-digit identification number shall be assigned sequentially by the CDRM. The issue symbol denotes the revision status of the entire DPD, e.g., Draft, Request for Proposal (RFP), Basic, Revision A, Revision B. The DPD shall remain a "Draft" issue until formal acceptance by the Contracting Officer. The issue which accompanies the RFP will bear "RFP". Upon formal issue of the DPD (when incorporated into a contract or model contract), the issue symbol shall be the word "Basic". The Procurement Office will assign page numbers to be consistent with the RFP page numbers. A distribution matrix shall be prepared by

<b>Marshall Work Instruction</b> <b>ED01</b>		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 11 of 48</b>

the DPD developer and forwarded to Procurement for transmittal to the contractor.

#### 6.2.1.1 Elements of the Data Procurement Document (DPD)

6.2.1.1.1 DPD Cover Sheet. The cover sheet identifies the DPD as an official Marshall Space Flight Center (MSFC) document and is prepared on MSFC Form 3461.

6.2.1.1.2 Document Change Log. The Document Change Log (DCL), prepared on MSFC Form 3461-1, provides the current revision status of the DPD. The DCL shall be issued with the formal DPD and shall be updated and issued with each DPD revision or reissue resulting from Supplemental Agreements. The DCL shall also be updated and issued with each Contracting Officer notification letter or Change Order (CO).

6.2.1.1.3 Page Revision Log. The Page Revision Log (PRL), prepared on MSFC Form 3461-2, provides the current status of each page of the DPD. The PRL shall be issued with the formal DPD and shall be updated and issued with each DPD revision or reissue resulting from Supplemental Agreements.

6.2.1.1.4 Table of Contents. The table of contents lists the identifiable components of the DPD.

6.2.1.1.5 Introduction. The DPD Introduction prescribes the DPD's applicability and maintenance requirements. It describes the DPD's component parts and specifies their interrelationship.

6.2.1.1.6 Statement of General Requirements. The SGR prescribes those general requirements applicable to the preparation, maintenance, and delivery of data that are better defined in aggregate than in the individual DRD's. The CDRM will maintain a generic SGR, available at the web site. The SGR also defines the maintenance of the DPD.

6.2.1.1.7 Data Requirements List. The DRL presents a complete list of the data requirements applicable to a specific contract. The DRL lists the number, title, and OPR for each DRD.

6.2.1.1.8 Data Requirements Descriptions. The DRD presents a complete description of a data requirement. The DRD prescribes content, format, maintenance, approval, and submittal requirements of the data product. Standard DRD's will be used in the preparation of DPD's for MSFC contracted projects. Standard DRD's will be tailored to meet the needs of a project. A unique DRD shall be prepared by the OPR when a standard DRD does not

<b>Marshall Work Instruction</b> <b>ED01</b>		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 12 of 48</b>

exist which can be tailored to meet project requirements. DRD's should adhere to the format requirements established and controlled by the CDRM. When circumstances warrant the creation of a new DRD for which no OPR has been identified, the CDRM shall be responsible for coordinating the identification of a cognizant OPR. Documents required to supplement the DRD shall be entitled "Attachments" and identified with the same DPD number and issue, and DRD identification number and title. Pages of the attachment shall be numbered sequentially and each page shall state the total number of pages, i.e., Attachment B, page 1 of 4.

It is recommended that the statement "Per Contracting Officer's letter" be included in the distribution block on the DRD. The Project Office will provide a distribution matrix to Procurement, which will forward the information to the contractor for data requirements submittals.

6.2.1.1.9 DRD Continuation Sheet. The DRD Continuation Sheet is used for additional preparation instructions that will not fit on the first DRD sheet. The Continuation Sheet repeats only that information required for tracking and identification (DRD title, DRD number, and data type).

6.2.2 Reports of Work Development. A Reports of Work shall address the deliverables in paragraph form and can be included in the Statement of Work. As a minimum, it will define the content, format, maintenance, and submittal requirements of the data deliverables. A matrix showing the distribution of the deliverables shall also be included. The Reports of Work shall be given a three or four-digit identification number by the CDRM, and be identified as "Draft" until the formal issue by Procurement when it will be issued as "Basic". See Appendix C for a sample reports of work.

6.3 Identification/Definition of Data Requirements for In-House Activities. In those instances where five or more deliverable items are requested, an In-House Data Requirements Document (IDRD) will be required. In cases of less than five deliverables, the IDRD is optional.

6.3.1 In-House Data Requirements Document Development. The In-House Data Requirements Document (IDRD) is a compilation of documents that describe the data requirements for a particular MSFC in-house activity. The IDRD may consist of full descriptions or matrices providing basic submittal and approval requirements. Preparation of the IDRD shall be accomplished in two phases: preparation of a draft document and a final document. The draft IDRD shall contain an IDRD Cover, a Table of

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 13 of 48

Contents, an Introduction, a SGR, a DRL and associated DRD's or a data requirements matrix, and shall be used until mutual agreement is reached on its content. After agreement on the contents, the final IDRDR shall be prepared for implementation. In addition to the contents of the draft IDRDR, the final IDRDR shall contain a DCL. See Appendix D for a sample IDRDR.

The IDRDR shall be assembled in the order given in the paragraph above, with any data requirements filed in alphanumeric order by functional data category and DRD number. The IDRDR identification number and issue symbol shall be entered on each form as prescribed in the preparation of each form. The IDRDR identification number shall be obtained from the CDRM and shall consist of three or four digits assigned sequentially. The issue symbol denotes the revision status of the entire IDRDR, e.g., Draft, Basic, Revision A, Revision B. The IDRDR shall remain a "Draft" issue until mutual agreement by the project office and CDRM. Upon formal issue of the IDRDR the issue symbol shall be the word "Basic."

A data requirements matrix may be used in lieu of DRD's and shall include titles, OPR designees, submission dates or milestones, and any information deemed necessary by the Data Manager. The data requirements matrix may also be used with descriptions.

The Project Manager, with Data Manager support, shall develop the distribution list for the IDRDR, and provide the IDRDR and data submittals to data developers.

#### 6.3.1.1 Elements of an In-House Data Requirements Document

6.3.1.1.1 IDRDR Cover Sheet. The cover sheet identifies the IDRDR as an official MSFC document and shall be prepared on MSFC Form 4255. The date entered shall be applicable to the entire IDRDR and shall correspond to the issue symbol shown in the upper right-hand corner; that is, for "Basic" issue, the date that the IDRDR is formally approved by the project office; for reissues of the IDRDR, the date of the respective reissue. The cover sheet shall always designate the specific title of the in-house project.

6.3.1.1.2 Document Change Log. The Document Change Log (DCL) provides the current revision status of the IDRDR. The DCL shall be issued with the final IDRDR and shall be updated and issued with each IDRDR revision or reissue. The DCL shall also be updated and issued with each revision of a DRD. The Incorporated Revisions DCL records IDRDR changes approved and implemented for the project office. The DCL shall be prepared on MSFC Form 4255-1.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 14 of 48

6.3.1.1.3 Table of Contents. The table of contents lists the identifiable components of the IDRDR.

6.3.1.1.4 Introduction. The IDRDR Introduction prescribes the applicability and maintenance requirements. It describes the IDRDR's component parts and specifies their interrelationship.

6.3.1.1.5 Statement of General Requirements. The SGR prescribes those general requirements applicable to the preparation, maintenance and delivery of data that are better defined in aggregate than in the individual data requirements descriptions. The SGR also defines the maintenance of the IDRDR.

6.3.1.1.6 Data Requirements List. The DRL presents a complete list of the data requirements applicable to a specific in-house project or activity. The DRL may be expanded to a matrix providing additional information such as submittal requirements. The matrix may be used in lieu of DRD's at the project's discretion.

6.3.1.1.7 Data Requirements Descriptions. The DRD presents a complete description of a data requirement that is not adequately defined by a data requirements matrix. The DRD prescribes content, format, maintenance, approval, and submittal requirements. Documents required to supplement the DRD shall be entitled "Attachments" and identified with the same IDRDR number and issue, and DRD identification number and title. Pages of the attachment shall be numbered sequentially and each page shall state the total number of pages, i.e., Attachment B, page 1 of 4.

The OPR designee will have the responsibility for future changes to any DRD for which he/she is responsible. Any changes to an approved DRD requested by another organizational element shall be forwarded to the OPR for review. The OPR shall prepare and submit a revised DRD containing the changes to the project office for approval and subsequent incorporation into the IDRDR. A DCL should be prepared as specified in paragraph 6.2.1.1.2. OPR's should remain cognizant of any management directives (emanating from the Center or from Headquarters) that may dictate changes to DRD's.

Data submittals shall be provided to data developers by a distribution list developed by the Project Manager supported by the Data Manager.

Standard approved formats for MSFC DRD's are controlled by the CDRM. Deviation from these formats requires the approval of the

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 15 of 48

CDRM. Originators of data requirements management forms should adhere to the guidelines and format requirements presented herein.

6.3.1.1.8 DRD Continuation Sheet. The DRD Continuation Sheet is used for additional preparation instructions that will not fit on the first DRD sheet. The Continuation Sheet repeats only that information required for tracking and identification (DRD title, DRD number, and data type).

## 7. NOTES

None

## 8. SAFETY PRECAUTIONS AND WARNING NOTES

None

## 9. RECORDS

Management of records shall be in accordance with MPG 1440.2 and NPG 1441.1.

## 10. PERSONNEL TRAINING AND CERTIFICATION

None

## 11. FLOW DIAGRAM

See the following Appendices.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 16 of 48

## 12. CANCELLATION

MWI 7120.2 dated May 14, 1999

Original Signed by

A. G. Stephenson  
Director

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 17 of 48

## Appendix A

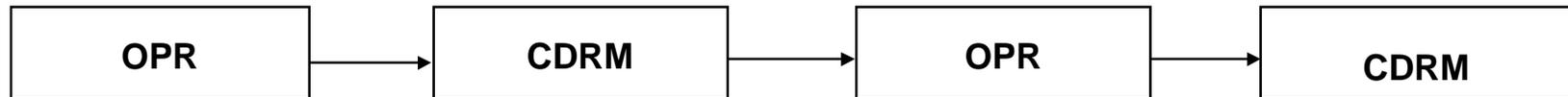
### Standard Development Flow

#### Sample Standard Data Requirements Description (DRD)

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 18 of 48

## STANDARD DRD DEVELOPMENT (NEW/REVISIONS)

6.1



- INITIATES AND PREPARES NEW/ REVISED STANDARD DRD
- COORDINATES WITH OTHER USERS

- REVIEWS FORMAT
- ASSIGNS STANDARD DRD IDENTIFIER BY CATEGORY

- APPROVES NEW/ REVISED STANDARD DRD

- INCORPORATES INTO STANDARDS DATABASE

CDRM - CENTER DATA REQUIREMENTS MANAGER  
 DRD - DATA REQUIREMENTS DESCRIPTION  
 OPR - OFFICE OF PRIMARY RESPONSIBILITY

CHECK THE MASTER LIST at <https://repository.msfc.nasa.gov/directives/directives.htm>  
 VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 19 of 48

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. **DPD NO.:** XXX      **ISSUE:** Standard
2. **DRD NO.:** **STD/CM-ADP**
3. **DATA TYPE:** 1
4. **DATE REVISED:**
5. **PAGE:** 1/2
6. **TITLE:** Acceptance Data Package
7. **DESCRIPTION/USE:** To provide the documentation needed by MSFC to establish the acceptability of equipment/software for the intended use.
8. **OPR:** ED43      9. **DM:**
10. **DISTRIBUTION:** Per Contracting Officer's letter
11. **INITIAL SUBMISSION:** Two weeks prior to each Acceptance Review (AR)
12. **SUBMISSION FREQUENCY:**
13. **REMARKS:**
14. **INTERRELATIONSHIP:**
15. **DATA PREPARATION INFORMATION:**
- 15.1 **SCOPE:** The Acceptance Data Package (ADP) contains the elements of documentation required to establish the acceptability of equipment and software.
- 15.2 **APPLICABLE DOCUMENTS:** None
- 15.3 **CONTENTS:** An ADP for hardware contract configuration items shall contain the current log book that includes:
  - a. Running/operating time and cycle for each time and cycle critical items of the Configuration Item (CI). These logs shall identify the item(s) by nomenclature, part number, and serial number and shall state the total authorized life and the life expended.
  - b. Test history log, including post manufacturing checkout and final verification tests of the CI, with the following data:
    1. Actual measurements identified to specified tests. Reference to applicable test reports are satisfactory provided that copies of the reports are provided.
    2. Brief test summary.
    3. List of unaccomplished tasks and estimated man-hours to complete.
    4. List of actual and recommended retest.
    5. Special test instructions, investigations, warnings, and problems encountered during test.
    6. Failure and corrective actions data for all failures during all testing.
  - c. Inspection records for all inspections.
  - d. Transfer records providing a history of all CI and critical component movements.
  - e. Alignment data for all CIs and critical items.
  - f. Component log books, including Government furnished items.
  - g. Weight and balance logs covering total weight and horizontal, vertical, and lateral center(s) of gravity.
  - h. Configuration records:
    1. Parts and drawing list identifying all parts and incorporated or pending changes to each.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 20 of 48

## DRD Continuation Sheet

**TITLE:** Acceptance Data Package

**DRD NO.:** STD/CM-ADP

**DATA TYPE:** 1

**PAGE:** 2/2

15. **DATA PREPARATION INFORMATION (CONTINUED):**

2. Software configuration records defining the verified and validated software, version description documents, software certification, and the validated software program.
3. List of approved and pending deviations and waivers.
4. Complete list of hardware and software/firmware items shipped loose or separately.
5. Copy of proposed DD Form 250.

15.4 **FORMAT:** Contractor format is acceptable.

15.5 **MAINTENANCE:** The ADP shall be maintained current. Changes and/or updating shall be in accordance with the contractor's approved change control system.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 21 of 48

Appendix B

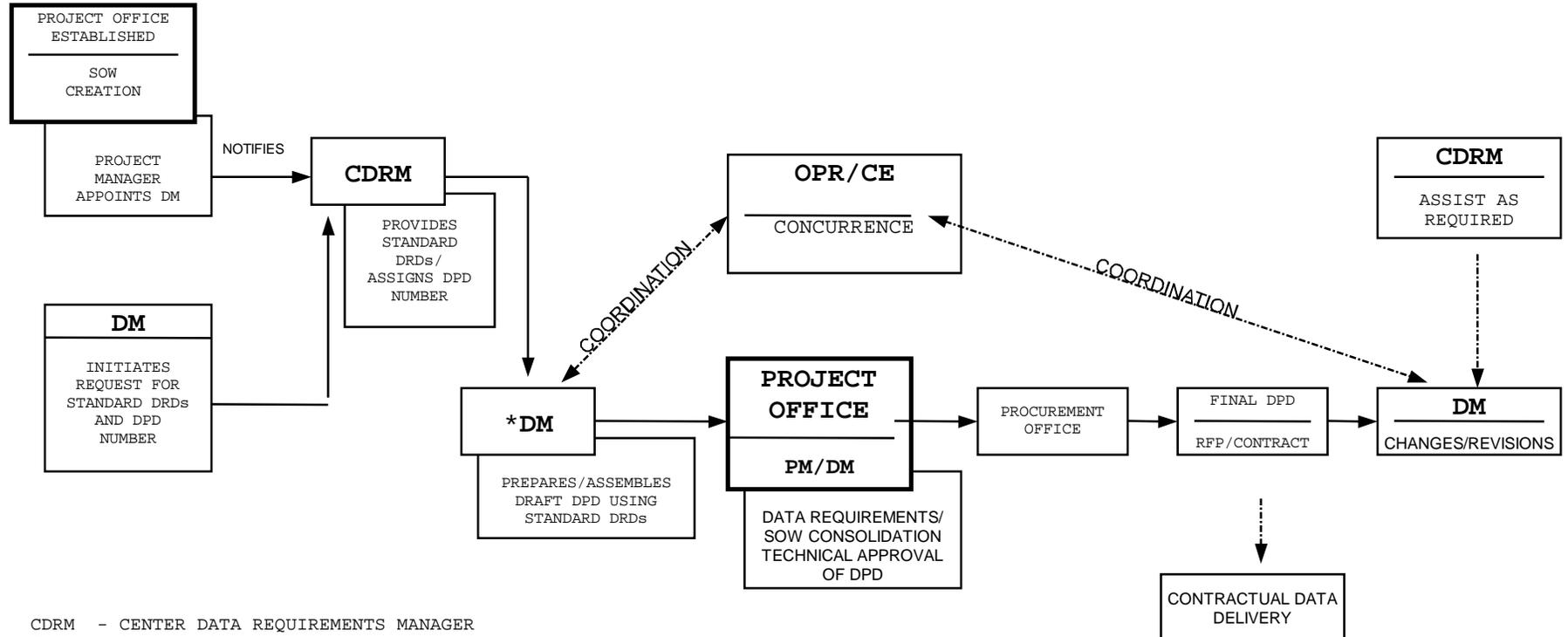
Data Procurement Document Development Flow

Sample Data Procurement Document

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 22 of 48

## DATA PROCUREMENT DOCUMENT DEVELOPMENT

### 6.2



CDRM - CENTER DATA REQUIREMENTS MANAGER  
 CE - CHIEF ENGINEER  
 DM - DATA MANAGER  
 DPD - DATA PROCUREMENT DOCUMENT  
 DRD - DATA REQUIREMENTS DESCRIPTION  
 DRL - DATA REQUIREMENTS LIST  
 OPR - OFFICE OF PRIMARY RESPONSIBILITY  
 PM - PROJECT MANAGER  
 RFP - REQUEST FOR PROPOSAL  
 SOW - STATEMENT OF WORK

\* CDRM WILL PROVIDE ASSISTANCE WITH PREPARATION AS REQUESTED

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 23 of 48

DATA PROCUREMENT DOC. NO. ISSUE
999 Draft

**NASX-XXXXX**

CONTRACT/RFP

EXHIBIT NUMBER

**J-2**

ATTACHMENT NUMBER

PROJECT/SYSTEM

***DATA PROCUREMENT DOCUMENT***

CONTRACTOR

**XX**

DATE

National Aeronautics and  
Space Administration

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 24 of 48

National Aeronautics and Space Administration <b>DOCUMENT CHANGE LOG</b>					DATA PROCUREMENT DOC. NO.            ISSUE <b>999            Draft</b>		
<input type="checkbox"/> INCORPORATED REVISIONS <input type="checkbox"/> OUTSTANDING REVISIONS				AS OF:		SUPERSEDING:	PAGE:
AUTHORITY	PORTION AFFECTED - PAGE NO./NO.				REMARKS		
	INTRO	SGR	DRL	DRD			

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Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 26 of 48

TABLE OF CONTENTS

	<u>PAGE</u>
DOCUMENT CHANGE LOG .....	i
PAGE REVISION LOG .....	ii
TABLE OF CONTENTS .....	1
1.0 INTRODUCTION .....	2
1.1 Scope .....	2
1.2 DPD Description .....	2
1.2.1 General Requirements .....	2
1.2.2 Data Requirements List (DRL) .....	2
1.2.3 Data Requirements Descriptions (DRD's) .....	2
1.2.4 Document Change Log (DCL) and Page Revision Log (PRL) .....	3
1.2.5 DPD Maintenance Procedures .....	3
1.3 Data Types .....	3
2.0 STATEMENT OF GENERAL REQUIREMENTS .....	4
2.1 Applicable Documents .....	4
2.2 Subcontractor Data Requirements .....	4
2.3 Distribution .....	4
2.4 Printing .....	4
2.5 Microfilm .....	5
2.6 Contractor's Internal Documents .....	5
2.7 Document Identification .....	5
2.8 Reference to Other Documents in Data Submittals .....	5
2.9 Maintenance of Type 1 Document Submittals .....	5
3.0 DPD MAINTENANCE PROCEDURES .....	6
3.1 MSFC-Initiated Change .....	6
3.2 Contractor-Initiated Change .....	6
3.3 DPD Change Procedures .....	6
3.4 DPD Reissues .....	7
DATA REQUIREMENTS LIST .....	8

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 27 of 48

1.0 INTRODUCTION

1.1 Scope: Subject to the Rights in Data clause, this Data Procurement Document (DPD) sets forth the data requirements in each Data Requirements Description (DRD) and shall govern that data required by the DPD for the contract. The contractor shall furnish data defined by the DRD's listed on the Data Requirements List (DRL) by category of data, attached hereto, and made a part of this DPD. Such data shall be prepared, maintained, and delivered to MSFC in accordance with the requirements set forth within this DPD. In cases where data requirements are covered by a Federal Acquisition Regulation (FAR) or NASA FAR Supplement (NFS) regulation or clause, the regulation will take precedence over the DPD, per FAR 52.215-8.

1.2 DPD Description: This DPD consists of a Document Change Log, a Page Revision Log, a Table of Contents, an Introduction, a Statement of General Requirements, DPD maintenance procedures, a DRL, and the DRD's.

1.2.1 General Requirements: The general requirements, as specified in paragraph 2.0 of this DPD, prescribe those requirements applicable to the preparation, maintenance, and delivery of data that are better defined in aggregate than in the individual DRD's.

1.2.2 Data Requirements List (DRL): Throughout the performance of the contract, the DRL provides a listing by data category of the data requirements of the DPD.

1.2.3 Data Requirements Descriptions (DRD's)

1.2.3.1 Each data requirement listed on the DRL is given complete definition by a DRD. The DRD prescribes content, format, maintenance instructions, and submittal requirements.

1.2.3.2 For the purpose of classification and control, DRD's of this DPD are grouped into the following broad functional data categories:

<u>CATEGORY SYMBOL</u>	<u>DESCRIPTION</u>
CD	Contractual Data
CM	Configuration Management
DE	Design and Development Engineering
LS	Logistics/Support
MA	Management
MP	Materials and Processes
OP	Mission Operations
OS	Orbital Servicing
QE	Quality Engineering
RM	Reliability and Maintainability
SA	Safety
SE	Systems Engineering
SW	Software
VR	Verification

1.2.3.3 The symbols representing these data categories form part of the prefix of the DRD identification number. The first numerical characters reflect the DPD number.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 28 of 48

- 1.2.3.4 To facilitate the usage and maintenance of the DPD, the DRD's have been sectionalized in accordance with the above data categories.
- 1.2.3.5 The DRD's are filed by data category and are in alpha-numeric sequence as listed on the DRL page (or pages) that precedes the DRD's.
- 1.2.4 Document Change Log (DCL) and Page Revision Log (PRL): The Document Change Log chronologically records all revision actions that pertain to the DPD. The Page Revision Log describes the current revision status of each page of the DPD and thus, at all times, provides its exact configuration.
- 1.2.5 DPD Maintenance Procedures: Maintenance procedures define the detailed methods to be employed in maintaining the DPD. Detailed maintenance procedures are specified in paragraph 3.0 of this DPD.
- 1.3 Data Types for Contractual Efforts: The types of data and their contractually applicable requirements for approval and delivery are:

TYPE

DESCRIPTION

- 1 All issues and interim changes to those issues require written approval from the requiring organization before formal release for use or implementation.
- 2 MSFC reserves a time-limited right to disapprove in writing any issues and interim changes to those issues. Data shall be submitted to the procuring activity for review not less than 45 calendar days prior to its release for use or implementation. The contractor shall clearly identify the release target date in the "submitted for review" transmittal. If the contractor has not been notified of any disapproval prior to the release target date, the data shall be considered approved. To be an acceptable delivery, disapproved data shall be revised to remove causes for the disapproval before its release.
- 3 These data shall be delivered by the contractor as required by the contract and do not require MSFC approval. However, to be a satisfactory delivery, the data must satisfy all applicable contractual requirements.
- 4 These data are produced or used during performance of the contract and are retained by the contractor. They shall be delivered when MSFC requests it according to instructions in the request. The contractor shall maintain a list of these data and shall furnish copies of the list to MSFC when requested to do so.
- 5 These data are incidental to contract performance and are retained by the contractor in those cases where contracting parties have agreed that delivery is not required. However, the Contracting Officer or the Contracting Officer's Representative shall have access to and can inspect this data at its location in the contractor's or subcontractor's facilities.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 29 of 48

## 2.0 STATEMENT OF GENERAL REQUIREMENTS

2.1 Applicable Documents: Documents included as applicable documents in this DPD are the issue specified in the Statement of Work, and form a part of the DPD to the extent specified herein. References to documents other than applicable documents in the data requirements of this DPD may sometimes be utilized. These do not constitute a contractual obligation on the contractor. They are to be used only as a possible example or to provide related information to assist the contractor in developing a response to that particular data requirement.

### 2.2 Subcontractor Data Requirements

2.2.1 The contractor shall specify to subcontractors and vendors, if any, the availability source of all data required for the satisfactory accomplishment of their contracts. The contractor shall validate these requirements for documents when appropriate; where the requirement concerns other contractor data, the contractor shall provide his subcontractor or vendor with the necessary documents. All such requests shall be accomplished under the auspices of the contractor.

2.2.2 Reference to subcontractor data in the contractor's responses is permissible, providing the references are adequate and include such identification elements as title, number, revision, etc., and a copy of the referenced data is supplied with the response document at time of delivery to MSFC.

### 2.3 Distribution

2.3.1 Distribution of required documentation shall be in quantities determined by the Contracting Officer. Recipient names and addresses shall be noted on a separate distribution list to be furnished by the Contracting Officer.

2.3.2 Electronic submission of data deliverables is preferred. The preferred formats include Microsoft Word, Excel, PowerPoint, or Adobe Acrobat PDF as appropriate. The software versions shall be confirmed prior to submittals. Marshall Policy Directive (MPD) 2210.1H specifies the requirements for utilizing the Documentation Repository. Electronic data submittals to the Repository shall be coordinated with the Repository. MSFC has the capability of receiving electronic data files for importing into the MSFC Documentation Repository system. Computer-Aided Design (CAD) drawings shall be submitted in the original native vector, Hewlett-Packard Graphic Language (HPGL) and raster image formats.

2.4 Printing: All printing, duplicating, or binding shall be in accordance with NFS 1852.208-81, Restrictions on Printing and Duplicating. Printing of formal reports and Type 1 and 2 data in book format shall be in accordance with the following general specifications:

- a. Method of reproduction – offset/xerography.
- b. Finished size – 8 1/2" X 11".
- c. Paper – 20-pound opaque bond.
- d. Cover – Litho cover stock.
- e. Pages will be printed on both sides; blank pages will be avoided when possible.
- f. Oversize pages will be avoided when possible, but if necessary will be folded to 8 1/2" X 11".
- g. Binding shall be the most economical method commensurate with the size of the report and its intended use.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 30 of 48

- 2.5 Microfilm: When microfilm of drawings, specifications, and associated lists is required, it shall be 35mm silver halide negative, first generation (Type 1, Class 1) in accordance with ANSI/AIIM MS32-1987 (Microrecording of Engineering Source Documents on 35mm Microfilm). Input Form DD Form 1562, Dual Purpose Engineering Document Card, shall be used for microfilm purposes. The microfilm shall be submitted in the form of roll microfilm or master microfilm aperture cards. If microfilm rolls are used, they shall not exceed 100 feet in length. Deviations from these requirement shall be approved by the Contracting Officer. All deviations shall be coordinated with the MSFC Micrographics Manager, located in the Documentation Repository.
- 2.6 Contractor's Internal Documents: The contractor's internal documents shall be used to meet the data requirements of this DPD unless a specific format is required by the applicable DRD.
- 2.7 Document Identification: Type 1 and 2 documents published by the contractor and submitted in response to the data requirements of this DPD shall be identified within an organized identification numbering system prescribed to MSFC by the contractor and, if applicable, as approved by MSFC. This number, change legend, date, and title constitute the minimum identification of the specific document and shall appear on the cover and title page. The contract number shall also appear on the cover and title page as separate markings. The originator and organization shall be included on the title page. The document number, change legend, and date shall appear on each page of the document. In the front matter of each document, identify the DPD number and applicable DRD number(s) required for document preparation. Successive issues or revisions of documents shall be identified in the same manner as the basic issue and shall have appropriate change identification. Drawings and ECP's are excluded from the marking provisions of this paragraph. All Type 1 documentation, excluding configuration management requirements, will be marked "PRELIMINARY PENDING MSFC APPROVAL," and once approved shall be reissued with "APPROVED BY MSFC" and the date and approval authority annotated on the cover.
- 2.8 Reference to Other Documents in Data Submittals: All referenced documents shall be made readily available to the cognizant MSFC organization upon request. The contractor should make sure that the references are available to MSFC in a manner which does not incur delays in the use of the response document.
- 2.9 Maintenance of Type 1 Document Submittals
- 2.9.1 Revisions of Type 1 documentation may be accomplished either by individual page revision or by a complete reissue of the document identified in accordance with requirements of 2.7 above, with the exception of drawings (which shall be revised in accordance with contract configuration management requirements).
- 2.9.2 Individual page revisions shall be made as deemed necessary by the contractor or as directed by the Contracting Officer.
- 2.9.3 A Type 1 document shall be completely reissued when, in the opinion of the contractor and/or MSFC, the document has been revised to the extent that it is unusable in its present state, or when directed by the Contracting Officer. When complete reissues are made, the entire contents of the document shall be brought up to date and shall incorporate revised pages. All revisions shall be recorded. A revision log shall identify complete reissues except for periodic reports and documents which are complete within themselves as final.

<b>Marshall Work Instruction</b>		
<b>ED01</b>		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 31 of 48</b>

- 2.9.4 Changes of a minor nature to correct obvious typing errors, misspelled words, etc., shall only be made when a technical change is made, unless the accuracy of the document is affected.
- 2.9.5 All revised pages shall be identified by a revision symbol and a new date. Each document shall contain a log of revised pages that will identify the revision status of each page with the revision symbol. This list shall follow the table of contents in each document. The line or lines revised on a given page shall be designated by the use of vertical line in the margin of the page, and the change authority shall be indicated adjacent to the change.
- 2.9.6 Contractor Type 1 documents shall not be submitted containing pen and ink markups which correct, add to, or change the text, unless schedule problems exist and approval is obtained in writing from the Contracting Officer. Such markups, however, shall not exceed 20 percent of the page content and shall be acceptable provided that the reproduced copies are legible. In addition, hand-drawn schematics, block diagrams, data curves, and similar charts may be used in original reports in lieu of formally prepared art work, as long as legibility of copies is not impaired. Acceptability will be determined by the Contracting Officer.
- 3.0 DPD MAINTENANCE PROCEDURES
- 3.1 MSFC-Initiated Change: New and/or revised data requirements will be incorporated by contract modification to which the new or revised portion of the DPD will be appended. The contractor shall notify the Contracting Officer in the event a deliverable data requirement is imposed and is not covered by a DRD, or when a DRD is changed by a contract modification and for which no revision to DPD is appended. In such cases, the contractor shall submit the requested changes to MSFC for approval. See paragraph 3.3.1 for change procedures.
- 3.2 Contractor-Initiated Change: Contractor-proposed data requirements, or proposed changes to existing requirements shall be submitted to MSFC for approval.
- 3.3 DPD Change Procedures
- 3.3.1 Changes to a contractual issue of this DPD will be identified by MSFC on the Document Change Log and Page Revision Log. The actual revised material on the DPD page will be identified by placing a heavy vertical line in the right-hand margin extending the entire length of the change. In addition, the numerical control number of the contractual direction authorizing the change shall be placed adjacent to the vertical revision line. These revision identifiers shall be used to reflect the current revision only; any previous symbols on a page will be deleted by the current revision.
- 3.3.2 The date of the contractual direction paper, e.g., Change Order, Supplemental Agreement, or Contracting Officer's letter shall be entered under the "Status " column of the Page Revision Log adjacent to the affected page or DRD number, and in the "as of" block. The date that was in the "as of" block will be entered in the "Superseding" block.
- 3.3.3 The Document Change Log entitled "Incorporated Revisions" will be changed to indicate the number, portions affected, and associated Supplemental Agreement number, if applicable.
- 3.3.4 The Document Change Log entitled "Outstanding Revisions" is changed periodically to indicate outstanding Change Orders and Contracting Officer notification letters.

<b>Marshall Work Instruction</b> <b>ED01</b>		
<b>Data Requirements</b> <b>Identification/Definition</b>	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 32 of 48

3.4 DPD Reissues

3.4.1 When conditions warrant, the DPD will be reissued by MSFC and will supersede the existing DPD in its entirety. Reissues will be issued by contractual direction.

3.4.2 All revision symbols (vertical lines and contractual direction control numbers) will be removed from all pages; revision dates shall remain in the Date Revised block on DRD's that have been revised. The issue symbol, which will commence with "A" and progress through "Z," will be entered in the DPD identification block of each DRD page of the DPD.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 33 of 48

### Data Requirements List

<u>DRD</u>	<u>DATA TYPE</u>	<u>TITLE</u>	<u>OPR</u>
CD - Contractual Data			
999CD-001	1	Security Plan for Unclassified Federal Computer Systems	AD50/AD33
999CD-002	3	New Technology Report	CD30
CM - Configuration Management			
999CM-001	1	Configuration Management Plan	ED43
999CM-002	1	Specifications	ED43
999CM-003	3	Product Drawings and Associated Lists, Electrical and Fluid Schematics, and Cable Interconnect Diagrams	ED43
999CM-004	1	Interface Control Documents	ED43
999CM-005	1	Interface Requirements Documents	ED43
999CM-006	3	Specification and Drawing Trees	ED43
999CM-007	1	Engineering/Project Change Proposals and Associated Change Documentation	ED43
999CM-008	1	Deviation/Waiver Approval Requests	ED43
999CM-009	3	Configuration Accounting and Status Reports	ED43
999CM-010	1	Acceptance Data Package	ED43
999CM-011	1/3	Major Review Documentation	ED43
999CM-012	3	Modification Instructions and Installation Notice Cards	ED43
DE - Design and Development Engineering			
999DE-001	1	Electrical, Electronic, and Electromechanical Parts Program Plan	ED16
999DE-002	1/3	Fracture Control Plan/Reports	ED22
999DE-003	1	Electrical, Electronic, and Electromechanical Parts List, As-Designed	ED16
999DE-004	1	Electrical, Electronic, and Electromechanical Parts List, As-Built	ED16
999DE-005	1	Nonstandard Parts Approval Requests	ED16
LS - Logistics			
999LS-001	1	Logistics Plan	AD42
999LS-002	2	Government Furnished Property Management Plan	PS10
999LS-003	2	Special Handling and Storage Requirements Document	AD42

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 34 of 48

Appendix C

Sample Reports of Work

<b>Marshall Work Instruction</b> ED01		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 35 of 48</b>

## **5.0 Reviews and Reports**

### **5.1 Table Top Reviews**

All reviews shall be conducted as table top reviews. Table top reviews shall provide a thorough review of information documented in task reports and requirements documents. Format of the review shall be defined by the contractor. Review formats may include read-through or comments reviews of documents page-by-page, and overview presentations providing all relevant data and background information. Two weeks notice shall be provided to MSFC for all reviews. Documents for the review (including task reports and requirements documents) shall be provided with the review notice. Copies of presentation materials shall be provided at the review.

### **5.2 Requirements Documents**

Mission and system requirements shall be documented in a requirements document. The requirements shall be numbered, listed individually, and logically grouped. A table of contents shall be included and appendices (such as glossary, acronym list, references) may be added as appropriate. Documents shall be updated based on table top review comments and provided to MSFC for approval within 30 days of the review.

### **5.3 Reports**

#### **5.3.1 Task Reports**

Task reports shall be due at the completion of the reported task. Task reports shall describe the results of the task including relevant data, findings, observations, etc. Background information, references, summaries of task activities and approaches shall also be provided. Recommendations shall be clearly delineated. Supporting information, such as glossary or acronym list, may be provided as necessary. Documents shall be updated based on table top review comments and provided to MSFC for approval within 30 days of the review. The contractor shall include a completed report documentation page (Standard Form 298) as the final page of each report submitted per NFS 1827.406-70.

#### **5.3.2 Financial Management Reports**

The contractor shall provide monthly financial reports to the Government in accordance with NFS 1852.242-73 and NPG 9501.2. The elements of cost for financial reporting shall be mutually agreed by the contractor and NASA project office and cover labor hours by function, direct labor cost, materials, subcontracts, interdivisional work, other direct rates, overhead by pool, fringe, G&A, and fee. Changes or additions to elements of cost shall be by mutual agreement between the contractor and the NASA project manager. The 533M shall include actuals and projections at the total contract level. The initial 533M submission shall be delivered following the first full month of performance after ATP. Subsequent 533M reports shall be no later than the 15th day of the calendar month following the end of the accounting month.

<b>Marshall Work Instruction</b> ED01		
<b>Data Requirements Identification/Definition</b>	<b>MWI 7120.2</b>	<b>Revision: A</b>
	<b>Date: August 16, 1999</b>	<b>Page 36 of 48</b>

### 5.3.3 New Technology Reporting

The contractor shall provide NASA with technical information concerning any invention, discovery, improvement, or innovation made in the performance of work under this contract. Interim reports shall be delivered every twelve months from the date of the contract. A final report shall be delivered three months after the completion of the contracted work. Interim and final reports shall use MSFC Form 4204 and disclosures shall use NASA Form 666A. A listing every twelve months of all inventions disclosed during the contract period shall be included in accordance with the Patent Rights clause, FAR 52.227-11. A final report at completion of contract work, listing all subject inventions or certifying that there were none shall be made.

### 5.3.4 Reports Distribution

Distribution of the following reports are indicated below. The reports to MSFC shall be addressed as follows:

NASA/MSFC  
Attn: (Mail codes shown below)  
Marshall Space Flight Center, AL 35812

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 37 of 48

**REPORTS DISTRIBUTION**

	5.2 Reqmts Doc	5.3 Task Reports	Financial Mgmt Reports	New Technolog y Reports
ED22	**2	**2		
PSXX/Green	*1	*1	**1	*1
CD30/New Technology Representative				**1
BF61			**1	
ED16/White	**1	**1	**1	**1
ED14/Black	**1	**1	**1	**1
NASA Center for Aerospace Information Attn: Accessioning Dept. 7121 Standard Drive Hanover, MD 21076-1320	**1	**1		

\* Copy of letter of transmittal only.

\*\* Copy of letter of transmittal plus copy of report.

NOTE: Only Unclassified reports shall be submitted to the NASA Center for Aerospace Information. (Ref. NASA FAR Supplement 1827.406-70(c).)

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 38 of 48

## Appendix D

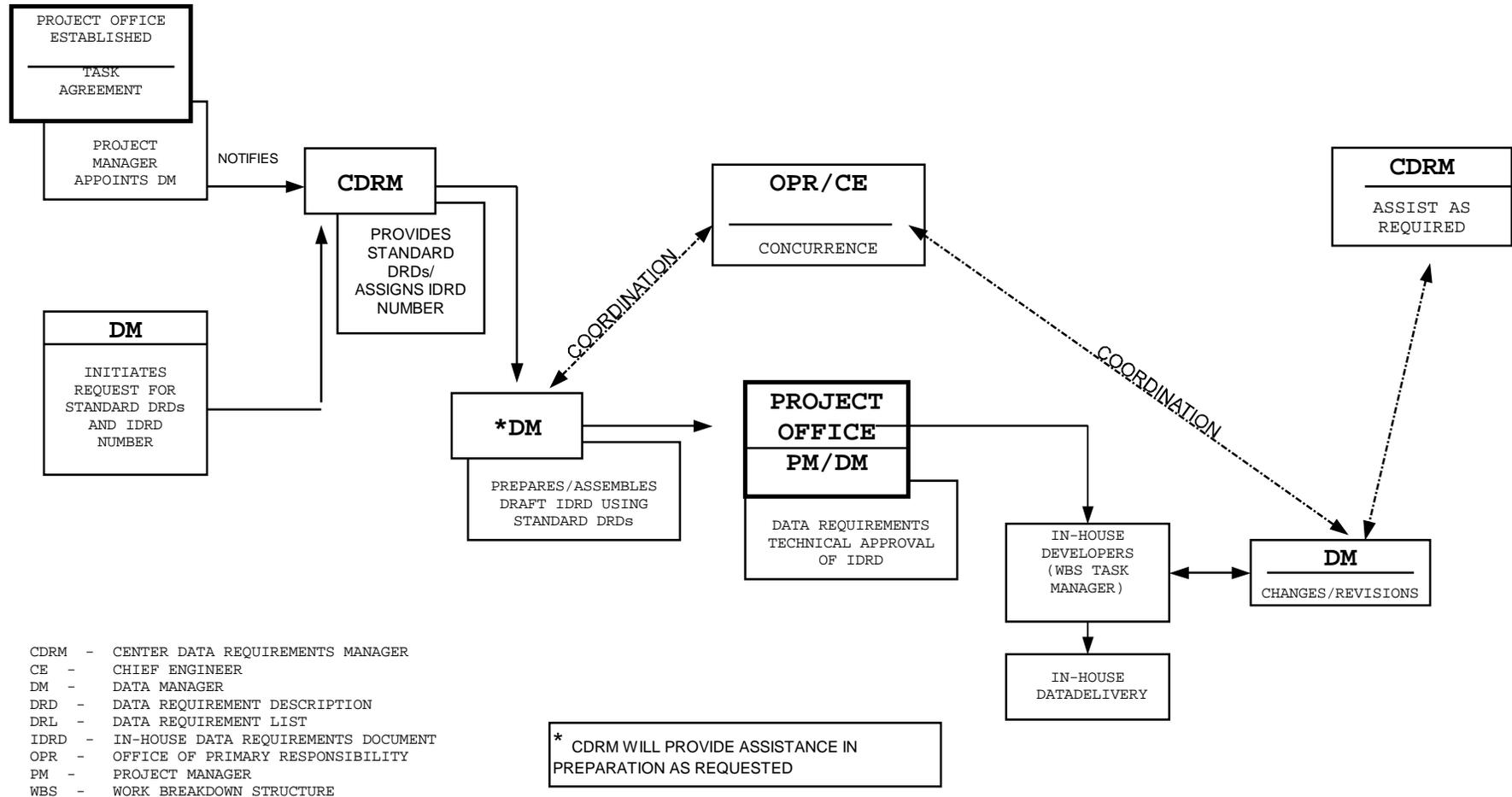
### In-House Data Requirements Document Development Flow

### Sample In-House Data Requirements Document (IDRD)

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 39 of 48

## IN-HOUSE DATA REQUIREMENTS DOCUMENT DEVELOPMENT

### 6.3



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Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 40 of 48

	IN-HOUSE DATA REQUIREMENT DOC. NO.            ISSUE <b>999    Draft</b>
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National Aeronautics and Space Administration	

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 41 of 48

National Aeronautics and Space Administration  <b>DOCUMENT CHANGE LOG</b>					IN-HOUSE DATA REQUIREMENT DOC. NO. ISSUE 999 Draft			
INCORPORATED REVISIONS					AS OF:		SUPERSEDING:	PAGE:
AUTHORITY	PORTION AFFECTED - PAGE NO./NO.				REMARKS			
	INTRO	SGR	DRL	DRD				

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Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 42 of 48

MSFC - Form 4255-1  
Form

Word 6

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<https://repository.msfc.nasa.gov/directives/directives.htm>  
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 43 of 48

TABLE OF CONTENTS

PAGE

DOCUMENT CHANGE LOG .....

TABLE OF CONTENTS .....

1.0 INTRODUCTION .....

    1.1 Scope .....

    1.2 Contents.....

        1.2.1 General Requirements.....

        1.2.2 Data Requirements List (DRL) .....

        1.2.3 Data Requirements Descriptions (DRD's).....

        1.2.4 Document Change Log (DCL).....

        1.2.5 IDR Maintenance Procedures.....

    1.3 Data Levels for In-House Projects and Activities .....

2.0 STATEMENT OF GENERAL REQUIREMENTS .....

    2.1 Applicable Documents .....

    2.2 Distribution .....

    2.3 Document Identification.....

    2.4 Reference to Other Documents in Data Submittals.....

    2.5 Maintenance of Document Submittals .....

3.0 IN-HOUSE DATA REQUIREMENTS DOCUMENT MAINTENANCE .....

    3.1 Document Maintenance.....

    3.2 IDR Reissues.....

DATA REQUIREMENTS LIST .....

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 44 of 48

1.0 INTRODUCTION

1.1 Scope: This In-house Data Requirements Document (IDRD) sets forth the data requirements required to be prepared and maintained. The responsible organization shall furnish data defined by the DRD's listed on the Data Requirements List (DRL), attached hereto.

1.2 Contents: This IDRD consists of a Document Change Log; a Table of Contents; an Introduction; a Statement of General Requirements (SGR); In-house Data Requirements Document maintenance procedures; and a DRL in the form of a data requirements matrix.

1.2.1 General Requirements: The general requirements, as specified in paragraph 2.0 prescribe those requirements applicable to the preparation and maintenance of data that are better defined in aggregate than in the individual DRD's.

1.2.2 Data Requirements List (DRL): Throughout the project life cycle, the DRL provides a listing by data category of the data requirements of the IDRD. The data requirements matrix details the submission requirements for the documentation in addition to listing the DRD's by number, title, data type and office of primary responsibility (OPR).

1.2.3 Data Requirements Descriptions (DRD's)

1.2.3.1 If a data requirement listed on the DRL required more complete definition than is provided by the DRL matrix, a Data Requirements Description is provided. The description prescribes content, format, maintenance instructions, and submittal requirements that cannot be adequately defined on the DRL. The DRL matrix indicates if a description is attached.

1.2.3.2 For the purpose of classification and control, data requirements of this IDRD are grouped into the following broad functional data categories:

<u>CATEGORY SYMBOL</u>	<u>DESCRIPTION</u>
CM	Configuration Management
DE	Design and Development Engineering
LS	Logistics/Support
MA	Management
MP	Materials and Processes
OP	Mission Operations
QE	Quality Engineering
RM	Reliability and Maintainability
SA	Safety
SE	Systems Engineering
VR	Verification

1.2.3.3 The symbols representing these data categories form part of the prefix of the description identification number. The first numerical characters reflect the IDRD number.

1.2.3.4 To facilitate the usage and maintenance of the IDRD, the DRD's have been sectionalized in accordance with the above data categories.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 45 of 48

- 1.2.3.5 The DRD's are filed by data category and are in alpha-numeric sequence as listed on the DRL page (or pages) that precedes the DRD's.
- 1.2.4 Document Change Log (DCL): The Document Change Log chronologically records all revision actions that pertain to the IDR.
- 1.2.5 IDRD Maintenance Procedures: Maintenance procedures define the detailed methods to be employed in maintaining the IDR. Detailed maintenance procedures are specified in paragraph 3.0 of this IDR.
- 1.3 Data Types for In-House Projects and Activities: The OPR for each document will assign one of the following Data Types in the appropriate block on the DRL matrix and DRD form. The Data Type defines the level of control and approval for each specific data requirement. The Data Types, as defined in the Data Management Plan, are:

Data Type

Description

- |   |  |
|---|--|
| 1 | Data requirements that require approval from the MSFC CCB(s) before formal release. Type 1 documents will be under the control of a CCB (Level III, IV). These documents will be released through the MSFC Release Desk and stored in the MSFC Repository and the DM Library. The MSFC Repository will distribute these documents.   |
| 2 | Data requirements that require approval from the Project Manager prior to formal release. The Project Manager may delegate by memoranda approval authority for certain Type 2 documents to the Project's Systems Engineer. Type 2 documents will not be under formal SLS CCB control. These documents will be controlled by signature of the Project Managers or Systems Engineer. The Project Office will assign project numbers to Type III documents. These documents will be released through the project office and distribution will be based on a distribution list provided by the document developer. |
| 3 | Data requirements that require neither Project approval nor formal release for use or implementation. Type 3 documents will not be under formal CCB control and will not be released or distributed through a formal process. These documents will be maintained by the document developer who will provide a copy of the document to the Project DM Office for the Project Library.   |

2.0 STATEMENT OF GENERAL REQUIREMENTS

- 2.1 Applicable Documents: Documents included as applicable documents in this IDR are the issue in effect at the time of preparation, unless otherwise specified, and form a part of the IDR to the extent specified herein. References to documents other than applicable documents in the data requirements of this IDR may sometimes be utilized. These do not constitute a required obligation, but they are to be used only as a possible example or to provide related information to assist the preparer in developing a response to that particular data requirement.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 46 of 48

## 2.2 Distribution

2.2.1 Distribution requirements of required documentation shall be determined by Project Office requirements.

2.3 Document Identification: Documents prepared in-house in response to the data requirements of this IDRD shall be identified in accordance with the numbering system defined by the Data Management Plan. Documents shall indicate the number of the Data Requirements Description (DRD) being met.

2.4 Reference to Other Documents in Data Submittals: All referenced documents shall be made readily available from the cognizant in-house organization upon request.

## 2.5 Maintenance of Document Submittals

2.5.1 Revisions of documentation shall be accomplished by a complete reissue of the document identified in accordance with requirements of 2.3 above, with the exception of drawings (which shall be revised in accordance with the project configuration management plan).

2.5.2 All revisions shall be recorded in accordance with the Data Management Plan.

2.5.3 Changes of a minor nature to correct obvious typing errors, misspelled words, etc., shall only be made when a technical change is made, unless the accuracy of the document is affected.

2.5.4 Documents shall not be submitted containing pen and ink markups which correct, add to, or change the text. Hand-drawn schematics, block diagrams, data curves, and similar charts may be used in original reports in lieu of formally prepared art work, as long as legibility of copies is not impaired. Acceptability will be determined by the project manager.

## 3.0 IN-HOUSE DATA REQUIREMENTS DOCUMENT MAINTENANCE

3.1 Document Maintenance: The IDRD will be maintained current by the project manager and the DM.

3.2 IDRD Reissues: When conditions warrant, the IDRD will be reissued by the project manager and will supersede the existing IDRD in its entirety. The issue symbol, which will commence with "A" and progress through "Z," will be entered in the IDRD identification block of each DRD page of the IDRD.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 47 of 48

### Data Requirements List (DRL) Matrix 999

Data Requirements				Reviews			
DRD Number	Document Title	Data Type	OPR	PRR	PDR	CDR	Comments
999CM-001	Configuration Management Plan	1			Baselined		Initial submittal: 60 days after project start. Baseline prior to PDR; update as required
999DE-001	Electrical, Electronic, and Electromechanical Parts Control Plan	1			X		Initial submission: 60 days after project start. Baseline after initial submittal; update as required
999DE-002	Fracture Control Plan	1		X		X	Approval by the MSFC Fracture Control Board is required before baselining. Update as required.
999MA-001	Data Management Plan	1					Initial submission: Concurrent with project plan. Update as required. See attached description DRD 999MA-001
999MA-002	Project Plan	1					Initial submission: at project start; update as required.
999MA-003	Risk Management Plan	1			X		Update as required
999SA-001	Safety and Mission Assurance Plan	2			Baselined		Baseline prior to PDR; update as required

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Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 48 of 48

## DATA REQUIREMENTS DESCRIPTION (DRD)

1. **IDRD NO.:** 999                      **ISSUE:** Draft
2. **DRD NO.:** **999MA-001**
3. **DATA TYPE:**
4. **DATE REVISED:**
5. **PAGE:** 1/2
6. **TITLE:** MSFC Data Management Plan
7. **DESCRIPTION/USE:** To describe the program's/project's plan for implementation of the data management requirements in compliance with the overall program, policies, and procedures.
8. **OPR:** ED43                      9. **DM:**
10. **DISTRIBUTION:**
11. **INITIAL SUBMISSION:** Concurrent with project plan
12. **SUBMISSION FREQUENCY:** One time, revise as required
13. **REMARKS:** Reference is made to NPD 7120.4A (paragraphs 1.b.(6) and (a).4) and NPG 7120.5A (paragraph 2.1.1.2.b).
14. **INTERRELATIONSHIP:**
15. **DATA PREPARATION INFORMATION:**
- 15.1 **SCOPE:** The MSFC Data Management Plan shall contain the methods and approaches for implementing the data management requirements.
- 15.2 **APPLICABLE DOCUMENTS**

NPG 1441.1	<i>Records Retention Schedules</i>
MPD 2210.1	<i>Documentation Input and Output of the MSFC Documentation Repository</i>
MPG 1440.2	<i>MSFC Records Management Program</i>
MPG 1441.1	<i>Control of Quality Records</i>
MPG 8040.1	<i>Configuration Management, MSFC Programs</i>
MWI 2190.1	<i>MSFC Export Control Program</i>
MWI 2210.1	<i>MSFC Documentation Repository Input/Output and Data Management Projects Requests</i>
MWI 7120.2	<i>Data Requirements Identification/Definition</i>
MMI 2210.3	<i>Control and Release of Limited-Rights Technical Data</i>
MSFC-STD-555	<i>MSFC Engineering Documentation Standard</i>
- 15.3 **CONTENTS:** The MSFC Data Management Plan shall specify the management policies and identify, by specific reference, standard practices and detailed work instructions to be used in implementing the data management program and shall address, as appropriate:
  - a. **Introduction** - The plan shall define the scope and depth of the project's efforts including management, organization, planning, responsibilities, and the relationship of the data management program to the other administrative and technical organizations. Organizational charts shall be included.
  - b. **Applicable documents**.
  - c. **Identification/definition of data requirements** - Reference project DPD's/IDRD's for specific requirements. Detailed procedures for developing requirements are contained in MWI 7120.2.

Marshall Work Instruction ED01		
Data Requirements Identification/Definition	MWI 7120.2	Revision: A
	Date: August 16, 1999	Page 49 of 48

## DRD Continuation Sheet

**TITLE:** MSFC Data Management Plan

**DRD NO.:** **999MA-001**

**DATA TYPE:**

**PAGE:** 2/2

15. **DATA PREPARATION INFORMATION (CONTINUED):**

- d. Data control procedures (internal and external data).
  - 1. Configuration control will be in accordance with MPG 8040.1 or as designated in project specific Configuration Management Plan.
  - 2. Establish review and approval processes (define level of control and data types).
  - 3. Establish numbering process for documentation not under configuration control.
  - 4. Classified material (define if applicable).
  - 5. Project-specific forms and data control.
  - 6. Informal correspondence (memos, letters, etc.).
  - 7. Import/export procedures (in accordance with MWI 2210.1).
- e. Records management (in accordance with MPG 1440.2, NPG 1441.1, and MPG 1441.1).
  - 1. Identification of records.
  - 2. Master list of documents.
  - 3. Records retention.
  - 4. Records archival.
  - 5. Storage/repository and access.
    - (a) Document filing procedures in accordance with MPG 1440.2.
    - (b) Establish a plan for use of MSFC Repository, if applicable, (in accordance with MPD 2210.1 and MWI 2210.1).
    - (c) Describe document libraries (i.e., electronic, Web-based, drawings, technical, etc.).
- f. Schedule, status and tracking.
  - 1. External (i.e., contractor, other centers/agencies, and universities) data.
  - 2. Internal (MSFC prepared) data.
- g. Special.
  - 1. Rights in data determination in accordance with MMI 2210.3.
  - 2. Other project-unique requirements.

15.4 **FORMAT:** If the in-house plan is to be placed under MSFC Configuration Management, the format shall be in accordance with MSFC-STD-555, otherwise, the originator's format is acceptable.

15.5 **MAINTENANCE:** Changes shall be incorporated by change page or complete reissue.